

Reliance at a Glance

- RELIANCE seeks to **extend the EOSC's capabilities** with an enhanced support for **research activities** via a set of **interconnected services**, in alignment with the **EOSC IF**.
- It will **enhance the discovery** of and access to research data/results (incl. **Copernicus**), improve the **extraction** of relevant information, **managing the research lifecycle** while promoting **FAIR and open science** principles.
- It will demonstrate its services' value via **3 Earth Science communities** and others via an **Open Call**, fostering the use of **Copernicus data**, enhancing EOSC support for **multidisciplinary** research and improving EU science as a whole



What problems are we aiming to solve

- RELIANCE's vision is to allow scientists and related stakeholders
 - to continue doing their science as usual, but now being able to access larger datasets, including EO data from heterogeneous sources, share their results more easily and do OS by default
 - to make their research/campaigns more efficiently, to have all resources accessible via a single entry point, and to exchange information efficiently, addressing key challenges in the scientific area, e.g.,
 - researchers with different expertise require to work together efficiently
 - difficult to share data and other resources, code may not work out of the box
 - steep learning curve for new members joining a research project/group
 - reinvent the wheel because cannot find relevant source codes, data, etc.

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 enabling researchers to discover scientific information at scale and to structure their own research.

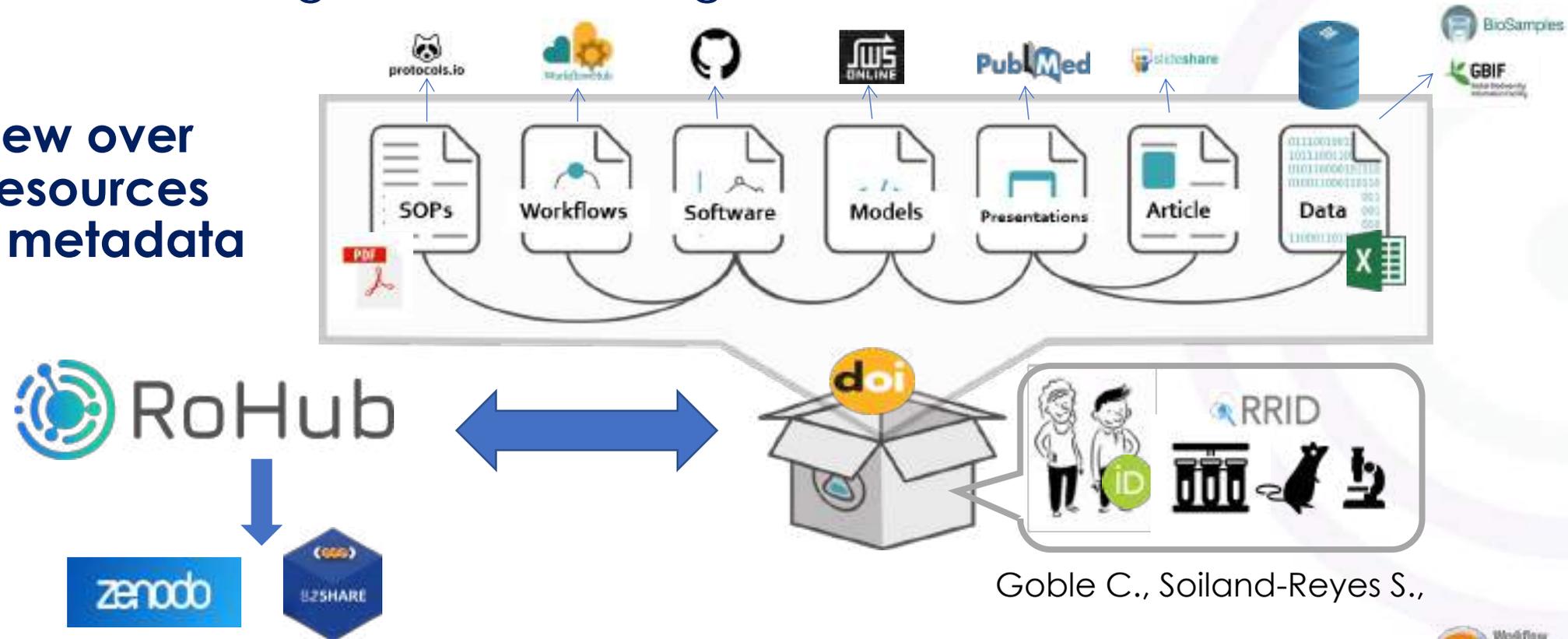


Research Objects - overview



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

integrated view over fragmented resources using PIDs and metadata



