



Image credit: SSTL

PRECISION

The SSTL Precision satellite delivers very-high-resolution imagery designed for customers who demand clarity, reliability and exceptional value.

Built around a compact, efficient spacecraft, Precision provides outstanding image quality for pan-sharpened colour mapping, surveillance, and a wide range of Earth-observation tasks - either as a single asset or as part of a constellation for higher revisit rates.

A turnkey, end-to-end solution

Precision is available as a complete out-of-the-box mission, combining the spacecraft with all essential mission elements: spacecraft and mission operations, mission planning tools, launch and insurance, and a fully supported image-processing chain.

This makes Precision an ideal choice for customers seeking rapid deployment, predictable costs, and a smooth path to operations.

Superior imaging performance

At the heart of Precision is an advanced imager that uses half-pixel offset sampling and enhanced processing in the panchromatic band to deliver exceptional clarity and reduced aliasing.

This innovation boosts effective spatial sampling to 0.3m from a native PAN GSD of 0.6 m, giving users sharper, more detailed imagery for demanding applications.

Robust by design

Precision incorporates redundancy and cross-strapped subsystems to eliminate credible single-point failures - ensuring reliability and continuity of service over the full mission lifetime.

Applications

Precision is well-suited to both government and commercial missions:

- Government users: independent, sovereign tasking of high-priority imagery for national security, border awareness, and strategic intelligence.
- Commercial users: cost-efficient data acquisition to power analytics, insights and a broad range of value-added services.

Key sectors include mapping, surveillance, infrastructure and asset monitoring, disaster response, insurance and loss adjustment, and environmental monitoring.

PRECISION

Payload

Parameter	Specification
GSD	Native 0.6 m PAN at reference orbit (Four PAN channels each half pixel shifted in the along and across-track directions give a pixel sampling of 0.3 m) 1.2 m multispectral at reference orbit (Up to 4 simultaneous bands)
Swath	9.7 km at reference orbit
Spectral Bands	Visible and NIR bands: 420 – 900 nm PAN bands: 450 – 700 nm Six multispectral bands: 420 – 450 nm (coastal blue), 450 – 520 nm (blue), 520 – 590 nm (green), 620 – 690 nm (red edge), 705 – 745 nm (red) and 770 – 900 nm (NIR). Up to four can be operated simultaneously
Throughput	In strip-capture mode: Typically 60,000 km ² per day (assuming ~70 min downlink time per day)
Imaging Modes	Strip, Single Spot, Area, Along-Track Stereo, Across-Track Stere
Payload On-board Storage and Downlink capability	X-band downlink with: <ul style="list-style-type: none">• 800 Mbps effective payload data rate• 900 GB data recorder storage with full redundancy On-board processing and AES-256 Encryption options are available

Platform

Parameter	Specification
Reference Orbit	500 km SSO 09:00 to 11:00 LTAN (All performance specifications are quoted at this reference orbit)
Lifetime	7-year mission lifetime De-orbits within 5 years of end of life Redundant avionic
Launch mass	<450 kg, compatible with Falcon 9 XL Rideshare slot
AOCS & Localisation	±45° off-pointing (compound angle) Geolocation pointing knowledge at Nadir (CE90): 45 m Absolute pointing error (1σ): 0.03° Slew rate of 60° in 60 s is supported for successive image captures
TT&C	S-band uplink rate 38.4 kbps (option up to 200 kbps available), S-band downlink rate 38.4 kbps, AES-256 Encryption.
Power	~120 W orbit average power generated (with 17 W OAP / 80 W Peak power made available to imager)
Propulsion	Water propulsion system: 30 mN thrust, 165 s Isp ~140 m/s total DV



Image credit: SSTL