



Leveraging Space Technology: Solutions and Applications Using Planet Satellite Data in India



Partha Ghosh, Presales Head – India, Planet

NEW PARLIAMENT • India • June 2, 2023

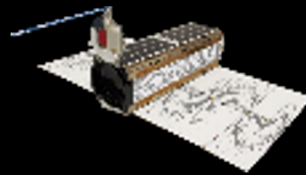
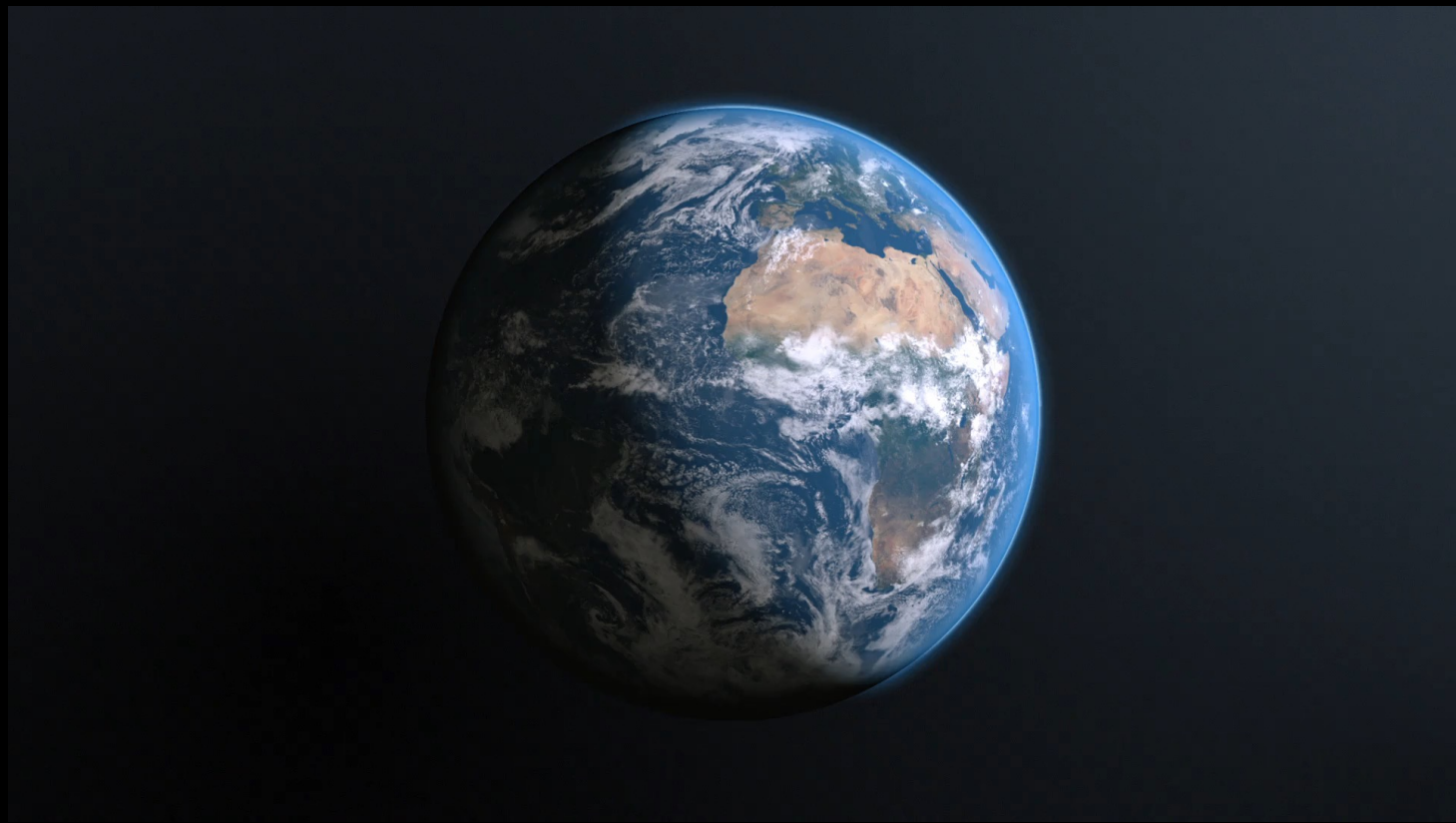


PLANET'S MISSION

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

Our Public Benefit Corporation (PBC) Purpose:

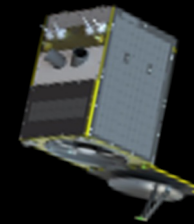
To accelerate humanity toward a more sustainable, secure, and prosperous world by illuminating environmental and social change.



