



Image credit: Carbonite render 2019. Credit: SSTL

CARBONITE

Carbonite-1, launched in July 2015, demonstrated low-cost 1m GSD imagery and was followed by Carbonite-2 in January 2018 which provided the world's first commercial HD colour video from space.

Operating at an altitude of 500km, Carbonite satellites provide 1m GSD colour video employing a Forward Motion Compensation (FMC) imaging mode which enables captures of >120 seconds of a single target, adding a new dimension to high resolution EO imagery.

Applications

Suitable for a wide variety of commercial, civil and security applications:

- Change detection
- Pattern of life assessments
- Humanitarian and disaster management
- Global high resolution situational awareness
- National security
- Elevation model generation
- Infrastructure and asset monitoring

A constellation of Carbonite satellites provide extremely high revisit rates over key areas of interest. A constellation would also provide robustness against weather conditions and target concealment.

Imaging at different times throughout the day dramatically minimises the predictability of observations.

Payload

Parameter	Specification
GSD	1m
Swath	5.5km
Spectral bands	Optical (RGB Bayer)
Throughput	>200 images/day depending on GSN

Platform

Parameter	Specification
Reference orbit	500km SSO with 10:30 LTAN
Mission lifetime	5 years
Launch mass	107kg
Data storage	120GB
Downlink	400Mbps



To watch a showreel of videos from space taken by CARBONITE-2 head over to our YouTube channel 'SSTL TV'.