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## D3.1.2 – Common Metadata Repository

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## Versioning and contribution history

Version	Date	Author	Notes
1.0	28/05/2021	Dorian Ginane (Geomatys)	First version
1.1	24/06/2021	Aleksi Kallio (CSC), Jean-Christophe Desconnets (IRD)	Reviewed version
1.2	23/07/2021	Dorian Ginane (Geomatys)	Final version

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Table of Contents

1	Introduction.....	6
1.1	Ingestion Component .....	7
1.2	Domain concepts discovery web portal.....	7
1.3	Resource discovery web portal.....	9
2	Next version roadmap .....	9

List of Figures

FIGURE 1 : WEB PORTAL HOME PAGE	8
FIGURE 2 : CONCEPT PAGE EXAMPLE, USING THE SEMANTIC RELATION OF THE PHIDIAS METADATA MODEL.	8
FIGURE 3 : RESOURCE CATALOGUE FIRST VERSION	9

## TERMINOLOGY

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Terminology/Acronym	Description
CSA	Coordination and Support Action
DoA	Description of Action
EC	European Commission
GA	Grant Agreement to the project
HPC	High-Performance Computing
KPI	Key Performance Indicator
PHIDIAS	Prototype of HPC/Data Infrastructure for On-demand Services
CSA	Coordination and Support Action
DoA	Description of Action
EC	European Commission
SOSA	Sensor, Observation, Sample, and Actuator Ontology
GeoDCAT	Geo Data Catalog Vocabulary

## Executive Summary

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*This document describes the first version of the Common Metadata Repository demonstrator for the PHIDIAS' solution. This first version was released in March 2021.*

*The deployed demonstrator is in accordance with the first version of the 3.1.1 deliverable, that describes the Phidias metadata model.*

# 1 Introduction

The D3.1.2 deliverable aims to develop a Catalog that should allow the user to easily discover both :

- The semantic and domain specific concepts that apply to the Phidias system's resources
- The resources made available through the Phidias project ecosystem by all the different partners (WP4, 5 and 6 thematic resources).

As the number of resources linked to a same semantic concept could be massive, the component dedicated to the concepts discovery and the component dedicated to the resource discovery have been separated.

The demonstrator can be divided in 4 sub-components (illustrated in Figure 1):

1. An ingestion component that transforms the raw producer metadata into the Phidias metadata model. The Phidias processes dedicated to this transformation are coordinated with the Apache Pulsar<sup>1</sup> software.
2. A repository storing the transformed Phidias Metadata
3. A business catalog (or Common Metadata Repository) divided in two web portals :
  - a . A first web portal that permits discovery of the concepts and vocabularies used by thematic experts (Ocean, Atmosphere and Land Surface experts) for describing the resources (datasets or thematic processes).
  - b . A second web portal based on the STAC standard, providing access to resources (for downloading or for use with other tools (Notebook, WPS, etc.).

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<sup>1</sup> <https://pulsar.apache.org/>

