

GEO WEEK & MINISTERIAL SUMMIT 2023

Flash Talk

#TheEarthTalks



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



GEO WEEK
2023 MINISTERIAL
SUMMIT

GEO GROUP ON
EARTH OBSERVATIONS



**GEO
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2023**
MINISTERIAL
SUMMIT

Earth Intelligence for All from the **EarthDaily Satellite Constellation**

A Powerful New Tool for Addressing the Triple Planetary Crises

06-11-2023

#TheEarthTalks

GEO WEEK & Ministerial Summit 2023



Wade Larson

Senior VP

EarthDaily
Analytics Corp.



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OUTLINE

Vision

EarthDaily Constellation Overview

Applications

National and Global Imaging for the Triple Crisis

The Pressing Need for a New Kind of Global Monitoring

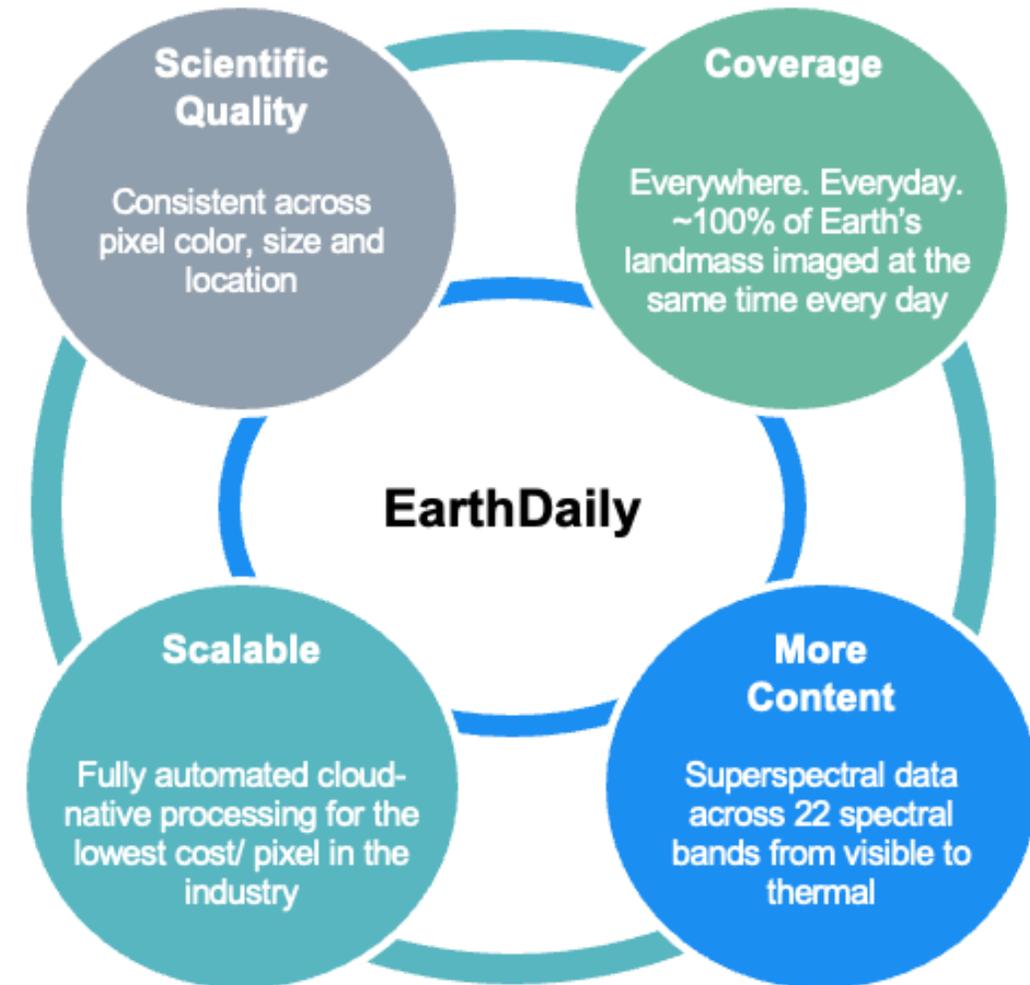
- Food security and farm soil protection
- Water optimization
- Environmental Monitoring
- Climate change
- Deforestation of tropical rain forests
- Habitat protection
- Disaster response
- National and allied security
- Risk management
- ESG reporting / Corporate Accountability
- Carbon Credit Trading



Addressing the Triple Planetary Crisis that the world faces requires high-cadence, scientific-quality satellite and AI-derived monitoring, change detection alerting, and predictive analytics, at a global scale

An Unprecedented Mission

- Designed for ultra-high scientific-grade broad area global change detection, collected globally every day, and AI/ML readiness
- Analysis Ready Data optimized for “direct-to-algorithm” enterprise grade applications
- Advanced cloud-native ground processing system – built for huge scale and low-cost operations
- Fully automated tasking, collection, downlink, backhaul and data processing, cataloguing and delivery



Space Segment

Number of Satellites	10
Launch Period	2024 June and October
Spacecraft	Based on Oneweb “Arrow” bus from Airbus, 16 optical & thermal imagers
Design Life	10 years
Orbit	Sun-synchronous; 10:30 AM local time equatorial crossing time
Orbit Control	Precisely maintained for consistent viewing over mission life
Revisit	Daily systematic coverage of >97% of Earth’s landmass and select maritime areas, no tasking
Ground Sample Distance	VNIR: 5m SWIR: 95m Thermal: 120m
Spacecraft Mass	215 kg
Altitude	~630km
Viewing Angle	Nadir (always)
Delivery Method	Cloud distribution, API-first approach



EarthDaily Constellation is a systematic collection mission, always nadir looking, and always-on over land and select maritime areas.

