



Capella Space

Operational and Actionable Geointelligence

Jeff Hurley, Director of Business Development

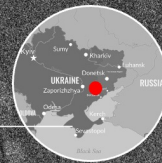
Jeff.hurley@capellaspace.com

Max Chua, Director of Sales, Asia-Pacific

Max.chua@capellaspace.com

Novofedorivka
Zaporizhia Oblast, Ukraine

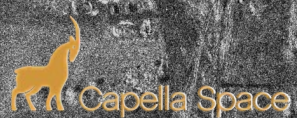
April 11, 2023
47.452, 36.083°



Anti-Tank Ditch

Devils Teeth (Defensive Obstacle)

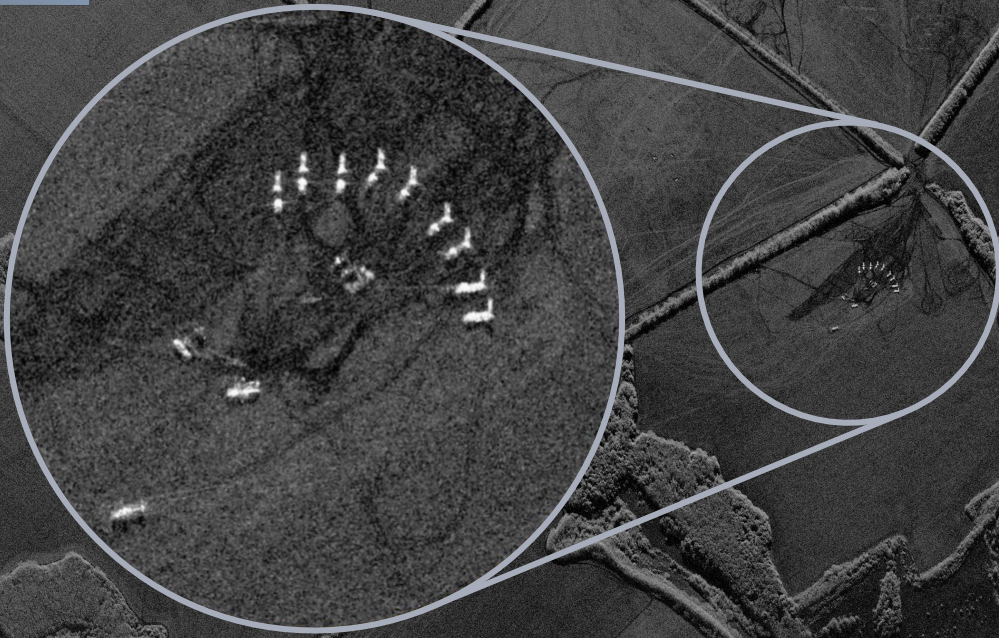
Primary Defensive Trench



Middlebury Institute of
International Studies at Monterey
James Martin Center for Nonproliferation Studies



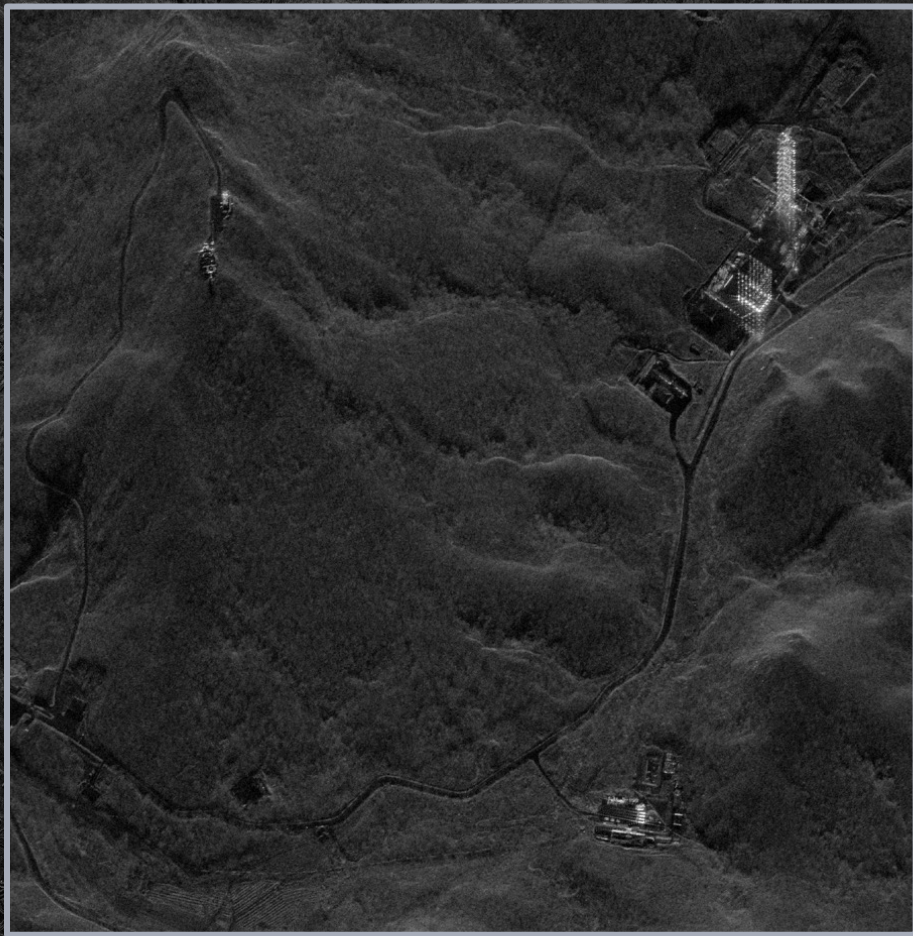
Possible surface-to-surface missiles in launch position around support vehicles



