Image credit: Precision render 2019. Credit: SSTL

PRECISION

The SSTL-Precision satellite provides very high resolution, high quality imagery in support of pan-sharpened colour mapping and surveillance applications. The spacecraft is designed to be compact in order to support affordable operations as a stand-alone unit or in constellations providing higher temporal resolution. Larger than the Carbonite high resolution imaging spacecraft, it provides higher resolution data as well as significantly greater data return.

Applications

For government applications the satellite can provide independent means of high priority, private tasking of imagery. For commercial applications the satellite can support data analytics and various value-added services at a very low cost-per-unit-area.

Mapping, surveillance, infrastructure and asset monitoring, disaster monitoring, insurance and loss adjustment.

Multispectral bands

- Blue: 440-510 nm
- Green: 510-590 nm
- Red: 600-670 nm
- NIR: 760-910 nm
- PAN: 450-650 nm

Features

Wide launcher compatibility including 3-4 satellites on Vega, PSLV, Soyuz. Imaging modes supported include:

- Along-track and across track stereo
- 2x2 Area
- Strip/spot/inclined strip modes

Payload

Parameter	Spec
GSD	0.6m pan 1.2m multispectral – 4 bands
Resolution	<0.5m (achieved with ½ pixel shifting)
Swath	9.5km
Throughput	~130,000km2, 1.5TByte per day
Payload Support	Scalable X-band from • 1200Mbps • 3TByte data recorder • Compression • Image and downlink

Platform

Parameter	Spec
Platform	SSTL-300 / SSTL Mini
Orbit	500km SSO 10:30 LTAN
Lifetime	7 year design with 10 year target Redundant avionics
Launch mass	~280kg
Agility	±45deg Roll / Pitch 60s between successive images separated by 60 degrees
Propulsion	Orbit maintenance, corrections and end-of-life disposal