EarthDaily Satellite Constellation

10 satellites
launched and
operational in 2024



Spectral Diversity

Visible/NIR: 11 spectral bands

SWIR: 6 spectral bands

Thermal: 5 spectral bands

The highest commercially available spectral range allowing it to see the spectral fingerprint of objects, land use, and activities across the entire planet



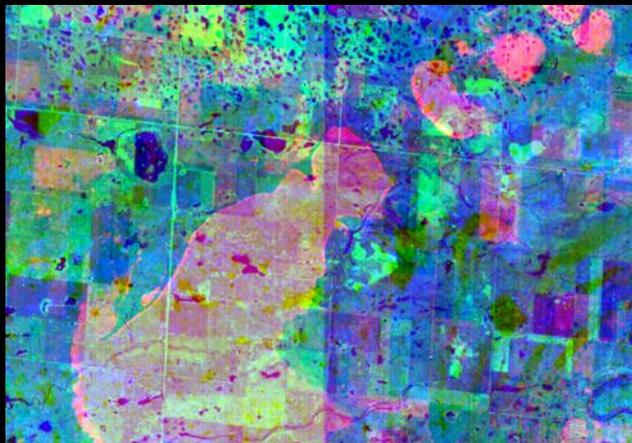
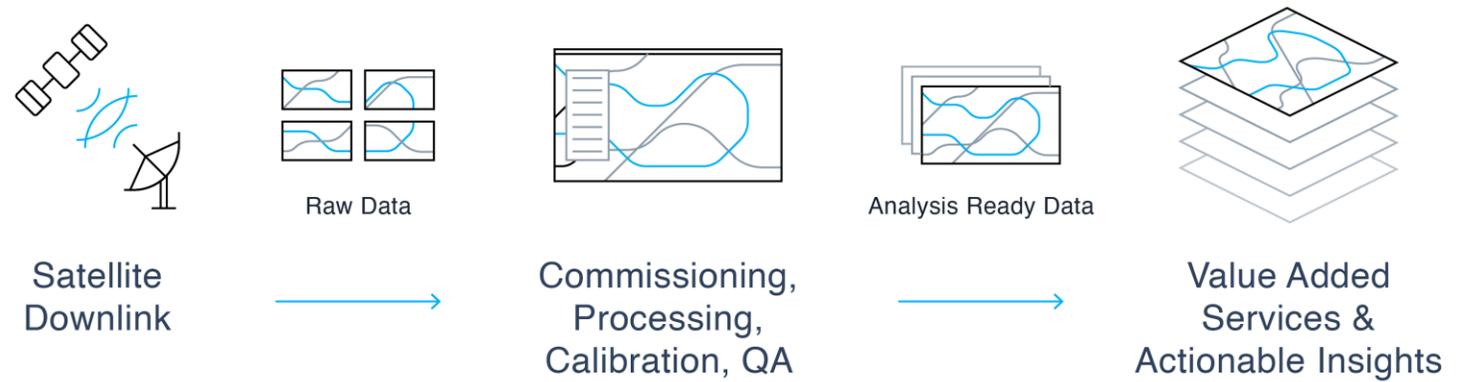
Highest Quality Products Generated by EDA's Cloud-Native Flagship Technology: EarthPipeline

Landsat-9's Scientific-Grade Ground Segment Cost Exceeded \$100M

*“As of FY2021, <...> USGS has spent **over \$120 million** on its ground system development”*

<https://sgp.fas.org/crs/space/R46560.pdf>

EarthPipeline as a Service



Raw Downlinked Data

EarthPipeline automatically transforms raw downlinked data into Analysis Ready Data to power automated actionable insights



Find an AWS Partner / Search Results / ...

EarthDaily Analytics

Earthdaily Analytics delivers innovative satellite processing services and impactful analytics using Earth Observation data.

