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A new french infrastructure for satellite and in situ data and services on the earth system

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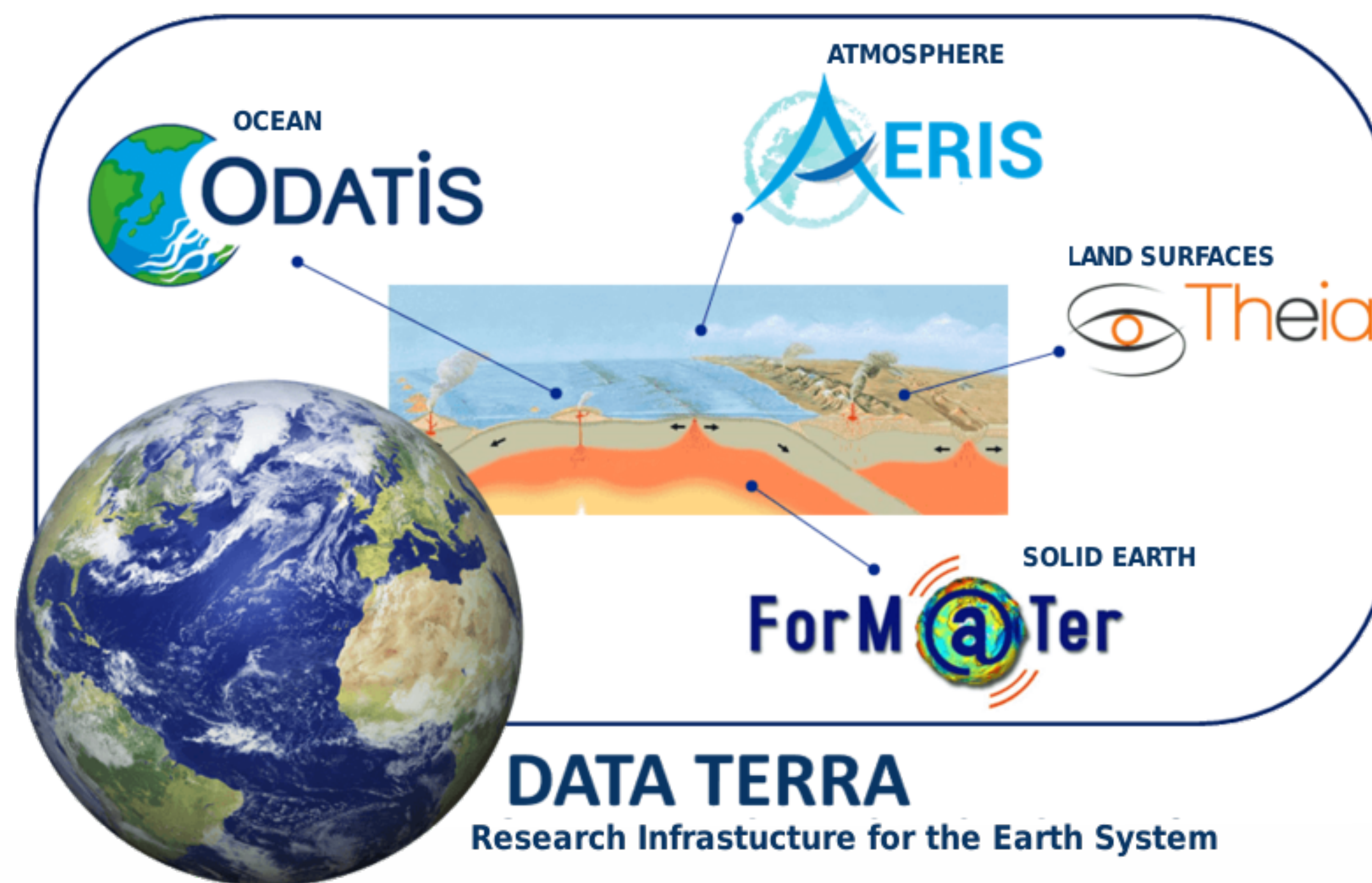


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Context

Studying the structure and understanding processes acting in the Earth system at various temporal and spatial scales in order also to predict its evolution and extreme events demand an easy and interoperable access to the numerous observation data acquired on ground, in oceans, from space,... regardless their nature and mode of collection. Indeed, to study the Earth System today requires to take into account processes acting in each terrestrial component but also to understand how they interact. In the meantime, the fantastic evolution of the observation techniques results in an unprecedented increase of the rate and volume of data acquisition. This requires innovative plan easing analysis, dissemination and smart use of data and models from national and international observing systems on the entire Earth System and their access by the scientific community, public policy actors and citizens.



