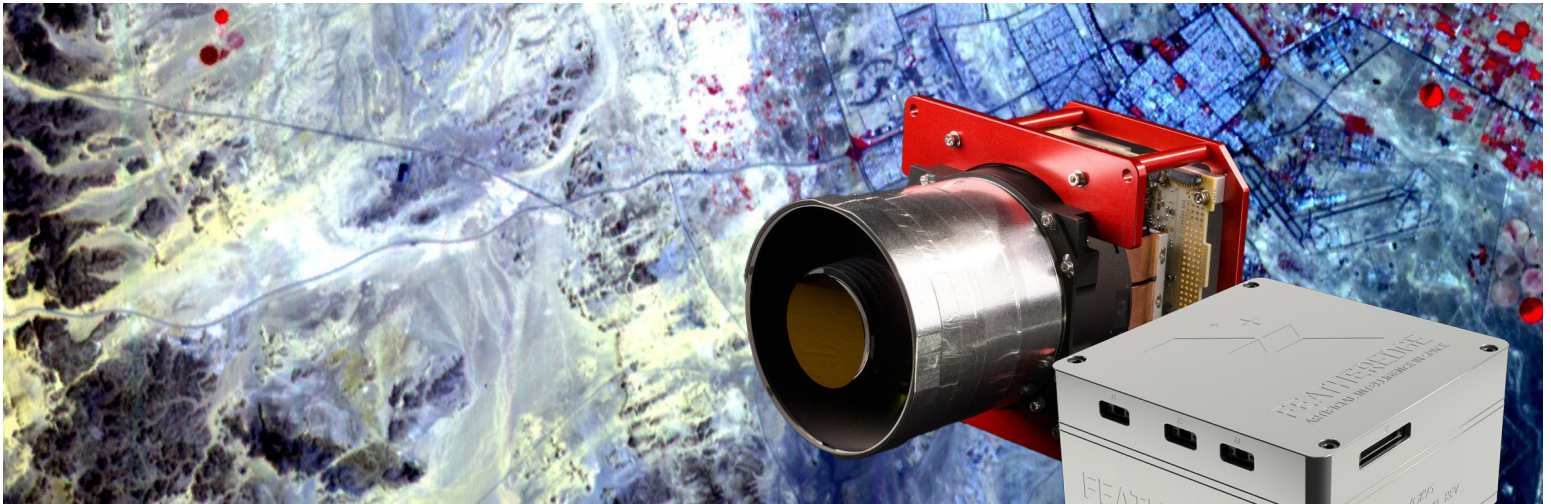


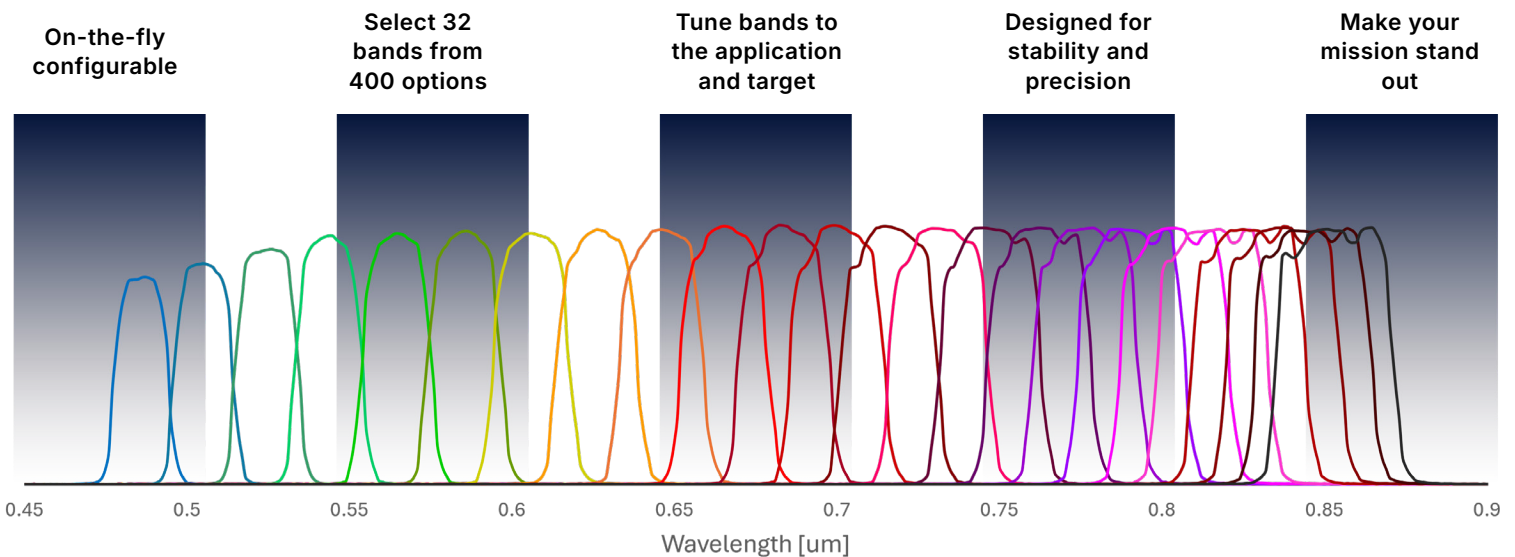
HyperScape100 + FeatherEdge™ 100i

Integrated Solution



This integrated solution combines Simera Sense's HyperScape100, a high-performance compact hyperspectral imager, with Sidus Space's FeatherEdge™ 100i, a flight-proven (TRL-9) AI/ML processor.

- » **Mission-Specific Flexibility:** Select and tune 32 spectral bands from 400 available options on-the-fly to match specific target signatures.
- » **Edge Intelligence:** Real-time AI/ML processing via the NVIDIA® Jetson Orin NX reduces downlink latency by executing complex algorithms at the source.
- » **Space-Hardened Reliability:** A TRL-9 integrated architecture featuring radiation-tolerant controllers and pSLC NVMe storage for mission-critical data integrity.
- » **Optimized SWaP-C:** Designed for small satellite architectures without compromising on signal-to-noise ratio (SNR) or computational throughput.



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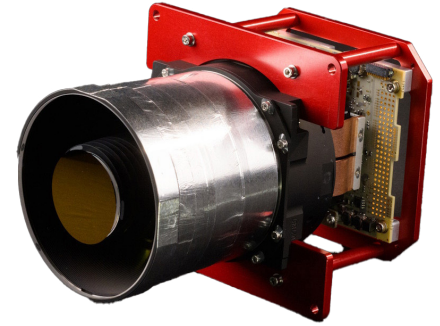


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HyperScape100 | Imaging Subsystem

Feature	Specification
Ground Sample Distance (GSD)	4.75 m @ 500 km
Swath Width	19.4 km @ 500 km
Spectral Range	460 nm to 860 nm (1 nm steps)
