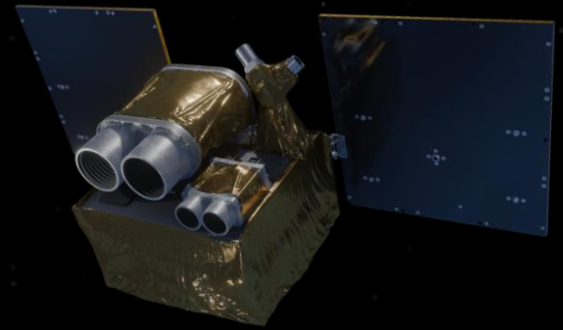




# Designing **Sovereign** **Geospatial Data** Systems for Earth Observation



**Alexander Dubson**

AI Project Manager

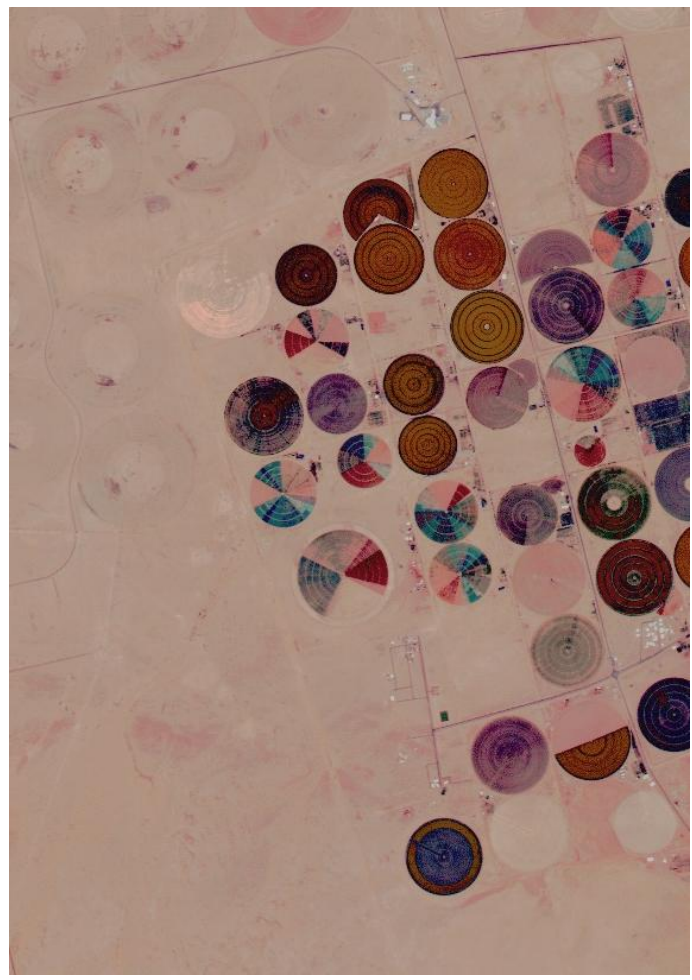
[dubson@satlantis.com](mailto:dubson@satlantis.com)

