



**SMART
AND TO THE
POINT.**

LiteSat™

Autonomous End-to-End 24/7 Tactical ISR Space Platform

Very high resolution & high revisit (HR2C) empowering persistent ISR

LiteSat™, a next generation end-to-end space ISR system for both civilian and defense applications.

LiteSat™ designed for effective deployment of scalable and customizable large HR2C constellation.

The unique combination of a high revisit constellation capable of very high resolution imagery opens new use-cases and missions from space.

LiteSat™ brings to market a revolution in end-to-end space ISR solutions, from autonomous mission planning & operations through advanced and proven AI/ML driven data and intelligence exploitation.

Benefits

- Sovereignty & highly robust system design
- High performance to cost enables large constellation deployment
- End-to-end solution optimized for high revisit collection
- Large volume of near real-time, high-resolution data, maximizing effective utilization and ROI
- Customizable multi-sensor satellites meet customers needs
- Long service life at VLEO
- Minimal personnel required
- Efficient autonomous intelligence processing (CHD & ATR) based on proven AI/ML
- Flexible use case solutions from space (Intelligence gathering, disaster response, aid support, traffic monitoring, HLS border and asset control)





Autonomous constellations empowering impactful and smart intelligence generation

The LiteSat™ platform comprises of very-high-resolution, high-revisit constellations of microsatellites and state-of-the-art modular ground facilities that can be easily integrated with existing assets.

The Mission Control Center (MCC) provides all ground support functions required for complex ISR missions – including Mission Planning, Control, Data Handling and Exploitation – all based on RAFAEL's operationally-proven IMILITE multi-sensor, multi-mission intelligence platform.



Main Capabilities

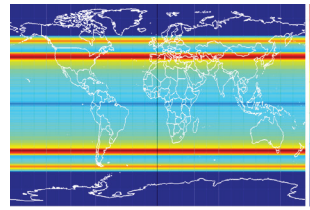
- Very high resolution
- Full spectrum VIS-IR-SAR
- High-revisit/looks rate at targets
- Full resolution video
- Near real-time collection
- Advanced image processing algorithms
- Geo-spatial big data analytics for intelligence extraction
- High rate of change detection with rapid follow-up
- Complete ground station
- Easy integration with existing systems
- Cutting-edge exploitation capabilities & tools

Constellation

No. of Satellites	2-100 satellites in constellation
Revisit Time	Sub 10 min, depending on number of satellites and orbit
Launch	Compliant with all commercially available launchers

Intelligence Products

Image Dissemination	Spot, Strip, Double Width Strip, Video
Exploitation Tools	Change detection & historical intelligence investigation; mosaic, stereo and 3D
Mapping Products	Orthophoto, DTM, DSM, 3D model, self-generated



Example of revisit frequency for 24-satellite constellation

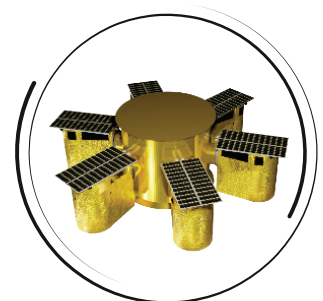
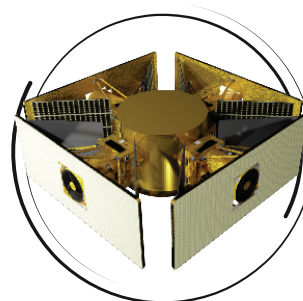


Imaging Resolution: 30 cm



Satellite

Satellite	EHR	EO	SAR+EO	SAR
Mass	100 kg	130 kg	200 kg	150 kg
Propulsion	Chemical		Electric	
Spectral Bands	Pan, RGB	Pan, RGB, SWIR, MWIR	Pan, RGB, SWIR, MWIR	-
Orbit Inclination	SSO or inclined			
Optimized mission altitude	400 km		350 km	
Day GSD @ Nadir	35 cm	30 cm	30 cm	-
Night GSD @ Nadir	-	2m MWIR	2m MWIR	-
Weather GSD @ Nadir	-	-	-	-
Positional Accuracy	15m CEP90			
Lifetime	6+ years			
Swath per Satellite	-	8km	8km	-
Imaging Modes	Spot	Spot, Strip, Stereo	Spot, Strip, Stereo	Spot, Strip
Video Capability	RGB 12 fps			-
Image Storage Capacity	2TB		6TB	
Communications	X-Band, S-Band			
Downlink	X-Band		X-Band, Ka Band	



Optimized for multi-satellite rideshare launchers



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UNC.62564/0120/32/82 ENG/ Studio | MSS