
planet.
@
SEE CHANGE
CHANGE THE WORLD
Sharks Bay, Australia

You can’t fix what you can’t see.

HISTORY OF PLANET

Founded in 2010 by a team of ex-NASA scientists, Planet is driven by a mission to image the entire Earth every day, and make global change visible, accessible, and actionable.

2010

PLANET FOUNDED

Planet founded by NASA scientists, Robbie Schingler, Will Marshall, and Chris Boshuizen

2013

FIRST LIGHT

Planet launched Dove 1 and Dove 2, early builds of the Dove satellite, into a SSO orbit

2014

MISSION 1 ESTABLISHED

CEO Will Marshall announces Planet's mission to image the entire Earth's surface every day at TED

2015

LAUNCHES

67 total satellites across four launches Planet acquires Blackbridge, and their RapidEye satellite constellation

Another 42 satellites are deployed across 5 more launches

2017

TERRA BELLA ACQUISITION

Planet acquires Terra Bella from Google, adding seven high-resolution SkySat satellites to the fleet.

Launched 146 satellites, including the record-breaking launch of 88 Doves on a PSLV rocket, and six additional SkySat satellites

2017

MISSION 1 COMPLETE

Planet is now able to image Earth's entire landmass on a daily basis

2018

VISION FOR QUERYABLE EARTH ANNOUNCED

Planet's vision to use machine learning to deliver a Queryable Earth is announced at TED.

Launch of Planet Analytics

Challenges

You need to make timely business decisions, but have inaccurate and outdated data, leading to:

Lack of Insight

Inaction

Uninformed Decisions

PLANET SATELLITES

Doves (PlanetScope)

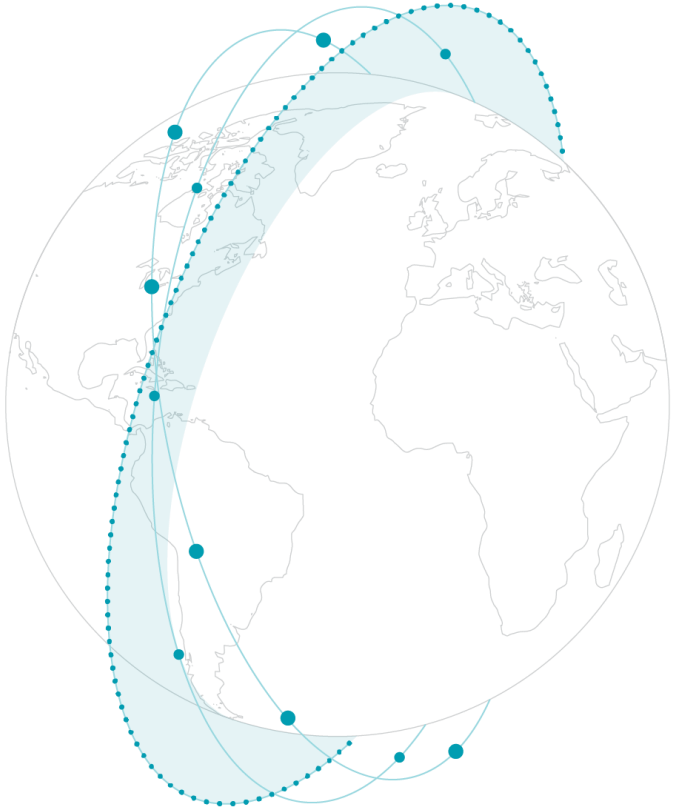
SATELLITES	GSD	CAPACITY
120+	**3.7 m**	**200 M km²**/day 4 band