30 June 2026

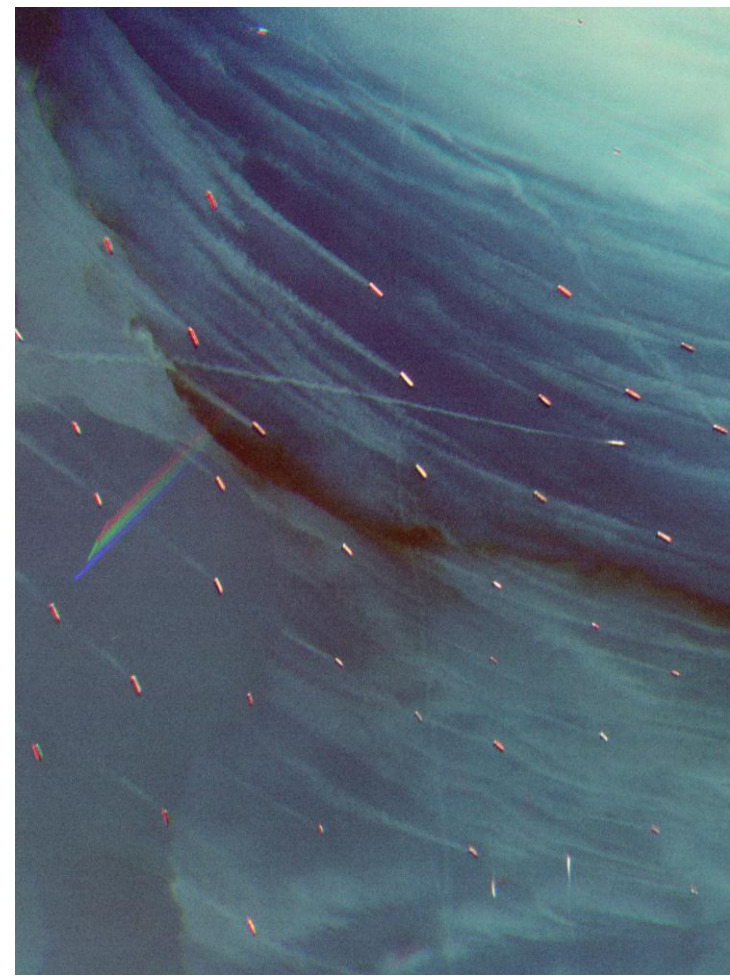




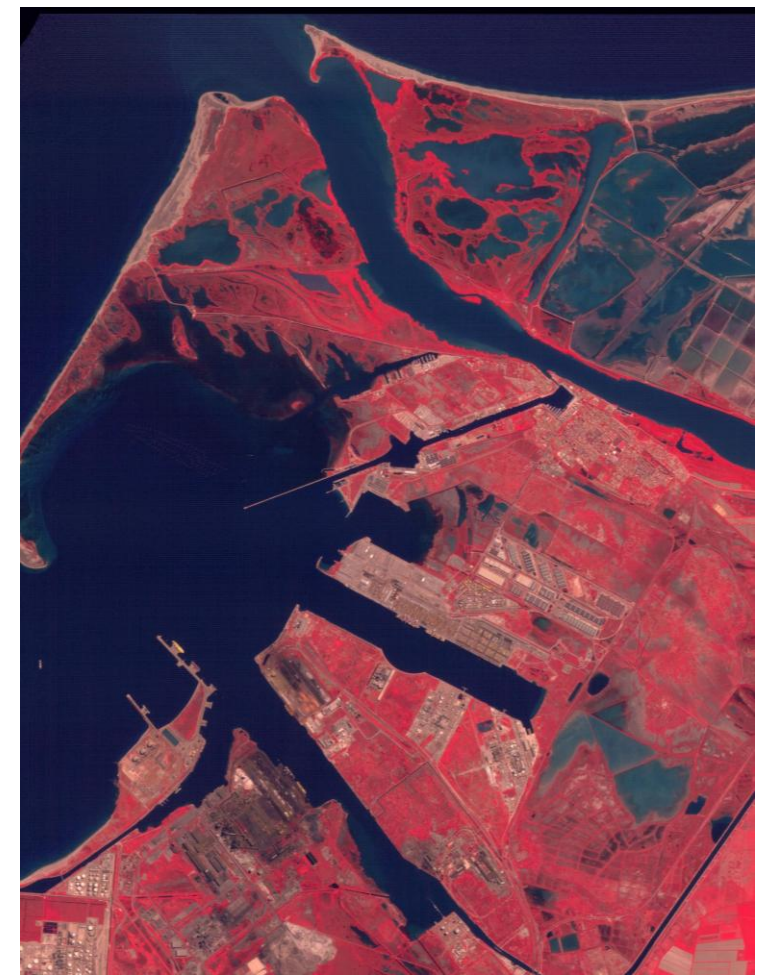
# Satellite imagery as critical infrastructure



Precision agriculture



Logistics



Strategic assets





# | The question

*Who controls this data  
— and what does  
control actually mean?*

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Not who stores it. Not who licences it. Who controls every decision point that determines what access means.





