# Reliance

*Research Lifecycle Management technologies for Earth Science Communities and Copernicus users in EOSC*



# Project Overview
## Extending the research-enabling capabilities of the European Open Science Cloud

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OpenAIRE-Nexus: Public launch event
10th March 2021

# Reliance at a Glance

*REsearch LIfecycle mAnagemeNt technologies for Earth Science Communities and CopErnicus users in EOSC*

- RELIANCE seeks to **extend the EOSC's capabilities** with an enhanced support for **research activities** through a set of industry-strong, innovative, **interconnected services**, and in alignment with the **EOSC Interoperability Framework**.

- Adopting a holistic research mgmt. approach, it will **enhance the discovery** of and access to research data/results (incl. **Copernicus** data), improve the **extraction** of relevant information, **managing the research lifecycle** while promoting **FAIR and open science** principles.

- It will pilot and demonstrate its services' value via **3 Earth Science communities** and others engaged via an **Open Call,** fostering the use of **Copernicus data**, with the final aim to enhance EOSC support for **multidisciplinary** research and to improve EU science as a whole

2 Million Euro (EC Grant)

24 Months

Officially started January 2021

Reliance

# Reliance Service portfolio
## Research Lifecycle Management Ecosystem Pillars

- ***Research Objects*** as the overarching mechanism to manage scientific research activities and connect associated resources



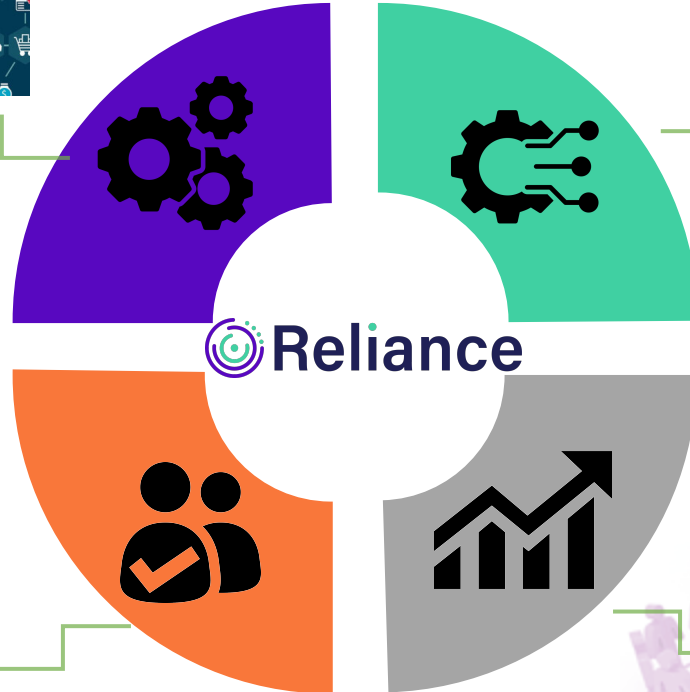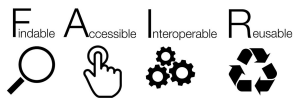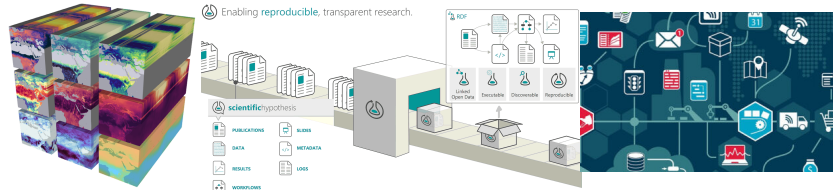- ***Data Cubes*** for efficient and scalable structured data access and discovery



- ***Text mining*** services to extract machine-readable metadata from RO resources enabling researchers to discover scientific information at scale and to structure their own research.
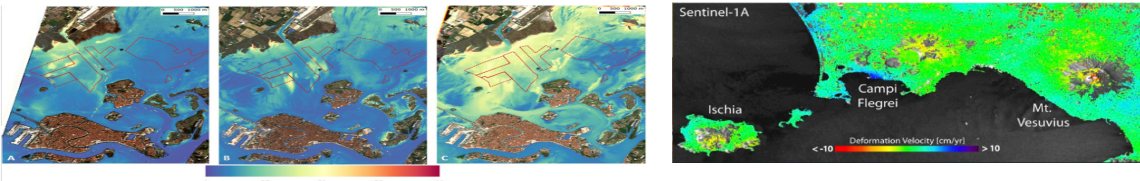


http://www.researchobject.org

# Reliance Objectives



**Provision of suite of services for Research Lifecycle Mgmt.**

**EOSC integration and extension**

Integration and onboarding of Reliance services in EOSC, leveraging and connecting with other complementary EOSC services