Contact Partner



Analysis Ready Data

EarthDaily will Power a new era of Cloud-Native AI in EO

“There are not enough eyes in the world to look at all the Sentinel pixels being acquired every day”

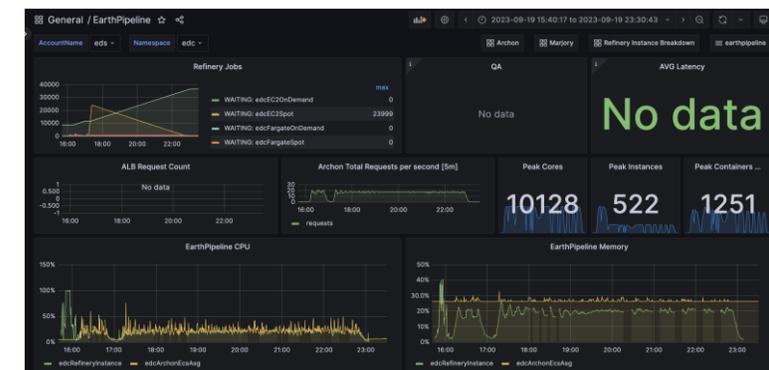
*Dr. Gordon Campbell, Director at European Space Agency,
2023 International Symposium for Remote Sensing for the
Environment*



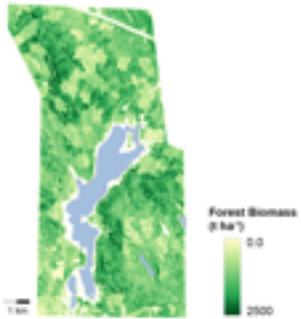
Automated Processing
of Large Area Mosaics

EDA has solved this problem with **fully automated processing chains** to automatically generate high-value products ready for AI without humans in the loop

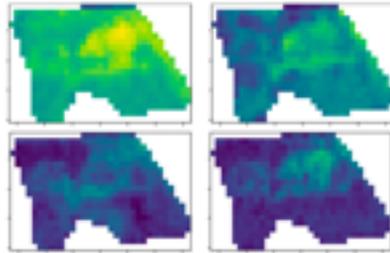
- Fully Scalable and Elastic
- Ready for AI and Change Detection



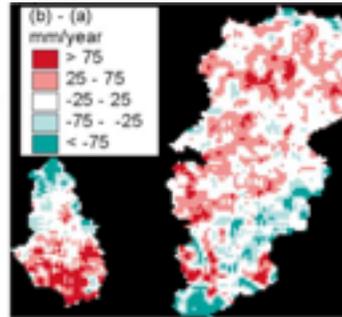
Ability to automatically process
100's of thousands of orders



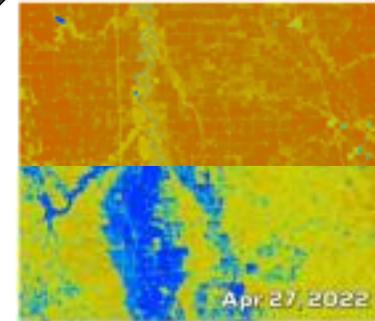
Forest
Management



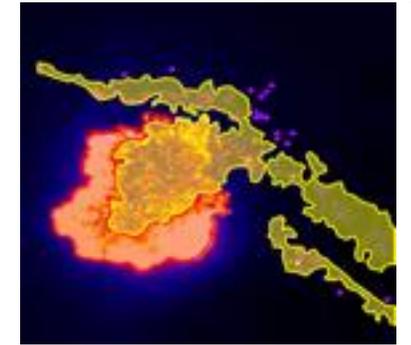
Agriculture



Water
Management



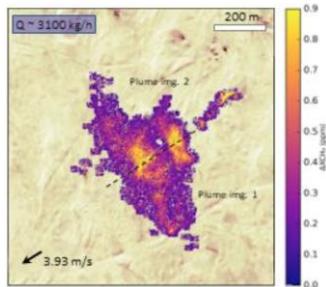
Disaster
Response



Wildfires

EarthDaily Constellation

A Powerful new Tool for Monitoring the planet's Natural Systems



Climate
Mitigation



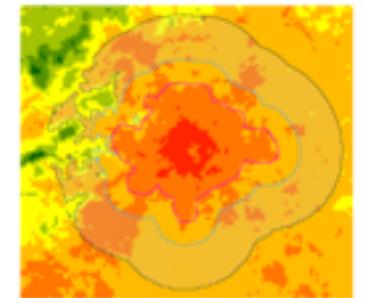
Development
Oversight



Resource
Development



Land Cover and
Land Use



Urban Health
and Well being

National Imaging. Global Imaging. *EarthDaily.*

Imaging your whole country—and the entire world—every day, with scientific accuracy in 22 spectral bands

A new tool address the The Triple Planetary Crisis

- Climate Change
- Biodiversity loss
- Pollution



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Partners and Affiliations



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AGENDA

Day 1

Opening Ceremony
Flash Talks
Workshops

Day 2

Showcase
Sessions
Workshops
Excom

Day 3

Thematic Plenary
Sessions

Day 4

AM: Thematic
Plenary Sessions

PM: GEO Plenary
business

Day 5

Ministerial
Summit

**EXHIBITION
OPENING**

EXCOM

GALA

**MINISTERIAL
DINNER**

- Exhibition runs all week
- Days 1, 2 and 3, as well as the morning of Day 4 are open to all registered attendees. The afternoon of Day 4 and the Ministerial Summit are only open to GEO Delegates and Ministers. Decisions can only be made by GEO Members present.

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6-10 NOVEMBER

CAPE TOWN, SOUTH AFRICA



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