













# JAPETUS & EOP: New decision support capacity to protect cities against Natural Disasters

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URBIS24 workshop, 18 September 2024

## Prométhée Earth Intelligence





Prométhée Earth Intelligence provides Earth Observation solutions to address needs for sovereignty and access to information

Designer and Architect of Earth observation systems



A holistic end2end approach from service to satellite



A system that meets the needs of end users



Digital platform for enhancing data and producing GeoIntelligence services

Operator of a constellation of latestgeneration nanosatellites



Very high revisit



Simultaneous multiple access



Near real time acquisition

### **Business model**





Prométhée Earth Intelligence offers Earth Observation end2end scalable solution that is highly adaptable to the needs of its customers, from service to strategic autonomy.



SIMPLIFYING EARTH DATA ACQUISITION
TO DELIVER HIGH VALUE INFORMATION
THROUGH ONE AGGREGATIVE PLATFORM

Sale of data and value-added services of the Prométhée Earth Intelligence constellation

A SOVEREIGN END-TO-END SOLUTION

Sale of complete infrastructures for earth observation programmes based on constellations of nanosatellites

## Mission roadmap





A step-by-step approach to very high sovereign revisit

**Ground segment** 

**V2** 

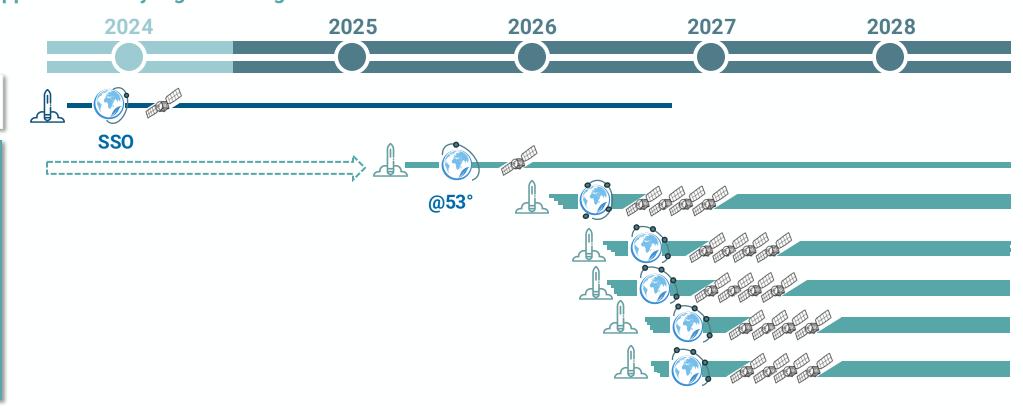
#### Protométhée

#### **JAPETUS**

- GSD 1m P+7 XS
- 20 satellites
  - o 16 @53°
  - o 4 @SSO
- Reactivity
  - o ISL Geo > et ↗
  - o Retasking bord
  - o IA onboard



**EOP** digital platform



**V3** 

**V2** 

URBIS24 workshop - 16-18 September 2024 | ESA-ESRIN, Frascati (IT)

**EOP version** 

V3.1

## PROTOMETHEE - Satellite precursor





A satellite precursor validating the technologies deployed by Prométhée Earth Intelligence



#### **High resolution**

 $\circ \simeq 5 \text{ m GSD}$ 



#### From visible to near infrared

o 7 spectral bands from 450nm to 900nm + 1 panchromatic band



#### A swath allowing large coverage

o 14 km

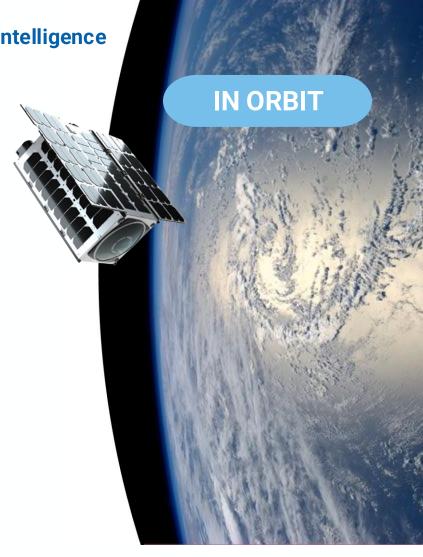


#### A new generation of satellite

o 15 kg (platform) / 27,5 kg with instrument



**Launched in November 2023** 





## **JAPETUS Satellite**





A new-generation intelligent optical satellite at the heart of the constellation.