**Demonstration & community engagement**

Demonstrate the services and value proposition

**Increase Copernicus and EOSC impact**

Foster the adoption of Copernicus data and EOSC services in such scientific communities

# Project Partners

Consoritum at a glance
- 9 partners from 5 European countries
- 3 research communities
- 5 technical partners: 3 RO, 2 TM, 2 EO
- 4 industry partners

UiO : Universitetet i Oslo
https://www.mn.uio.no/geo/

Alpha Consult
https://www.alphacons.eu

PSNC
https://www.psnc.pl/
coordinator

UNIVERSIDAD POLITÉCNICA DE MADRID
POLITÉCNICA
www.oeg-upm.net

EXPERT SYSTEM
SEMANTIC INTELLIGENCE
https://www.expert.ai/

ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA
http://www.ingv.it/

http://www.ismar.cnr.it/

https://www.meeo.it/

TERRADUE
https://www.terradue.com/
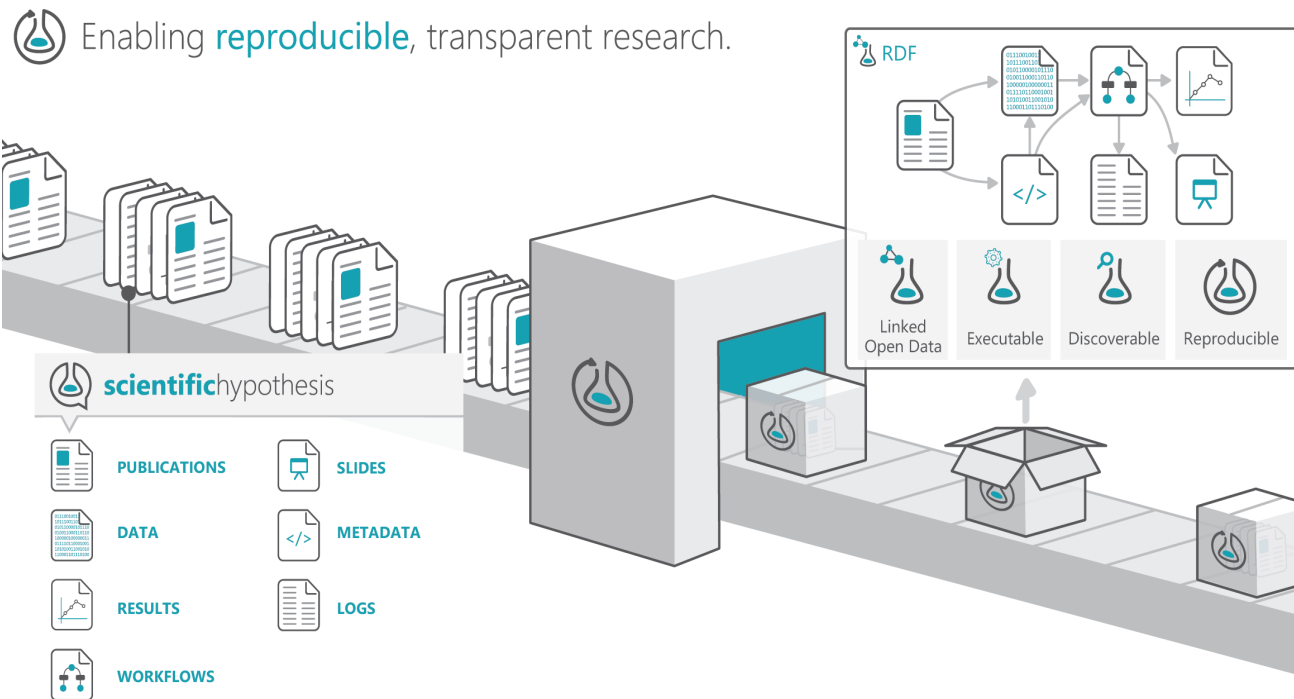
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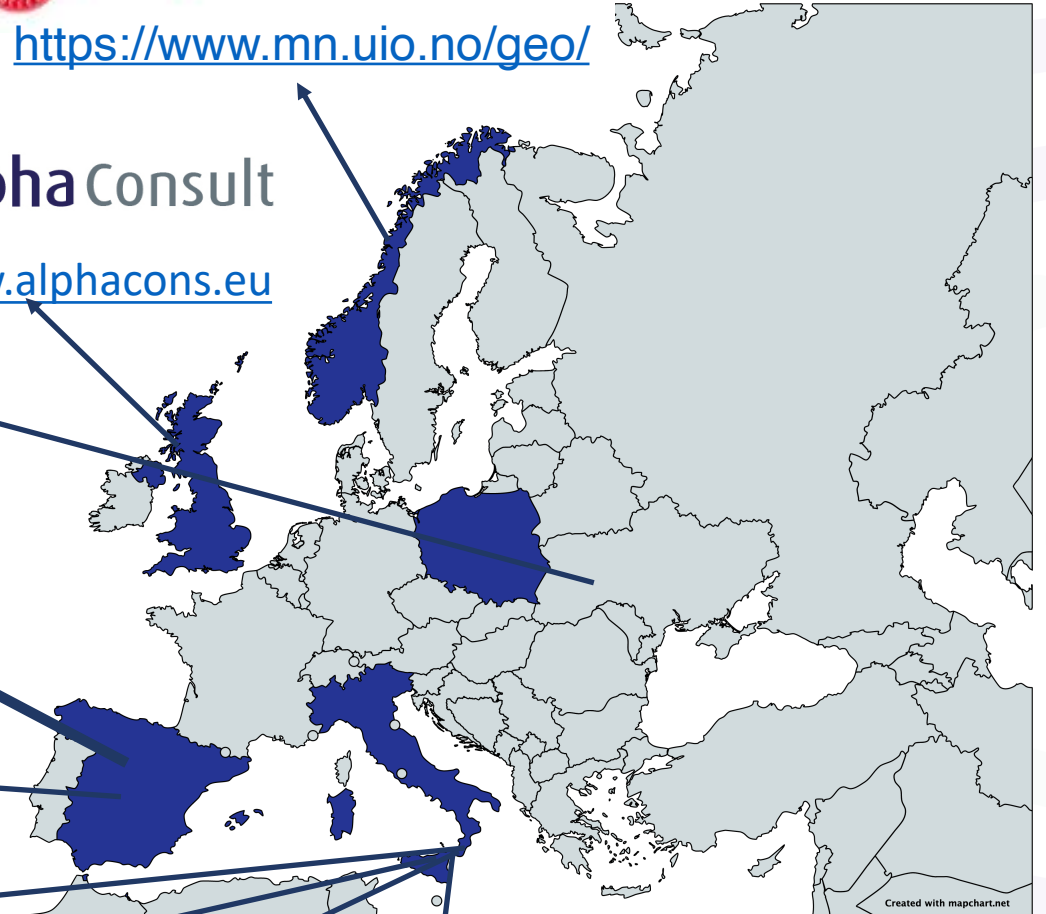
# Research Objects - overview

**Goal**: Account, describe and share *everything* about your research, including how those things are related



Enabling reproducible, transparent research.

