Space - A New Frontier In Climate Change

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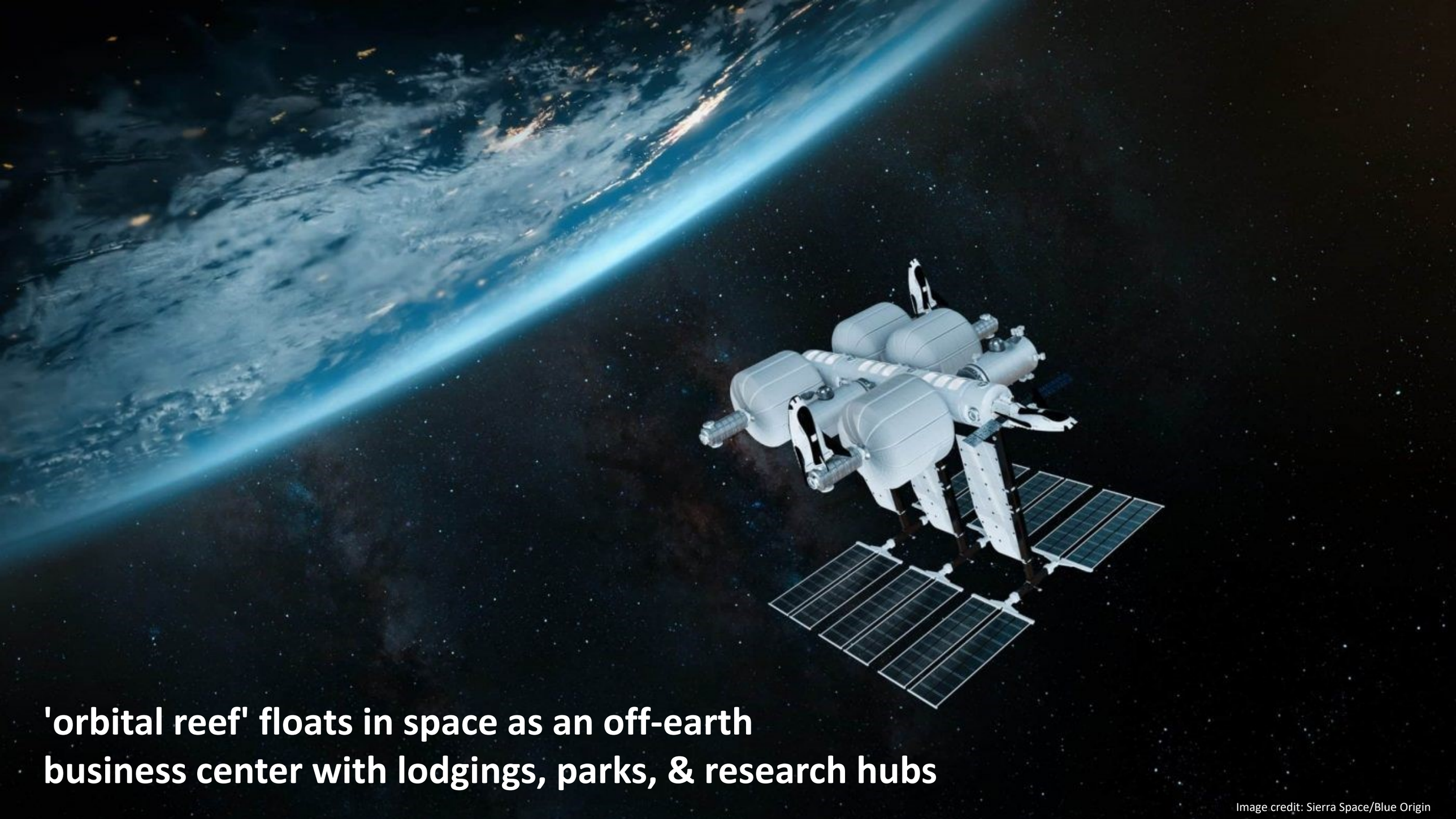
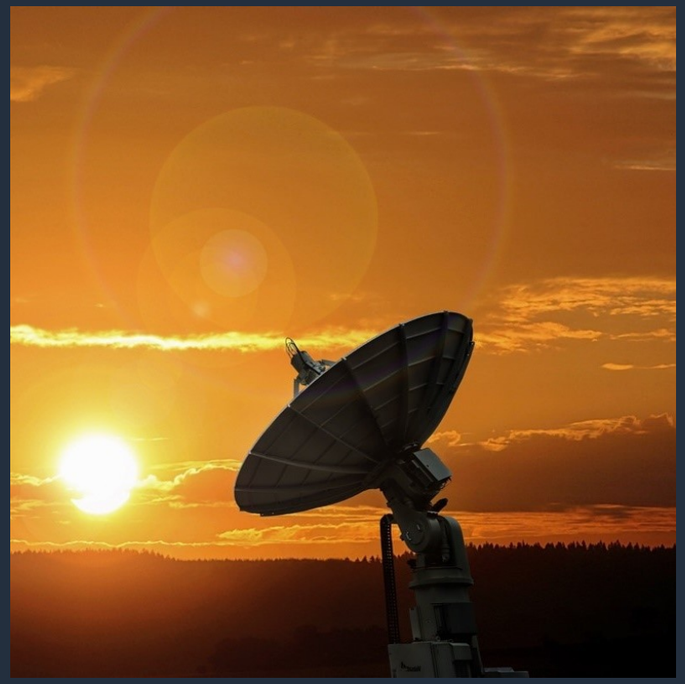


