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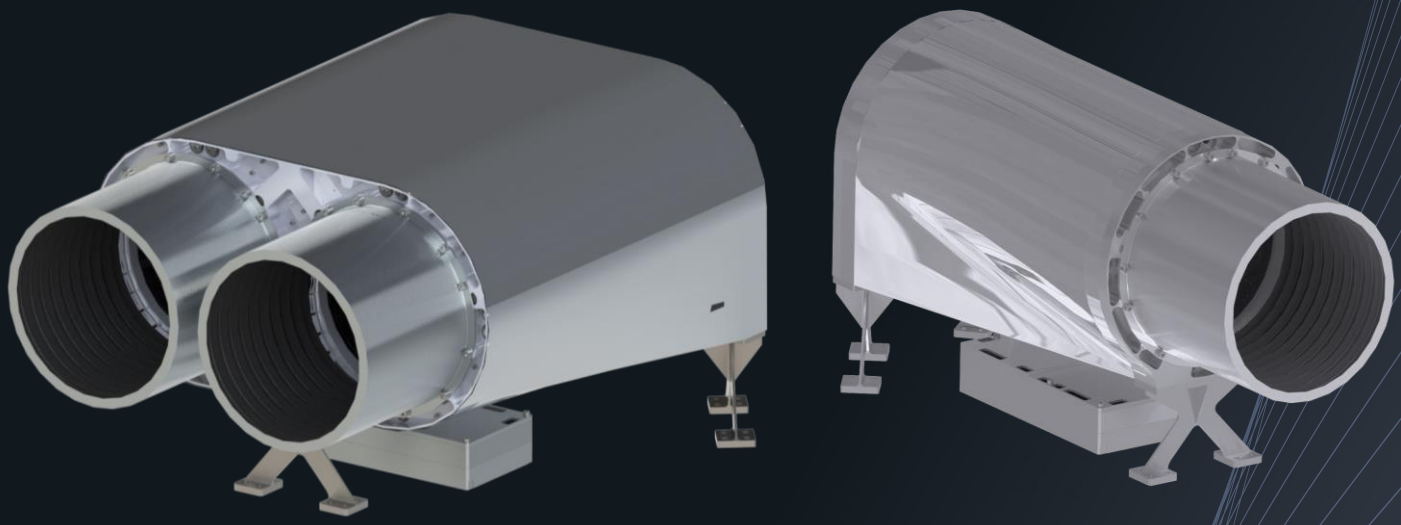

iSIM-170

Submeter resolution
Customised solutions
Based on flight heritage

The iSIM-170 is an Earth Observation optical imager for microsatellites with an unbeatable mass to resolution ratio and a highly configurable design to provide customised solutions.

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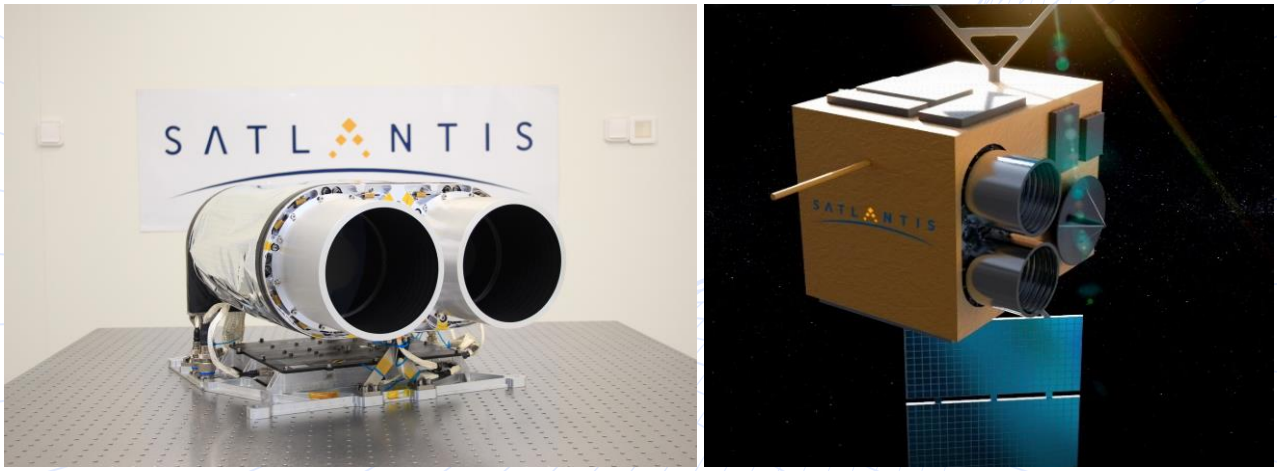
Technical data

The iSIM-170 includes all elements of an innovative and versatile remote sensing payload

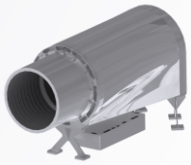
- Compact & diffraction-limited optomechanics
- Configurable optomechanics to provide single and dual channel imagers for more spectral bands and more swath
- State-of-the-art matrix CMOS sensors
- High-performance, robust & reconfigurable processing and control electronics unit
- Configurable active thermal control system
- Advanced super-resolution algorithms that can improve the native spatial resolution 2.5 times

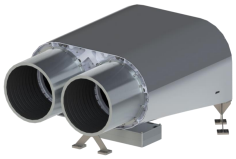


iSIM-170 in dual channel configuration (left) iSIM-170 integrated in a microsatellite (right).

Technical data

Key specifications





	Single channel	Dual channel
Physical		
Mass	<8 kg	<15 kg
Volume optomechanics	593 x 276 x 308 mm^3	593 x 471 x 308 mm^3
Volume electronics (1)	209 x 96 x 46 mm^3	209 x 96 x 46 mm^3
Imaging		
Resolution (2)	0.8 m	0.8 m
Swath (2)	7.5 km	15 km
Multispectral bands (3)	PAN, VNIR (up to 5)	PAN, VNIR (up to 5)
Electronics		
Detector resolution	4096x3072 pixels, 5.5µm pixel pitch	
Bit Depth	8, 10, 12	
FPS	26	52 (26 per channel)
Storage capacity (3)	500 GB	
Image compression	Lossy/Lossless	
Image processing	Thumbnails, crops, strip mosaicking, smart image processing modes	
Interfaces (3)	CAN, UART (RS-422/RS-485 optional) GigE (SpaceWire, LVDS optional)	
Power supply (4)	9 –34 V	
Power consumption (5)	25.3 W	30.5 W

(1) Dimensions are provided for a box that allocates the two electronic PCBs stacked on top of each other (payload CPU and TCS). The specific allocation and configuration of the ECS PCBs can be modified if desired. The dimensions of the PCBs are 201 x 88 mm^2 and 105 x 88 mm^2 for the payload CPU and TCS respectively.
(2) At 500 km reference altitude after processing. For dual channel configuration swath can be doubled if both channels are configured with identical spectral bands.
(3) Upgradable or configurable upon request.
(4) Not including heaters.
(5) During image acquisition.

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