scientifichypothesis

PUBLICATIONS    SLIDES

DATA    METADATA

RESULTS    LOGS

WORKFLOWS

http://www.researchobject.org

- **Unique identifier**, e.g. DOI
- **Hypotheses**
- **Data** used and results produced
- **Methods** employed to produce and analyse data
- **Scientific workflows** implementing such methods
- **Provenance** of their executions
- **Versioning** information
- **People** involved in the investigation
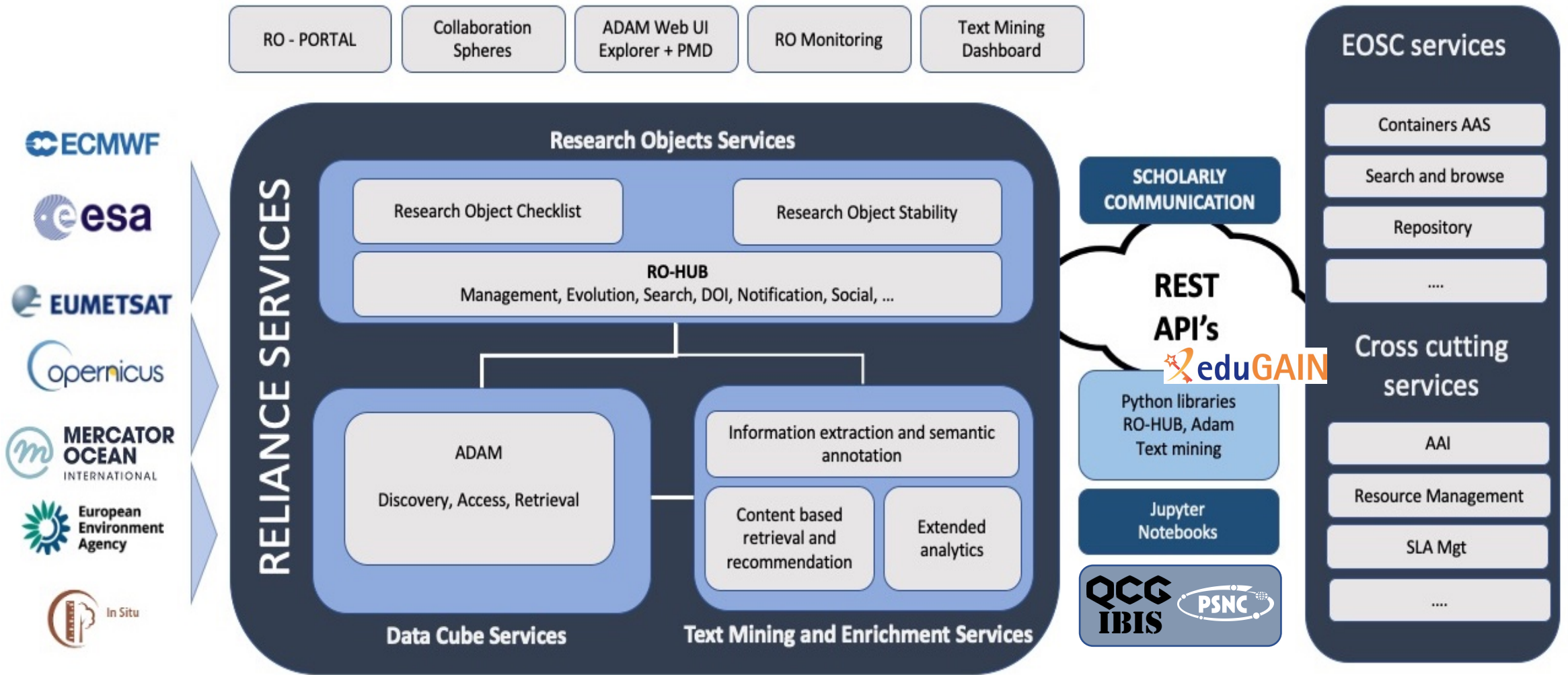- **Annotations** about these resources