The RO has its own metadata, can be managed and evolved in its own right, and it can be packaged, deposited, transferred, accessed, and reproduced if appropriate

<http://www.researchobject.org>



Reliance Service portfolio in EOSC

- RELIANCE services are onboarded in EOSC
- ROHub acts as main entry point
 - Connects and provides access to other RELIANCE services (ADAM, Text Mining, other added value RO services)
- ROHub interconnects and integrates several other EOSC services, e.g.,:
 - AAI (EGI check-in)
 - Zenodo and B2SHARE
 - EGI notebooks and Binder
 - B2DROP
 - OpenAire Research Graph
 - **Argos: for the management of DMPs (at national level)**



ROHub enables the management, challenge as a single information related stakeholders (e.g., computer quality research objects that can evolution, to collaborate along the control and different collaborative research objects including assign to ensure that they will remain as



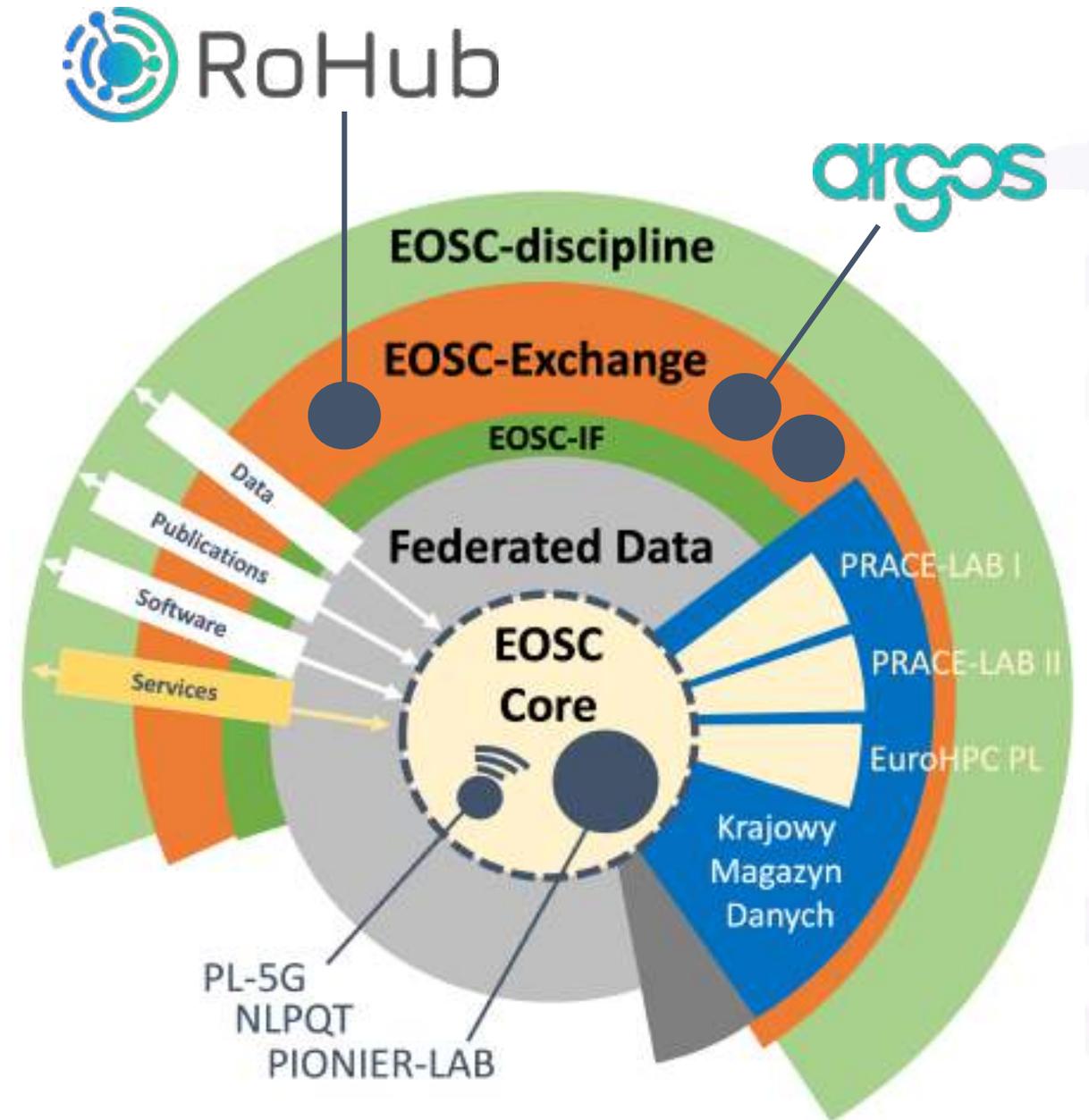
The semantic enrichment process is a change of generating new metadata out of the text content of files or collections of files as well as metadata. The metadata is the main concept found in scientific publishing and the main knowledge area in which these concepts are most frequently used. The main expressions, based on computational linguistics as well as domain, field or the text, and named entities that are further classified in people, organization and places. The core of the semantic enrichment process is a set of rules, based on the concept of a network, where words are grouped into concepts with other words sharing the same meaning, and the concepts are linked between them by logical relations such as hypernymy or hyponymy among many others. Therefore, the concept of the generated metadata is enriched with the concepts that are generated to the semantic network.