'orbital reef' floats in space as an off-earth business center with lodgings, parks, & research hubs

Image credit: Sierra Space/Blue Origin

The world is entering an exciting and daring new space age



The space industry is rapidly growing and transforming

A new era of human spaceflight is dawning

Satellites launched into orbit will triple over the next decade

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The UAE is the first nation in the Middle East to successfully send a spacecraft to Mars with the main goal to map Mars' atmosphere and collect information about climate change.

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AWS Public Sector Blog

UAE Mars mission uses AWS to advance scientific discoveries

by AWS Public Sector Blog Team | on 17 FEB 2021 | in Aerospace & Satellite, Amazon CloudFront, Customer Solutions, Government, Public Sector, Storage | Permalink | Share

On February 9, a new object successfully began to orbit Mars: an uncrewed spacecraft called the Hope Probe. The mission has already returned the first image of Mars, taken by Hope's Emirates eXploration Imager from an altitude of 24,700 km.

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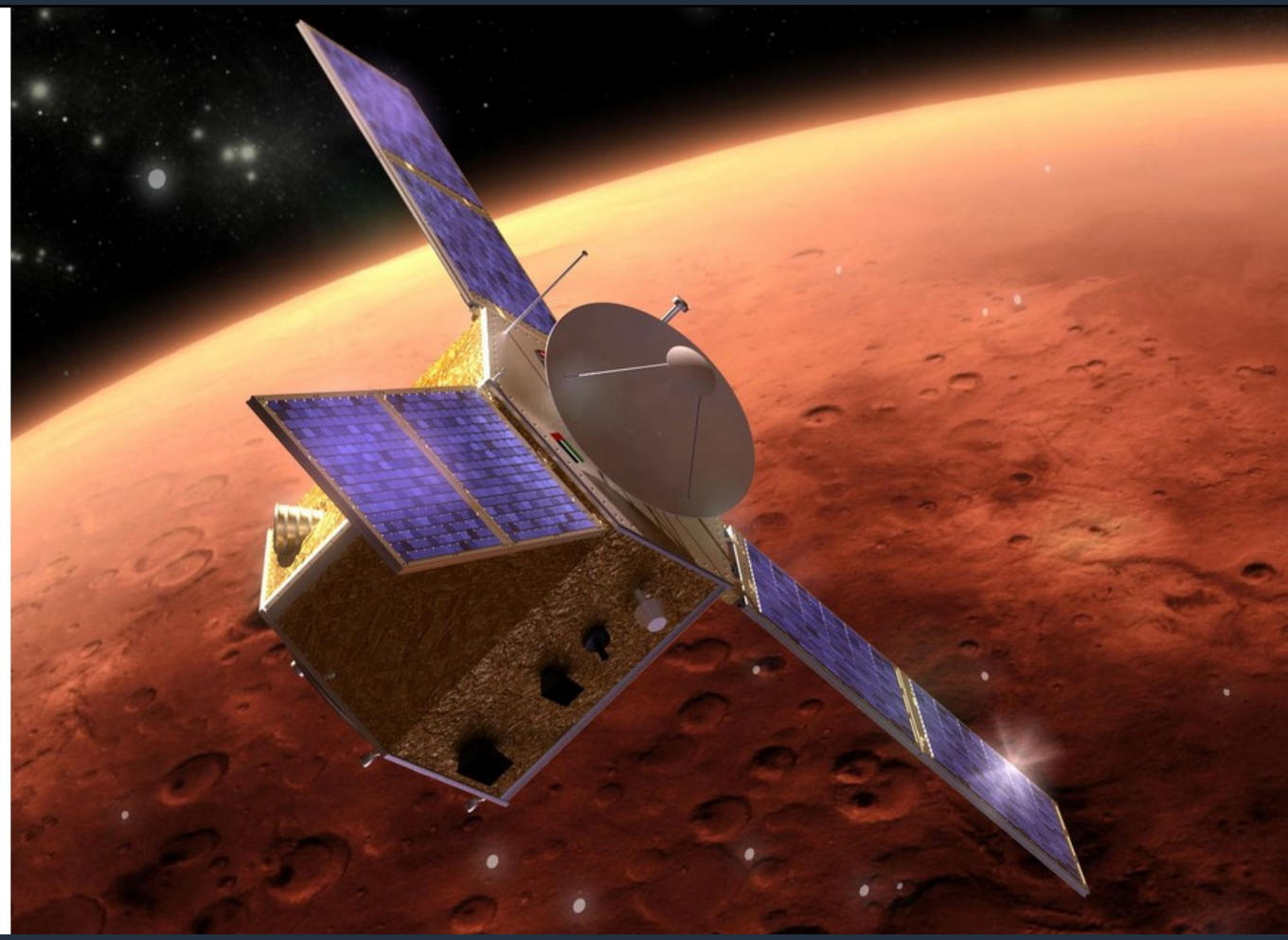
Spacetech and satellites are critical in fighting climate change

UAE’s Al Amal, or “Hope,” probe will provide the first holistic look at the Martian climate. Equipped with a powerful digital camera, as well as infrared and ultraviolet spectrometers, it will study the Red Planet, allowing the UAE and global science community to search for connections between Mars' current and ancient climates and better understand how atmospheres evolve.