Planetscope

Always-on Monitoring

- ~180 satellites
- Up to 300 million km² / day
- 8-band
- Unique scanning



SkySat

- ~20 satellites
- 50cm resolution
- RGB, NIR, and Pan bands
- Sub-daily tasking





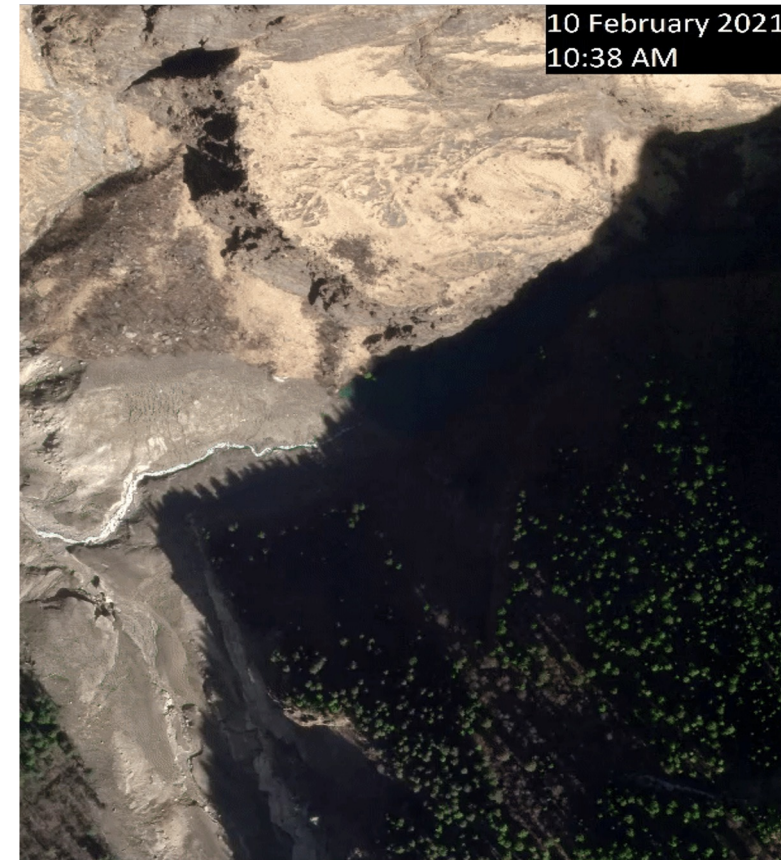
Planet offer Near Daily and Subdaily Imagery

Planetscope (3m)



Nebraska growing season 2018
Planetscope Near Daily

SkySat (50cm)



Rishiganga Landslide Lake 2021
SkySat Sub-daily





Planet offer Near Daily and Subdaily Imagery



Corey Jaskolski • 2nd
CEO at Synthetica where we are fast-tracking the world's transition to prac...
Thanks Jim! We couldn't have done this without the unique daily global satellite imagery that the Planet constellation collects. There is an untapped treasure trove of current, historical, and future insights in that data waiting to be discovered!

Like · 🌐 11 | Reply · 1 Reply

Jim Thomason **Author**
VP Product at Planet
Couldn't have said it better myself! Thanks Corey and please keep finding the various 'needles in the haystack'!