RapidEye

SATELLITES	GSD	CAPACITY
5	**6.5 m**	**6.5 M km²**/day 5 band

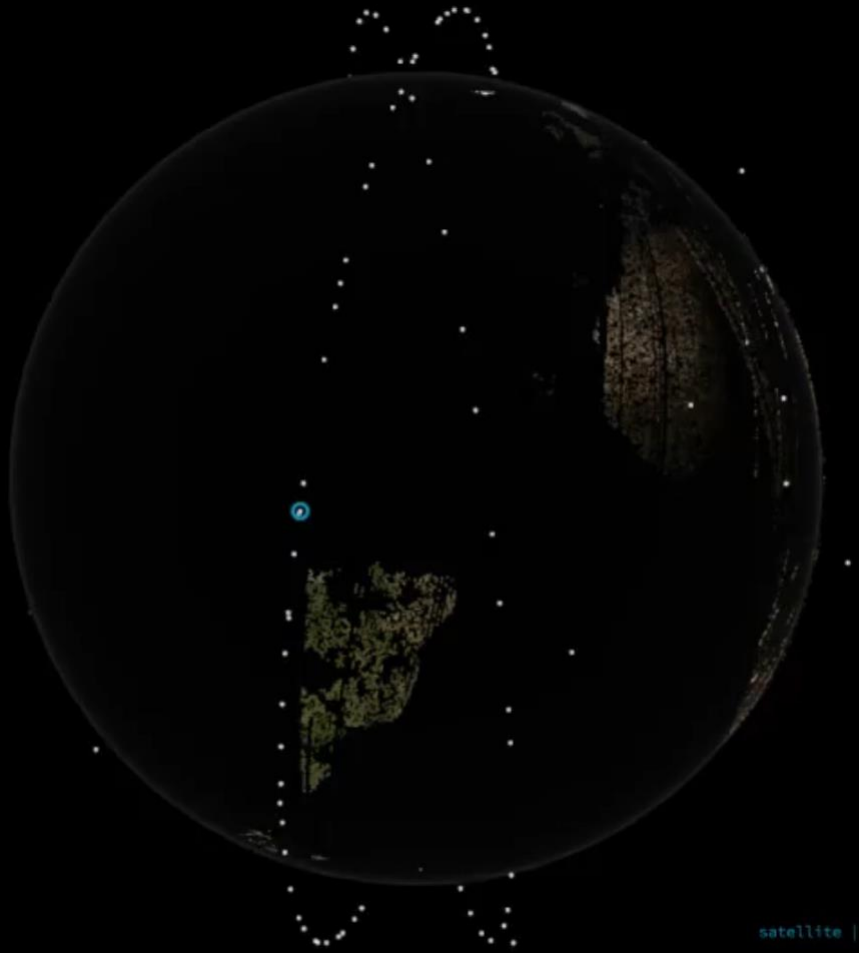
SkySat

SATELLITES	GSD	CAPACITY
14	**0.72 m**	**500 K km²**/day 5 band



OUR CONSTELLATIONS

Constellation	Dove (Planetscope)	RapidEye	SkySat
Orbit Altitude	475 km	630 km	500 km
Spacecraft #	120 +	5	14
Image capture capacity	346 million km²/day	6 million km²/day	500,000 km²/day
GSD (Nadir)	3.9 m	6.5 m	0.72 m PAN
Pixel Resampled	3.125 m	5 m	1 m
Telescope and Camera	Bayer mask CCD sensor	Push broom imager	CMOS Frame Camera with Cassegrain telescope
Spectral Bands	RGB and NIR	RGB, Red Edge and NIR	RGB, PAN and NIR


satellite | 0E30
2° N, 49° W
height: 0 km
speed: 7.61 km/s

1.3 MILLION
29 MP IMAGES EVERY DAY

AN AVERAGE OF
1200 IMAGES
for every point on the Earth's landmass

AREA COVERED
250
million km² per day

10X
ALL OTHER COMMERCIAL SOURCES AND PUBLIC SOURCES E.G. LANDSAT/ SENTINEL COMBINED!

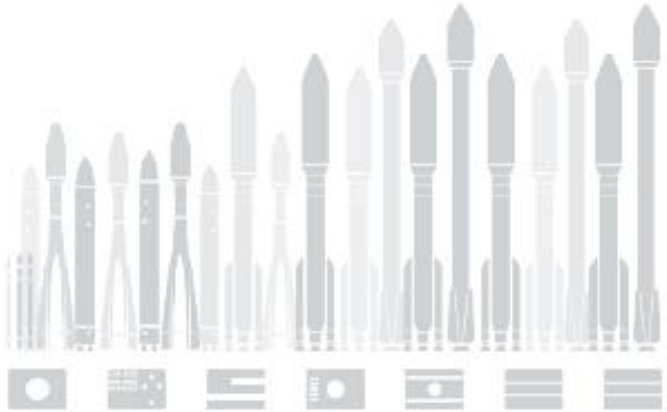
More than 2 times the total landmass of Earth!

11TB
DATA PER DAY DOWNLINKED

351 SATELLITE DEPLOYMENTS
FROM 10 ROCKET TYPES
10 SITES IN 7 COUNTRIES

45 GROUNDSTATION ANTENNAS

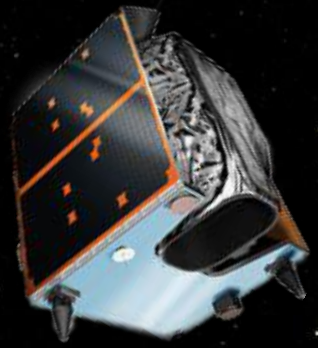
100%
SUCCESSFUL FIRST CONTACT



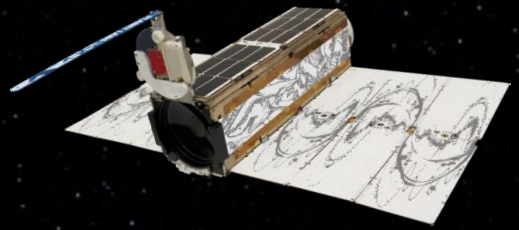
24
SUCCESSFUL LAUNCHES

planet.