Tongchang-ri (Sohae) Launch Facility, North Korea

39.6688 Lat | 124.7127 Lon

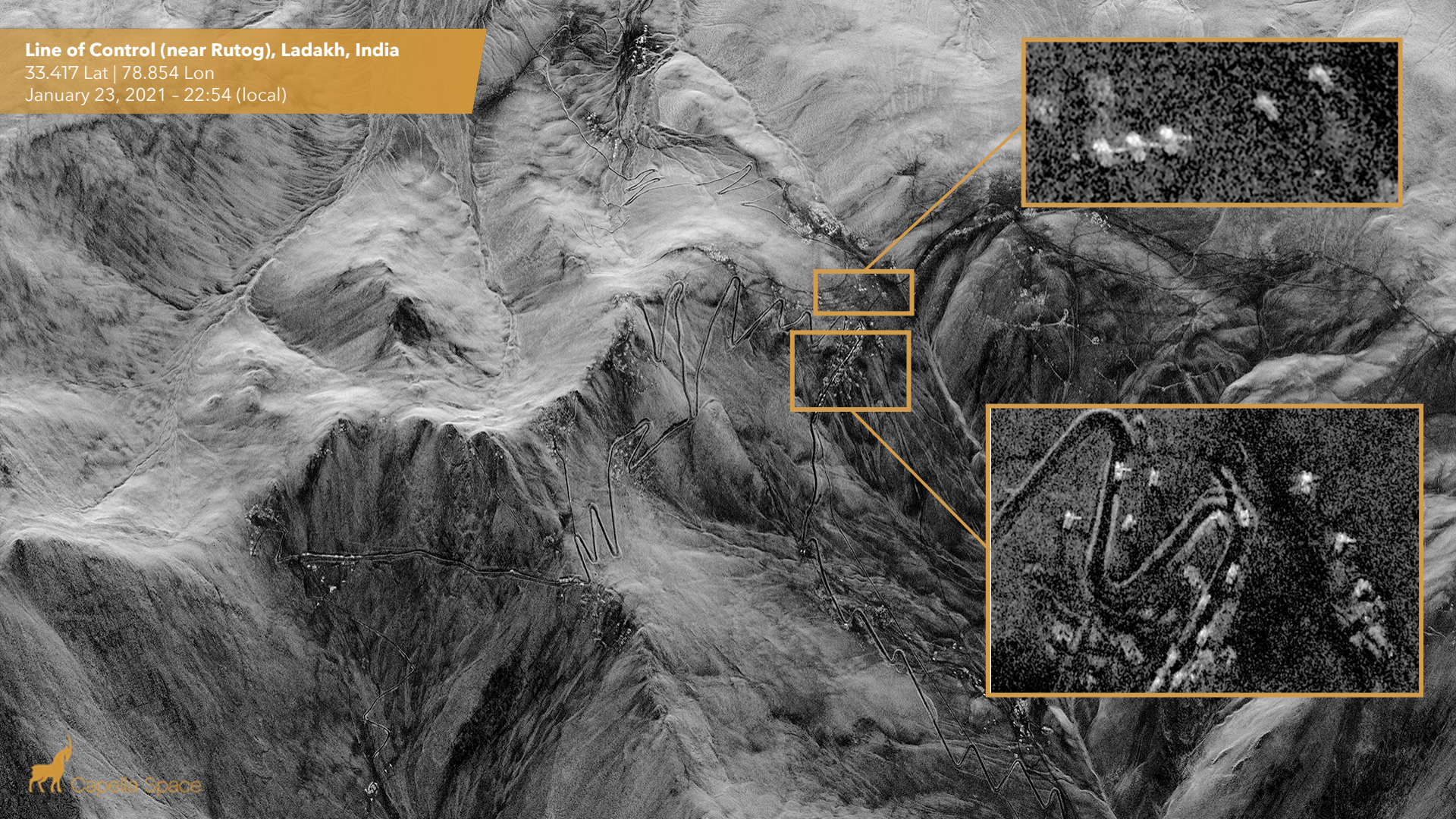
January 24, 2023 - 22:31 KST (local)