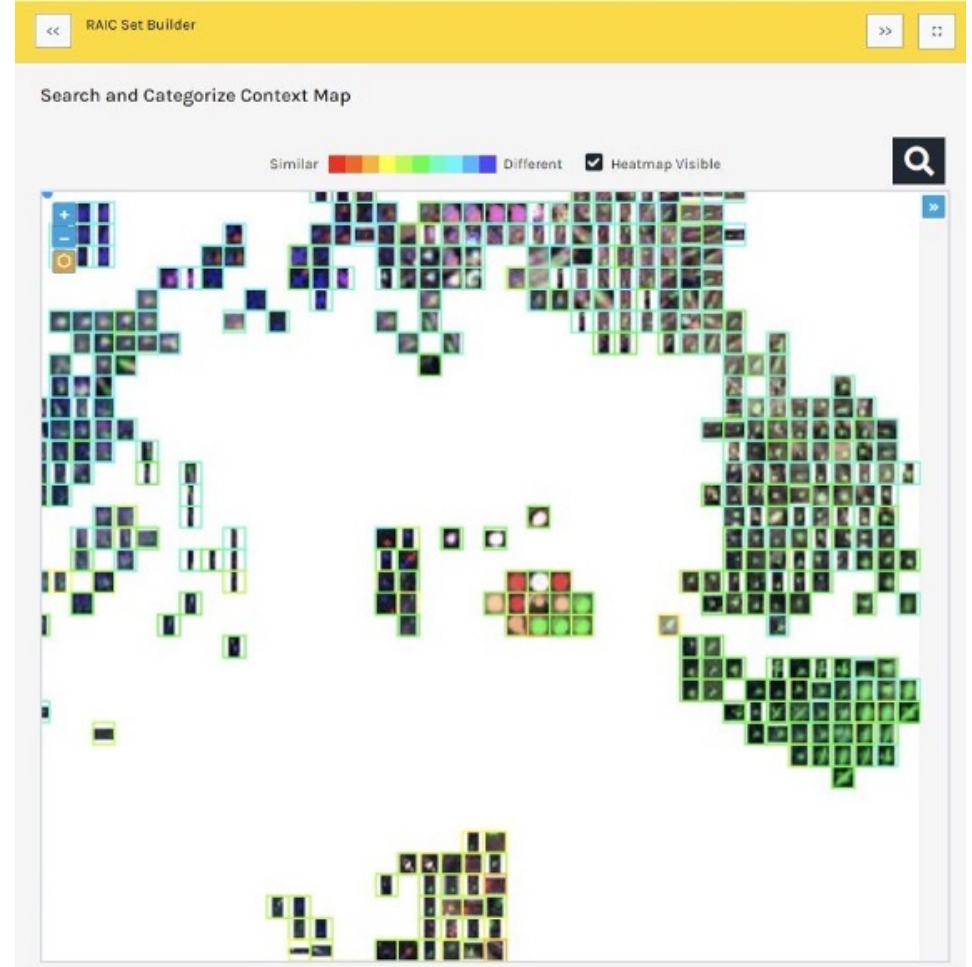
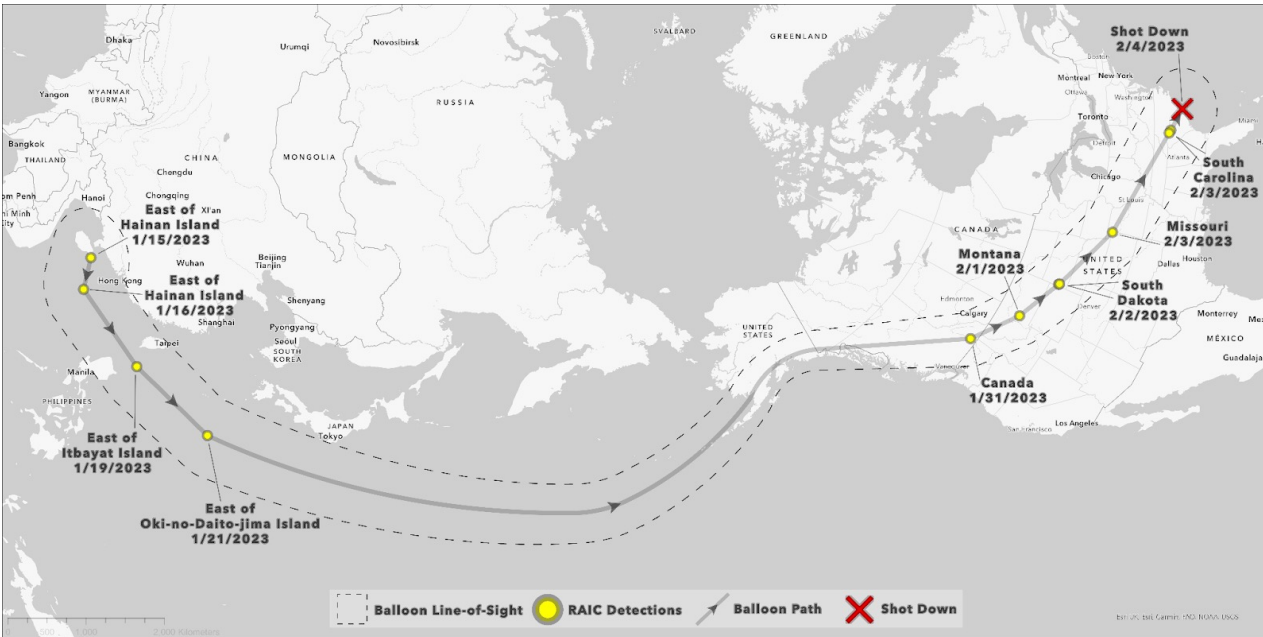
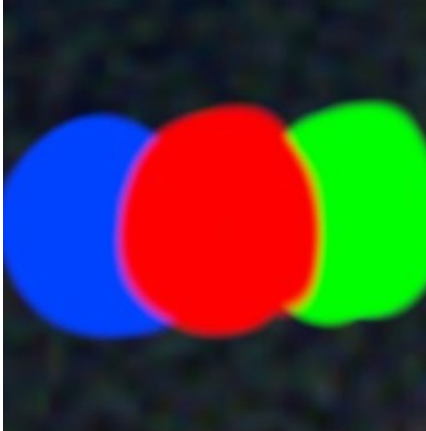
Like · 🌐 3 | Reply

Chinese Balloon in US Air space: Could be part of a new space race closer to Earth





Planet offer Near Daily and Subdaily Imagery



2000 imagery in any point of earth





CHINESE BALLON FLYING OVER MISSOURI • Planetscope (3m)