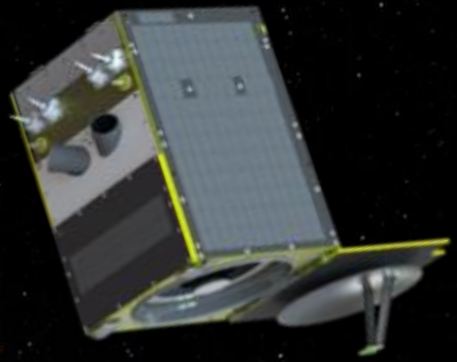
Planet’s industry-leading constellation



5 RapidEye Satellites



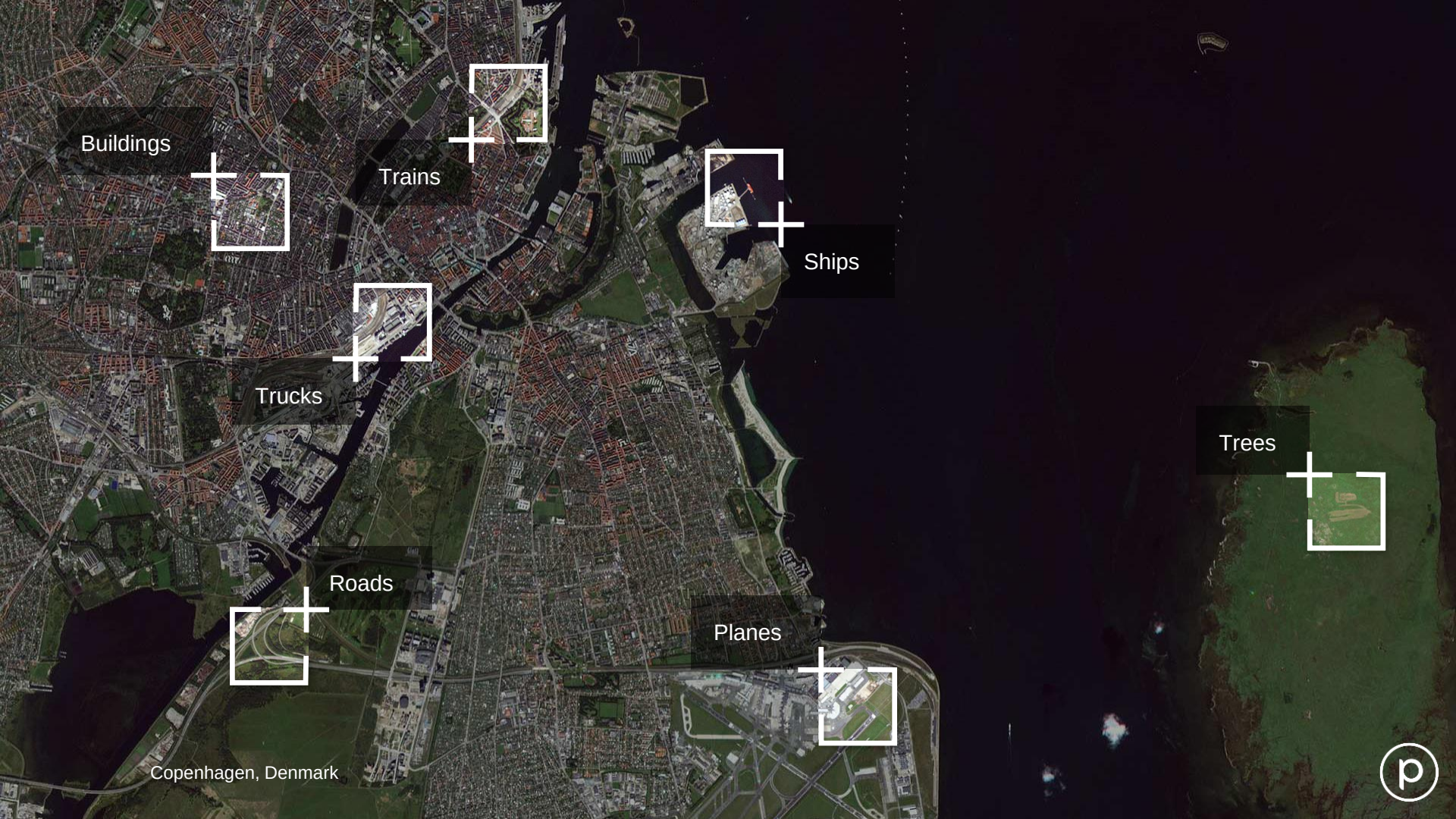
120+ Dove Satellites PlanetScope



14 SkySat Satellites

PLANET’S MISSION

To image the whole world every day, making change **visible, accessible and actionable.**