#### **Very High resolution**

o 1 m GSD



#### From visible to near infrared

o 7 spectral bands from 450nm to 900nm + 1 panchromatic band



#### A swath allowing large coverage

o 9,6 km

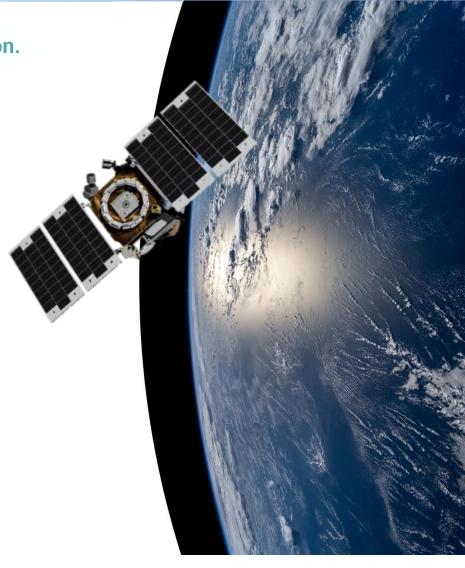


#### A new generation of satellite

o 35 kg (platform) / 50 kg with instrument

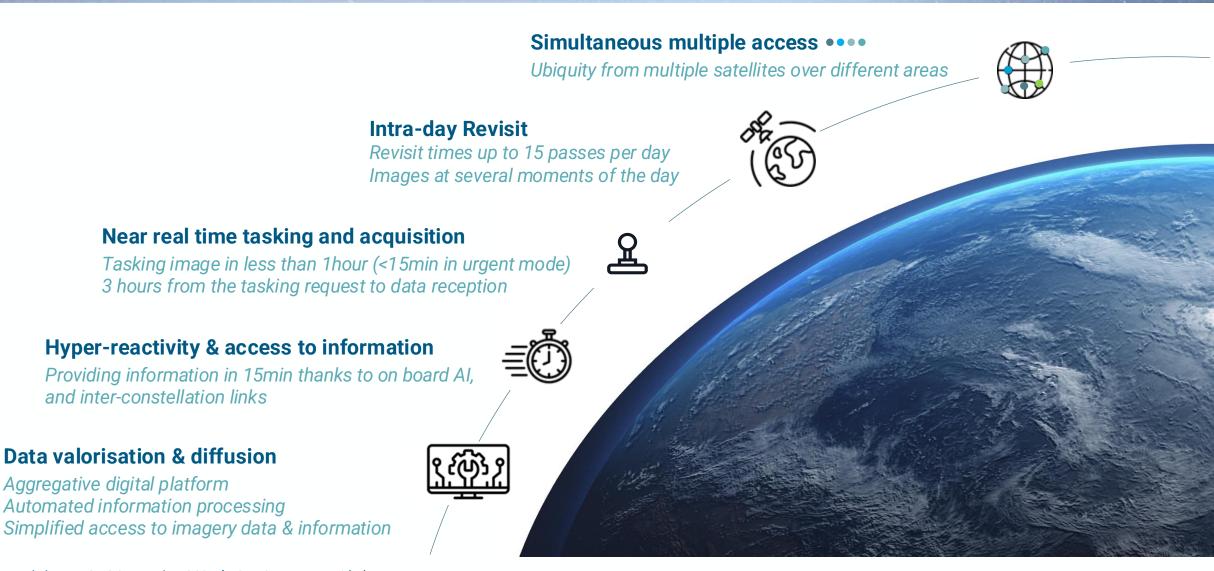


Launch planned in Q4 2025



## Mission objectives & performances





## **EOP – Earth Observation Platform**





A direct tasking access to the Prométhée constellation for near-real-time satellite data acquisition