CHINESE ROAD EXPANSION, 19 Oct 2017

29.140877°N 95.097321°E



Planet offer High Resolution and Very High Resolution Imagery

Chinese Ship in Hembantota Port, Sri Lanka



Planetcope (3m) 17-Aug-2022



Planet SkySat (50cm) 19-Aug-2022



On Demand Tasking



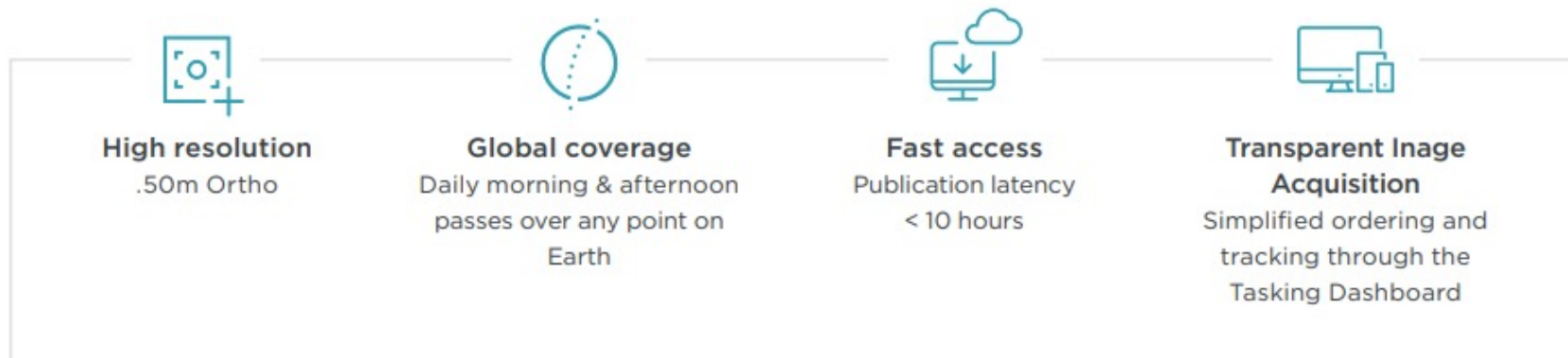


Quick Access of Imagery



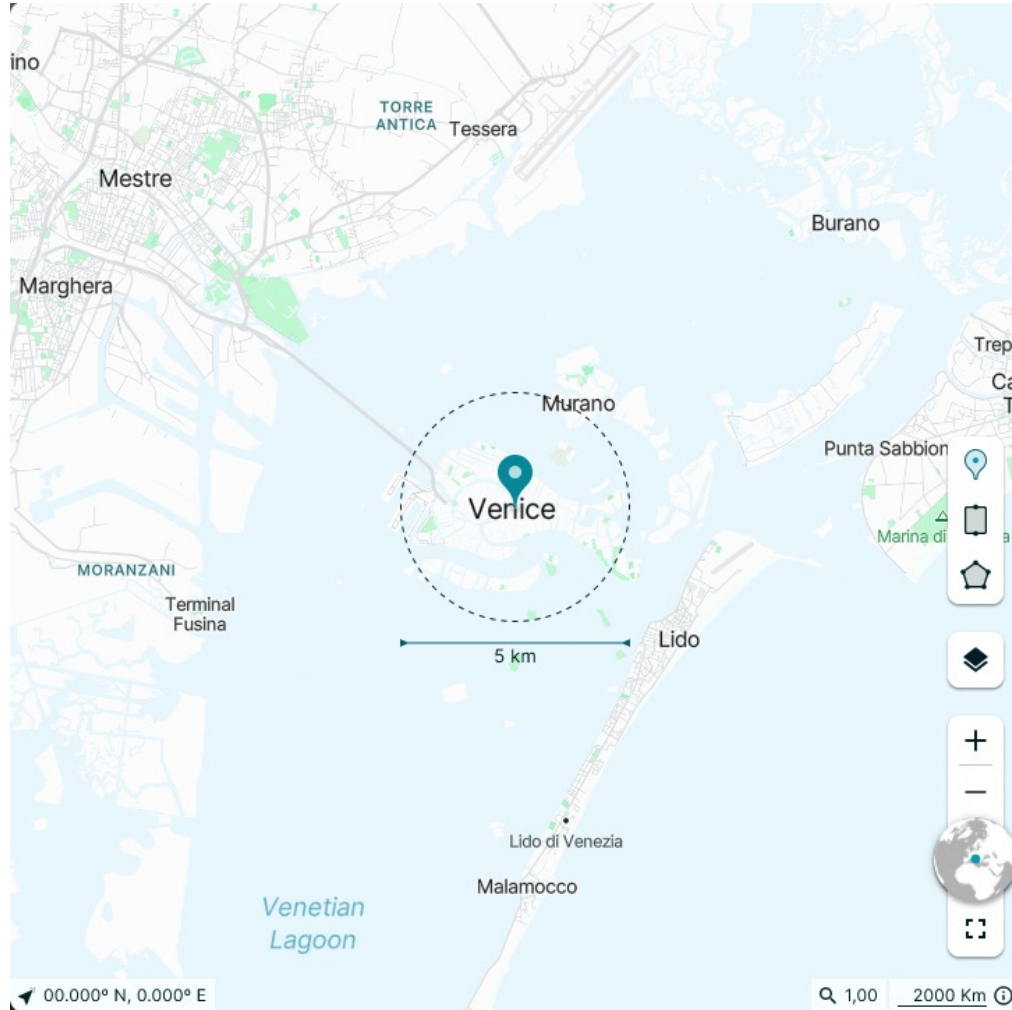
The accelerating pace of global change demands that organizations have rapid access to fresh and accurate information. But the traditional satellite tasking model hasn't evolved to deliver high-resolution imagery reliably and quickly, limiting intelligence gathering and hampering decision-making.

