

IPSentinel

Portuguese Infrastructure for Storage and dissemination of
Sentinel Satellite Images

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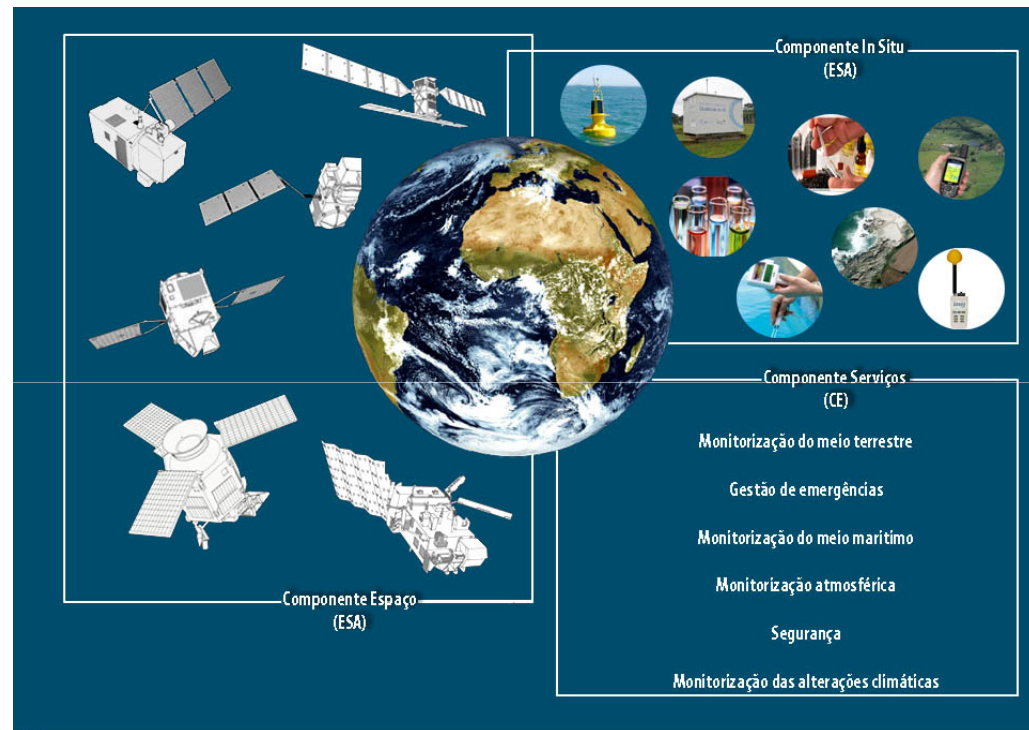


Summary

- Copernicus European Program
- Space Component
 - Sentinel Missions
 - Sentinel Satellites Launch Schedule
- Collaborative Ground Segment (CollGS)
- IPSentinel
 - Objective
 - Area Of Interest
 - Architecture
 - Data and Products
- Conclusion

Copernicus European Program

- The Ground Segment is responsible for the collection, pre-processing and distribution of satellite data
- 2 Main types of missions:
 - Dedicated Missions (e.g. Sentinel)
 - Contributive Missions (e.g. Deimos-1, TerraSAR-X, TanDEM-X)