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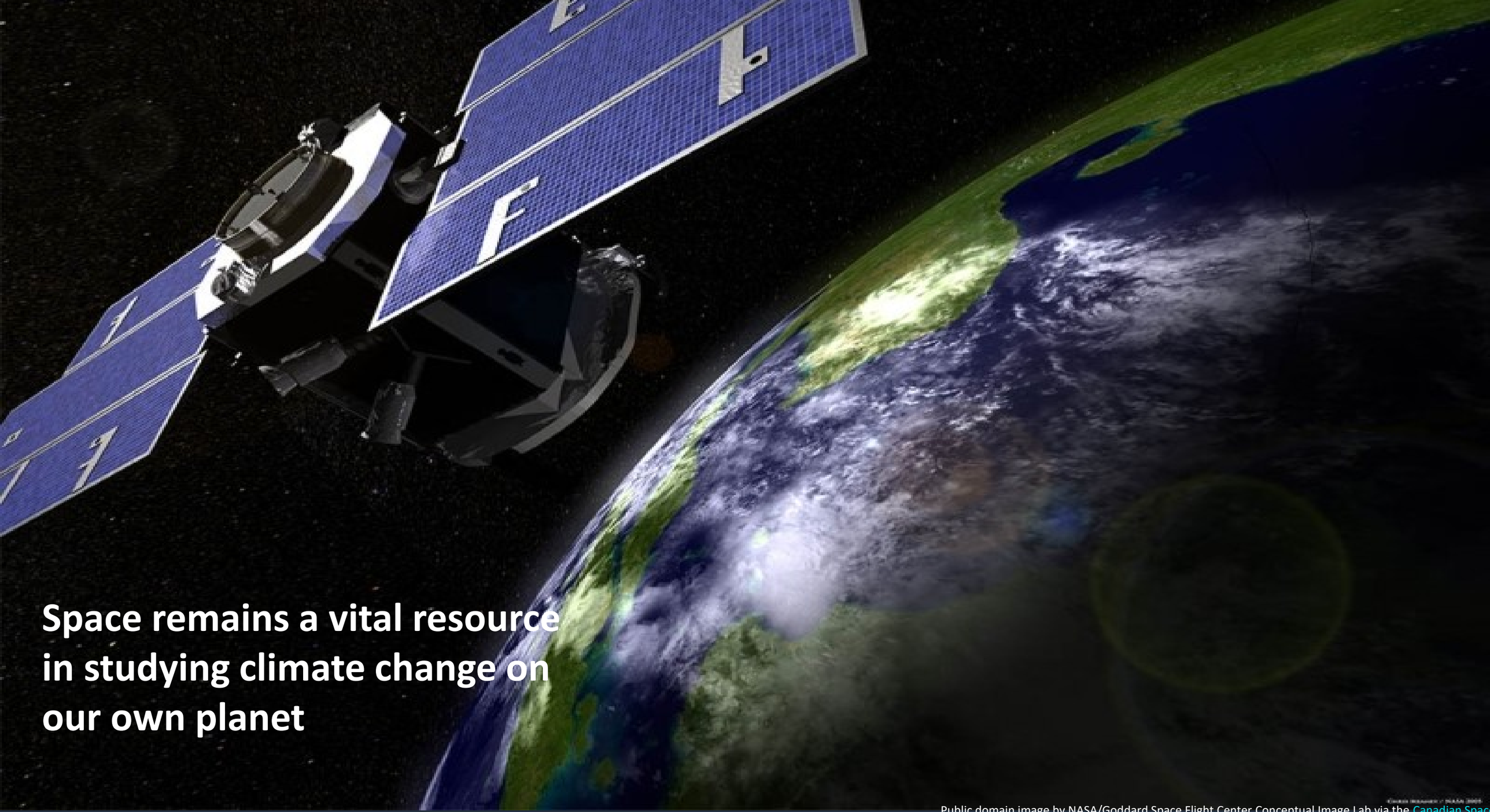


Space remains a vital resource in studying climate change on our own planet

Public domain image by NASA/Goddard Space Flight Center Conceptual Image Lab via the Canadian Space Agency

Image credit: Lockheed Martin

There are currently more than 160 satellites measuring different global warming indicators, with more than half of essential climate variables only measurable from space.

They are watching the oceans, land, ice, atmosphere and biosphere.

