DRAGONFLY
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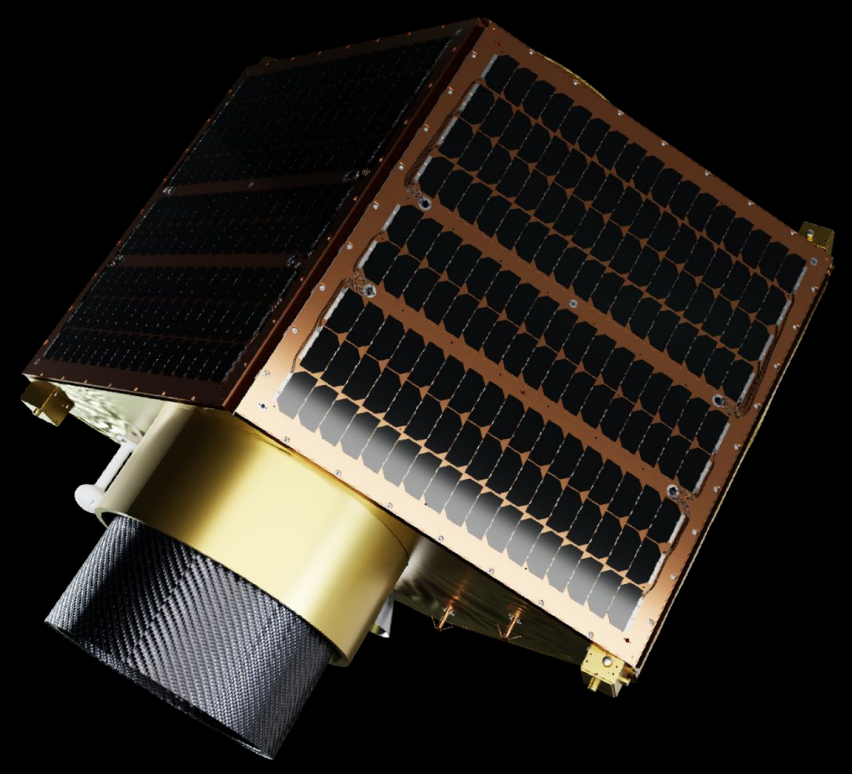
RAPTORSAT

Bus: µDragonfly

The highest resolution multispectral imaging solution for a wide range of Earth observation applications.



Spatial Resolution (GSD) at 500 km	0.5m PAN in 2 bands / 2m MS in 6 bands
Swath at 500 km	8 km
Mass	<200 kg
Design Life	5 Years
Ground Imaging Coverage	170 000 km^2 / day
Geolocation Knowledge Accuracy	<65m (3-sigma)
Pointing Control Accuracy	<0.01° (3-sigma)
Stability Control Accuracy	<0.0015°/sec (3-sigma)
Slew Rate	Up to 4°/sec
Image Compression	RAW, J2K lossless or lossy (10-bit per pixel)
Fully Automated AOCS	Through target tracking
TMTC on S-Band (CCSDS Compliant)	400 kbps down, 150 kbps up
Data Downlink on X-Band	Up to 2.5 Gbps
Orbit Average Power / Peak Power	Up to 140 W / 1200 W
Xenon Electric Propulsion System	15mN thrust

ABOUT DRAGONFLY AEROSPACE

Dragonfly Aerospace is an industry leader in world-class, high-performance imaging satellites and payloads. Our turnkey solutions for imaging satellites gets these strategic assets operational on orbit with the minimum time, cost and risk. Our imaging solutions enable our customers to create persistent views of the Earth in a wide range of spectrums for unprecedented business intelligence that helps improve the lives of people around the world.

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Use Cases From Similar On-Orbit Instruments

DEFENCE AND INTELLIGENCE

Very-High Resolution (VHR) imagery is used for military operations, surveillance, and intelligence gathering. This helps governments maximise security programs to better assess and understand the development of programs that will save lives, protect property, and enhance future economic stability.



Imagery of the Destroyed al Sousi mosque Gaza City, October 10, 2023, MAXAR TECHNOLOGIES

DISASTERS AND CRISIS AREAS

Assess the extent of damage from natural disasters and plan response and relief efforts. It aids in easily visualising areas impacted by a natural disaster and organising their response while quickly assessing the local situation, verifying the road conditions, and planning rescue activities accordingly.



Louisiana, United States, Hurricane Katrina, before and after | GeoEye-1

MARITIME DOMAIN AWARENESS (MDA)

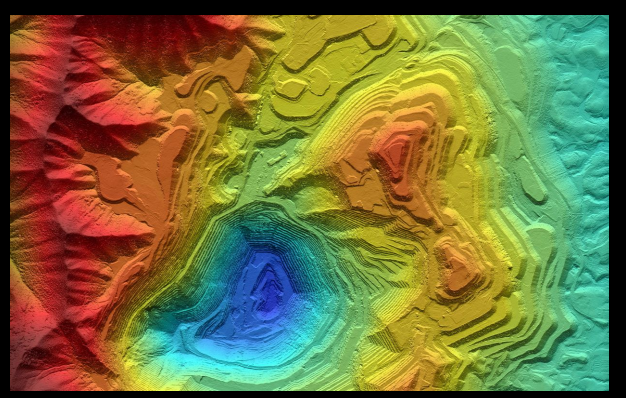
Detect and verify maritime activity anywhere in the world. Maritime enforcement agencies are responsible for monitoring vast regions with finite resources. VHR satellite imagery provides insights to help agencies quickly identify maritime traffic and monitor activity within their areas of interest.



Illegal fishing activities | MAXAR TECHNOLOGIES

DIGITAL ELEVATION MODELS (DEMs)

Using stereo and tri-stereo optical satellite imagery, elevation models can be created. Utilising spatial resolutions from 1 m can yield vertical accuracies of 10–15cm. These topographic surveys are suitable for diverse and demanding applications, spanning onshore oil fields, mine sites, engineering, site characterization, and geohazards.



Binham Canyon, USA | Kompsat-3 ©CGG

URBAN PLANNING, INFRASTRUCTURE MANAGEMENT AND RISK ASSESSMENT

VHR imagery provides detailed analysis for GIS maps to detect major changes in urban land cover and use to classify environmentally safe and sustainable areas for planning and proposed development. Additional uses include monitoring and inspect infrastructure such as roads, bridges, and power lines for linear infrastructure management.



Florence Italy | ESA