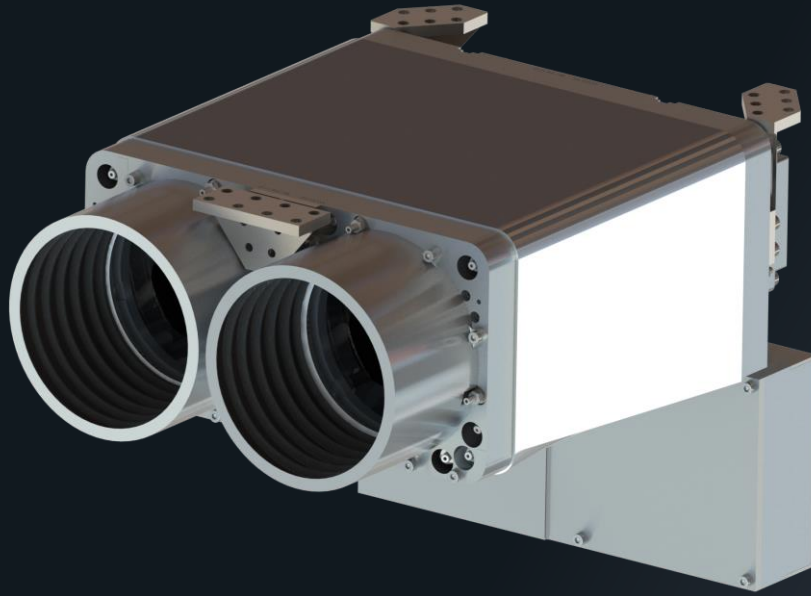


SATLANTIS



iSIM-90

**High resolution.
Customised solutions.
12U CubeSat standard.**

The iSIM-90 is an Earth Observation optical imager for 12-16U CubeSats with an unbeatable mass to resolution ratio and a highly configurable design to provide customised solutions.

Technical data

The iSIM-90 includes all elements of an innovative and versatile remote sensing payload.

- ❑ CubeSat form factor.
- ❑ Compact & diffraction-limited optomechanics.
- ❑ Configurable optomechanics to provide single and dual channel imagers for more spectral bands and more swath.
- ❑ State-of-the art 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.

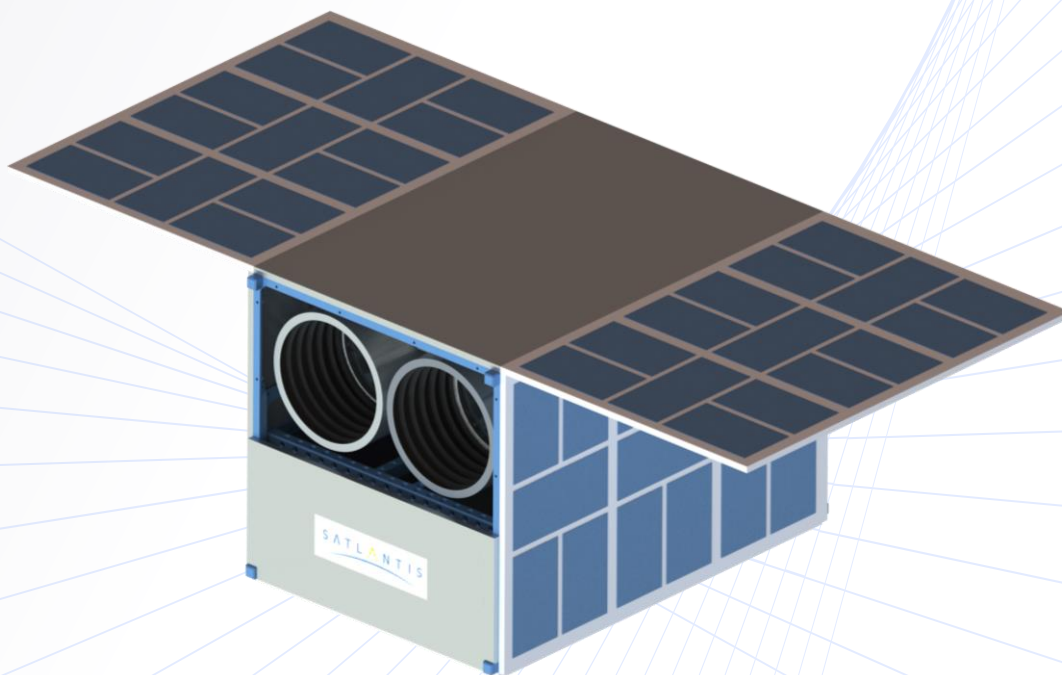


Illustration of iSIM-90 in dual channel configuration integrated in a 12U CubeSat

Technical data

Key specifications

	Single channel	Dual channel
Physical		
Mass	<4 kg	<6 kg
Volume optomechanics	308 x 114 x 100 mm ³ (~3U)	308 x 216 x 115 mm ³ (~6U)
Volume electronics ⁽¹⁾	209 x 96 x 46 mm ³ (~2U)	209 x 96 x 46 mm ³ (~2U)
Imaging		
Resolution ⁽²⁾	<2m	<2m
Swath ⁽²⁾	13 km	13 km or 26 km
Multispectral bands ⁽³⁾	PAN, VNIR (up to 4)	PAN, VNIR (up to 8)
Electronics		
Detector resolution	4096x3072 pixels, 5.5µm pixel pitch	
Bit Depth	12	
FPS	26	
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	9 – 34 V	
Power consumption ⁽⁴⁾	25 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 mm² and 105 x 88 mm² 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) During image acquisition.

SATLANTIS



Spain Headquarters

Science Park
University of the Basque Country
Sede Building
48940 Leioa-Bilbao
SPAIN



USA R&D laboratories

Innovation Hub
University of Florida
747 SW 2nd Avenue Suite 235
Gainesville, FL 32601
USA