Planet Tasking empowers organizations with global access to high-frequency, very-high-resolution (50 cm) imagery on their own terms, giving them intelligence and visibility multiple times per day. Built for flexibility and frequency, Planet offers the highest coverage capacity and revisit cadence of any commercial provider, allowing organizations to image any point on Earth multiple times a day, including hot spots where there was previously competition for scarce resources.





Tasking Dashboard : Free to Control Tasking Area



Create an order

Rialto Bridge, Venice, Italy

GEOMETRY

Point

Line

Area

Coordinates

Geojson

Upload

What's new

Point coordinates

Latitude, Longitude

45.437981, 12.33487

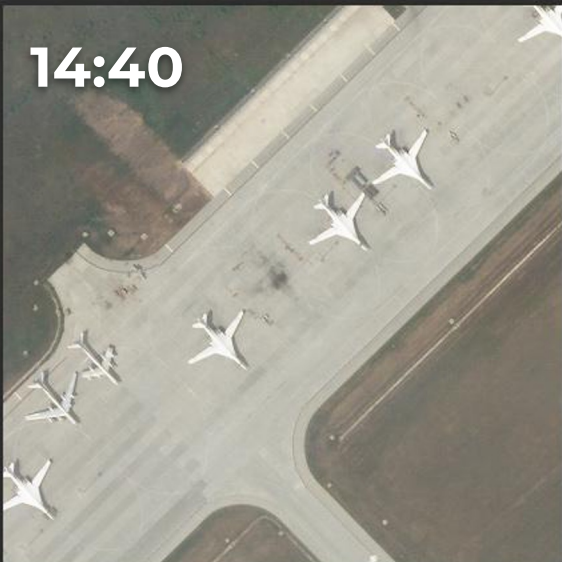
Requested area*

25 km²

* The amount of square kilometers stated as requested area is to be deducted from the tasking quota in your contract.

Next





High intra-day cadence:
already available with
SkySat

Rapid Revisit

Engels Air Base, Russia
July 15, 2021

all times SAMT



2020



2023



NGARI GINSA AIRFIELD • Tibet • SkySat (50cm) . 2020 & 2023





LHASA AIRPORT • Tibet • Skysat (50cm) • May 24, 2020



LHASA AIRPORT • Tibet • Skysat (50cm) • May 20, 2023



HOTAN AIRPORT • Tibet • Skysat (50cm) • April 25, 2020



HOTAN AIRPORT • Tibet • Skysat (50cm) • May 22, 2023



SUBMARINE AT YULIN NAVAL BASE • Hainan Island, China • Skysat 50cm, 18 August 2020





Hainan, China • 12 December 2019





Tip & Cue





Planet Data Reveals Critical Geopolitical Developments



This is the second time in two months the public has discovered what we have been saying all along about the growing threat the world faces and the veil of secrecy that surrounds it.



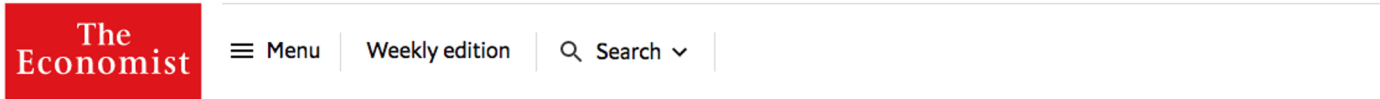
nytimes.com
A 2nd New Nuclear Missile Base for China, and Many Questions About Strate...
Is China scrapping its "minimum deterrent" strategy and joining an arms race?
Or is it looking to create a negotiating card, in case it is drawn into arms ...