# Your data. Their rules.

When your data relies on external providers, you inherit their risks...

- ◆ **Geopolitical shift:** Foreign policy changes sever digital supply chains overnight. Your contract is irrelevant.
- ◆ **Commerical decision:** Providers alter terms without your input. You rent a capability, you don't own it.
- ◆ **Legal Jurisdiction:** Foreign jurisdictions prioritise their national interests. Your data privacy is conditional.



Strait of Hormuz





# EO is a hard data space problem

Few domains combine all four simultaneously.

## TB

### Volume

Terabytes of new imagery per day. Every pipeline decision compounds at scale.



### Sensitivity

Same image shows crop yield and military base. Access policy must be technically enforced.

## 5+

### Stakeholders

Government, defence, commercial, research — different rights, compliance, trust levels.

## AI

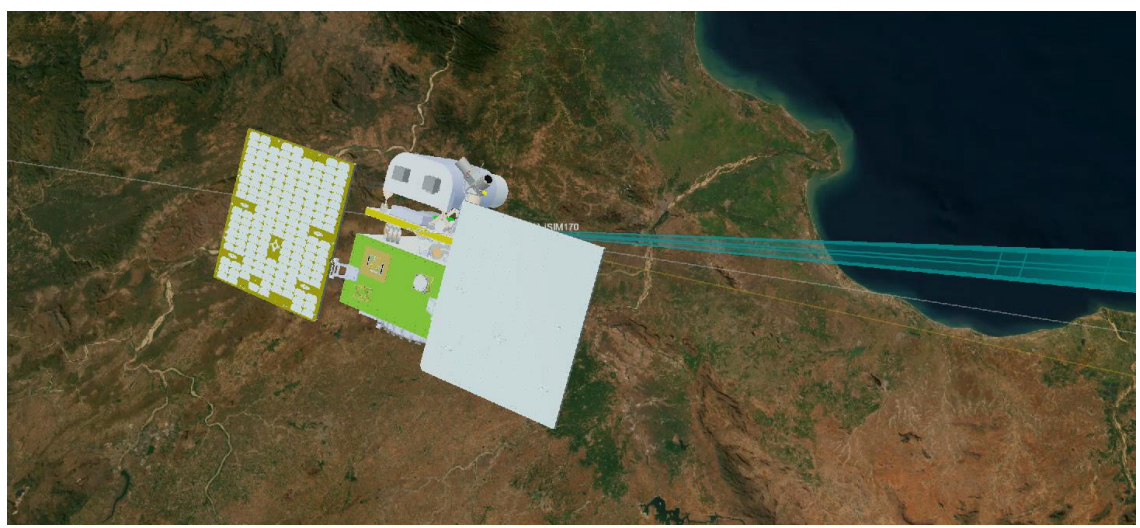
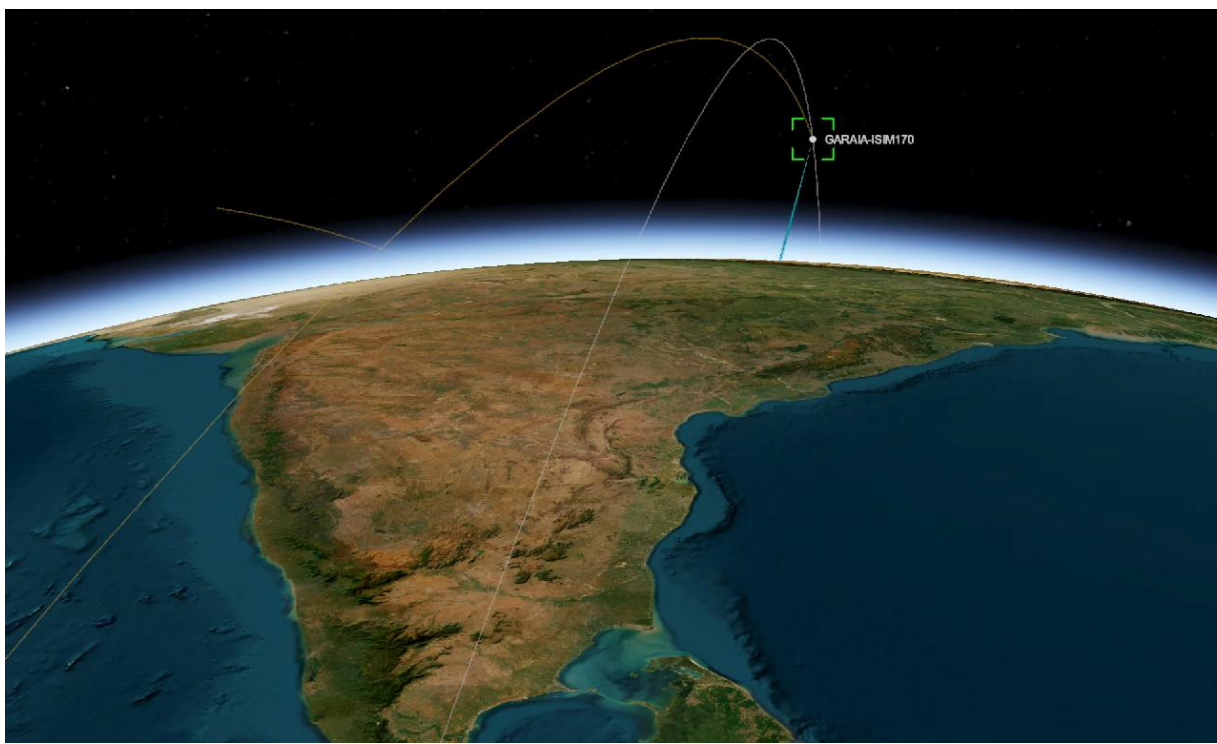
### AI dependency

