



archive4EO

archive & catalogue

Hierarchical storage solution and catalogue storing archived files metadata

Access to products and metadata

Archiving, storage and inventory

Distribution on demand

Suitable for EO and scientific missions

Multi-mission

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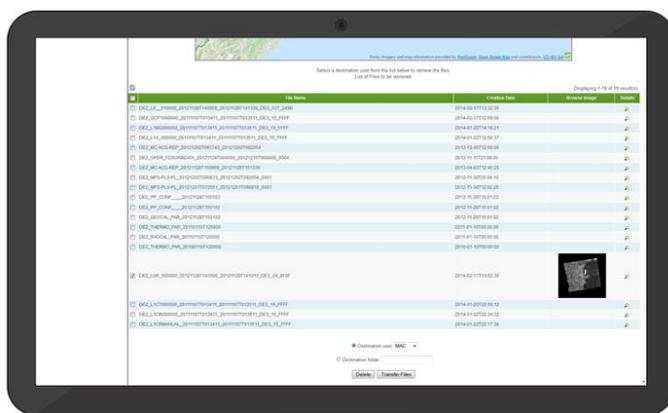
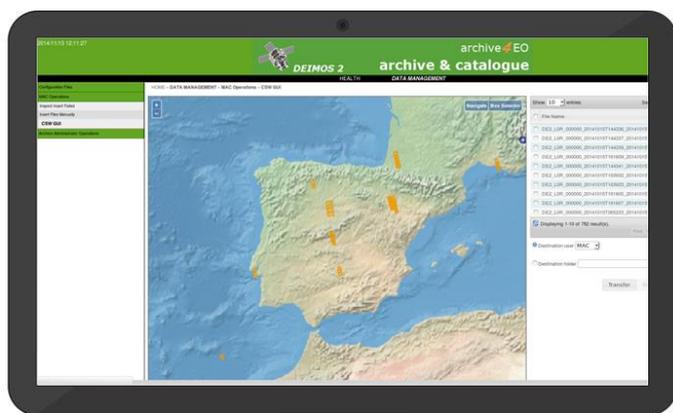
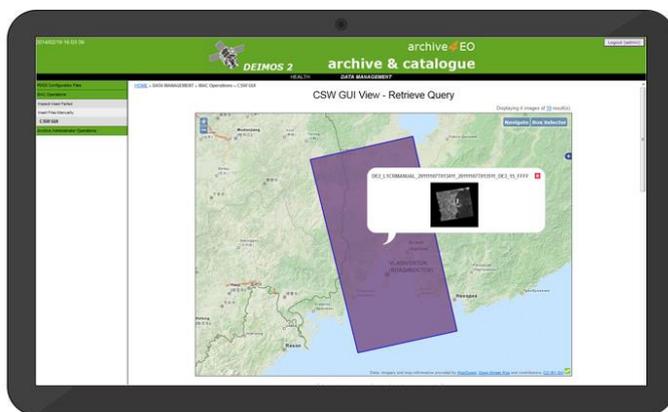
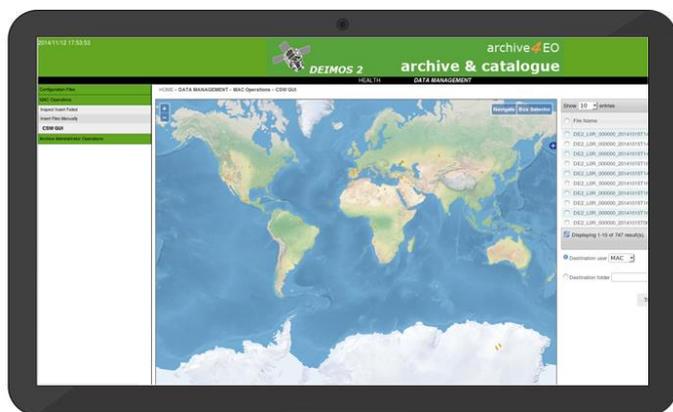
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archive4EO archive & catalogue

archive4EO is a **multi-mission module** in charge of the **archiving, storage and inventory** functions of mission data and products. It is responsible for the permanent storage of all the data and products received from the satellite(s) for an extended period of time in the archive. The catalogue allows the other ground segment facilities to **access to the mission metadata and products**.

It gathers these products interacting with other ground segment components and catalogues the products according to several useful metadata while storing them physically, which allows the **distribution on demand**.

Besides being in operations as part of **gs4EO** in the mission Deimos-2, **archive4EO** is used within **Sentinel-1 and Sentinel-2** facilities and will be used in the **Spanish Governmental Earth Observation missions**. Additionally, it has been adapted for its utilisation in **Space Science & Exploration missions**, and will be employed in ESA's **CHARacterising EXOPlanet** Satellite mission **CHEOPS**.