Line of Control (near Rutog), Ladakh, India

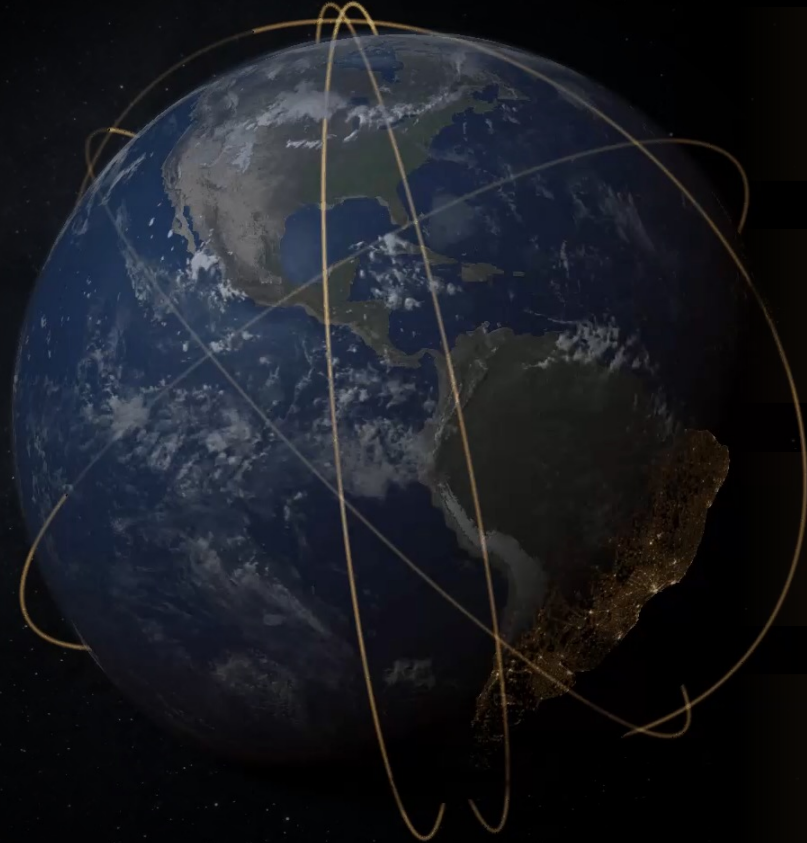
33.417 Lat | 78.854 Lon

January 23, 2021 - 22:54 (local)





Capella's unique Synthetic Aperture Radar offering



Consistent Monitoring

Capella's multiple orbits (SSO + MIO) provides the highest revisit over key regions and more diversity in revisit times than any other SAR constellation



Highest Quality SAR Commercially Available

Better than 50 cm ground resolution coupled with industry-leading image quality



Tasking Automation

Zero human-in-the-loop tasking API enables dynamic Tip-and-Cue capabilities for dynamic and responsive intelligence gathering - unmatched by any other SAR or EO provider.



Fastest Order to Delivery

Capella's automated operations combined with our industry first geo-satellite communications relay enables scheduling within 15 minutes