Raw data has no value alone. The data space is an AI pipeline. Not a repository.



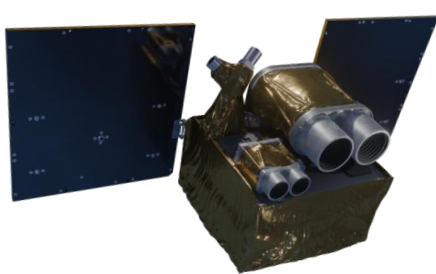


# Starts in Orbit





# Follow the pixel — five gates, five answers



**2**  
**Downlink**

**3**  
**Processing**

**4**  
**Catalog & Access**

**5**  
**AI Exploitation**



SOVEREIGNTY GATE — WHO CONTROLS THIS STEP?


**Who owns the raw data?**  
✓ SATLANTIS

Defined in sensor architecture before any image is taken



**Who controls the downlink?**  
✓ SATLANTIS + EU partners

EU ground station network. Jurisdiction maintained throughout




**Who wrote the pipeline?**  
✓ SATLANTIS

L0→L2A. We know exactly what it does to every pixel



**Who defines access policy?**  
✓ SATLANTIS + Catalog layer

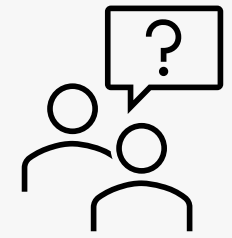
Enforced technically — not just contractually



**Who governs AI use?**

- Maturing

In-house AI — provenance governance still an industry challenge






# Four lessons

## 01

### **Sovereignty is decided at architecture time**

Not policy time. The infrastructure answers before the document is written.

## 02

### **Governance must be enforced, not described**

A PDF is not governance. Governance is what the system does when an unauthorised request arrives.

## 03

### **AI-ready is an operational commitment**

Quality, metadata, provenance, governance. Cannot be retrofitted. Design in from day one.

## 04

### **Every sector has the same five gates**

Energy, health, mobility, finance. The domain changes. The architecture problem does not.



# Thank you!

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S A T L  N T I S