3:28 PM · Jul 27, 2021 · Twitter Web App

419 Retweets 137 Quote Tweets 856 Likes



*"the Federation of American Scientists (FAS), a research group, said it had spotted China building as many as 110 silos for intercontinental ballistic missiles (ICBMs) near the city of Hami, in eastern Xinjiang (see picture). A month earlier, the James Martin Centre for Nonproliferation Studies, an NGO in California, had identified 120 silos being built in Yumen, in the desert of Gansu, a neighbouring province. **Both outfits found the sites by poring over satellite imagery from Planet, an American firm.**"*



China

Jul 31st 2021 edition >

Select your shell

China is rapidly building new nuclear-missile silos

The Washington Post

Commercial satellites – not U.S. intelligence – revealed China’s missile program





MISSILE SILO CONSTRUCTION

Gansu Province, China
January 23, 2021

Source: PlanetScope





**MISSILE SILO
CONSTRUCTION**

Gansu Province, China
January 23, 2021

Source: Planetscope

An aerial photograph of a desert landscape in Gansu Province, China, showing the construction of a missile silo. The terrain is a mix of brown and tan hues, with a network of light-colored roads and tracks crisscrossing the area. A prominent feature is a large, roughly rectangular excavation site in the lower right quadrant, which is the silo's shaft. This site contains several small, colorful structures and equipment. Other smaller, similar-looking sites are scattered across the landscape, particularly along the road network. The overall scene depicts a large-scale military engineering project in a remote, arid environment.

**MISSILE SILO
CONSTRUCTION**

Gansu Province, China
June 6, 2021

Source: Planetscope



MISSILE SILO CONSTRUCTION

Gansu Province, China

July 16, 2021

Source: SkySat





15 August 2021



15 August 2021

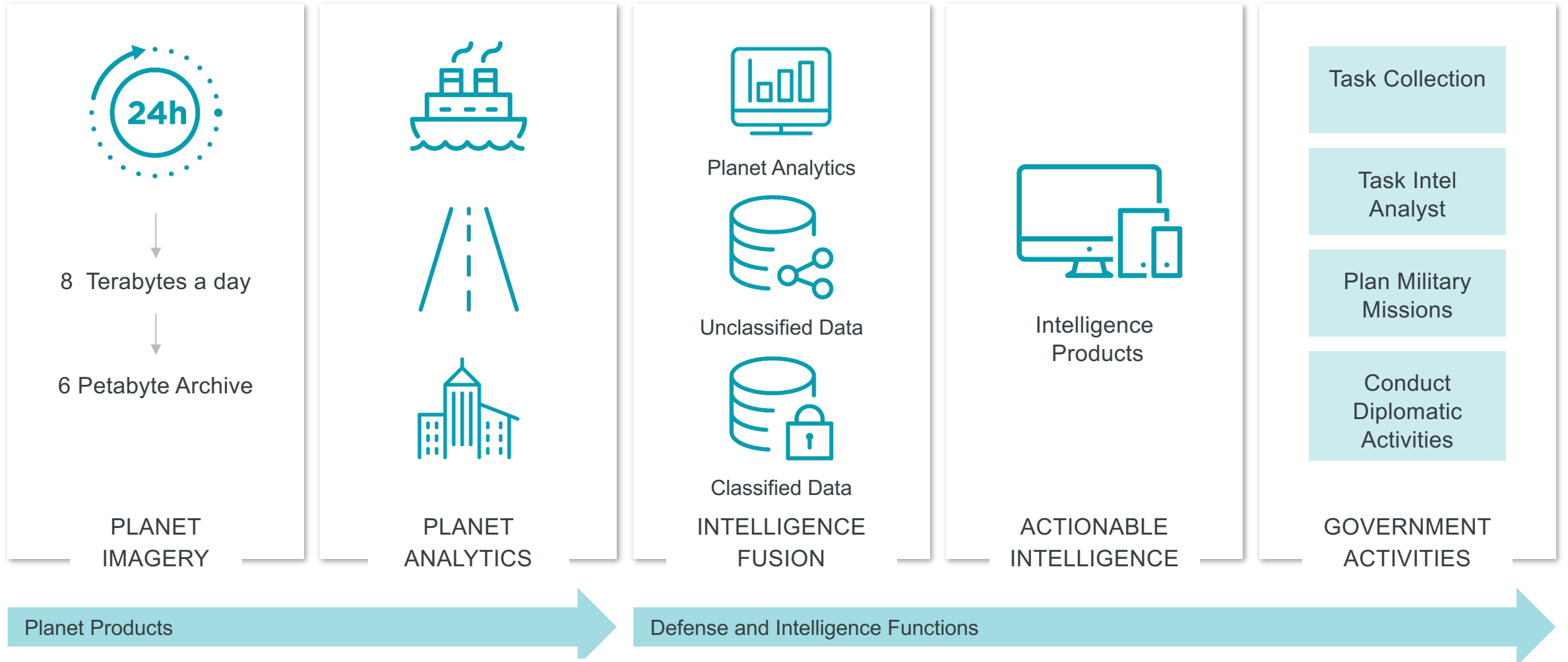


15 August 2021





Defense & Intelligence Value Chain





Planet Analytic Feeds

Speed your time to insights

Improve your team's productivity by leveraging computer vision techniques to run analytics at scale, and see a broader view of land-classification types and new objects. Detect changes and easily access results through modern APIs, web applications, and integrations for faster insights.