Capella SAR Imaging - Current & Upcoming Generation

Central Frequency

X-Band

Polarization

Single-Pol HH or VV

Imaging Bandwidth

500MHz, Increasing to 700MHz

Acquisition Direction

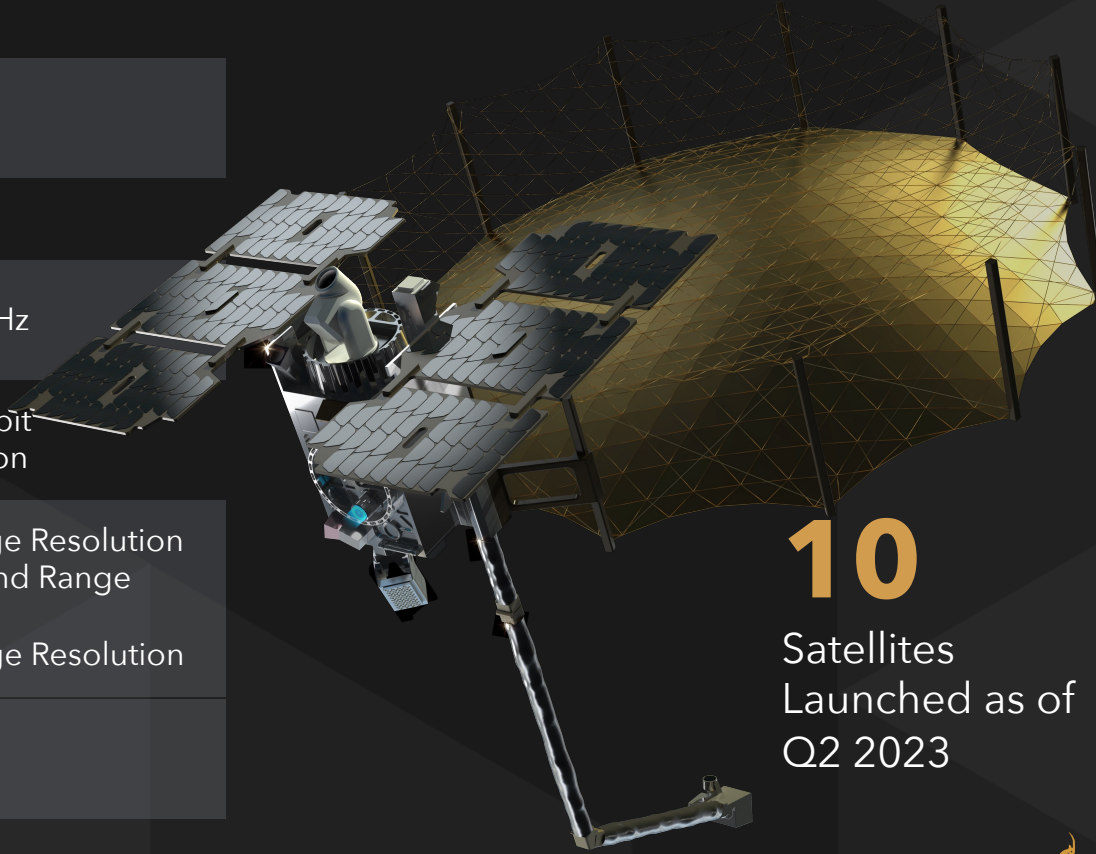
Ascending + Descending Orbit
Direction Left + Look Direction

Imaging Modes

Spotlight: 0.4m Ground Range Resolution
Sliding Spotlight: 0.6m Ground Range Resolution
Stripmap: 1.0m Ground Range Resolution

**Imaging Angle
Orbital Diversity
Range**

45° INC, 53° INC, 97° SSO
5° - 50°



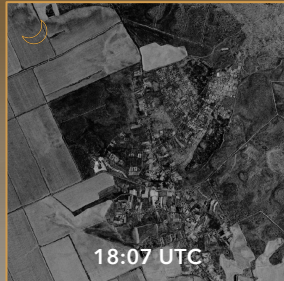
10

Satellites
Launched as of
Q2 2023



Unmatched Temporal & Orbital Diversity

24-hours of Intelligence across the day during the early Ukraine conflict

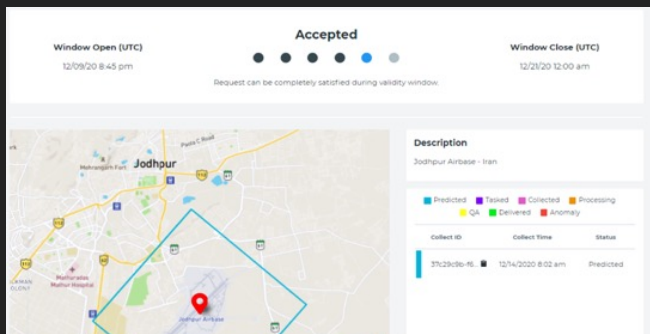


Monitor all day, throughout the day, every single day

A capability unique to the Capella SAR constellation



Capella Console: Easy-to-Use Interface for all End User Needs



Tasking
and
Delivery

Automated

Streamline workflows by setting up repeat tasks to monitor point targets across the globe.

Frequent

React to emergencies in real-time. New tasking scheduling in ≤ 15 minutes and users are provided real-time status updates

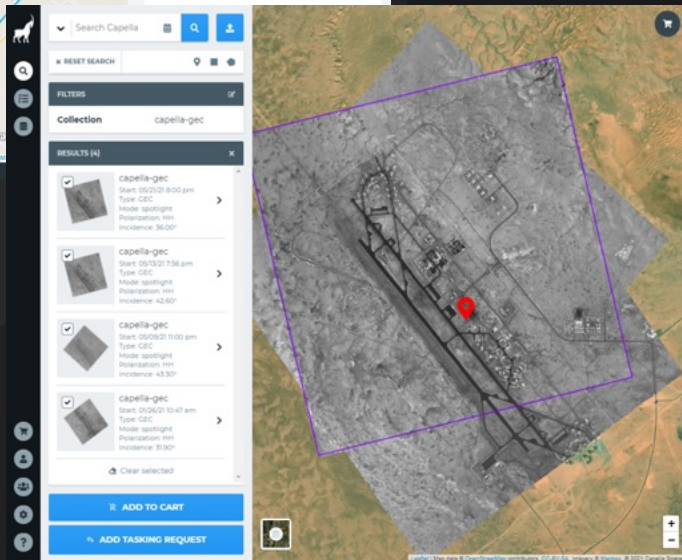
Consistent

Enable change detection algorithms by ensuring tight scene geometries.