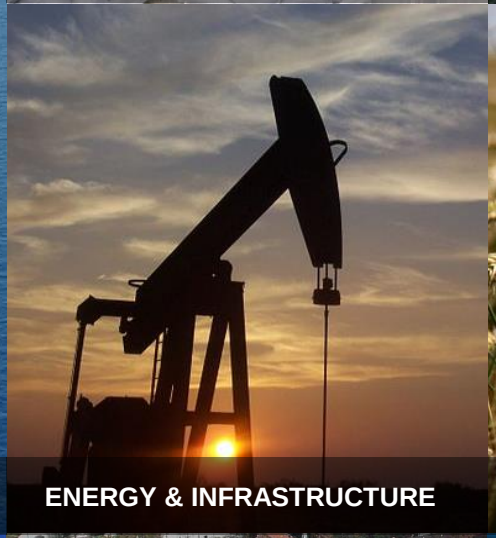

Buildings
Trains
Ships
Trucks
Trees
Roads
Planes
Copenhagen, Denmark


DEFENSE & INTELLIGENCE


EMERGENCY MANAGEMENT


FORESTRY


MAPPING

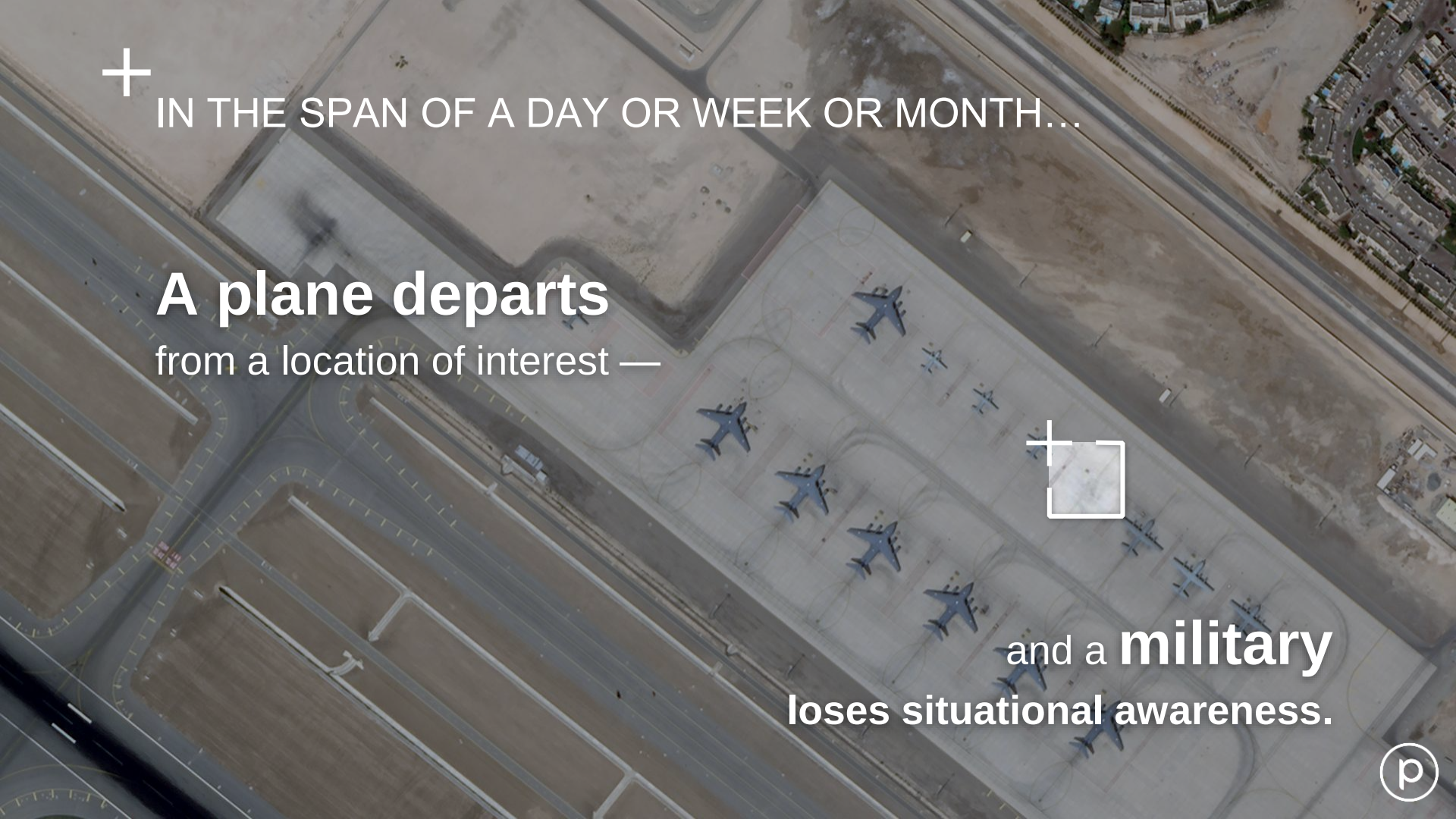

ENERGY & INFRASTRUCTURE


AGRICULTURE


CIVIL GOVERNMENT


INSURANCE


FINANCE & BUSINESS INTELLIGENCE

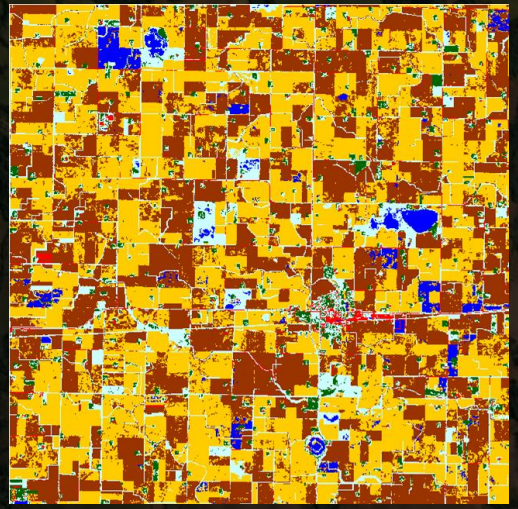

IN THE SPAN OF A DAY OR WEEK OR MONTH…
A plane departs
from a location of interest —
and a military
loses situational awareness.


IN THE SPAN OF A DAY OR WEEK OR MONTH…
An illegal logging road
appears in the forest...
and 1,000-year-old trees
are lost forever.


IN THE SPAN OF A DAY OR WEEK OR MONTH…
A community
is devastated by a natural disaster...
and the local government
lacks the ability
to deploy emergency
responders effectively.