Deimos Space ground segment systems are built using a combination of **4EO products** working in a coherent and synchronized way, although all of them can also be used as **independent applications**.

plan**4EO**
mission planning

archive**4EO**
archive & catalogue

fly**4EO**
flight dynamics

process**4EO**
image processing chain

control**4EO**
mission control system

monitor**4EO**
monitoring & control

track**4EO**
ground station

calval**4EO**
calibration & validation

user**4EO**
user services

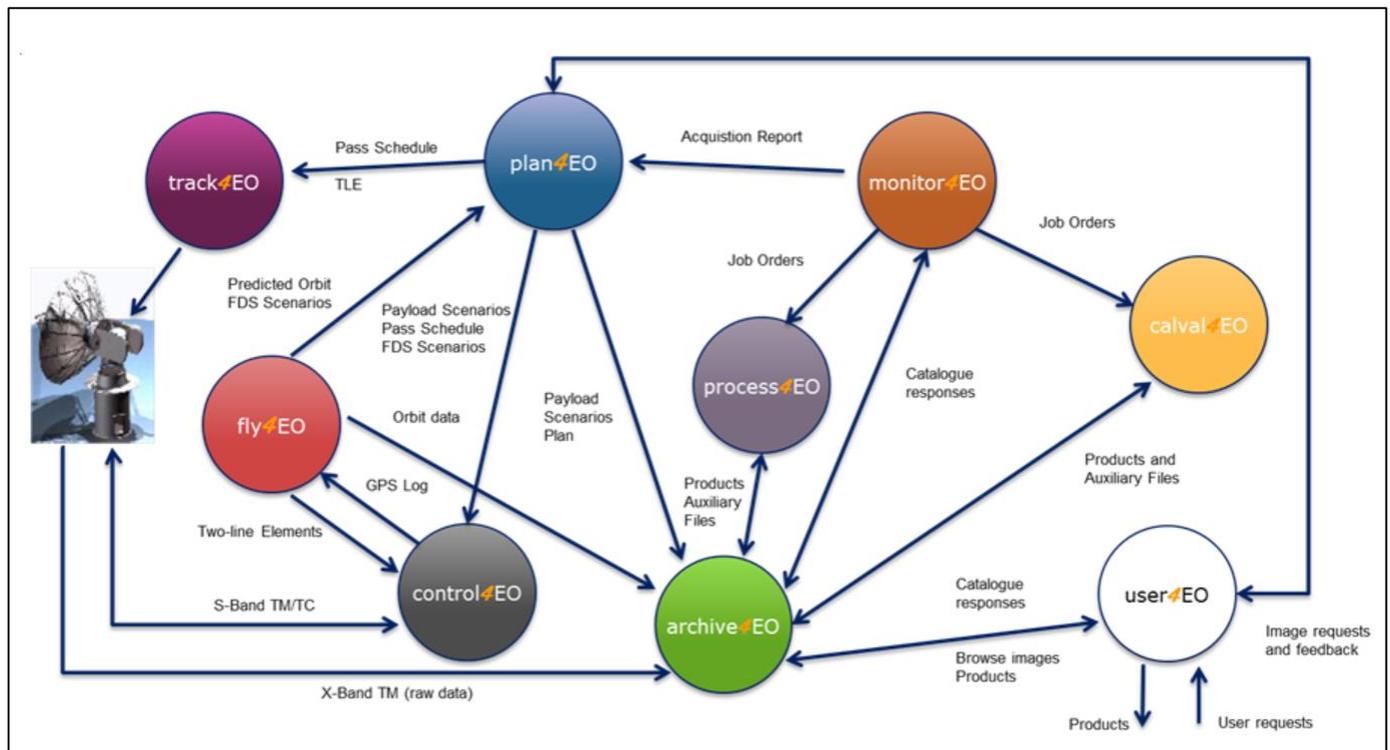
These products are already being used in different
ESA and Spanish Governmental missions.

Together they form **gs4EO**,
the **Ground Segment of DEIMOS-2.**

Thanks to its **modular design**, the **gs4EO** suite of ground segment products can be used to **customize the ground segment according to the customer's requirements**.

The various individual products can be assembled in different ways to implement different deployment configurations, **from a single product** supporting a specific mission need, **to a complete Ground Segment** or even a **Direct Receiving Station** that provides fast, direct and safe access to the mission data.

This modularity also provides extraordinary flexibility in order to accommodate **more than one Earth Observation mission within an individual** the ground segment.



The deployment shown above is the most typical set-up of all the Ground Segment elements, **providing all the ground segment capabilities required by the mission**.

With this solution, customers would mainly **access the spacecraft resources via the User Services, user4EO**, and all the data downlink and processing tasks would be performed in the single "central" ground segment (CGS).

Each application communicates with the remaining Ground Segment using file-based interfaces, easing its integration with other external solutions. The applications are controlled by means of **advanced user interfaces**, in many cases web-based, and **can be operated remotely**.

Many **gs4EO** components have **multi-mission capabilities** that allow the integration within the GS of third party missions. The archive component allows **the storage of data from different satellites** and the integration effort will depend on the specific interfaces of the third party missions.