

EUMETSAT

Earth Observation Portal

Customer

EUMETSAT is an intergovernmental organisation currently comprising 26 European member states and five co-operating states. Its main objective is to provide inexpensive operational satellite data and derived services and products. The organisation's central headquarters are in Darmstadt, Germany.

EUMETSAT currently operates the geostationary satellites Meteosat 8 and 9 over Europe and Africa as well as Meteosat 6 and 7, over the Indian Ocean. Metop-A, Europe's first polar-orbiting satellite, was launched in October 2006, and has been supplying operational data since May 15, 2007.

The data, products and services transmitted by EUMETSAT's satellites play a major role in weather forecasting and monitoring the global climate.

www.eumetsat.int

Task

EUMETSAT has a highly extensive range of satellite data at its disposal, which until now was only accessible via several different systems, each of which had its own interface. The task performed by con terra comprised rendering this data accessible to potential users through a clearing house in a web-based Earth Observation Portal (EO Portal). The objective was to create a service-oriented architecture which incorporated the existing applications, encapsulated as web services, with a uniform safety concept based on standards. The data had to be described by standardised ISO metadata, discoverable by appropriate search clients, and be accessible via the special provision mechanisms described in the metadata.

Solution

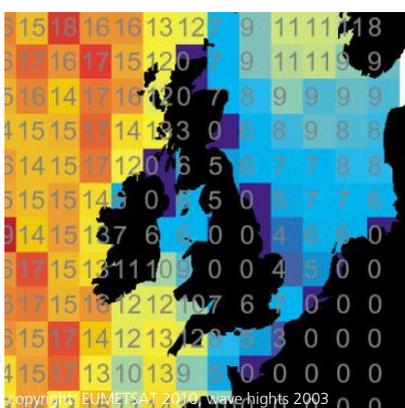
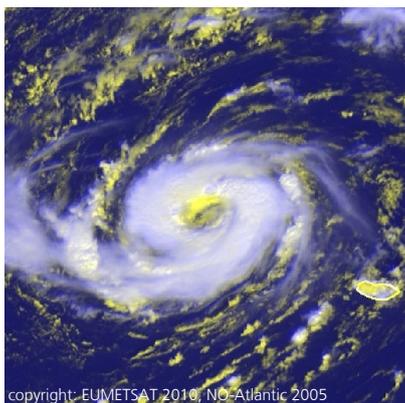
The EO Portal Project began with the draft phase for the software architecture, which was conducted by con terra GmbH in close cooperation with EUMETSAT.

The existing systems were encapsulated for the solution, given a uniform safety concept (based on ESA/HMA-compliant federated identity and user management) and integrated as a clearing house through an enterprise service bus. The data was described by way of an ISO19115-2-extended metadata model, and collected and rendered searchable by the sdi.suite terraCatalog. The clearing house also offers OGC, ESA, WMO and INSPIRE-compliant software interfaces for data searching and ordering.

The solution is based on:

- **SOA** – service-oriented architecture
- **sdi.suite terraCatalog** - Web Catalogue Service for Spatial Data Infrastructures

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Customer comment

The EUMETSAT EO portal was designed, developed and implemented in a short space of time, thanks to con terra's competence in the field of SOA in general and geo-services (especially with regard to OGC interfaces) in particular.

EUMETSAT services can now be accessed by end users more simply and consistently than before.

Interoperability is an essential factor for the future when it comes to implementing rapid data exchange.

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Benefits

The EO Portal provides online access to EUMETSAT data and services. It contains an interface with which users can search for these and obtain extensive information. From the data descriptions, users are also able to access services through which they can order data or arrange a regular, automatic data delivery. The user only needs to register once with the portal and to log on once (single sign-on).

The WMS and WCS services currently under development will soon allow data to be supplied in the form of standardised OGC web-mapping and web-coverage services, through which the data will be directly usable online.

Summary

- Central portal for accessing EUMETSAT data
- Clearing house solution with single sign-on access for users
- Metadata-supported input and search mechanism
- Soon: data directly usable online via WMS and WCS services

Outlook

The next development stage will not only allow users and machines to benefit from the automatic provision of EUMETSAT data in the form of standardised web services but also to incorporate clearing house data and services from partner agencies, e.g. the French aerospace agency (CNES) or the German aerospace agency (DLR) in the search, possibly including ordering and registration.

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