Outcomes for Agriculture

Precise and Reliable Field-level Crop Information

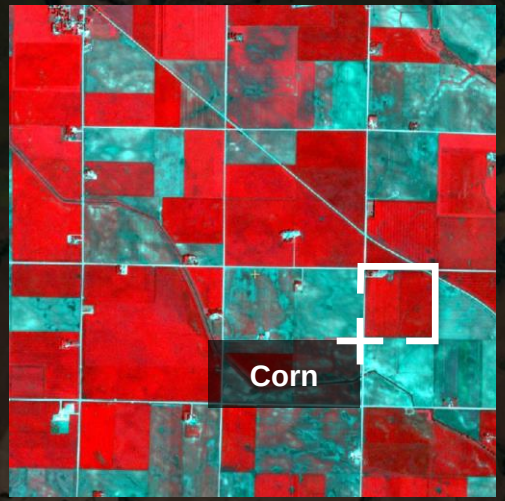


PREDICTING CROP YIELD

- SOY
- CORN
- BODIES OF WATER

MONITORING CROP HEALTH

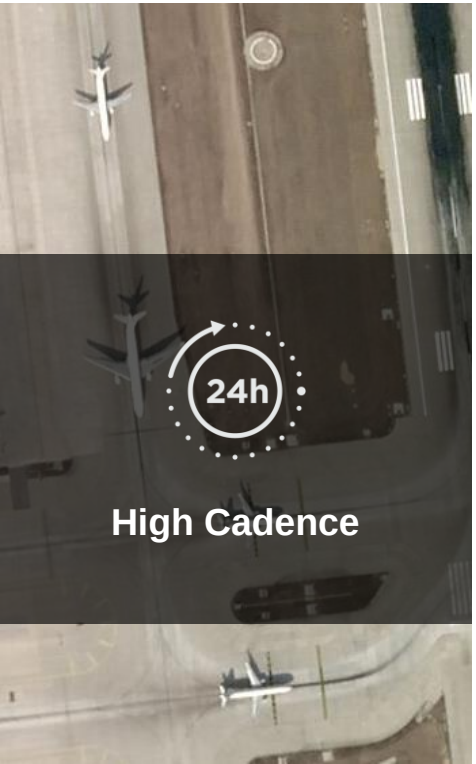
With NDVI at 3 meter resolution, customers are able to detect crop anomalies and trends

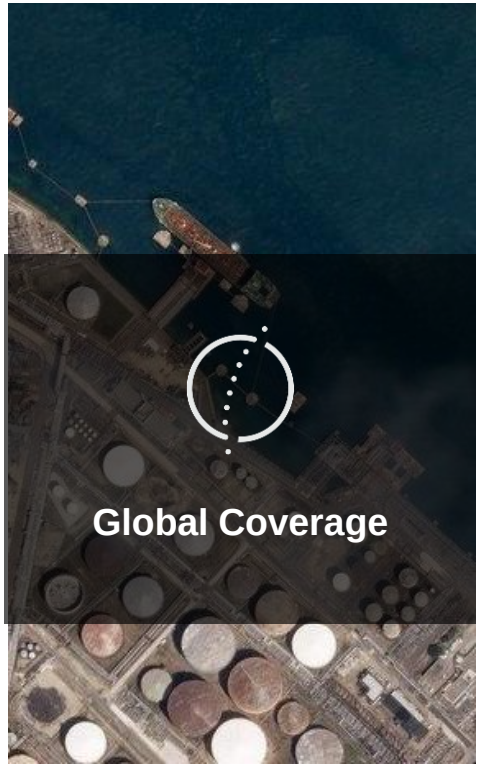


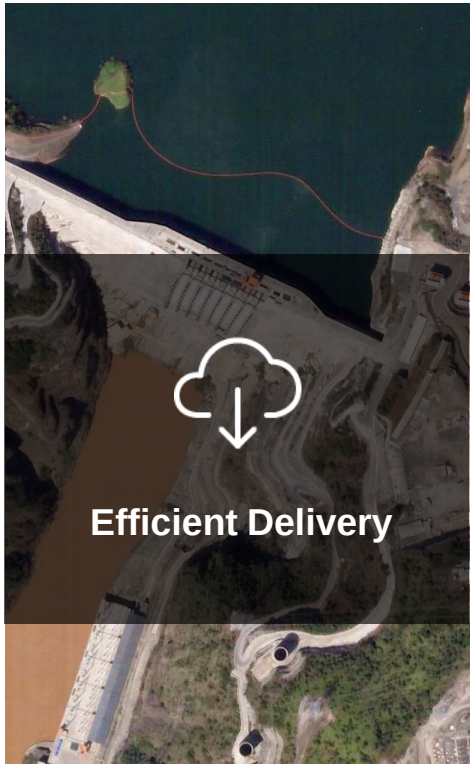
CROP CLASSIFICATION

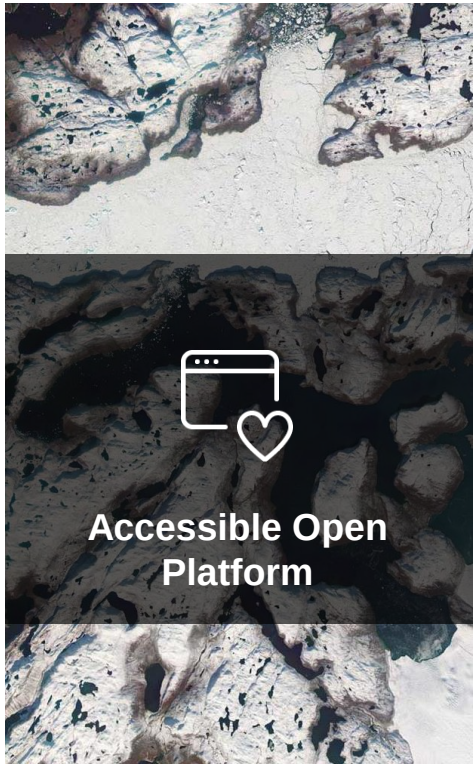
Planet's high-cadence visible & near-infrared data reveals patterns that help differentiate crop types early in the growing season

What drives value for our customers?