Information related processes, including search engines and recommendation systems, can benefit of working with enriched instead of character strings via strings which, mainly to provide a more complete and accurate set of results, and enabling the exploration of the collections by means of facets where the semantic metadata is available.



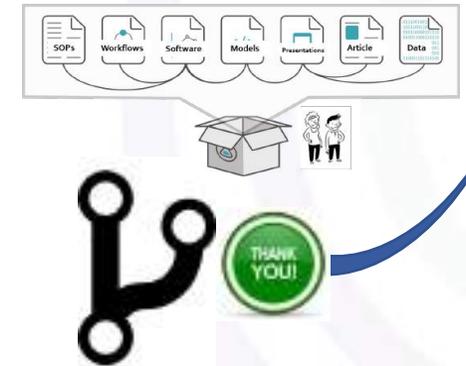
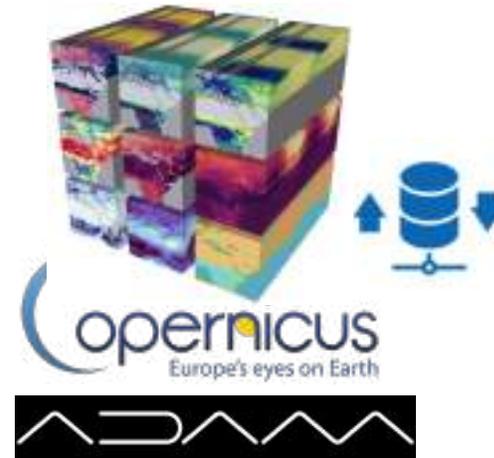
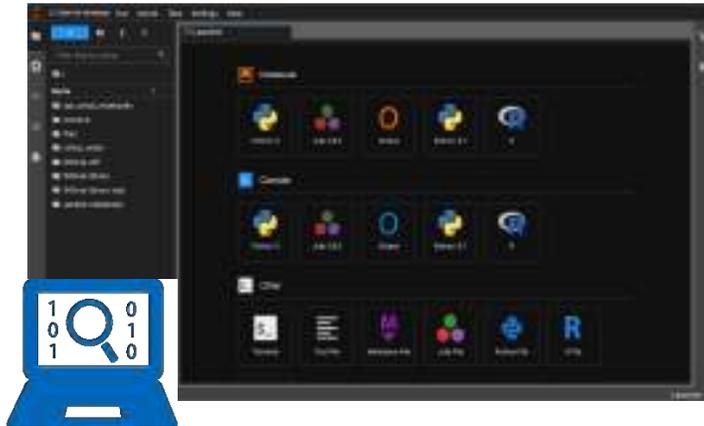
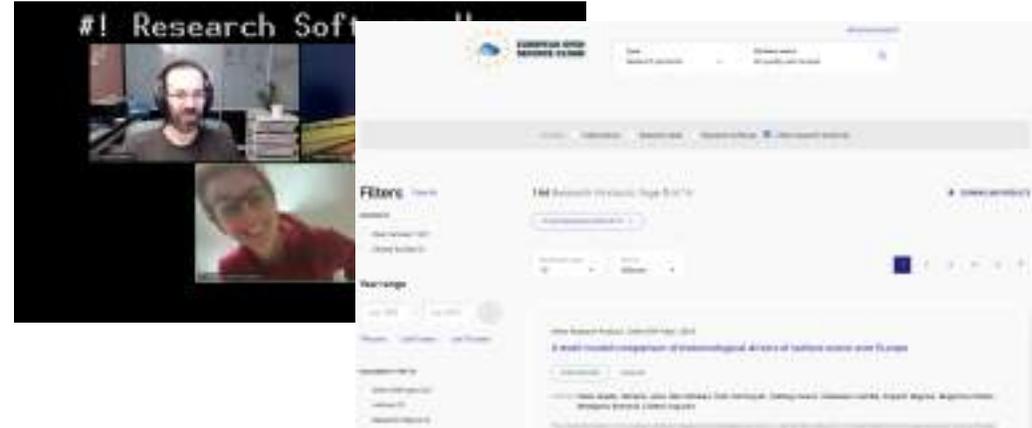
Reliance in Poland