Flexible

Add, remove, & update repeat collections as needed.

Full
catalog of
historical
collection



USGS connects to Capella satellite via API for rapid-tasking based on world events



Eruption begins the caldera of Mauna Loa
2022-11-28 11:58 HST



USGS Alert Triggers Capella Satellite
2022-11-28 12:23 HST



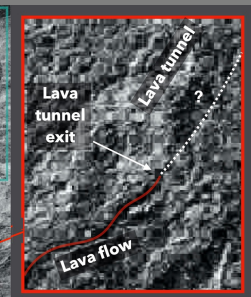
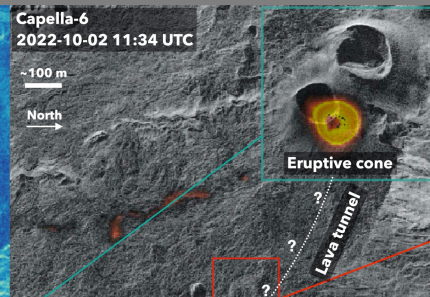
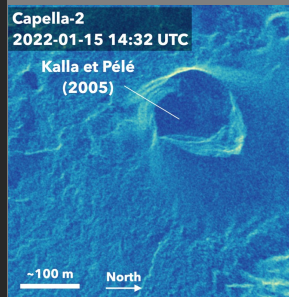
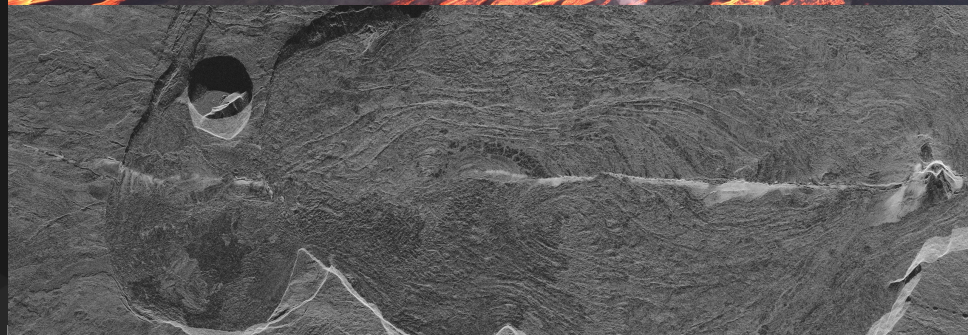
Capella Auto-Collect Triggered
2022-11-28 12:30 HST



Images Automatically Distributed to USGS
2022-11-28 21:51 HST



USGS Uses Capella Data to Extend Mapping Lava Flow for Evacuation
2022-11-29 08:00 HST





Analytics

 **23:22 Local Time**

Attribute Values

Class name	Military Fighter
Length	22.43 m
Wingspan	15.1 m
Size Category	II
Orientation	140 deg

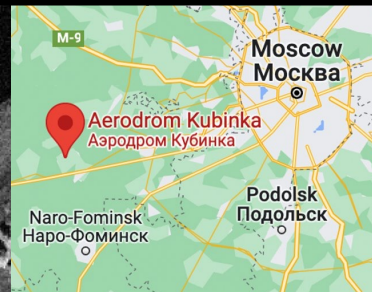
Attribute Values

Class name	Military Transport/ Special Mission
Length	26.88 m
Wingspan	28.65 m
Size Category	III
Orientation	139 deg

Attribute Values

Class name	Helicopter
Length	20.37 m
Wingspan	20.37 m
Size Category	II
Orientation	N/A