Our Solutions

PLANET
MONITORING

PLANET
TASKING

PLANET
BASEMAPS

PLANET
ARCHIVE

PLANET
ANALYTICS

PLANET
PLATFORM

London Array Wind Farm, United Kingdom – April 17, 2016

DELIVERY

Planet Explorer

APIs

esri QGIS

Integrations

INSIGHTS

Basemaps

Analysis-Ready Data

Raster Operations

Object Detection

Change Detection

IMAGERY

R & D

Manufacturing

Missions

Groundstations

Pipeline

PlanetScope

SkySat

RapidEye

Planet Platform

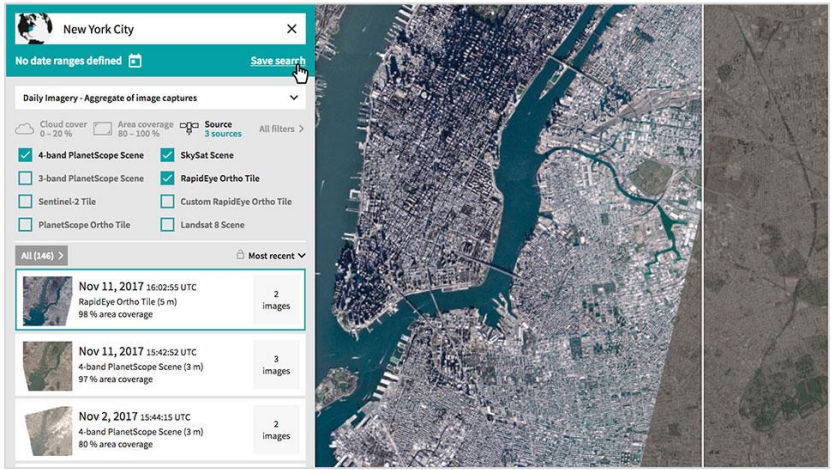
Automated, scalable, API-first

- **Fully-automated imagery processing.** Save time with imagery corrected for a variety of factors and analysis-ready, without costly post-processing or manual intervention.
- **Cloud-based access, speed, and scale.** Built to be fast and intuitive, enabling you to run analytics and extract information at scale.
- **API-first integration and download.** Programmatically search and download from our 6+ petabyte catalog with Planet's API, built on accepted REST, JSON, and HTTP standards

Planet Apps

Work the way you want

- **View and download** daily imagery directly through your browser with Planet Explorer
- **Observe changes** in your environment with Planet Stories
- **Access** the critical data that you need through Planet Basemaps Viewer
- **Integrate** with existing tools like Esri ArcGIS and Harris ENVI



Visit

- www.planet.com
- www.planet.com/explorer

- Contact us at any time!

Case Study

- **FOREST MANAGEMENT INSTITUTE, CZECH REPUBLIC**

Using PlanetScope as their primary dataset, FMI undertook a comprehensive geospatial analysis and created a national, public portal for forest stakeholders to assess and respond to the current bark beetle epidemic.

- Challenge:

FMI needed to identify, survey and report all beetle-devastated areas nationwide. This assessment was necessary for the government to understand the full scope of the issue, to mitigate further risk to valuable timber and deploy resources more efficiently. A lack of recent data, at the right resolution, on such a broad scale, previously made this task very challenging. FMI's surveys accounted for two types of events: sanitary logging (trees already cut down due to beetle-induced mortality) and dead forest stand (dead, infested trees that need to be removed to mitigate spread of disease).

ADVANTAGES OF PLANET'S DATA

FMI chose PlanetScope imagery, as it was uniquely positioned to help combat this problem by coupling high temporal cadence and spatial resolution.

CADENCE

Daily imaging increases the likelihood of capturing cloud-free pixels across the Czech Republic, enabling a higher quality, complete coverage, cloud-free monthly mosaic. Traditional satellite alternatives lack this coverage and consequently capture fewer cloud-free pixels during the cloudy, rainy season.

RESOLUTION

PlanetScope resolution allows FMI to work on a forest-stand / near individual tree level across a broad area, which is particularly relevant for early detection of pests as outbreaks are initially localized before they spread.

SOLUTION

FMI leveraged multiple data sources to conduct their analysis. Data derived from Sentinel-2 (tree species layer) and the Czech national aerial inventory (tree height) were used to identify candidate tree areas, which were mostly mature Norway Spruce trees and to exclude deforestation from previous years. FMI combined this dataset with a countrywide mosaic created from Planet's RGB and NIR imagery, to conduct vegetation analyses and ultimately identify dead forest stand and sanitary logging.

2017 National Aerial Inventory Data

2017 Sentinel-2 Derived Data

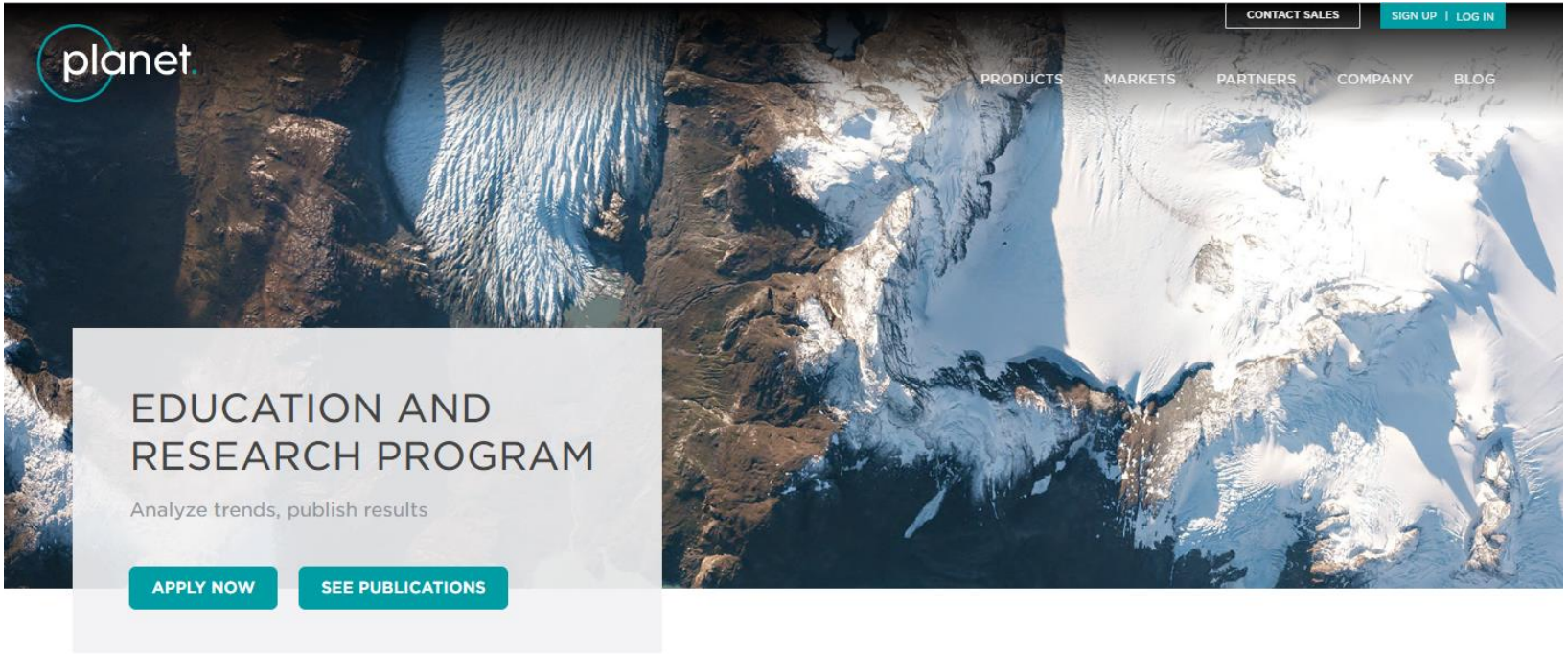
Identify canditate trees, and exclude previous deforestation

