Copernicus DIAS

User-friendly Access to Copernicus Data and Information

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www.copernicus.eu

Space

Copernicus / EO data challenge

Copernicus Data Context :

- Massive volume (data and information)
- Full, free and open access
- Issue: Ease of access and use

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Ex: Over 10 Petabyte/year of new data with just Sentinel-1, -2 and -3 fully operational

Technological Context :

- Different types of dissemination infrastructures across Europe
  - Separated distribution hubs for Copernicus data and information
  - Member States' Collaborative GS
  - Private EU and non-EU initiatives
- ICT and EO cross-fertilization
- Mature cloud and virtual machines technology
- Interoperability with non-EO datasets
- Growth and jobs in downstream sector

New Copernicus data approach

Dual approach:

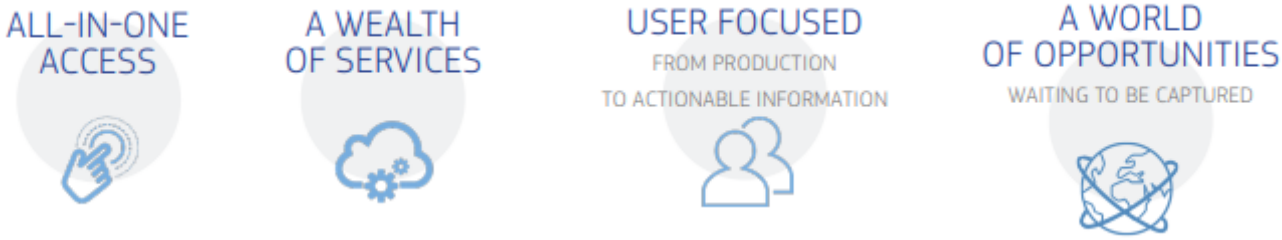
1. Strengthening **Copernicus Distribution Services**
   - Improved robustness, availability and data throughput

2. Setting up several **Data Access and Information Services (DIAS)**
   - Access to all Copernicus data and information collocated with computing resources
   - Allowing Big Data analytics without the need to download the data and information
   - Allowing data fusion with non-Copernicus, non-EO data and information

Data Access

What is the Copernicus DIAS?

- 5 DIAS platforms
  - Full set of Copernicus data and information
  - Ability to process and combine it with data from other sources (space and non-space)
  - Develop and host new applications in the cloud



Data Access

DIAS: several user profiles

5 DIAS providers: Ensure availability of Sentinels data and Services information to accommodate third party services and data. Responsible for the provision of the DIAS underlying IT infrastructure and provider of IT resources to third parties.

Third-parties: Service providers who autonomously negotiate with DIAS provider(s) for infrastructure and services to be deployed in terms of storage, processing or service support for their own developments and operations.

End user: Any user accessing a front-office service supported by the DIAS framework.

Data Access

Launch of the DIAS

- 20 June 2018: Launch of the 5 DIAS in Baveno
- Next steps:
  - Gradual and incremental deployment process