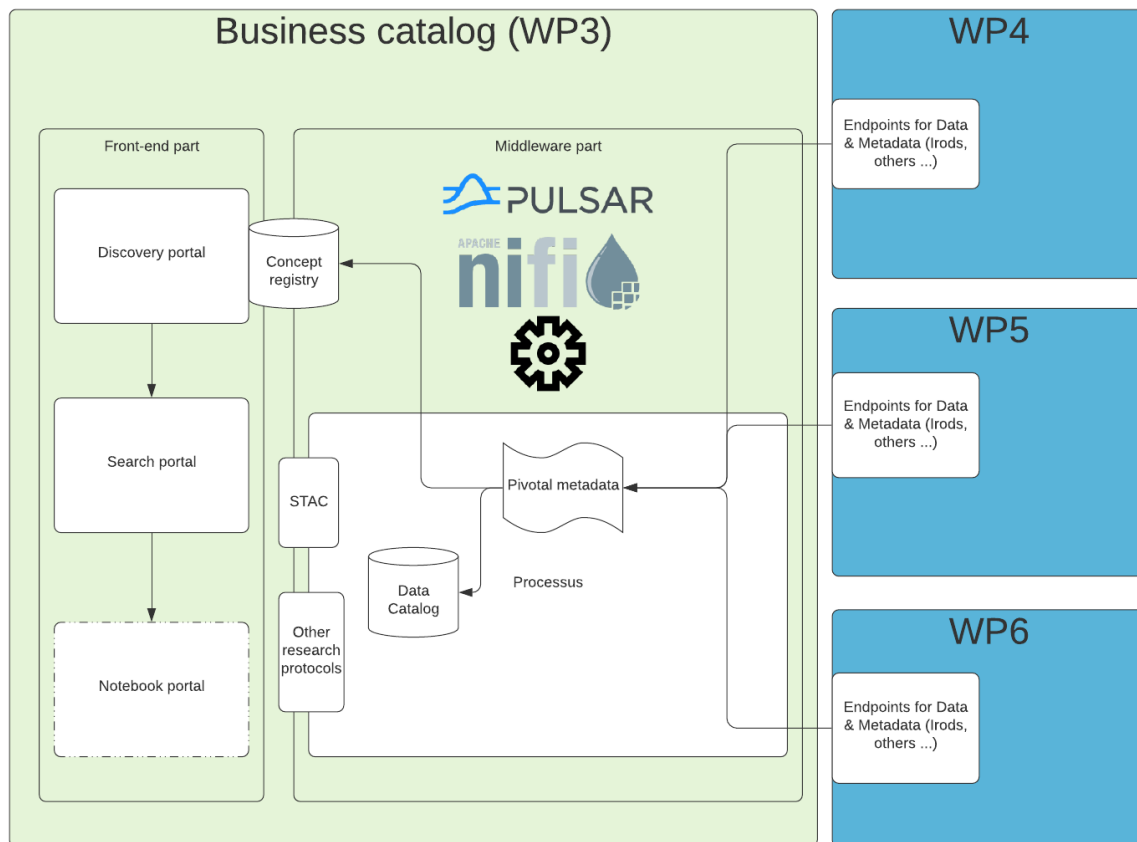


Figure 1 : Architectural schematic diagram of the catalog components

## 1.1 Ingestion Component

The ingestion component is formed by mini apps interacting thanks to PULSAR messaging software. Those mini apps are not exposed to the web.

Code source is stored in a repository of Geomatys' private Git and can be delivered on demand by Geomatys.

## 1.2 Domain concepts discovery web portal

The domain concepts discovery web portal can be accessed at the following temporary URL (URL will be changed at the end of the project) : <https://phidias.geomatys.com/> The portal's home page and an example concept page will appear as in Figures 2 and 3, respectively.

