



SAR | Deploying the Future of Space Antennas

EOS SAR is a full SAR payload provider (antenna + radar electronics) built around a patented, ultra-lightweight deployable mesh reflector antenna that puts large-aperture radar and SIGINT capability on mini-satellites under 150 kg. Non-ITAR technology with full EU IP, engineered end-to-end in-house for defence and intelligence missions.

Physics advantage

a large aperture on a small, low-cost bus means higher gain, narrower beams, and better emitter localisation — fewer satellites for the same mission.

Dual-use aperture

the same reflector supports SAR imaging and RF/SIGINT collection — two mission types from one hardware line.

Sovereign supply

non-ITAR, EU IP, European production — procurable by governments and operators blocked from US-controlled hardware.

Best-in-class imaging parameters

highest bandwidth in its class, widest spotlight scene (5×20 km), best-tier NESZ versus current commercial SAR payloads.

SAR antenna technical details



An ultra light-weight deployable mesh reflector antenna designed for high-performance spaceborne RF missions on mini satellites.



The solution is optimized for mini satellite platforms (total satellite mass <150 kg), with a reflector mass of approximately 11 kg and boom mass also of approximately 11 kg.

Characteristics

ANTENNA TYPE	OFFSET PARABOLIC
Antenna diameter (deployed state) *	3.35 m
Operating frequency bands	L-, S-, C-, X, Ku-bands
Deployable boom length**	3.8 m
Surface tolerance, RMS deviation, mm	0.7 ... 0.8
First vibrational eigenmode frequency in deployed state	> 1 Hz
Showed dimensions, WxLxH, m	0.28 × 0.28 × 0.87
Deployed dimensions, WxLxH, m	3.58 × 3.35 × 0.63
Total weight (reflector), kg	11 kg
Total weight (boom), kg	11 kg
Mesh material	Copper zirconium / gold-plated molybdenum
Antenna ring material	Thin-walled carbon fiber tubes, titanium, aluminum
Antenna central part material	Carbon fiber, fiberglass

* Symmetrical and offset fed reflectors (up to 6 m) can be developed under customer requirements

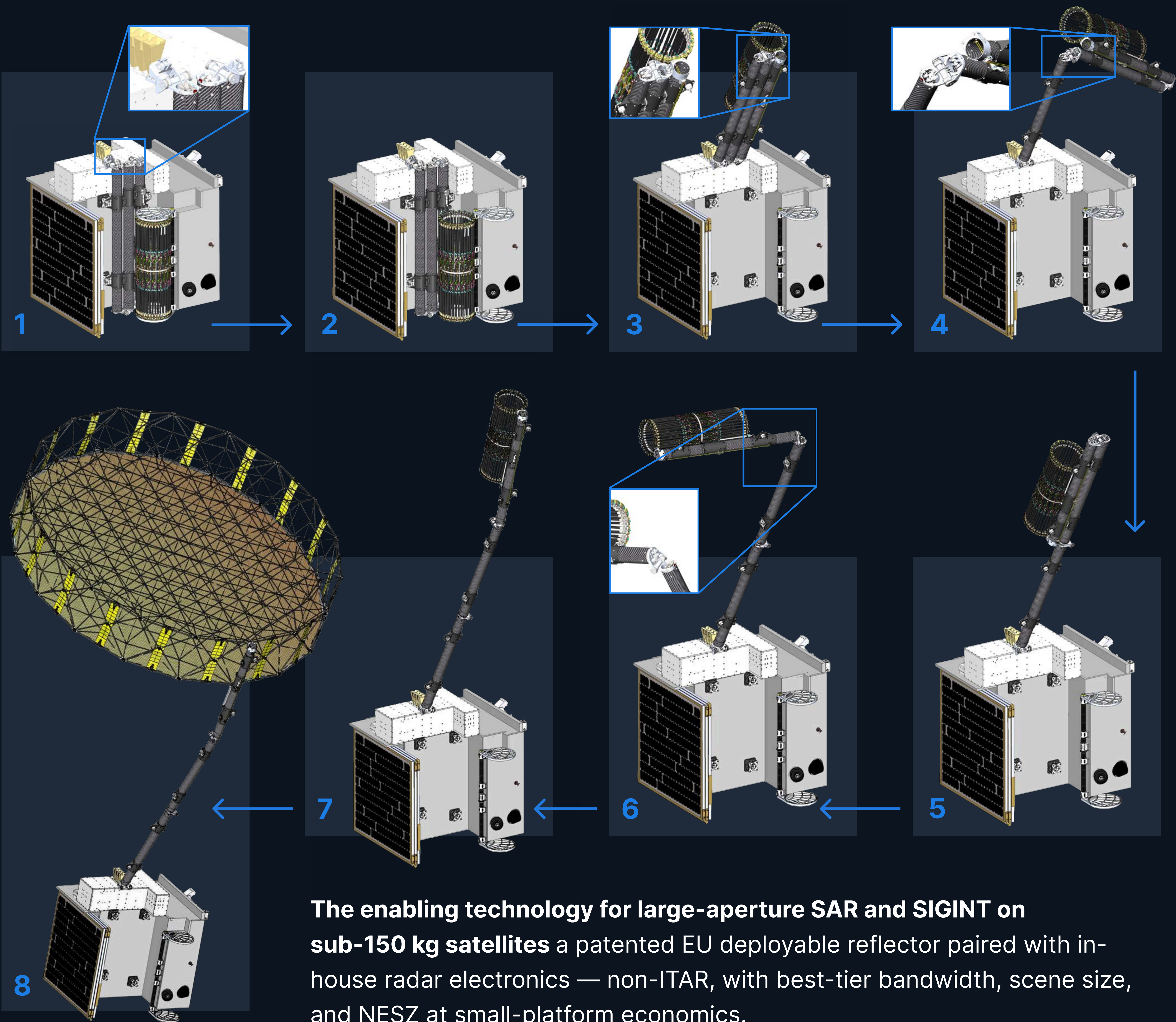
** A deployable boom with a length of up to 6 meters can be developed under customer requirements

Antenna engineering model deploy test



STOWED → DEPLOYED

Antenna system deployment phases



The enabling technology for large-aperture SAR and SIGINT on sub-150 kg satellites a patented EU deployable reflector paired with in-house radar electronics — non-ITAR, with best-tier bandwidth, scene size, and NESZ at small-platform economics.