Space technologies **are supporting climate research**

+99%

Over 99% of accurate weather forecasts come from space

Satellites facilitate informed **decision-making** and raise awareness of changes and evolution

Satellite data, communications and applications offer high resolution, real-time, global-scale **monitoring of our plane**

+160

Currently, **more than 160 satellites** help measure the different climate change indicators

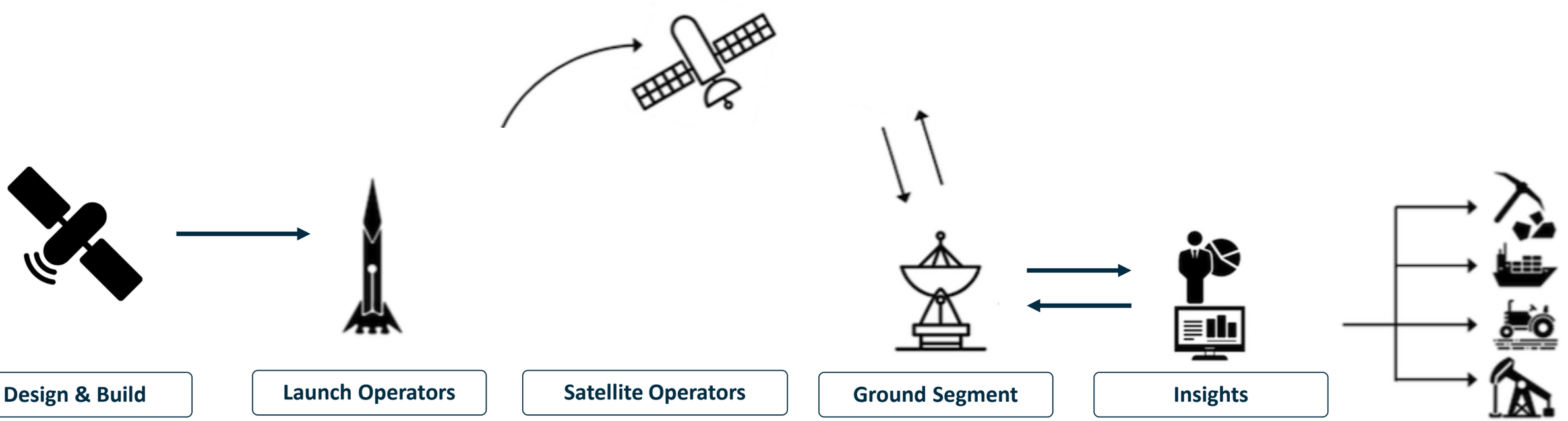
Access to information to monitor climate change impacts at **regional, territorial and national scales**