- ROHub is one of the services offered and supported by the PIONIER network, a key component of the IT infrastructure of science in Poland, which is part of the European Research Area (ERA).
- ROHub is connected with Argos, providing at the national level possibility to create DMPs easily, and to manage the actual data via ROs.
 - Demo Wednesday, session 12:45-15:00
Tools and services (best practices)



Example scenario (EOSC)

Find research work, access and reproduce it, reuse it in new research, collaborate, assess quality and publish it leveraging different EOSC services



Impact & complementarity role in EOSC (and other services)

Data used/produced by researchers



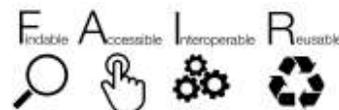
RI where those methods and data run or are hosted



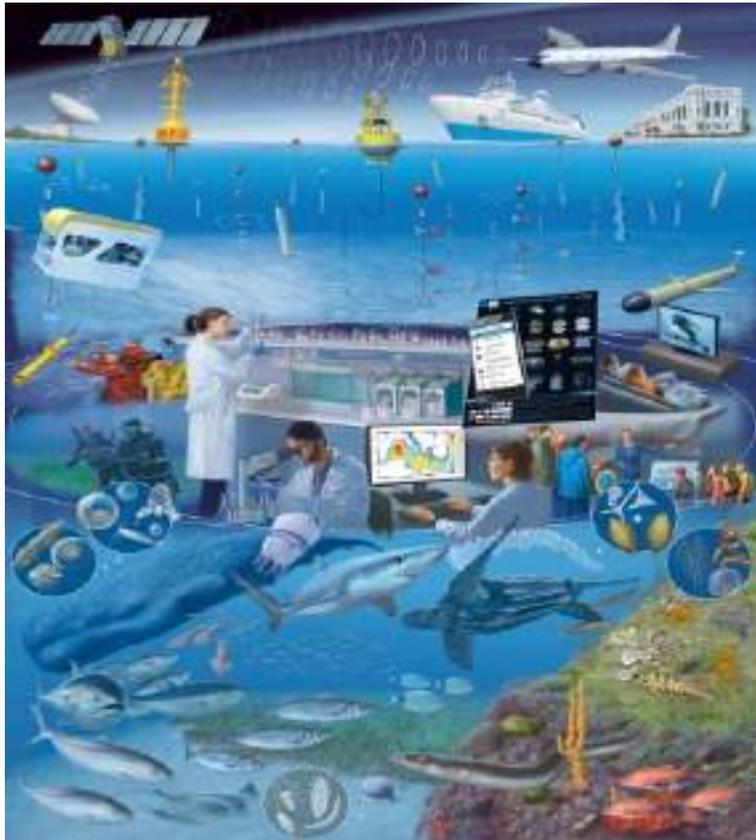
Methods applied to process/analyze the data