Scientific and technical objectives

Our project federates for the time being four data and services poles dedicated to the four physical compartments of the Earth System: Aeris for the atmosphere, Odatis for the oceans, Theia for continental surfaces and ForM@Ter for the solid Earth. Our goal is to give an easy access to data (mainly satellite and in situ) and to generate derived products (including modeling) usable by all scientific communities studying our globe as well as by public policy actors.

4

Data and Services poles

20

Data and Services Centers

30

Scientific expertise centers

150

Scientific, engineers, technicians

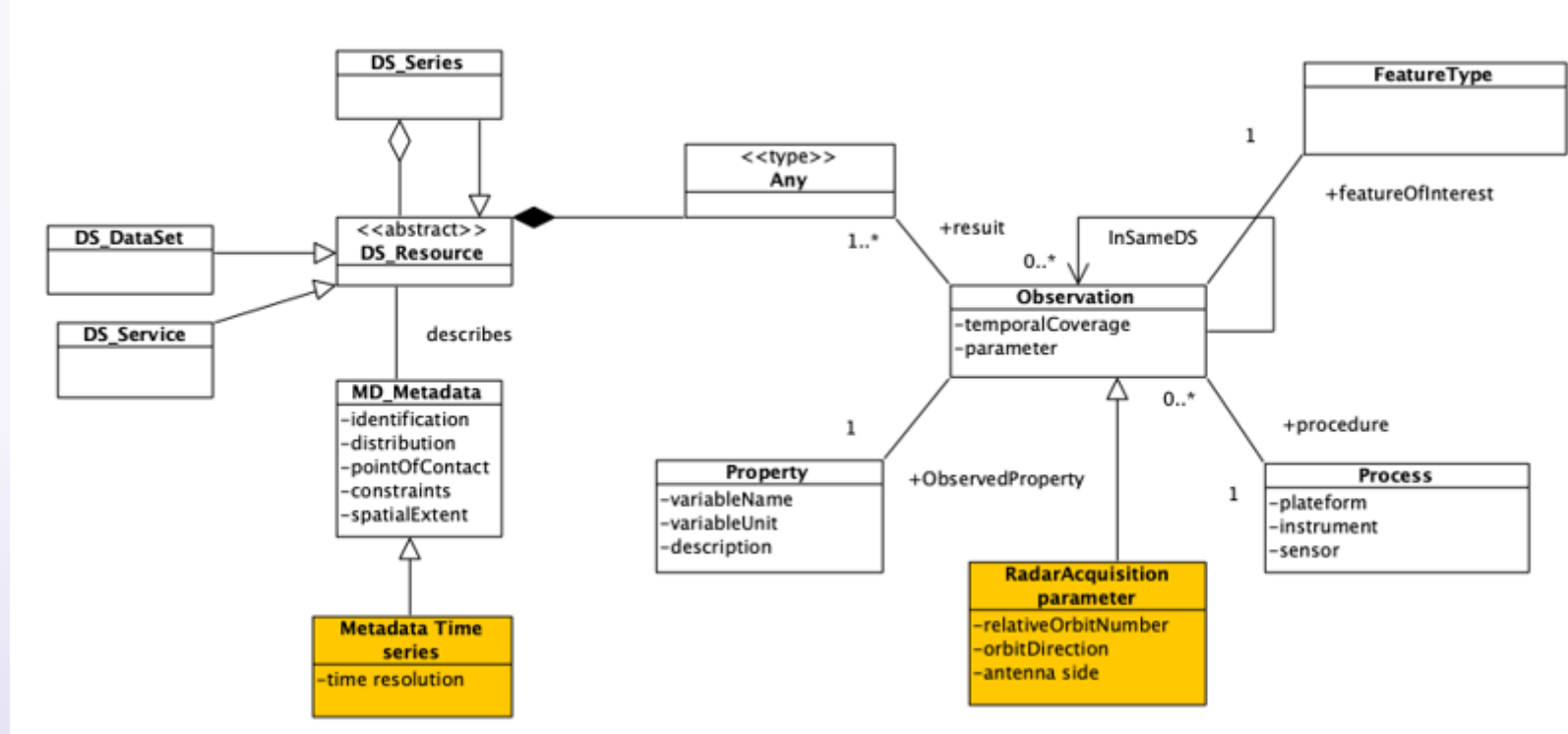
Activities

Technical working axes

Data search and access

- ° Catalog and metacatalog
- ° Ontologies
- ° Thesaurus
- ° Data model

Reflections on a common data model



Authentication & authorization

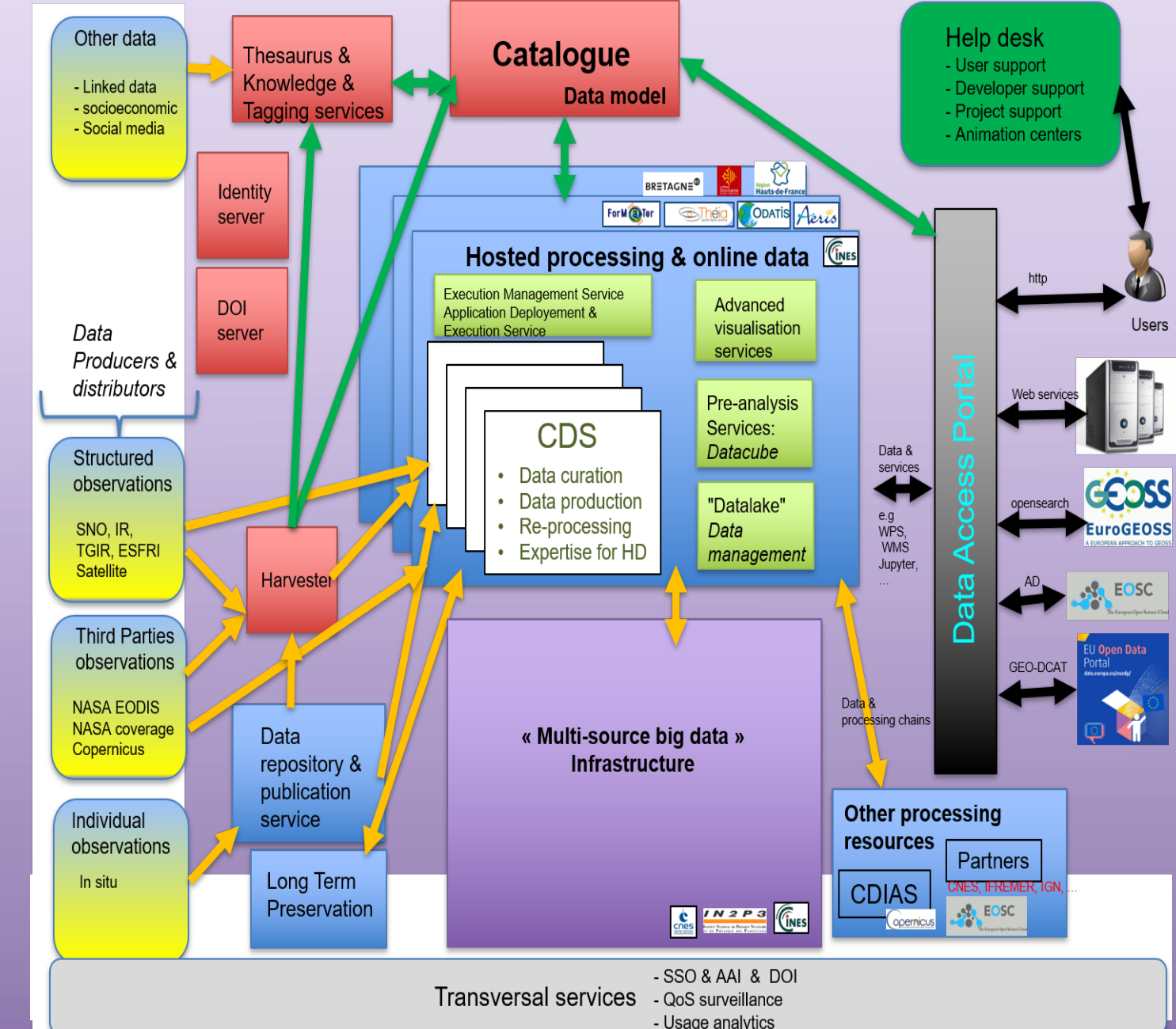
Architecture

Digital Object Identifier

Licences

Data Warehouse and advanced delivery tools

Elements of Data Terra architecture



International, European and national projects implications

ENVRI-FAIR

PHIDIAS

GLImpSE - A new generation of linked Earth Search Engine

EOSC-PILLAR

GO FAIR

ANR Flash Open data science

Prototype of HPC (High Performance Computing)/ Data Infrastructure for On-demand Services

3 years

This project aims to develop and implement prototypes for the exploitation of Earth Sciences spatial and environmental data of by relying on intensive computing capabilities (HPC).

It will start in November 2019 until 2022.

Data Terra manages the WorkPackage 3 for technical coordination of the whole project.

The project will develop datasets which will be added into the EOSC catalogues.

European Open Science Cloud

3 years

The EOSC Pillar project is based on the Open Science concept and FAIR data services and practices to promote them in all communities using scientific data. The kick-off meeting held in early July 2019.

Data Terra is particularly involved in WP6 EOSC in action: Use cases and community-driven pilots

This Work Package collects use cases based on the requirements of scientific communities. Each use case "demonstrator" will analyze different tools and services for data FAIRisation and the type of governance according to the needs of the user community.