+50%

Over half of essential climate variables can only be measured measured from space

Evaluate and interpret data to support decision-makers for a balanced definition and implementation of **protective measures**

AWS | To the stars through the cloud



Design & Build	Launch Operators	Satellite Operators	Ground Segment	Insights
• Satellite Design • Orbit Design • Orbit calculation/ prediction • Digital Twins	• Mission Operations • Low Earth Orbit Operations • Launch trajectory mapping • Simulations	• Mission Operations • Satellite Manoeuvres Operations • Conjunction Mapping	• Downlink data • Uplink data • Satellite Telemetry • Space Domain awareness	• Resource & Mining • Shipping & Maritime • Agriculture • Defence National Security • Climate Change • Water Monitoring • Ocean Monitoring • Bushfire Monitoring

Cloud services for space industry solution builds

Edge Computing

AWS Snowball Edge is a data migration and edge computing device that can used for data collection, machine learning and processing, and storage in environments with intermittent connectivity (such as manufacturing, industrial, and transportation) or in extremely remote locations (such as military or maritime operations)

AWS High Performance Computing

Designed for large, complex and deep learning workloads in the cloud with a complete suite of HPC products and services

AWS SageMaker

Amazon SageMaker is a fully-managed platform that enables developers and data scientists to quickly and easily build, train, and deploy machine learning models at any scale

Data Lakes

AWS Lake Formation is a service that makes it easy to set up a secure data lake in days. It is a centralized, curated, and secured repository that stores all your data, both in its original form and prepared for analysis

AWS IoT Greengrass

AWS IoT Greengrass seamlessly extends AWS to edge devices so they can act locally on the data they generate, while still using the cloud for management, analytics, and durable storage

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Using space to protect our Earth

Fireball International (Exci) uses AWS to accurately alert their customers within three minutes of smoke detection, by storing and processing over 2.5 million satellite and sensor images in 24 hours

DataFarming uses AWS to make satellite insights available on mobile phones to farmers

Australian precision agriculture company DataFarming delivers high-quality data from satellite imagery to farmers quickly and effectively, helping them optimize their crop growth and yields

Satellite Vu's thermal & infrared imaging satellites provide real-time data on how green every building on the planet is