NIGHT ACTIVITY

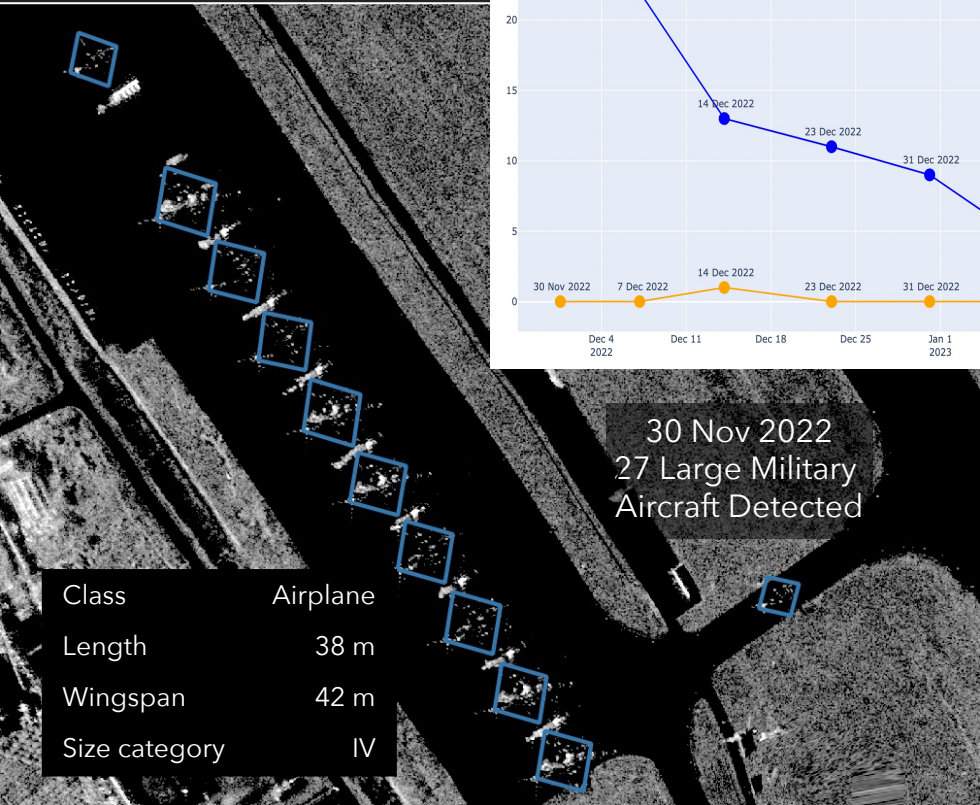
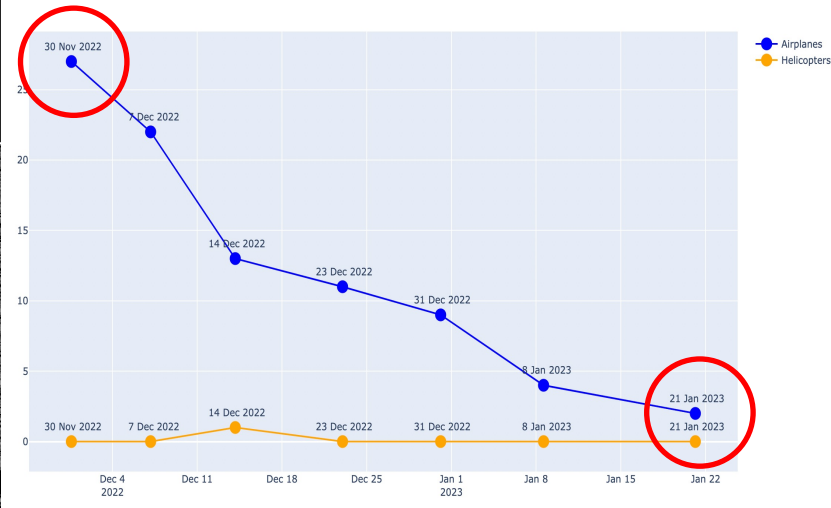


Significant draw-down of military aircraft | Lingshui Airbase | Hainan Island, China

Lon, Lat: (109.985,18.492)

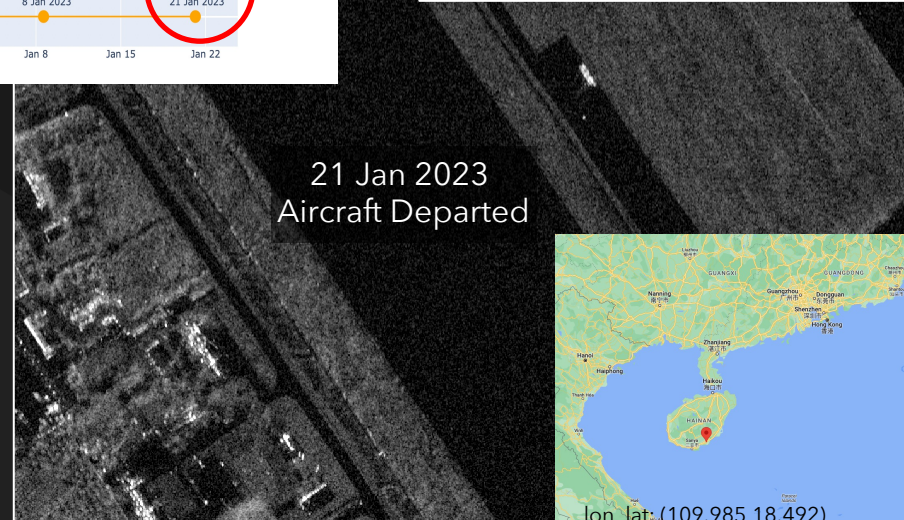
MONITORING

Lingshui Airbase - Aircraft Counts (Helicopter | Fixed Wing)