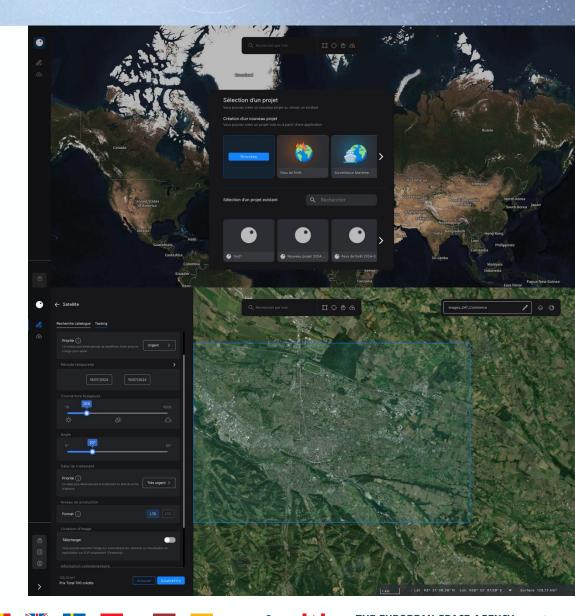
A digital platform for enhancing data and producing Geo-Intelligence services



A holistic approach, from data aggregation and processing to the production of value-added services.



A collaborative information system enabling data and results to be shared, facilitating the pooling of means and resources







#### A new capability offer to protect cities against Natural Disasters.

A scalable solution that complements and interfaces with existing information systems, based on the informational power of GEOINT and adaptable to current and future operational needs.

Situational Awareness Service SAS

**Knowledge & understanding** 

Early Warning System EWS

**Prevention & planification** 

RAPID RESPONSE RR

**Decision Support** 













A holistic end2end approach from service to satellite



A system that meets the needs of end users



A collaborative and aggregative digital platform

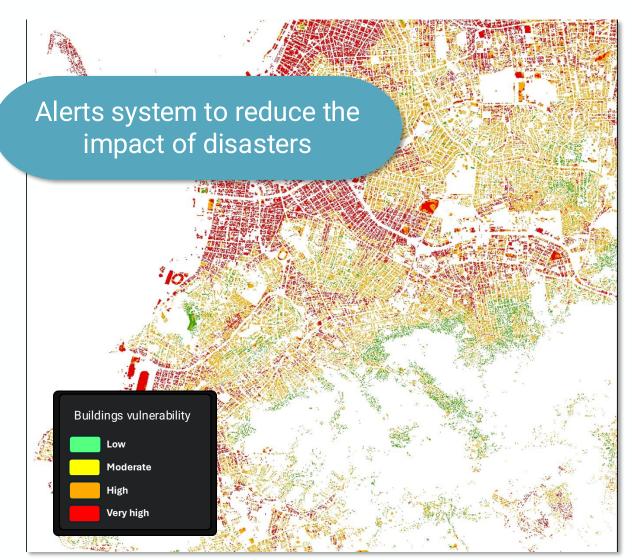




## SITUATIONAL AWARENESS SERVICE Knowledge & Understanding

- ✓ Provide flood vulnerability maps
- Simulate rising water levels
- ✓ Identify areas and populations at risk



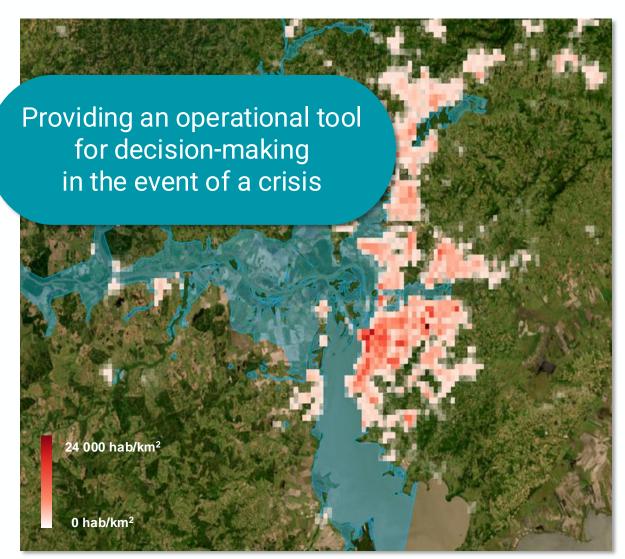


### **EARLY WARNING SYSTEM**

Prevention & Planification

- ✓ Taking account of actual weather phenomena
- Simulating the impact of meteorological changes
- **✓** Emergency access status





## RAPID RESPONSE Decision Support

- ✓ Operations support and near-real time situation updates
- ✓ Identification of affected areas
- ✓ Identify areas and populations at risk

