



Multi-Modal Sensor Pod

WIDE-AREA MOTION IMAGERY,
HYPERSPECTRAL, AND INSPECTION SENSING
FROM ONE COMPACT POD



Our platform-flexible Multi-Modal Sensor Pod (MMSP) houses three sensor capabilities in one compact pod:

- Wide-Area Motion Imagery
- Wide-Area Hyperspectral
- High-Resolution Inspection

By combining these three sensor modalities, operators can access multi-layered correlated information, in real time, without requiring additional mission payloads or adversely impacting airborne endurance.

- DEFENSE
- LAW ENFORCEMENT
- BORDER SECURITY

► PAYLOAD SIZE, WEIGHT, AND POWER

- Pod Size: 63 in L x 16 in W x 19 in H (160 cm x 40 cm x 48 cm)
- Pod Weight: < 100 lbs (45 kg)
- Pod Power: < 600 W
- GCS Size: 43 in L x 27 in W x 27 in H (110 cm x 70 cm x 70 cm)
- GCS Weight: < 250 lbs (115 kg)
- GCS Power: < 1 kW

► WIDE-AREA MOTION IMAGERY (WAMI) PERFORMANCE

- Collection Sensor: Large-format camera with custom fore optic
- Pointing and Stabilization: Low SWaP, two-axis gimbal
- Areas of Coverage: 2.2 sq km at 5,000 ft (1,500 m) AGL
8.7 sq km at 10,000 ft (3,000 m) AGL
- Image Refresh Rate: 2 Hz
- GSDs: 0.2 m at 5,000 ft (1,500 m) AGL
0.4 m at 10,000 ft (3,000 m) AGL
- Camera Type: EO silicon sensor with custom electronics
- Array Size: > 50 Mpx EO focal plane array

► WIDE-AREA HYPER-SPECTRAL IMAGERY (HSI) PERFORMANCE

- Collection Sensor: Single-slit spectrometer with VIS-SWIR camera and custom fore optic
- Coverage Rate: >150 sq km/hour at 10,000 ft (3,000 m) AGL
- GSDs: 1.0 m at 5,000 ft (1,500 m) AGL
2.0 m at 10,000 ft (3,000 m) AGL
- Camera Type: VIS-SWIR InGaAs sensor
- Array Size: 640 x 480 VIS-SWIR focal plane array
- Spectrograph: f/2.4 Offner imaging spectrometer

► HIGH-RESOLUTION INSPECTION SENSOR (IS) PERFORMANCE

- Collection Sensor: Ultra-high-definition camera with integrated fore optic and splitter
- Coverage Rate: > 150 sq km/hour at 10,000 ft (3,000 m) AGL
- GSDs: 5 cm at 5,000 ft (1,500 m) AGL
10 cm at 10,000 ft (3,000 m) AGL
- Camera Type: CMOS silicon sensor
- Array Size: 12 Mpx EO focal plane array

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EMBEDDED PROCESSOR SYSTEM PERFORMANCE

- Cross-sensor Cueing: Auto-cueing (tasking) of IS via WAMI alerts and HSI detections
- WAMI Image Streams: Unique streaming video windows (up to 10 depending on datalink bandwidth)
- WAMI Tracks, Watchboxes, Alerts: Over full scene
- HSI Detections and Identifications: Real-time anomaly/signature detections (compared to onboard library)
- HSI-Derived Images: Pseudo-color images for HSI detected items of interest
- IS Images: High-resolution images for WAMI and HSI auto-cued items/locations of interest
- IS Multiplexed Image Streams: Multiplexed motion videos for multiple user-defined locations
- Imagery Transmission: Onboard, control centers, mobile devices
Provided over internally, fully integrated datalink
- Onboard Data Archive: Configured for > 4 hrs, expandable to 8 hrs

MMSP SENSOR ATTRIBUTES AND AUTONOMOUS TASKING