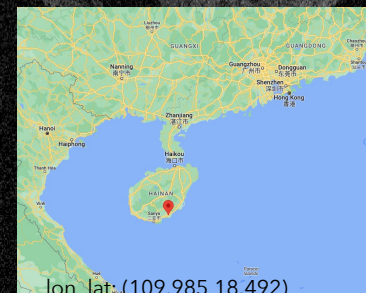


30 Nov 2022
27 Large Military
Aircraft Detected

Class	Airplane
Length	38 m
Wingspan	42 m
Size category	IV



21 Jan 2023
Aircraft Departed



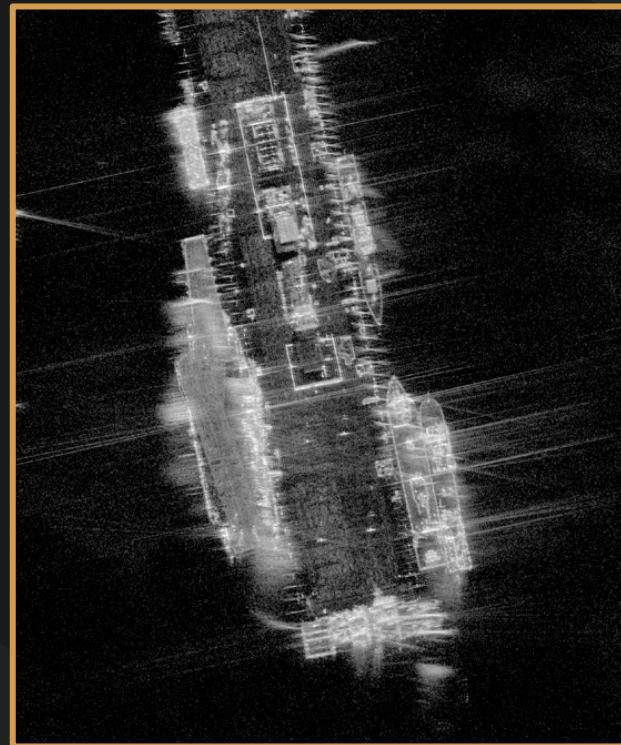
lon, lat: (109.985,18.492)

Capella Space

www.capellaspace.com

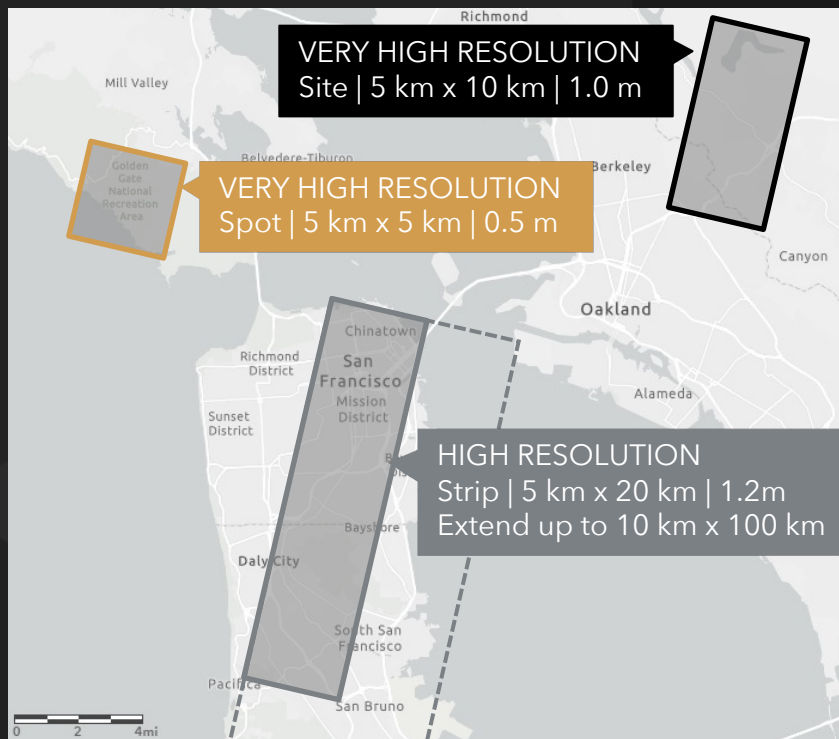
Jeff.hurley@capellaspace.com

Max.chua@capellaspace.com



Q&A

SAR Imagery Product Scenes



Priority Ordering Tiers

1-Day, 3-Day, 7-Day

Orbital Diversity

45° INC, 53° INC, 97° SSO

Collection Geometries

Ascending, Descending, Left, Right

Imaging Modes	Spotlight	Sliding Spotlight	Stripmap
Scene Length(s)	5 km	10 km	10 km - 100 km
Scene Width(s)	5 km	5 km	5 km - 10 km
Look Angle Range	5° - 40°	5° - 45°	5° - 45°
Azimuth Resolution	0.25 m	1.0 m	1.2 m
Slant Range Resolution	0.3 m	0.5 m	0.75 m
Ground Range Resolution	0.5 m - 3.1 m	0.7 m - 5.0 m	1.1 m - 11.5 m
Number of Looks	1 - 9	1 - 5	1



