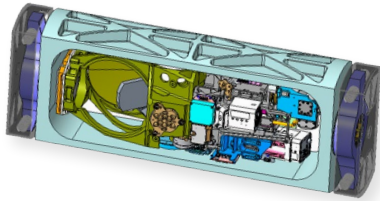


MS-40 Multi-spectral Reconnaissance System



Multi-spectral ISR for multi-domain operations

The next generation of small form factor airborne intelligence, surveillance and reconnaissance (ISR) systems for rapid, long-range kill chain closure.

BENEFITS

- Long-range, wide-area, passive target detection and classification for finding unknown threats and verifying the status of knowns
- Target-detection capabilities in clutter and camouflage
- Land, maritime and littoral surveillance of static and moving targets, including automated quantification of their speed and direction
- Capable of operations in low-, medium- and high-threat environments
- Onboard edge processing – automatic target detection and classification/ML feature enables rapid analysis and decision-making
- Real-time data link compatibility for actionable intelligence exchange
- Combat search and rescue and counter-narcotics operations capable
- Supports humanitarian assistance planning and activities
- Multiple integration options – internal mount or podded

Enhance your ISR and targeting advantages

Raytheon's MS-40 Multi-spectral Reconnaissance System family of systems represents the next generation of tactical airborne reconnaissance capabilities, providing wide-area, long-range, multi-spectral imagery (MSI) coverage – day or night, within a small form factor.

The MS-40 provides improved intelligence advantages over legacy systems by offering:

- Improved combat survivability due to long-range/standoff capability.
- A shortened kill chain enabled by rapid target classification and on-demand data link information exchange.
- Common ground coverage across all spectral bands, enabling flexible collection from over-flight to long-range standoff.
- High NATO Image Interpretability Rating Scale (NIIRS) image quality.
- Imagery exploitation software designed to rapidly leverage the unique features and benefits of MSI.

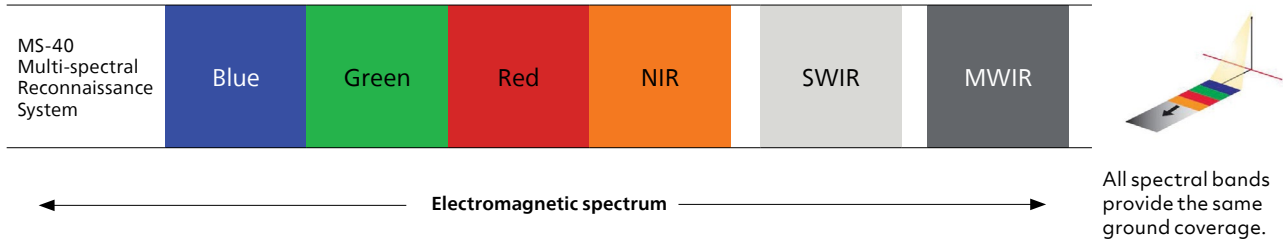
The MS-40 automates moving-target detection with motion quantification, combining advanced artificial intelligence/machine learning (AI/ML) edge processing with compact form factor, multi-spectral, visible infrared sensing –enabling long-range detection and classification of time-critical targets for rapid engagement.

Passive wide-area coverage is combined with high-spatial, -spectral and -temporal imaging resolution everywhere in the scenario, enabling previously unknown targets to be found and targeted without them being alerted to their detection.

The multi-spectral advantage

The AI/ML-enabled MS-40 is an important advancement over previous-generation, dual-band sensors, providing new multi-spectral detection capabilities, improved image quality and increased coverage in low size, weight and power (SWaP) configurations compatible with medium-altitude uncrewed aircraft, fast jets, special mission/maritime patrol and other aircraft.

MS-40 Multi-spectral Reconnaissance System



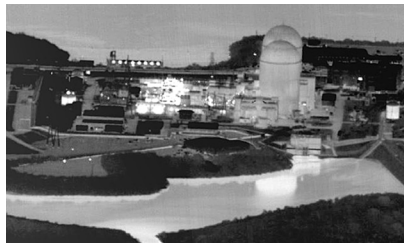
True color



Mixed composite



Automatic target extraction



Thermal infrared

MSI is defined as sensor data collected simultaneously from three or more spectral regions or bands. The same scene is imaged in all the spectral bands, with each spectral image assigned a display color and overlaid to form a multi-spectral composite image.

MS-40 offers spectral coverage similar to Raytheon's larger MS-177 and MS-110 products, but in a smaller, lighter form factor and lower cost configuration. This enables the proliferation of passive wide-area, unknown target search capabilities across a much wider range of platforms.

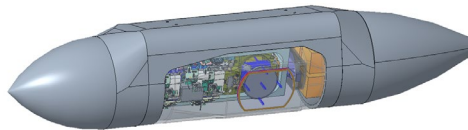
The simultaneous multi-band imagery collection provided by MS-40 facilitates

enhanced target discrimination and change detection, while defeating enemy camouflage, concealment and deception (CC&D), and provides detailed land, littoral and maritime surveillance.

This high-quality MSI can be combined with advanced AI/ML capabilities on sensors and low-rate data links, allowing multiple platforms to interactively support the rapid autonomous discovery and subsequent engagement of previously unknown target sets across wide areas. The passive nature of MSI sensing also allows this to happen without alerting targets of interest.

MS-40 sensor characteristics

Sensor	Line-scanning TDI; 6-10 spectral bands
Collection modes	Spot, line, wide-area and persistent imaging
Field of regard	Roll $\pm 90^\circ$ /pitch $\pm 20^\circ$
Power	<200 W
Length	30 in.
Diameter	12.5 in. (at $\pm 20^\circ$ pitch)
Sensor head weight	240 lb.



MS-40 mini pod
 Length: 72 in.
 Diameter: 14 in.
 Height: 16 in.
 Weight: 250 lb.

Contact

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