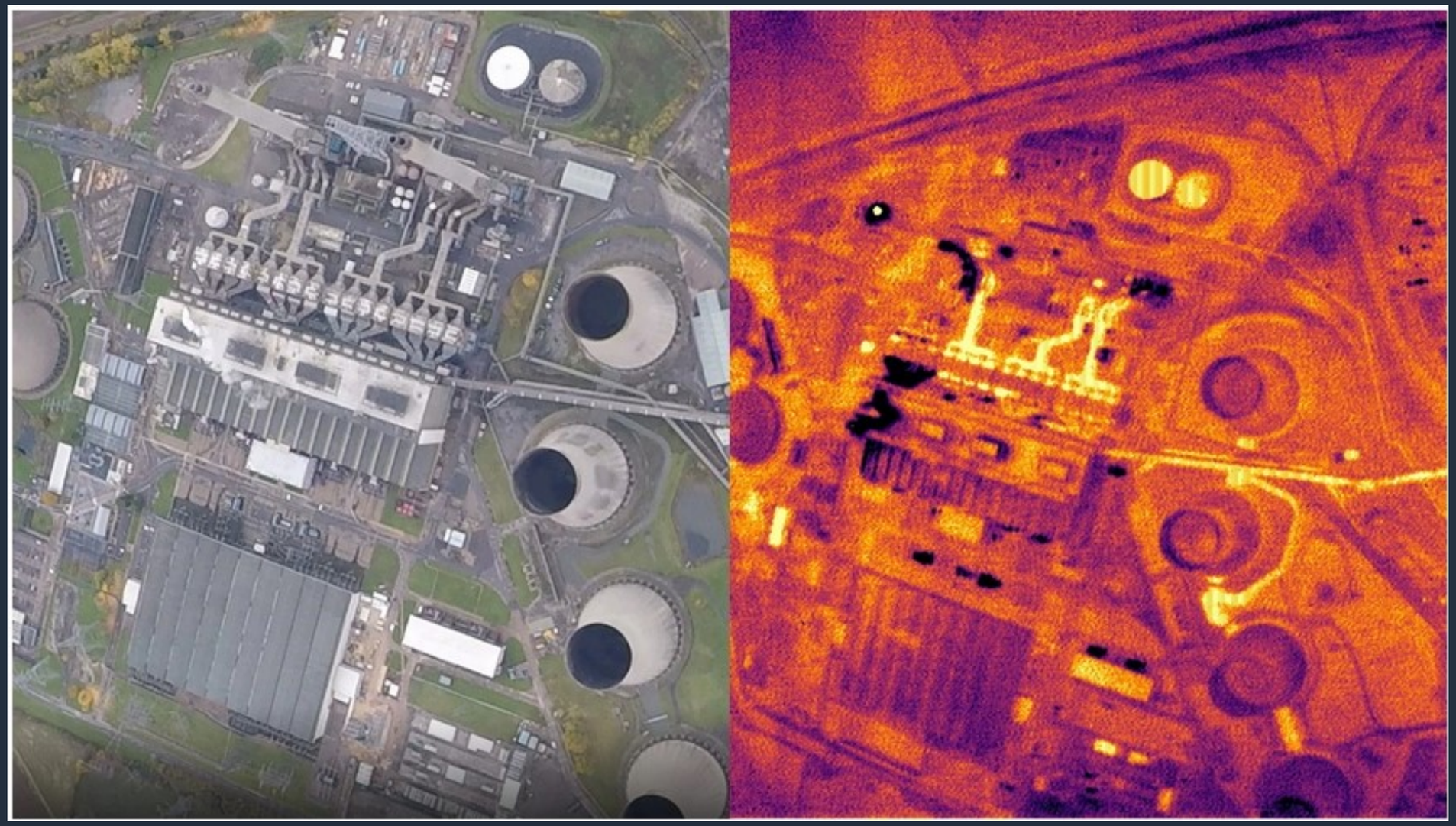


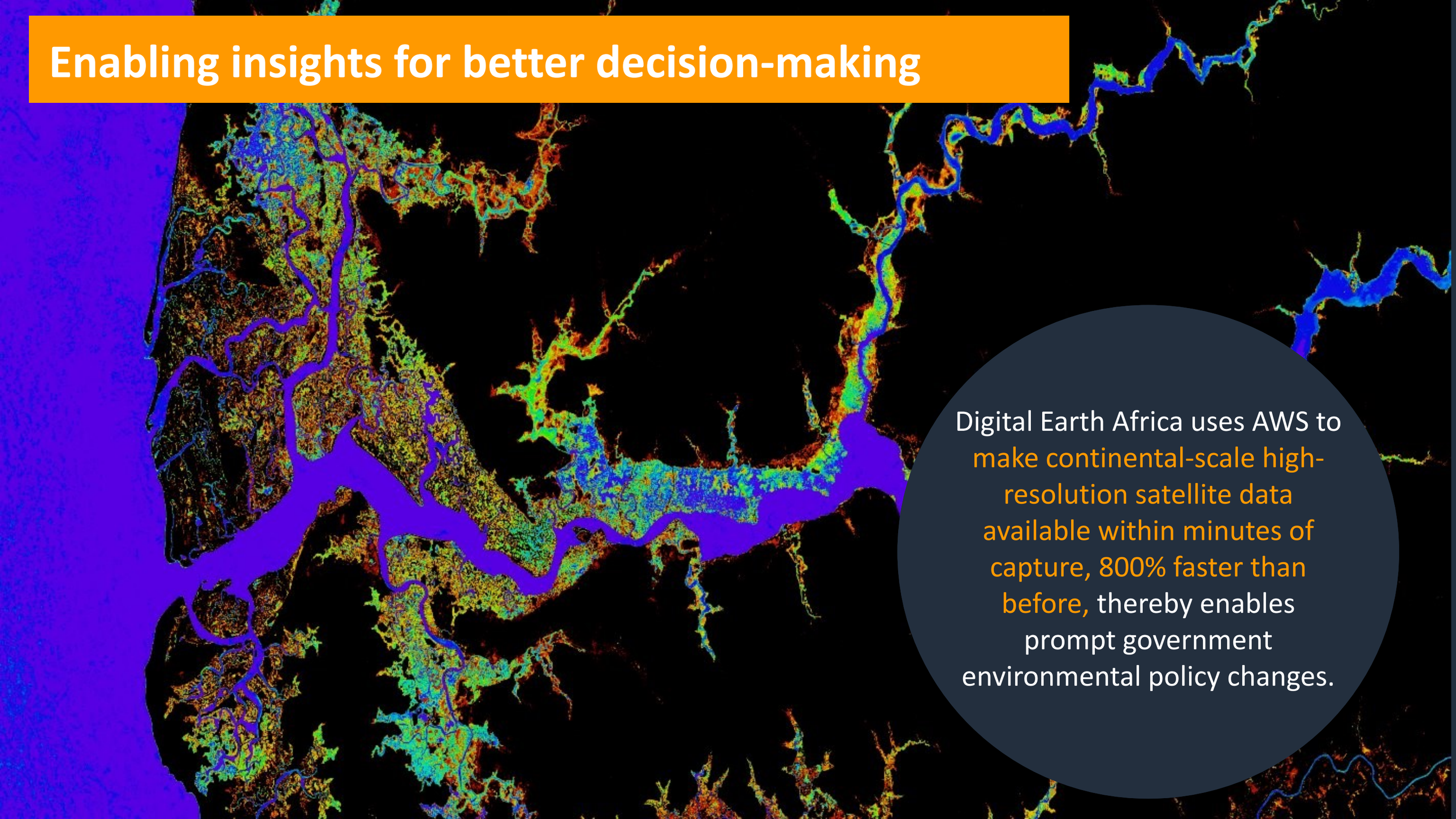
Image Credits: Satellite Vu

Satellite imaging, big data and algorithms for smart farming

SatSure
Decision Intelligence from Space

Powered by AWS, SatSure's platform combines satellite imagery with the weather, Internet of Things (IoT), social and economic datasets, to generate timely, location-specific actionable insights.

Enabling insights for better decision-making



Digital Earth Africa uses AWS to make continental-scale high-resolution satellite data available within minutes of capture, 800% faster than before, thereby enables prompt government environmental policy changes.

Want to be a part of the solution?

- Imagine playing a role in space technology
- Solving for climate change
- Getting involved in the space economy

You can……!

https://pages.awscloud.com/cloudup-for-her-cloud-practitioner.html

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A Free AWS Cloud Training Program for Women globally

- Community
- Confidence
- Flexibility
- Support
- Mentoring

Cloud Practitioner
- No pre-requisites
- Foundational training
- 8 weeks

Solution Architect Associate
- Technical background
- Hands-on component
- 12-18 weeks

Amazon partners with USAID, $53 million to fast-track innovations by female climate tech entrepreneurs

https://www.aboutamazon.com/news/sustainability/amazon-commits-53-million-to-fast-track-innovations-by-female-climate-tech-entrepreneurs

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Thank you!
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