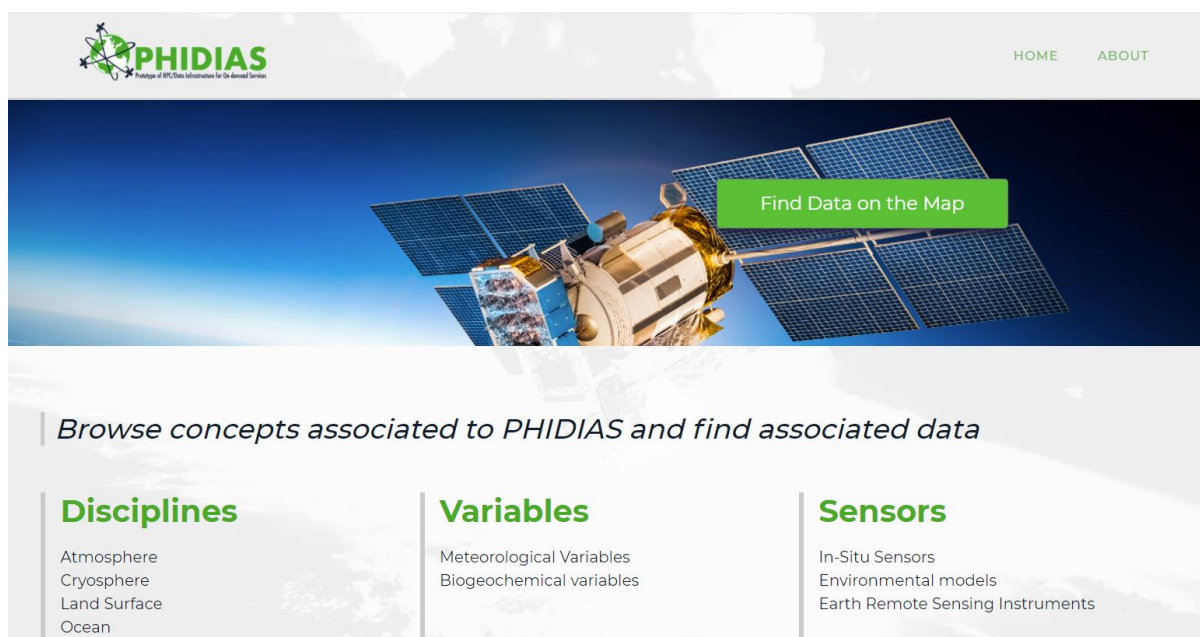


Figure 2 : Web portal home page

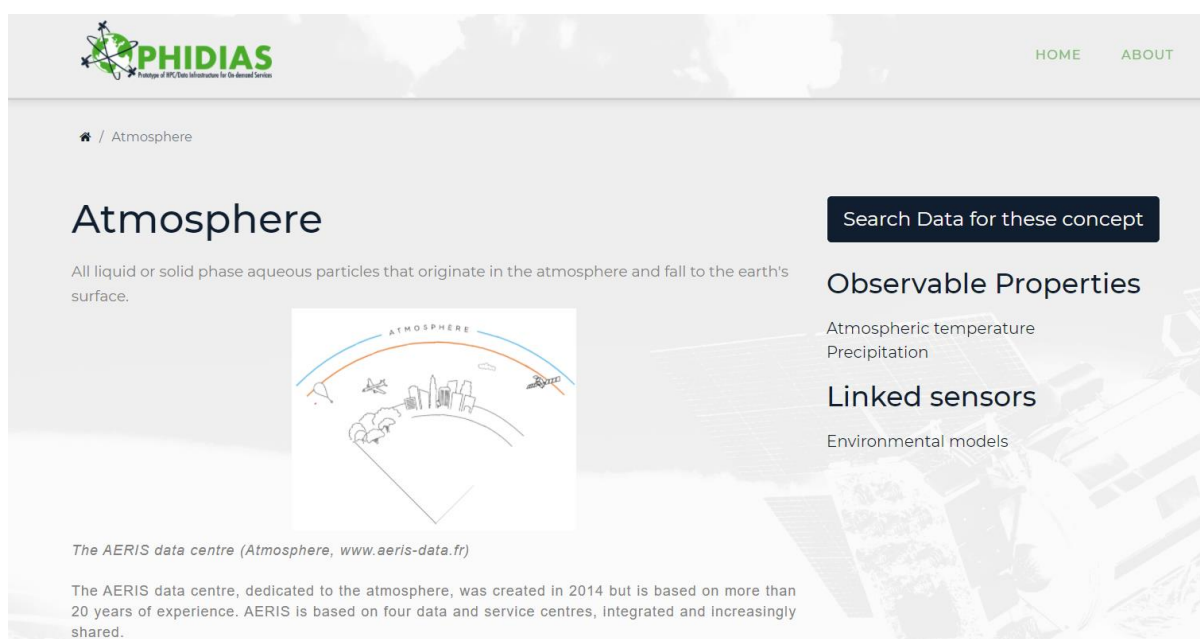


Figure 3 : concept page example, using the semantic relation of the Phidias metadata model.



### 1.3 Resource discovery web portal

The resource discovery web portal can be accessed at the following URL :

<https://phidias.geomatys.com/catalogue/> , and the landing page appears as in Figure 4.

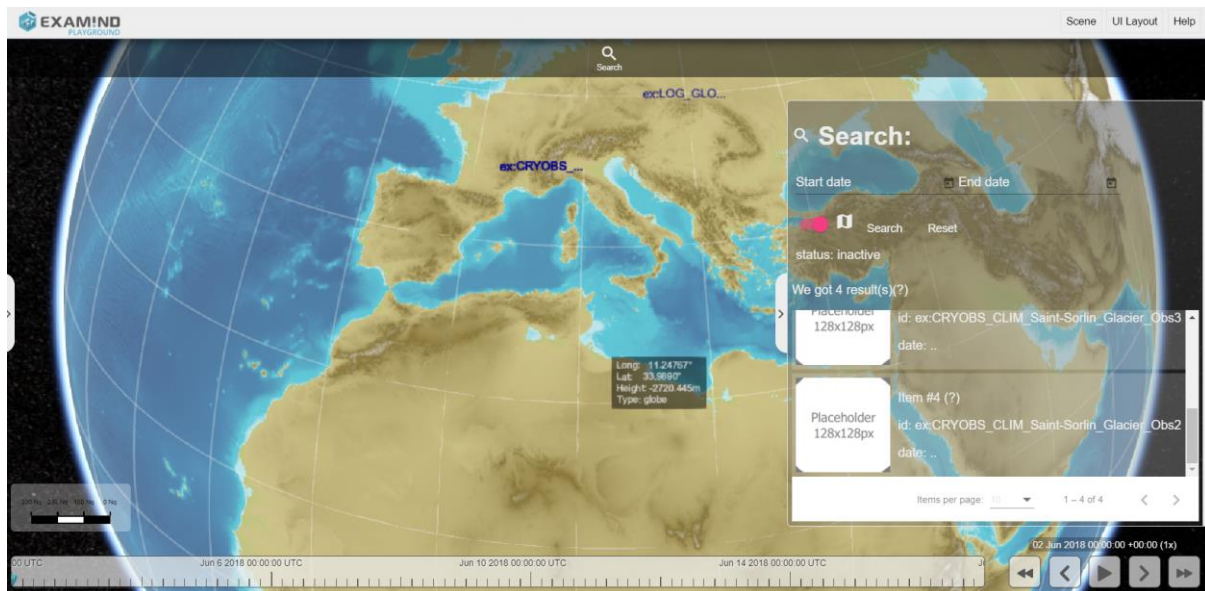


Figure 4 : Resource catalogue first version

## 2 Next version roadmap

This first version highlighted some conceptual modifications needed and some technical limitations. The next version will integrate :

- A format modification for the Phidias metadata model (From a SOSA<sup>2</sup>-oriented model to a more GeodCAT<sup>3</sup>-oriented model)
- Another tool for the STAC service, and consequently, an improved search client for end users.

<sup>2</sup> <https://www.w3.org/TR/vocab-ssn/>

<sup>3</sup> <https://inspire.ec.europa.eu/good-practice/geodcat-ap>