OBJECT DETECTION FEEDS

Find objects of interest in PlanetScope imagery



Vessel



Aircraft



Well Pad



Silo Bag

SEGMENTATION FEEDS

Automatically extract features from Planet Basemaps



Road



Building

CHANGE DETECTION FEEDS

Automatically extract changes from series of Planet Basemaps



Road Change



Building Change



+ Ship Detection Feed Viewer

www.planet.com/feeds

The screenshot displays the Planet Labs Ship Detection Feed Viewer interface. The top navigation bar includes the Planet Labs logo, the text "ANALYTIC FEEDS", and user profile icons. The left sidebar contains a "Back to subscriptions" link, the title "Ship Detection, Malaysia", a date range of "2021/03/01 - 2021/04/20", a "Show zero detects" toggle, and a list of five detection events. Each event includes a thumbnail, the date and time in UTC, the sensor type "PSScene3Band", and a count of detections. A "Review & export detects" button is located at the bottom of the list. The main map area shows a satellite view of the region around Iskandar Puteri, with a yellow polygon highlighting a specific area. This area is filled with numerous red and pink dots, representing detected ships. The map also shows geographical features like "Sungai Pulai Mangrove Forest Reserve". The top of the map area includes a "Visualization" menu, a "Show all time" toggle, and a "Confidence" slider set to 100%. A zoom control with "+" and "-" buttons is visible in the bottom right corner of the map.

| Date and Time (UTC) | Sensor | Detection Count |
|-------------------------------|--------------|-----------------|
| 18 April 2021, 02:45:17.8 UTC | PSScene3Band | 8 |
| 18 April 2021, 02:45:13.1 UTC | PSScene3Band | 10 |
| 15 April 2021, 02:42:30.3 UTC | PSScene3Band | 6 |
| 15 April 2021, 02:42:27.9 UTC | PSScene3Band | 40 |
| 15 April 2021, 02:42:25.6 UTC | PSScene3Band | 5 |





Planetscope 3m

APRIL 1, 2018

Ship detections spot a navy exercise by China's People's Liberation Army Navy just south of Hainan, China.





Future Mission





VISIBLE

High Revisit, High Res Data

Meet Pelican



Planet's next-generation satellite constellation for delivering high-resolution, rapid revisit information – anywhere on the globe.

RESPONSIVE • RAPID REVISIT • HIGHLY PRECISE • INTEROPERABLE

EXPANSIVE
COVERAGE

UP TO

30

satellites¹

GREATER
PRECISION

30

cm
resolution

MORE
CAPTURES

UP TO

30

captures per
day

HIGHER DAILY
REVISITS

Approximately

30

minute
revisit time

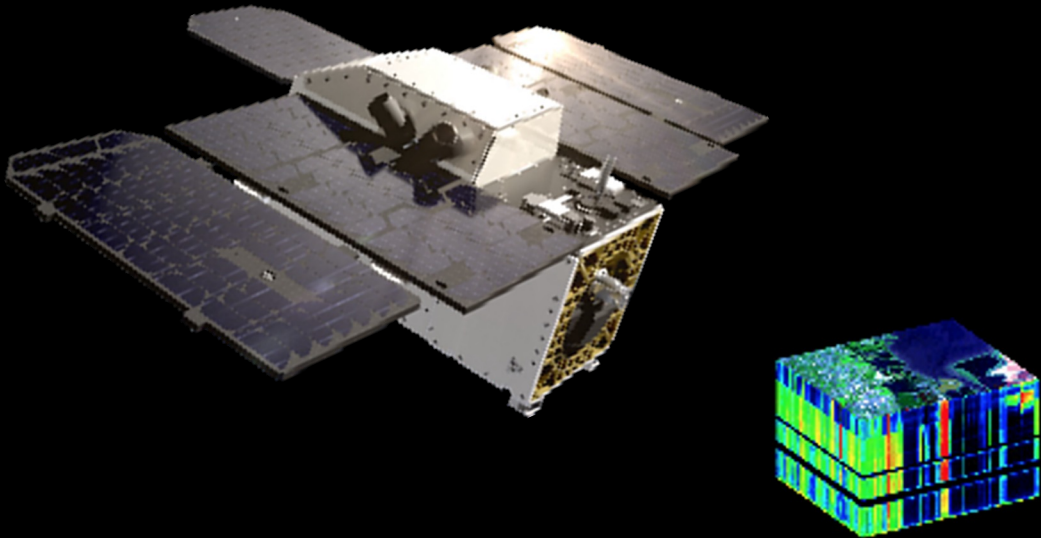




VISIBLE

High Precision Hyperspectral Data

Brought to you by Tanager



Hyperspectral imaging captures the unseen, revealing valuable information that enables improved modeling, reduced uncertainty, and better, more efficient decision making.

