Destination Earth Data Lake
Harmonized Data Access (HDA)
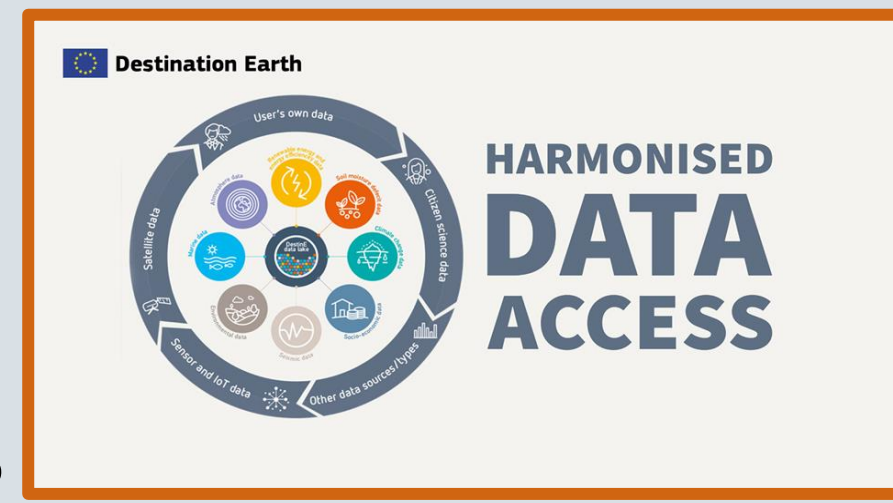
Destination Earth

HARMONISED DATA ACCESS

Contributed by EUMETSAT as part of the Destination Earth initiative, the HDA service offers seamless access to both "DestinE Data" and "Federated Data". The service is a REST-based API that enables users to search, discover, and access data from the DestinE Data portfolio, employing a federation model that integrates offerings from Federated Data Providers and co-localised data within the DestinE Data Lake.

Key Features

- **Unified Interface**: a single-entry point for accessing various data sources
- **Standardization**: promoting interoperability among different systems.
- **Scalability**: designed to handle large amounts of data and accommodate growing demands, suitable for complex scientific applications.
- **Flexibility**: supports various data formats and protocols.
- **Improved Security**: ensures secure access control and authorization.
- **Integration with Other Systems**: seamlessly integrates with other systems, such as Digital Twins, allowing for streamlined workflow and enhanced productivity.

By leveraging these features, HDA empowers users to unlock the full potential of the Destination Earth Data Lake.
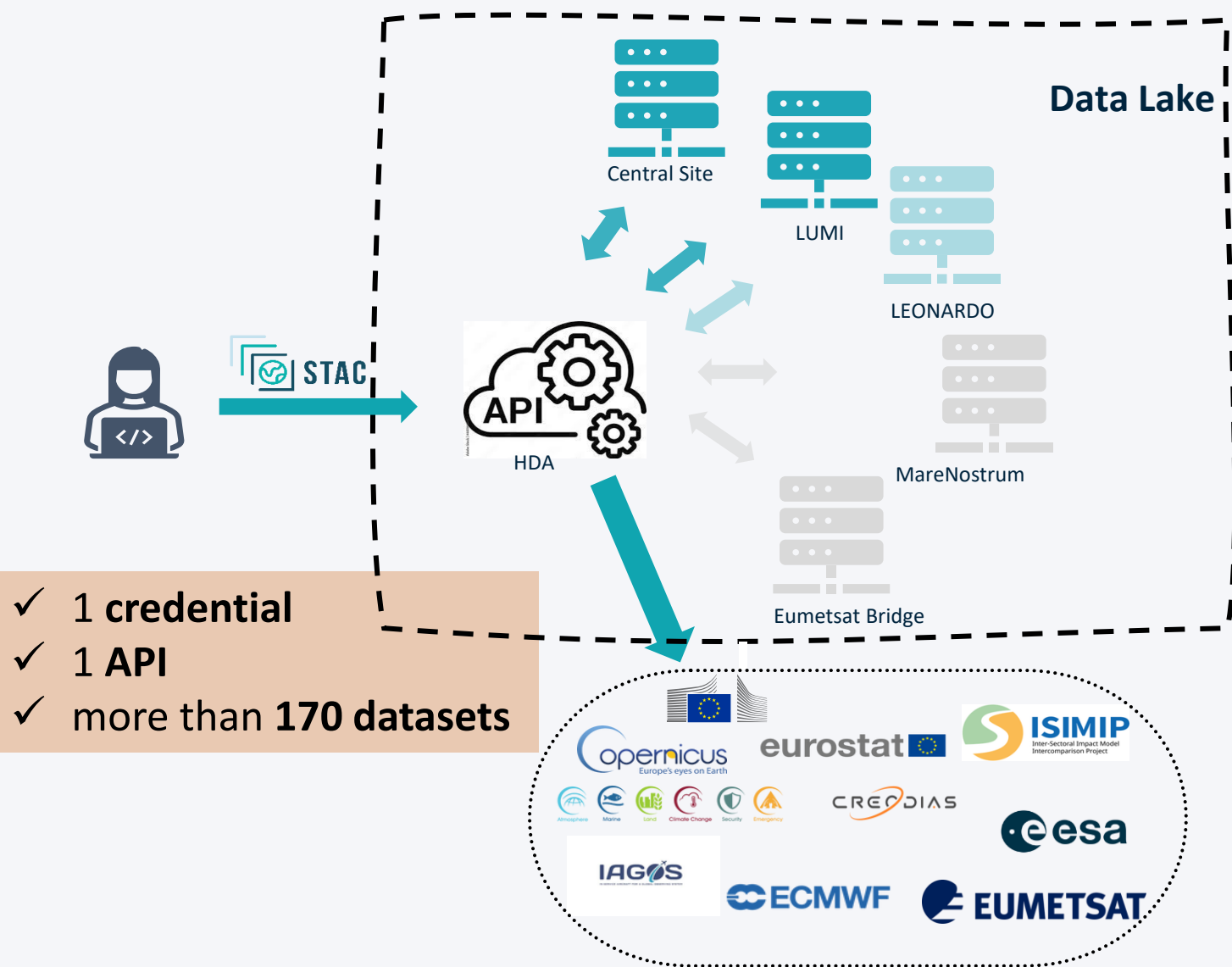
- ✓ **1 credential**
- ✓ **1 API**
- ✓ more than **170 datasets**

Multiple ways to access data

REST APIs
HDA exposes a set of RESTful APIs for programmatic access to data.