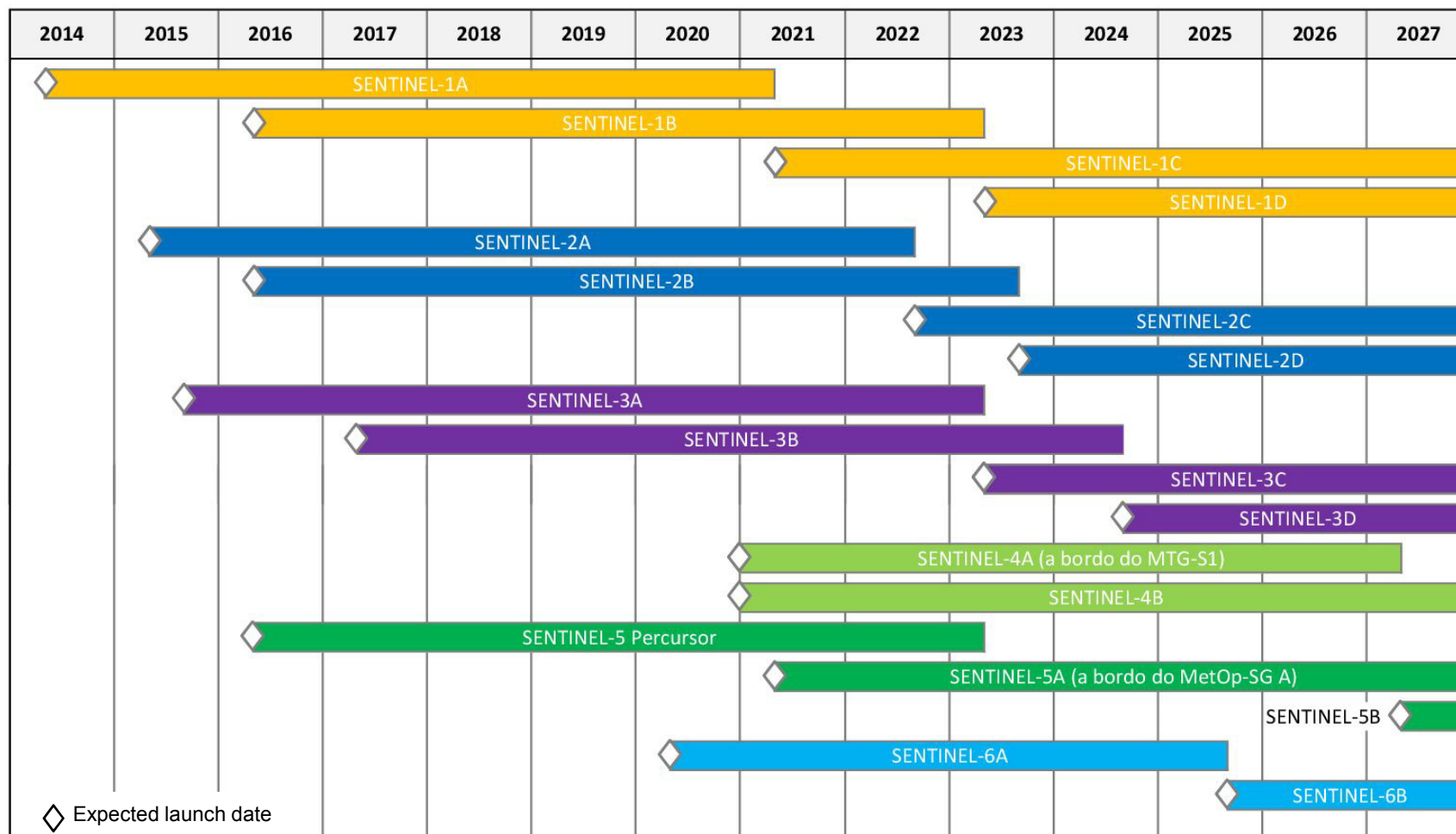


Source: www.dgterritorio.pt/copernicus/

Sentinel Missions

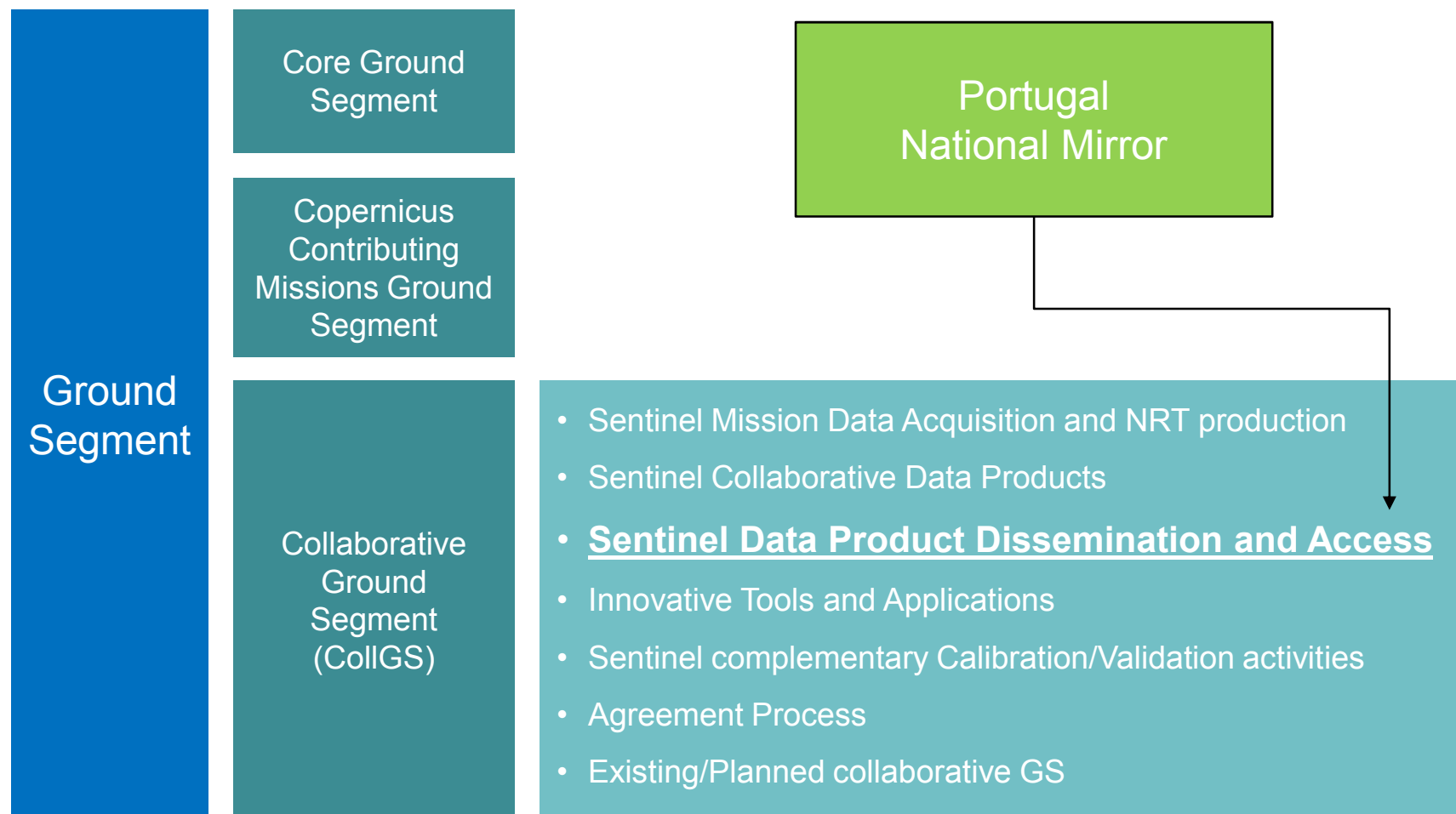
Missions	Sensors	Objective
Sentinel 1A and 1B (1C and 1D)	C-SAR	Monitoring Earth and marine environment; Safety; Emergency management
Sentinel 2A and 2B (2C and 2D)	MSI	Monitoring services in terrestrial environment; Emergency management; Monitoring climate change.
Sentinel 3A and 3B (3C and 3D)	SLSTR; OLCI; SRAL	Topographic measurements of the ocean surface; Measuring the earth and ocean surface temperature; Characterization of the oceans color and soil reflectance of earth soil
Sentinel 4A (on board of MTG S1) and 4B	SENTINEL-4/UVN	Atmospheric monitoring
Sentinel 5 Precursor, 5A (on board of MetOp SG-A) and 5B	TROPOspheric Monitoring Instrument (TROPOMI) UV- VIS-NIR-SWIR instrument.	Atmospheric monitoring
Sentinel 6A and 6B	Altimeter	High precision altimeter to measure the overall height of the sea surface

Sentinel Missions



Source: ESA; Published in 23/12/2015

Collaborative Ground Segment (CollGS)