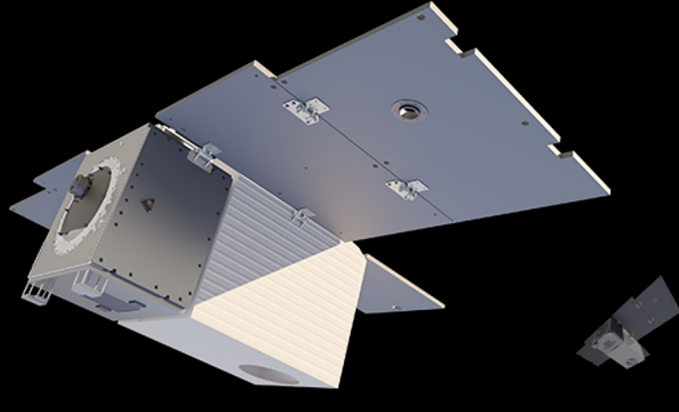


- CROP DIFFERENTIATION • BIODIVERSITY TRACKING
- METHANE MONITORING • MATERIALS IDENTIFICATION
- ENVIRONMENTAL SITE ASSESSMENT
- SOIL CHARACTERISTICS • AND MANY MORE



Tanager

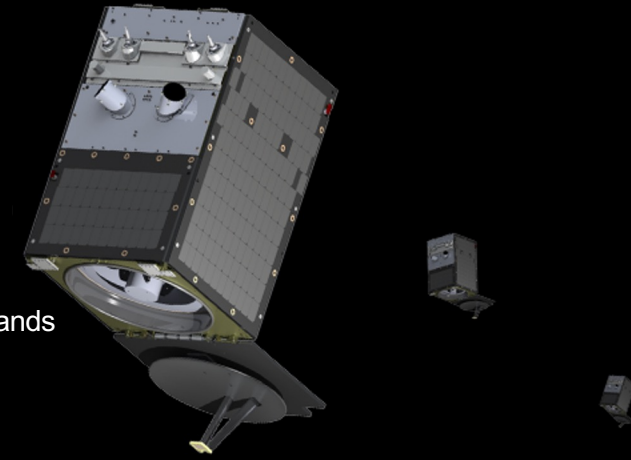
- 400 - 2500 nm
- ~400 5nm bands



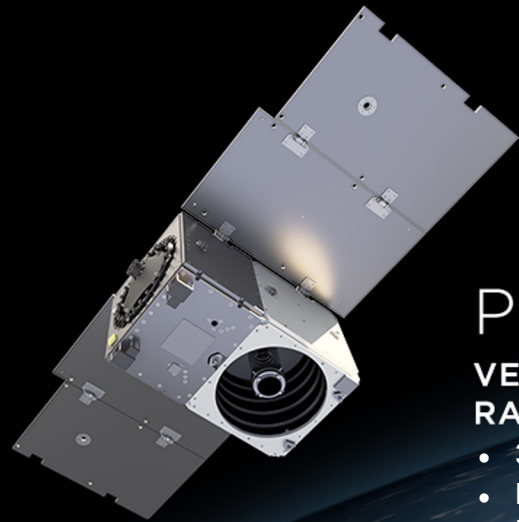
SkySat

50 CM TASKING

- 50cm resolution
- RGB, NIR, and Pan bands
- Sub-daily tasking



PLANET IS Agile Aerospace

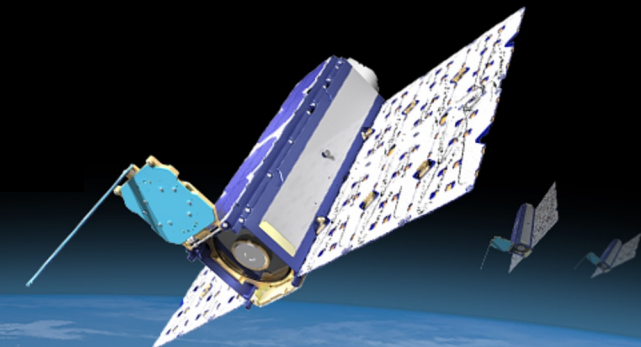


Pelican

VERY HIGH-RESOLUTION RAPID REVISIT

- 30cm resolution
- Pan + 6 RGB+NIR bands
- Up to 30 revisits/day

Automated Mission Control



SuperDove

3-5 M MONITORING

- ~180 satellites
- Up to 300 million km² / day
- 8-spectral bands

Planetary Scale
Processing Pipeline

PROPRIETARY AND CONFIDENTIAL - DO NOT SHARE

Not shown to scale

Thank You.

For more information, you may find us here:



 planet.com



 @planet



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