Swagger UI for exploring and testing the API :
https://hda.data.destination-earth.eu/docs/

EODAG[6]
Earth Observation Data Access Gateway (EODAG) natively supports DEDL as a provider, allowing users to access Destination Earth data via its Python library or CLI client. An EODAG extension for JupyterLab is also available in the Stack DEDL Service.
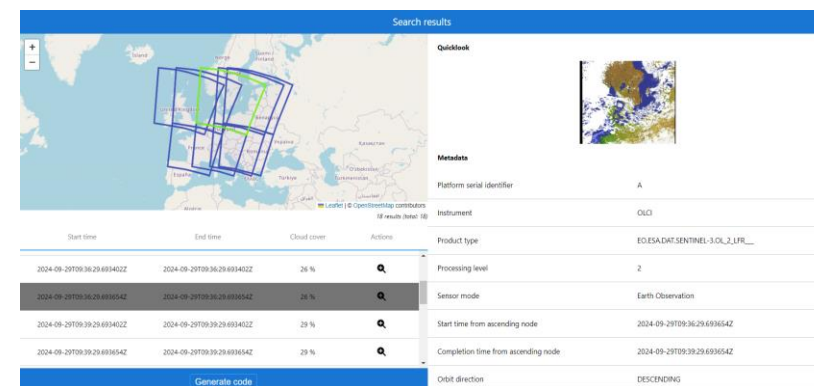
How to use EODAG in Destination Earth

STAC[7] compliant Interface

HDA provides a STAC 1.0.0-compliant interface, allowing users to access datasets and services irrespective of the source protocol or access method, ensuring that the code used for data manipulation remains independent of the data source.

Multiple data provider sources

Multiple data provider sources can be referenced for a given collection improving the robustness of the solution

PySTAC[8]
STAC interface allows integration with STAC-compatible tools, such as the PySTAC Python library, for discovering, visualising, and processing data in the DestinE Data Lake.
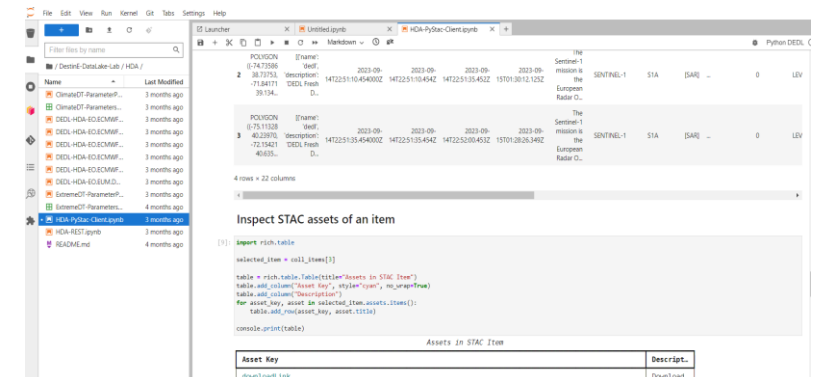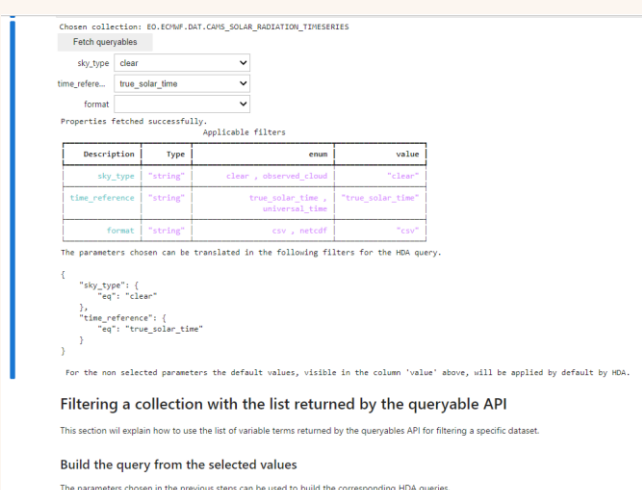
HDA Notebook example using pySTAC

Queryables API

The queryable API is a valuable tool for exploring the full potential of filter and their valid combination for Digital Twin datasets and ECMWF datasets provided by Climate Data Store.

The API ensures the generation of valid filter combination for selected dataset.

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References
[1] CloudFerro S.A. Nowogrodzka 31, Warsaw Poland
[2] CS Group, avenue Galilée, LE Plessis Robinson, France
[3] EODC, Franz-Grill-Straẞe 9, Vienna, Austria
[4] EUMETSAT, Eumetsat-Allee 1, Darmstadt, Germany
[5] Starion, Europaplatz 4. Darmstadt, Germany
[6] EODAG - https://eodag.readthedocs.io/en/stable/
[7] STAC - https://stacspec.org/
[8] PySTAC - https://pystac.readthedocs.io/en/stable/

Ressources

HDA Catalog

DestinE DataLake Lab Github

Destination Earth

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