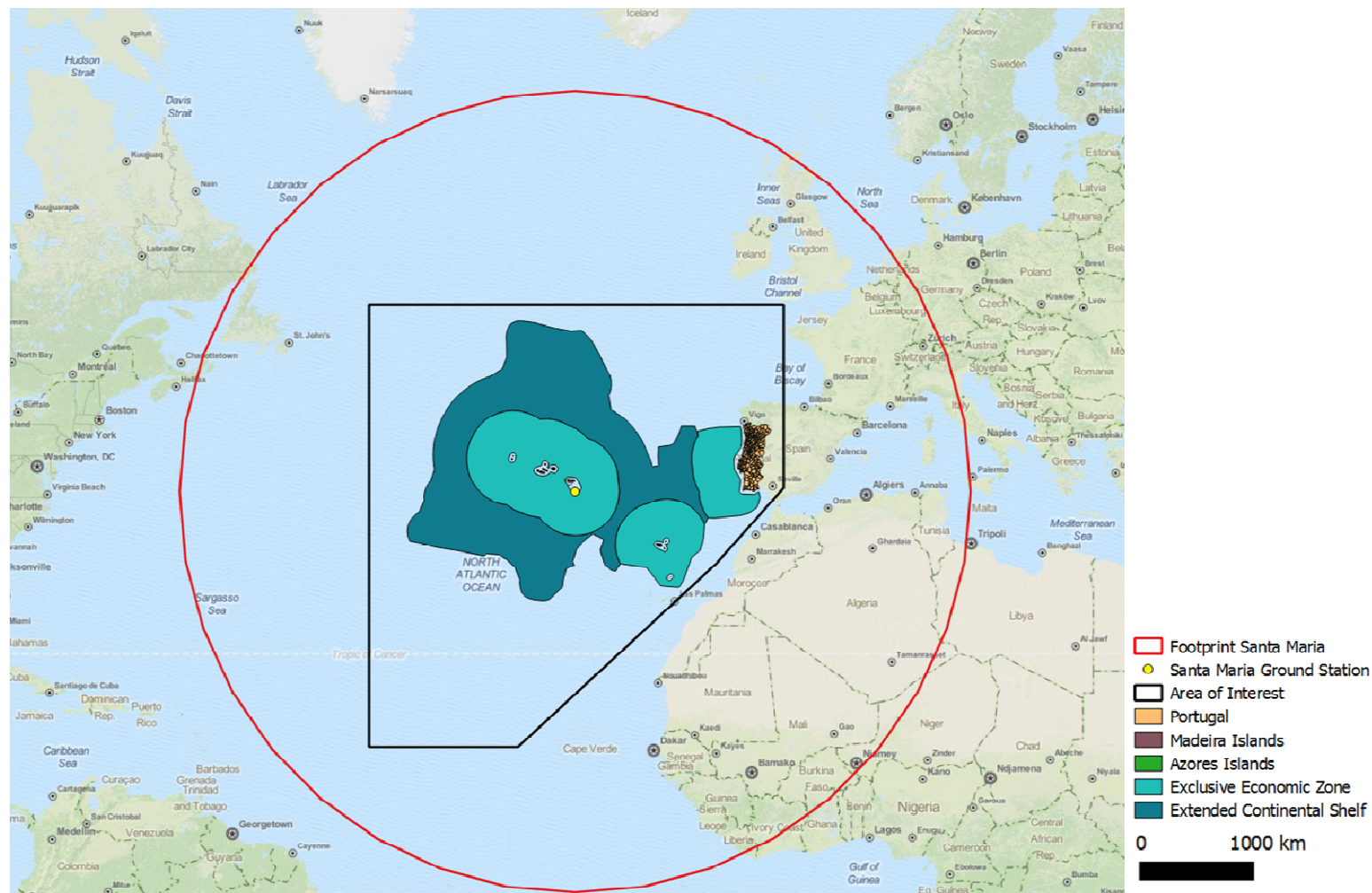


IPSentinel

- Objectives
 - Implementation of CollGS policies
 - Implementation and coordination of a technological infrastructure for storage and dissemination of Sentinel satellites images
 - National Mirror for Portugal
- Partnership between Directorate General for Territorial Development (DGT) and Portuguese Sea and Atmosphere Institute (IPMA)
 - Promoted by Directorate General for Sea Policy (DGPM) and funding by the EEA Grants Program

