

Image credit: NovaSAR  
2019. Credit: SSTL

# NovaSAR

## A small Synthetic Aperture Radar (SAR) mission

NovaSAR is a small S-band Synthetic Aperture Radar (SAR) mission designed for low-cost programmes and optimised for shared launch opportunities.

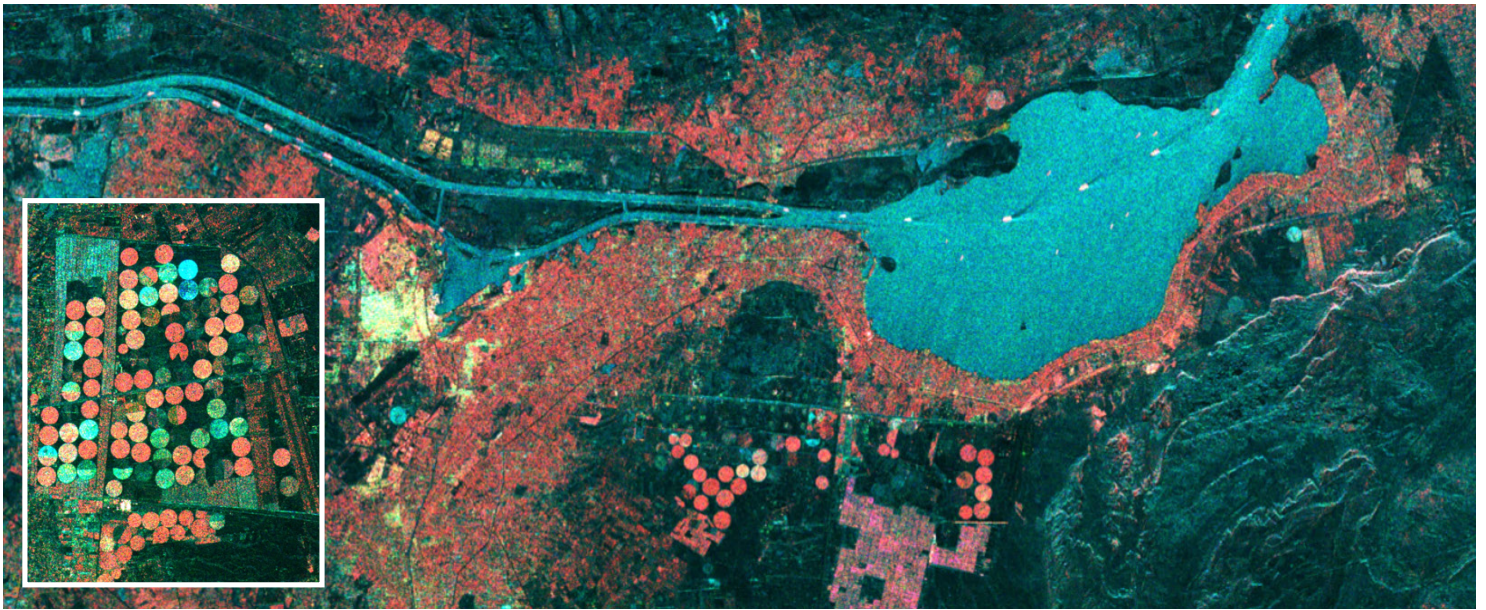
The system baselines SSTL-Mini platform avionics with an imaging payload developed by the spaceborne SAR team at Airbus in Portsmouth, UK.