Publications to the scholarly community



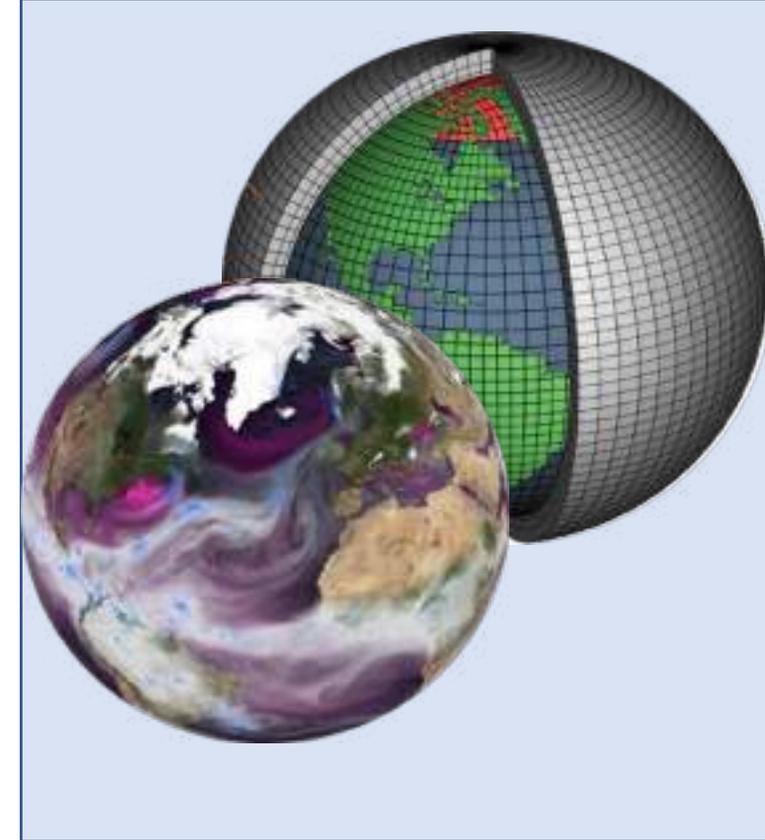
Sea Monitoring



Geohazard



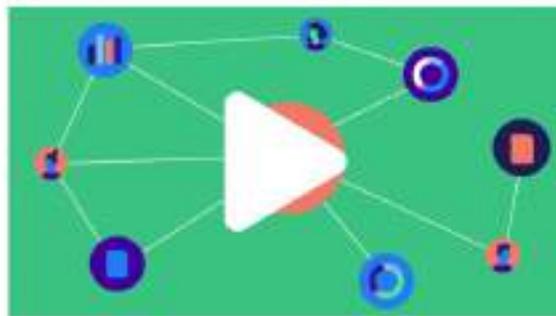
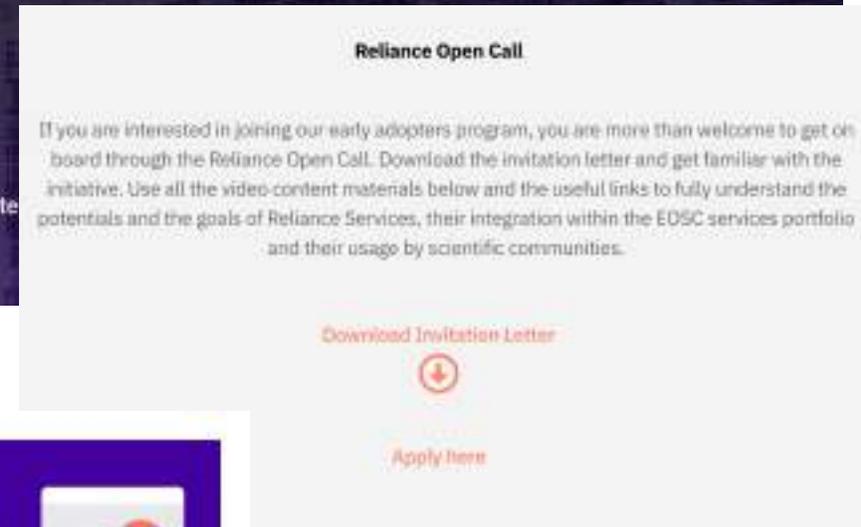
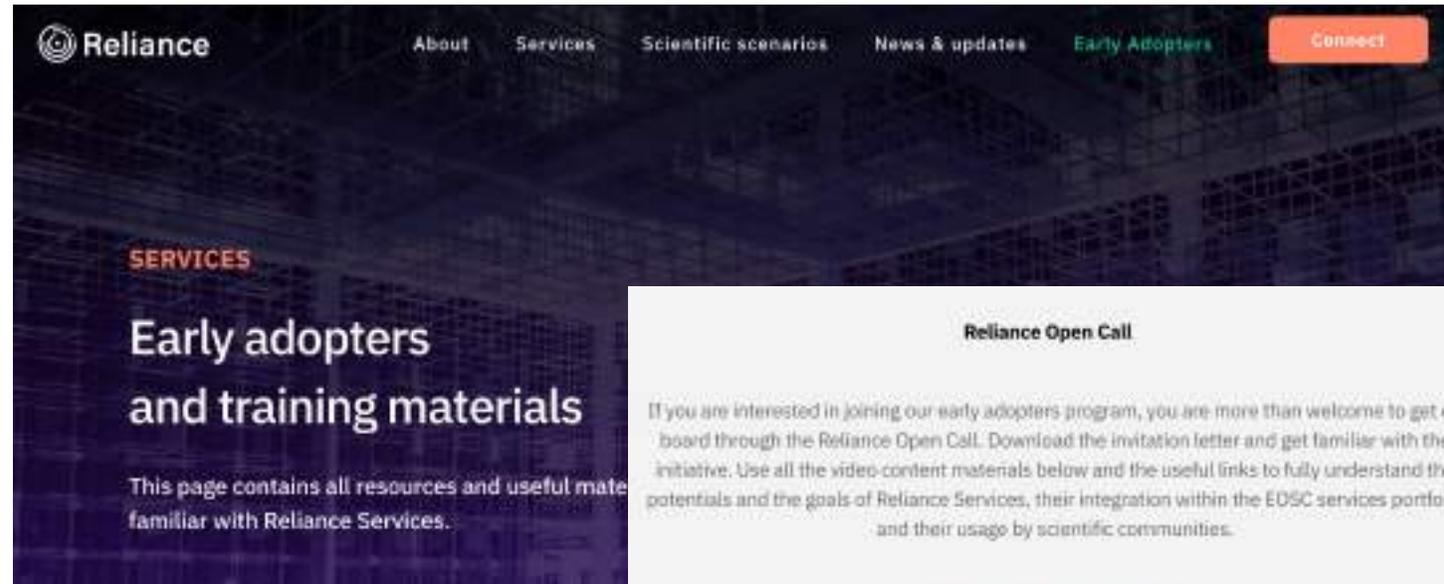
Atmospheric and climate modelling



- These communities are leading one multidisciplinary use case, studying the De-Impacts on Coastal Environments during the 2020 lockdown, and five thematic use cases.
- The UCs showcase how RELIANCE services can support researchers & promote cooperation among scientists in ES, though the services may be adopted in other domains/sectors

Using Reliance services

- Early adopters materials
- Reliance open call
- DIH Pilots



Introduction to Reliance and EOOSC



Introduction to Reliance Services



Reliance Open Call



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

Thanks!

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