Spectral Configuration	32 tailored bands from 400 available
Focal Length / Aperture	580 mm / 95 mm
Resolution	4096 pixels (along track)
Bit Depth	12-bit
Power (Idle / Imaging / Readout)	4.0W / 7.75W / 4.0W
Mass / Dimensions	1.21 kg / 98.3 × 98.3 × 176.6 mm



HyperScape100 Imager

FeatherEdge™ 100i | Processing Subsystem

Feature	Specification
Core Processor	NVIDIA® Jetson Orin NX
AI Performance	100 Tops
Microcontroller	Rad-Tolerant ARM® Cortex® M7
Memory (RAM)	16GB 128-bit LPDDR5
Storage	680 GB pSLC NVMe SSD (+ECC)
Power (Typical / Peak)	20W / 30W
Operating Temperature	-25°C to +85°C
Technology Readiness (TRL)	TRL-9 (Flight-Proven)
Mass / Dimensions	1.5 kg / 100 × 100 × 55 mm



FeatherEdge™ 100i Processor

Connectivity & Integration

- » **Control Interfaces:** I²C, SPI, RS-422, SpaceWire
- » **Data Throughput:** High-speed LVDS and SpaceWire interfaces ensure seamless data transfer between the imager and the AI processor for near-zero latency analysis.

Applications

- » **Precision Agriculture:** Real-time crop health and moisture analysis.
- » **Data Throughput:** Detection of pollutants, methane leaks, and ocean plastics.
- » **Defense & intelligence:** Automated Target Recognition (ATR) and change detection.
- » **Disaster Response:** Rapid identification of fire fronts or flood extent.