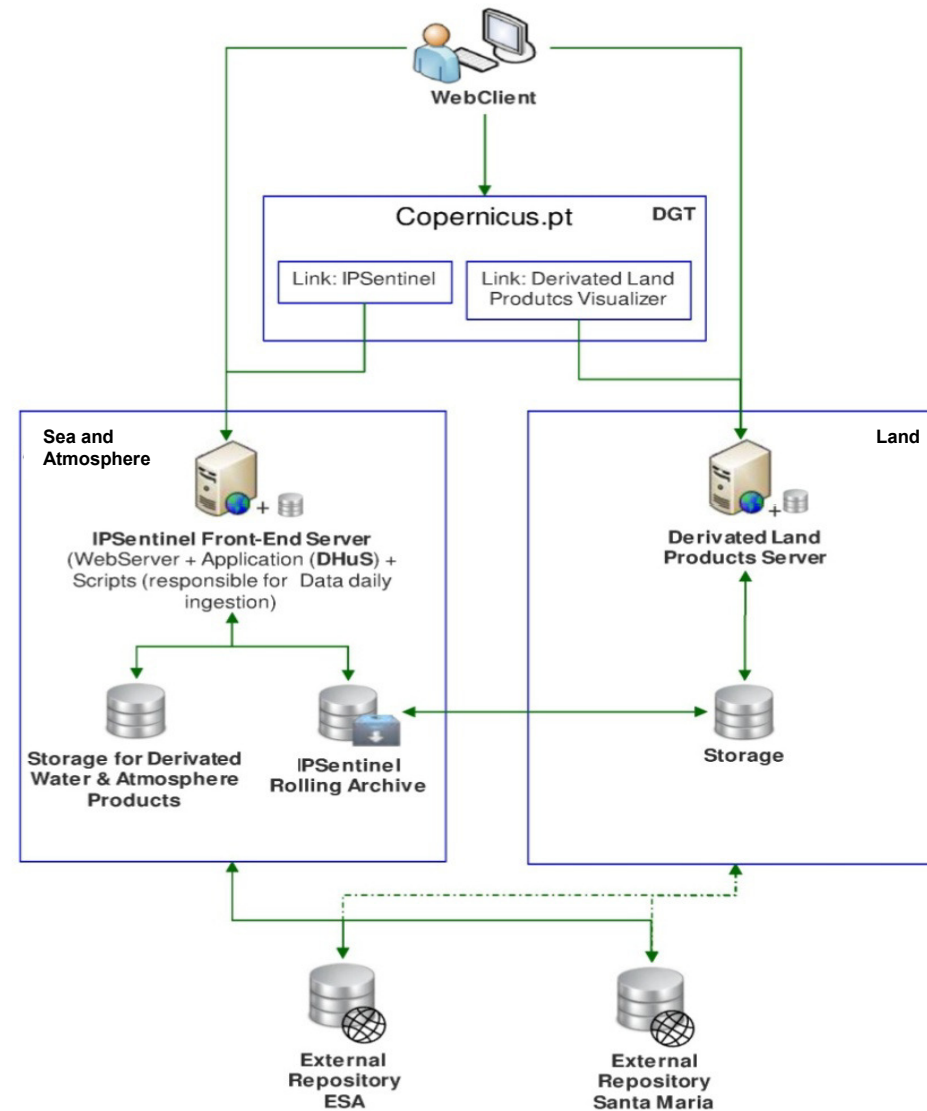


IPSentinel – Area of Interest



IPSentinel – Architecture

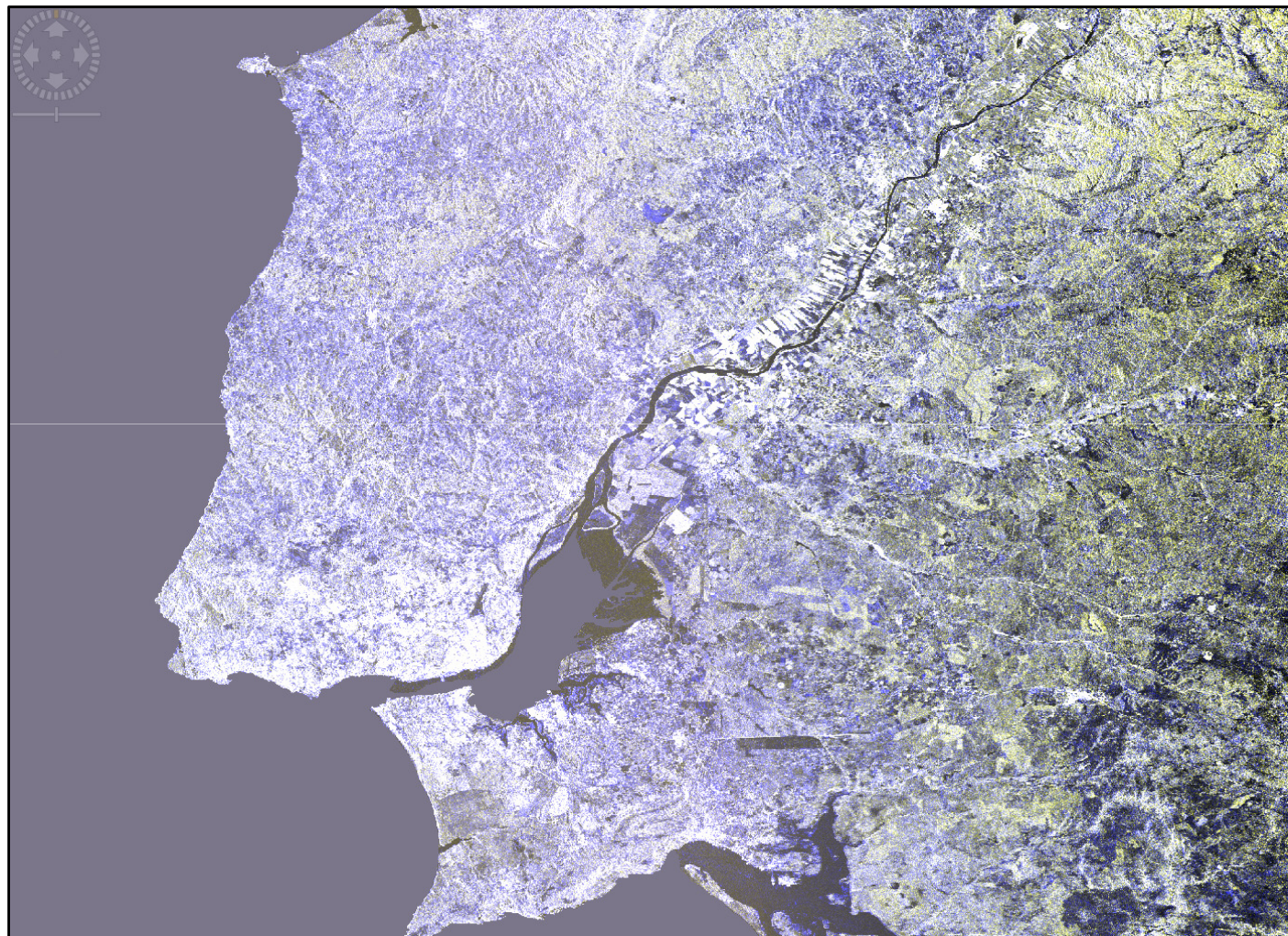
- 2 Main Servers
- 3 Storages
- 2 Main components:
 - Sea and Atmosphere
 - Land
- 2 External repositories



IPSentinel – Data and Products

Sentinel-1A

- Sensor: SAR
- Level: L1
- Type: GRD
- Mode: IW
- High Resolution
 - Pixel Spacing: 40X40m



IPSentinel – Data and Products



Sentinel-2A

- Level: L1C (TOA)
- False colour composite (IRG: 843)
- Spatial Resolution: 10 m

IPSentinel – Data and Products

Sentinel 2-A

- Level: L1C (TOA)
- Natural colour compoiste (RGB: 432)
- Spatial Resolution: 10m



Conclusions

- IP Sentinel - Infrastructure for the dissemination of Sentinel images for Portugal with privileged access to ESA repository
- Important contribution for the development of Earth Observation segment in Portugal:
 - Open and free access to Sentinel satellite images
 - Creation of new monitoring services in various Earth Observation areas (e.g. marine, land and atmosphere, climate changes)
- Strengthening Portugal position as an innovative country in the space segment

Thank You!

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Andreia Barbeiro
Marisa Silva
Paulo Patrício
Bruno Anjos
Marcos Silva

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