Sept 2018 PlanetScope RGB and NIR

Machine learning based on NDVI and TGI indices to identify beetle activity

Detection of sanitary loggings and dead forest stand in 2018

https://www.planet.com/markets/education-and-research/

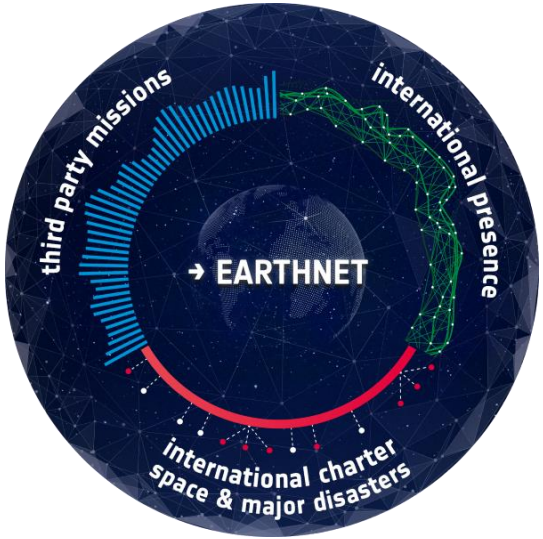


https://www.planet.com/markets/education-and-research/

GET STARTED TODAY

Level up your research and your classroom with flexible program offerings.

	BASIC	DEPARTMENTAL	CAMPUS
Users	Students and faculty	Grantees and research teams	Professors, administrators and your entire campus
Download Quota	10,000 km^2/month	50 Tb / year	300 Tb / year
License	Personal research license	Administrative license	Administrative license
	APPLY NOW	CONTACT SALES	CONTACT SALES



esa Earth Online

The European Space Agency (ESA) entered an agreement with Planet to gain access to both PlanetScopeand SkySat constellations—with the aim of having these tools complement data drawn from ESA's own earth observation satellites and Third Party Missions.

Useful links

- https://earth.esa.int/web/guest/missions/3rd-party-missions/current-missions/planetscope
- https://earth.esa.int/web/guest/-/planetscope-full-archive
- https://earth.esa.int/web/guest/-/skysat-full-archive-and-new-tasking

- **How to access this data?**

Data are available after project proposal acceptance.

https://earth.esa.int/aos/planetscope

Planet acquired St. Louis-based geospatial software solutions company Boundless earlier this year, and today we are excited to announce that we are open-sourcing two key Boundless code bases, freeing the projects to evolve with their communities.
The first of these is Staccato, a Java-based catalog that implements the SpatioTemporal Asset Catalog (STAC) specification that Planet helped author. We have a number of users who maintain copies of Planet's catalog to meet security, disaster mitigation, or latency reduction requirements, and Staccato provides an ideal, standards-based solution for these use cases.

We are **open sourcing** two products that were created by Boundless before Planet acquired them.

- One was called Boundless Server Enterprise, which provides a more scalable backend to GeoServer. We are renaming Boundless Server Enterprise to **Stratus**.
- The second is called **Staccato**, which is a Java implementation of the STAC specification and enables cataloging and searching of satellite imagery and derived assets.

Access this software now at the github repositories:

github.com/planetlabs/stratus
github.com/planetlabs/staccato

Thank you

APPENDIX

Agile Aerospace

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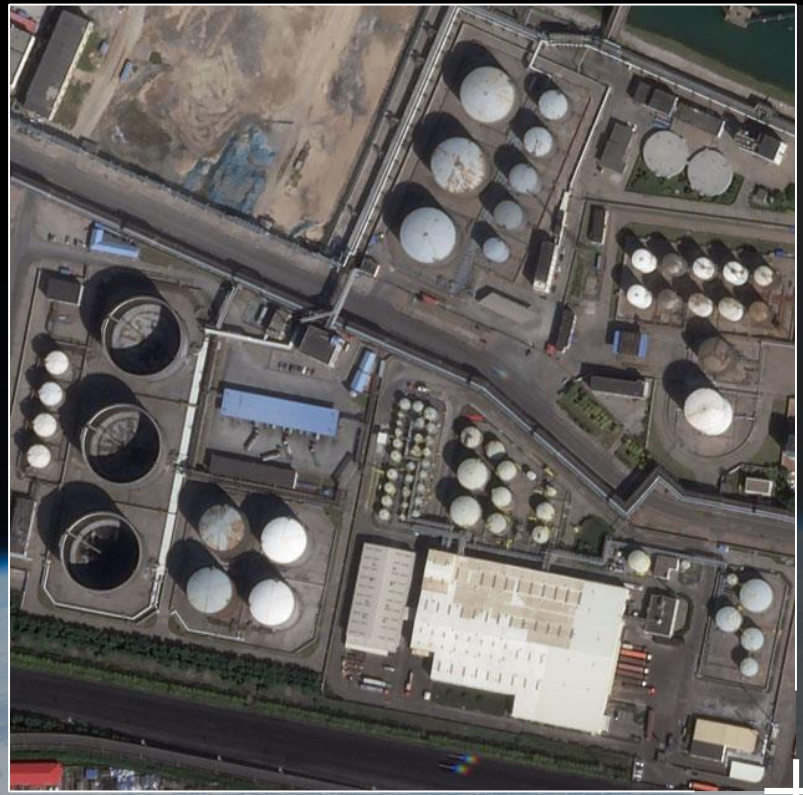
Builds in only 3 years

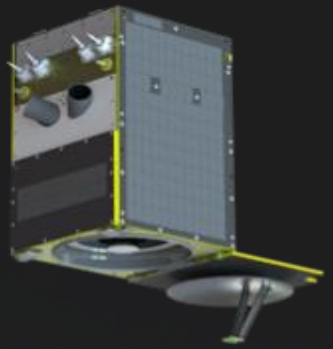
The largest constellation of Earth-imaging satellites

THE GOAL:

Make the Earth searchable
the same way Google makes the
internet searchable


2016.07.20
planet.

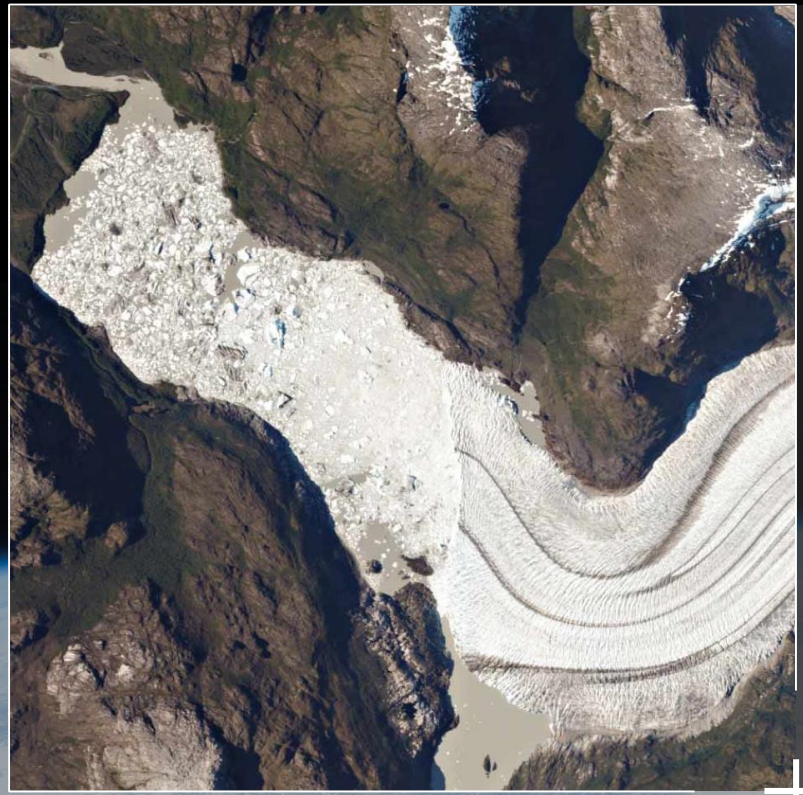


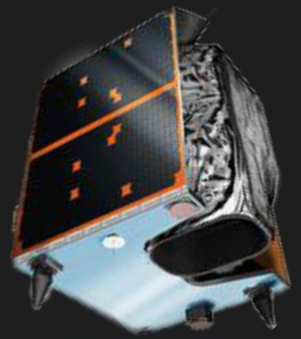


SkySat

SATELLITES	GSD	CAPACITY
14	**0.72 m**	**500 K km²**/day

ORBIT ALTITUDE	SPECTRAL BANDS
500 km	**RGB, PAN** and **NIR**

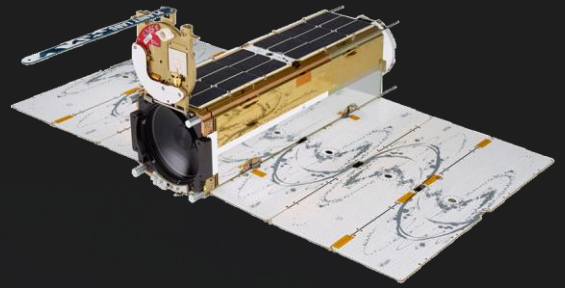




RapidEye

SATELLITES	GSD	CAPACITY
5	**6.5 m**	**6 million km²**/day

ORBIT ALTITUDE	SPECTRAL BANDS
630 km	**RGB, Red Edge** and **NIR**



Doves

SATELLITES	GSD	CAPACITY
120+	**3.9 m**	**200 million km²**/day

ORBIT ALTITUDE	SPECTRAL BANDS
475 km	**RGB** and **NIR**