Analytics Partner Program: Goals



Establish partnerships on a foundation of **trust and transparency**



Disrupt traditional approaches to geospatial analytics by **intensifying innovation**



Connect buyers with world-class geospatial solutions that utilize Capella's VHR SAR imagery



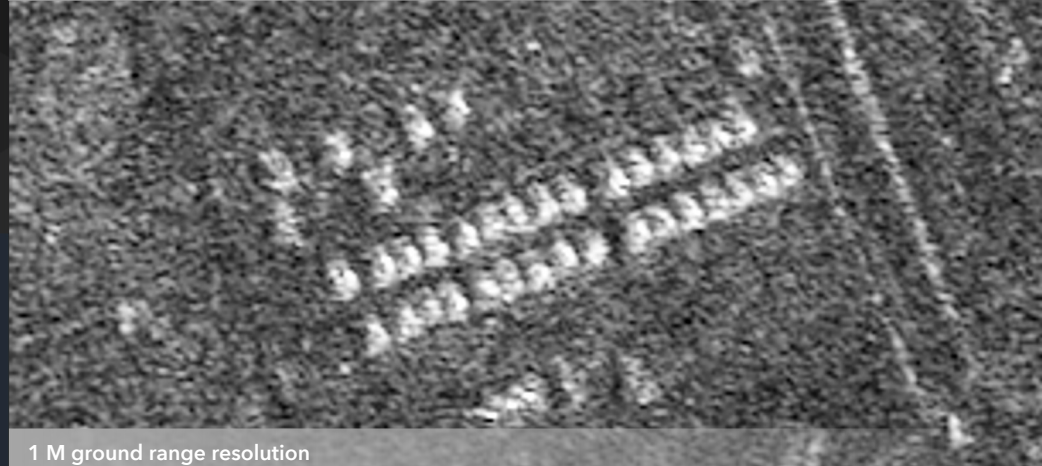
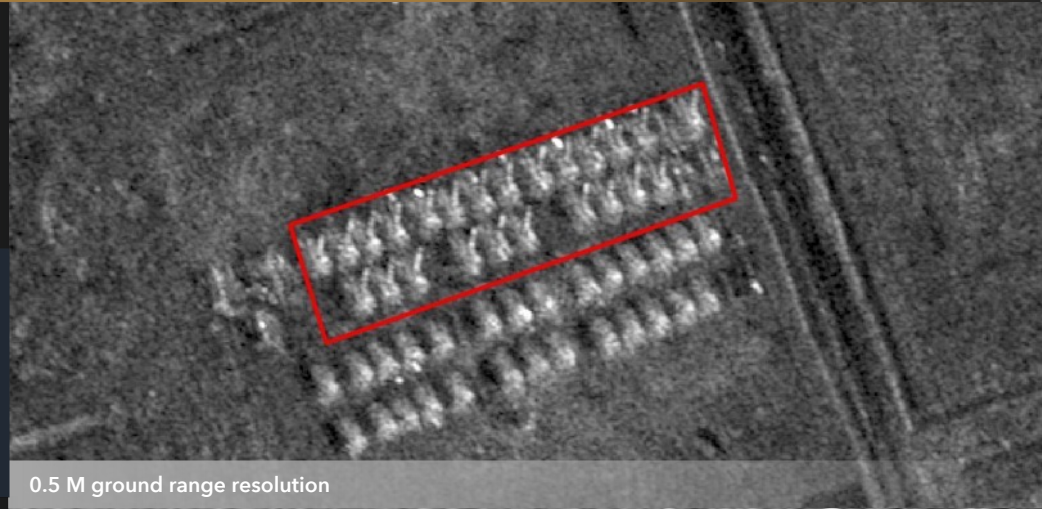
Very High-Resolution SAR

Detect World's highest resolution commercial SAR imagery at 0.5m ground range resolution.

See Multi-look processing provides less speckle and clearer images.

Control Customer-driven tasking ensures the collect is what you need.

Work Fast data processing for low-latency analysis.





Outside Melitopol, Ukraine

46.5746 Lat | 35.0986 Lon

January 24, 2023 - 17:03 EEST/Zaporozhye (local)



Near Lhasa, Tibet

29.885 Lat | 90.377 Lon

June 3, 2023 - 21:28 (local)



Yelnya, Russia 54.610 Lat | 33.167 Long 11/19/21 12:17:20 PM UTC

