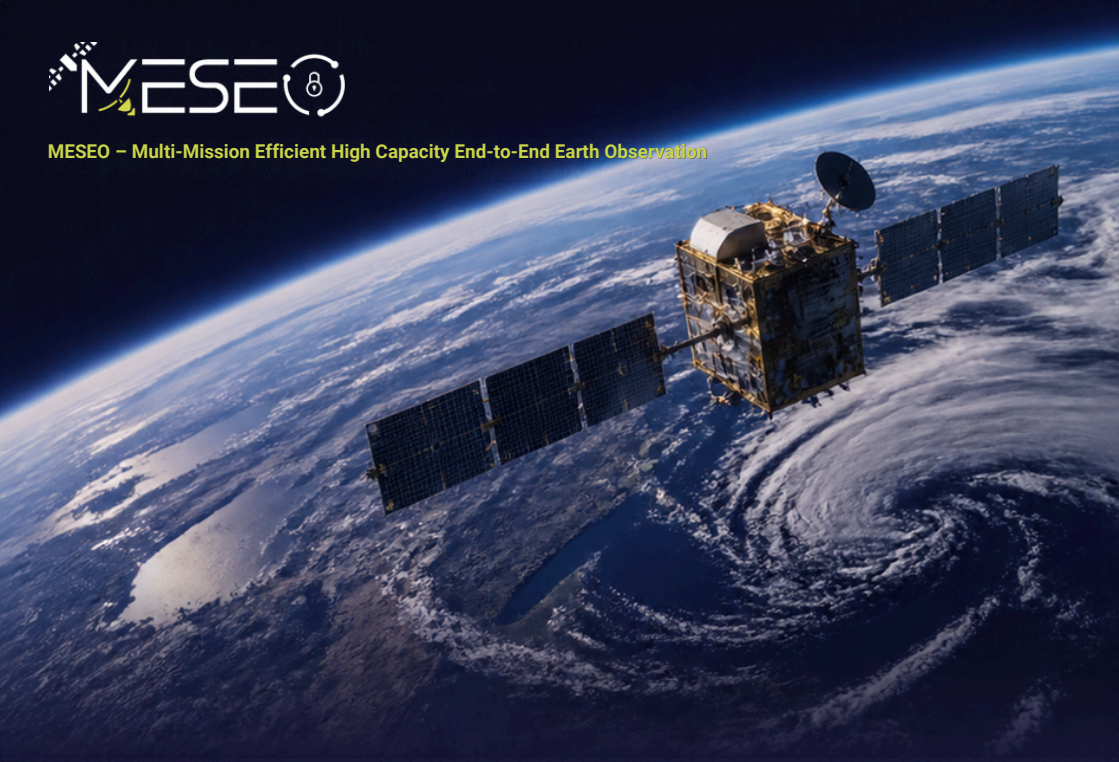
MESEO – Multi-Mission Efficient High Capacity End-to-End Earth Observation



Building a Federated Earth Observation Ecosystem.

MESEO has brought together technologies that process satellite data on board and on the ground, helping different systems work together and exchange data securely to turn Earth observations into useful information.

The MESEO results.

MESEO has developed a portfolio of results with potential for future use, covering innovations in satellite processing, Artificial Intelligence, distributed ground processing, secure data sharing and coordination technologies.

The EO Coordination Centre.

One of MESEO's key results is the Earth Observation Coordination Centre, designed to coordinate processing functions across different infrastructures and data providers.

Testing technologies together.

MESEO developed a demonstration environment to integrate and test selected technologies across the Earth Observation processing chain, from satellite data to information generated on the ground.



Demonstrations and future opportunities.

Two Earth Observation use cases.

MESEO demonstrated its technologies through two use cases, showing how satellite observations can be transformed into useful information for environmental monitoring and agriculture.

- **METHANE DETECTION:**
  AI-powered satellite image processing to identify potential methane emissions and support climate action.
- **CROP CLASSIFICATION:**
  Advanced AI analysis of satellite imagery to identify crop types across large areas, supporting agriculture and land management.

From research to future applications.

MESEO technologies support a wide range of future applications, from climate monitoring and emergency response to precision agriculture, infrastructure and biodiversity monitoring. On-board AI and secure data-sharing solutions can also support future satellite missions and European Data Spaces.

MESEO: Connecting technologies. Unlocking the potential of Earth Observation.

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