# Service logic interconnection
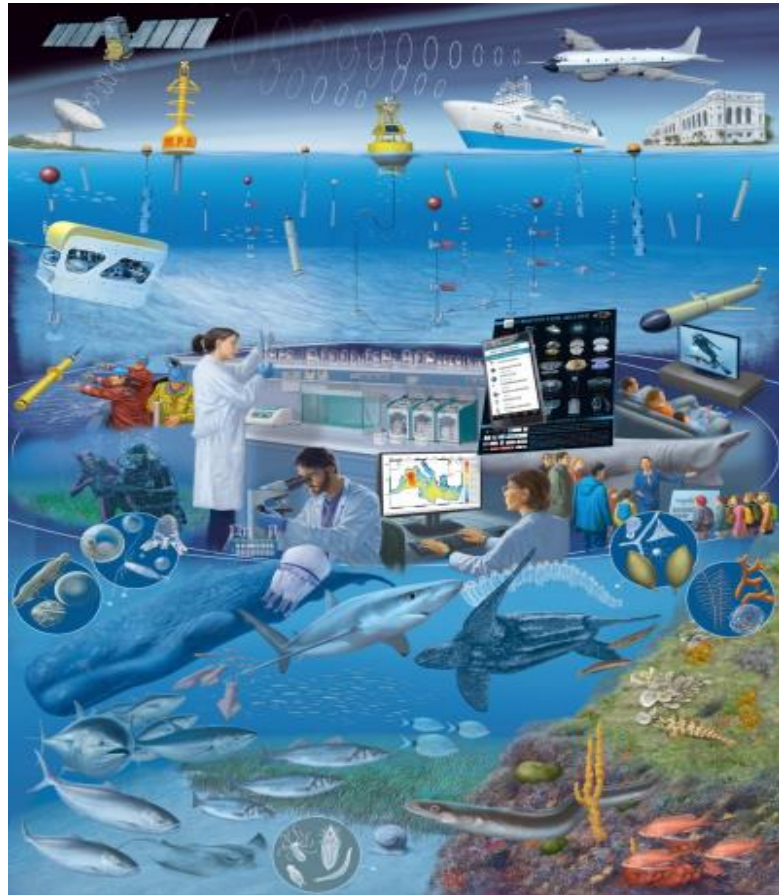
# EOSC complementarity

**Reliance** services would act as a bridge between various EOSC services, acting at a higher level and connecting e.g.,

- Data used by researchers, e.g., DC for Copernicus data and other datasets available from EOSC (e.g., B2Share , EGI DataHub),

- Methods used to process such data (e.g., via EGI Jupyter notebooks)

- Research Infrastructures (RI) used for research (to monitor their impact)

- Results published via scholarly communication services (e.g., Zenodo/OpenAire).

- RO snapshot/releases also published to EOSC repositories or scholarly communication platforms (e.g., B2Share, Zenodo)
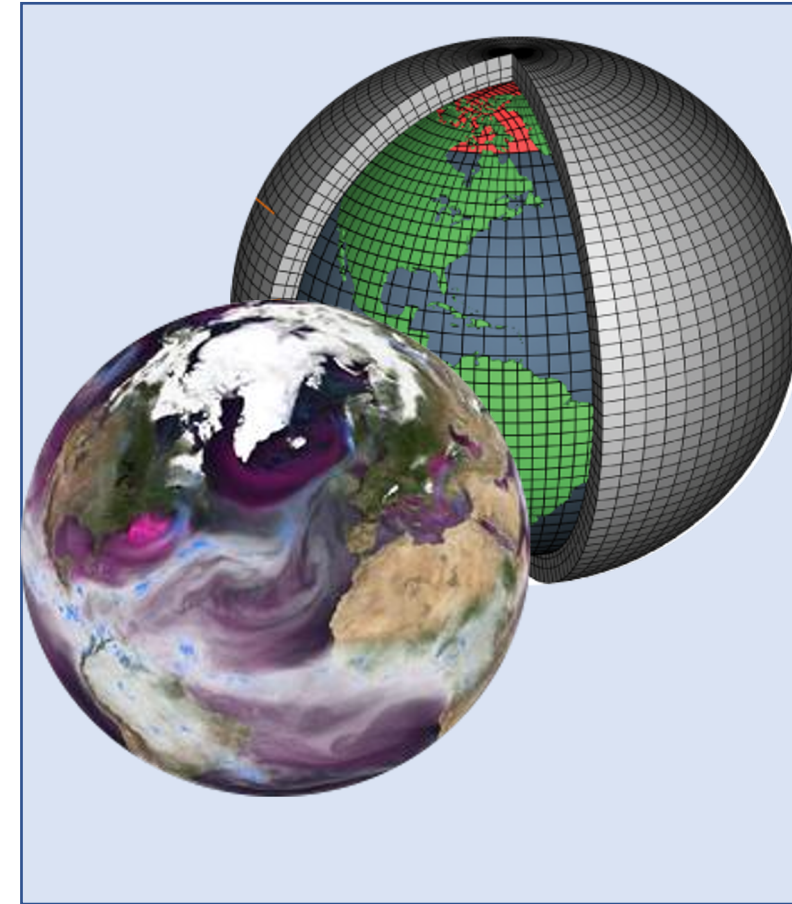


connecting all resources used/produced in the middle with rich metadata.

Source: https://www.the-waves.org/2020/09/29/technology-transfer-for-development-myth/

Reliance

# Sea Monitoring

# Geohazard

# Atmospheric and climate modelling

The multi & inter disciplinary use cases will showcase how RELIANCE services can support researchers & promote the cooperation among scientists in Earth Science, but the services may be adapted to any other research domain!

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# Thank you!

Visit us: https://www.reliance-project.eu/

Contact us: info@reliance-project.eu

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