### Key information

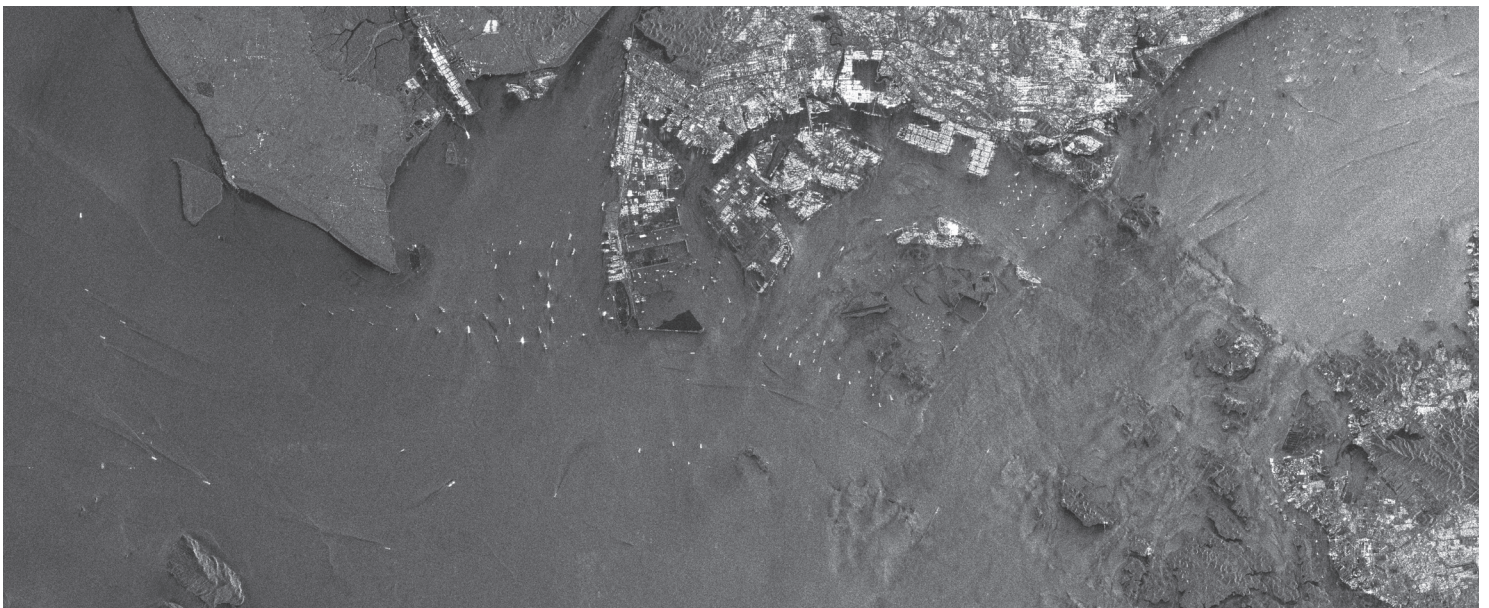
- Developed with the support of the UK government
- Launched 16th September 2018 from India
- Global access with average revisit 3-4 days
- Imagery can support a wide range of applications including maritime, forestry and disaster response
- Secondary AIS payload to provide information on detected ships

Key Satellite Specifications	
Imaging frequency band	3.1-3.3GHz (S-band)
Antenna	Microstrip patch phased array (3m x 1m)
No. of phase centers	18
Peak RF power	1.8kW
Polarisations (non-coherent)	HH, HV, VH, VV Single, dual, tri or quad
Design life	7 years
Orbit	580km SSO, 1030am LTAN
Propulsion system	Xenon
Payload duty cycle	>2 min per orbit
Payload data memory	544GBytes
Downlink rate	500Mbps (with uplink), 400Mbps (broadcast)
Geolocation	<50m

Imaging Modes	Resolution	Swath	Polarisation	Number of looks
Stripmap	6m	13-20km	HH or VV	3
Maritime (ScanSAR)	6x14m	400km	HH	1
ScanSAR	20m	50-100km	HH or VV	4
ScanSAR Wide	30m	55-150km	HH or VV	4
Dual pol (ScanSAR)	20m 45m	20-60km 195km	HH+VV HH+HV	4
Tri-pol (ScanSAR)	30m 35m	50-56km 100km	HH+VV+HV	4



Suez Canal - 30m Tri-Pol ScanSAR (HH: Green, VV: Blue, HV, Red)



Singapore - 20m HH Pol ScanSAR



Calgary, Canada - 6m HH Pol Stripmap Mode