

SnapEarth aims to initiate the creation of a virtuous circle of innovation by providing to **Earth Observation (EO) data** users an innovative service with leading edge EO segmented datasets by providing added-value services based on **Artificial Intelligence, Machine Learning** technologies and **Cloud computing** ecosystem for the analysis of EO data.

From the user's perspective, SnapEarth alleviates the burden of building and configuring an EO processing environment linked to a DIAS platform. Beyond the DIAS platforms, SnapEarth has the capacity to be connected with EO data or processing service providers (e.g. Hubs of Regional EO).

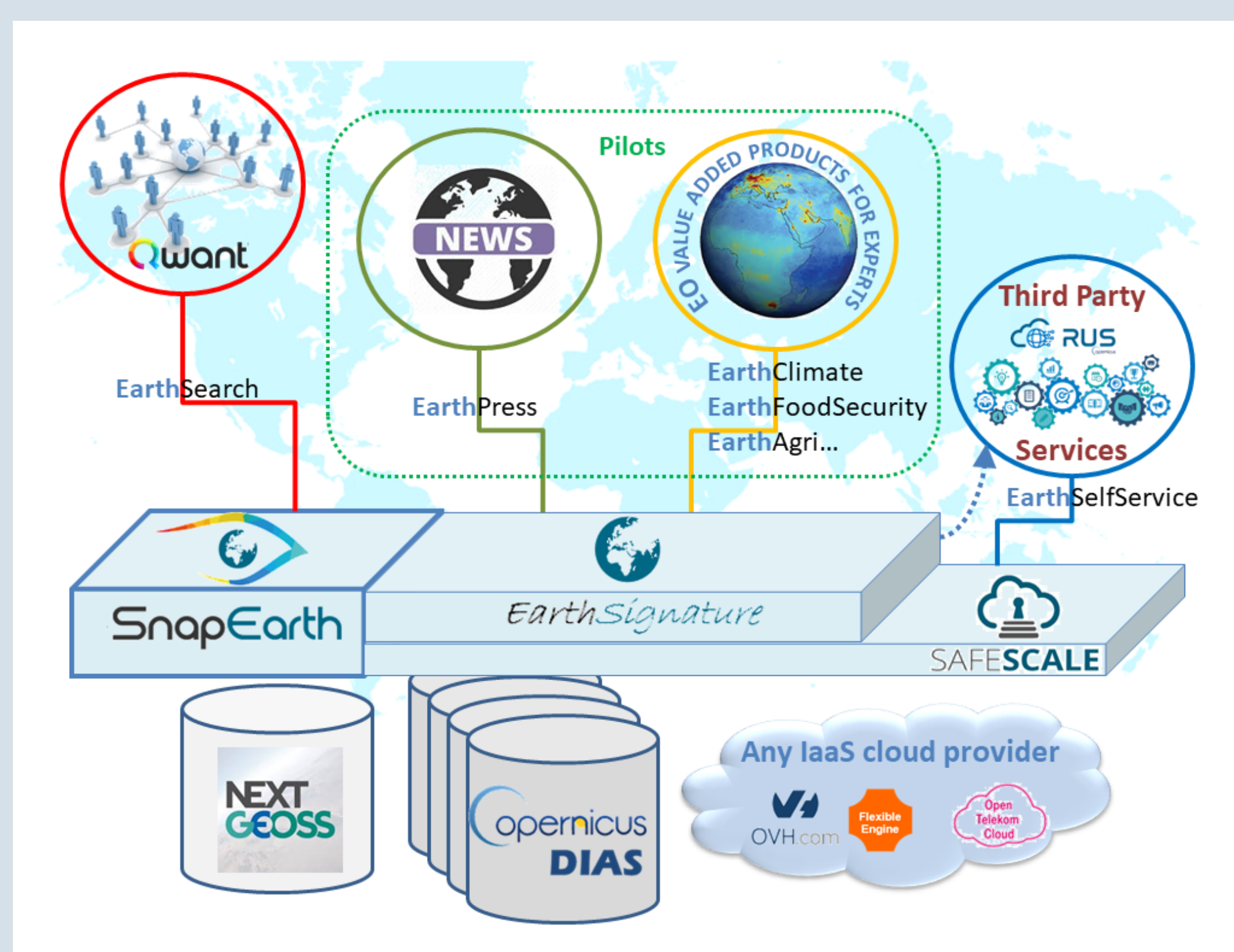
SnapEarth aims to facilitate also access to EO data from the general public thanks to EO data labelling and indexation innovations through the EarthSearch service that allows end user to express questions in Qwant search engine and retrieve EO results.



THE SNAP EARTH COMPONENTS:

SERVICES:

- ◆ **EarthSignature** - a unique database of semantic satellite products continuously updated. EarthSignature is based on artificial intelligence (Neural Networks models) designed to extract biophysical land cover semantic information from satellite imagery. It automatically and accurately maps the images provided by satellites for indexation.
- ◆ **EarthSearch** - all data produced by EarthSignature dataset is automatically indexed and accessible to the EarthSearch Portal dedicated for natural language queries on images and which will also benefit from the integration in the QWANT search engine.
- ◆ **EarthSelf** service enables users to create new value-added services by offering them:
 - (1) the ability to self-provision platforms in any DIAS or Cloud provider with minimal knowledge on this field;
 - (2) to exploit the results of the EarthSignature database;
 - (3) additional services, such as: a dedicated web portal for hardware resource reservation, a cloud providers comparison service, a helpdesk and support service.



PILOTS:

- ◆ **EarthPress** - a web-based platform that aims to provide services to editors and journalists, allowing them to enrich the content of their publications and articles with EO data, by offering an almost ready to be published article. It focuses in disasters' reporting and provides a report with the before/after depiction of a disaster, accompanied by rough statistics and EO images of the impacted area, along with data collected from citizens journalism posted on social networks.
- ◆ **EarthClimate** - pilot provides three value-added services to support climate monitoring activities:
 - (1) Air quality monitoring - presenting the air quality situation in Europe;
 - (2) Urban Heat Map - providing maps that select places with surface temperature distribution;
 - (3) Weather and allergens - which allows automatic downloading of forecasts of: weather, pollutants and allergens from CAMS.
- ◆ **EarthFoodSecurity** - this pilot adds information on top of in-situ data of soil moisture condition, enabling the anticipation of drought at its very early stages. It also keeps into account Copernicus Climate Change service projections to anticipate the evolution of the different variables. isardSAT's High Resolution Soil Moisture service will be used during the overlapping period and for the monitoring of the area with observations every 2-3 days at 1km resolution. In the case of water availability alarm, very high resolution SM at 100m will be provided.
- ◆ **EarthAgriculture** - support agriculture monitoring activities. It improves the performance and the accuracy of the Sen2-Agri processing chains. This pilot proposes to agriculture users a set of added values services to support agriculture monitoring activities:
 - (1) Reports and statistical analysis of the vegetation status over the crop area into an Area of Interest over a season;
 - (2) Reports and statistical analysis of the vegetation status over several crop types into an Area of Interest over a season.



This project has received funding from the European Union's Horizon2020-SPACE-2019 innovation action programme under grant agreement No 870373