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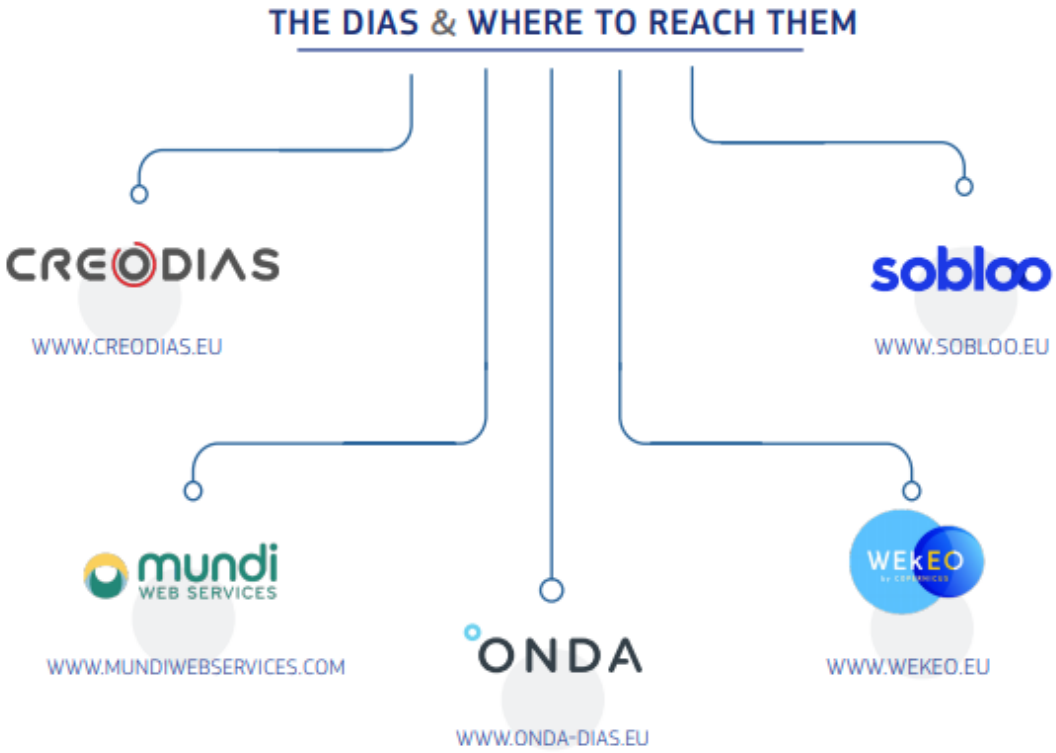
Data Access

W h o ?



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Data Access

Why 5 DIAS?

- Competition supports creativity and quality service.

- Differences between the DIAS:
  - Different ancillary and complementary content, e.g. other EO and non-EO data
  - Different offer of tools
  - Different pricing policies
  - Different user experience
  - Different evolution regarding generic/thematic focuses

What can you do with the Copernicus DIAS?

Data Access

Scientific studies

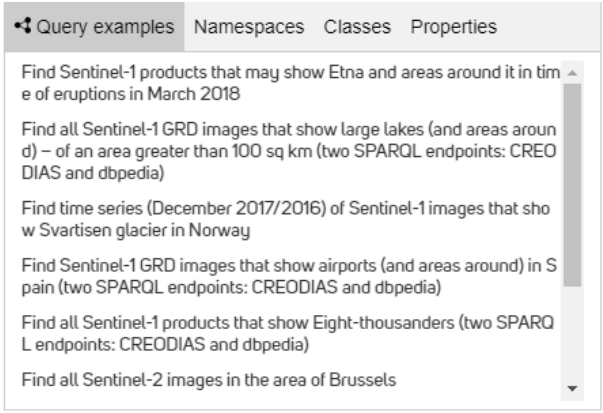
By offering satellite, in situ and numerical models

WEkEO

Semantic search

Through the datasets offered in the DIAS

CREODIAS



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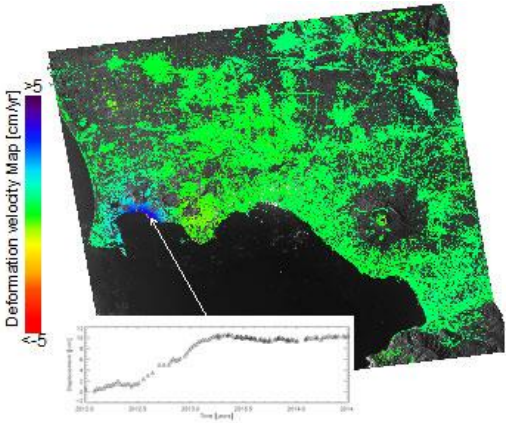
Data Access

What can you do with the Copernicus DIAS?

Grassland monitoring

Analysis of mowing events occurred in a specific time window and verifies the compliance with regulations of this operation according to specific national criteria.



Earth surface deformation

Advanced interferometric techniques able to measure the Earth surface deformation and its temporal evolution with centimeter to millimeter accuracy, starting from satellite radar data

Energy

Supporting an efficient exploitation of renewable energy sources, a sustainable energy forecasting, an optimized selection of sites, and biomass or water source monitoring.

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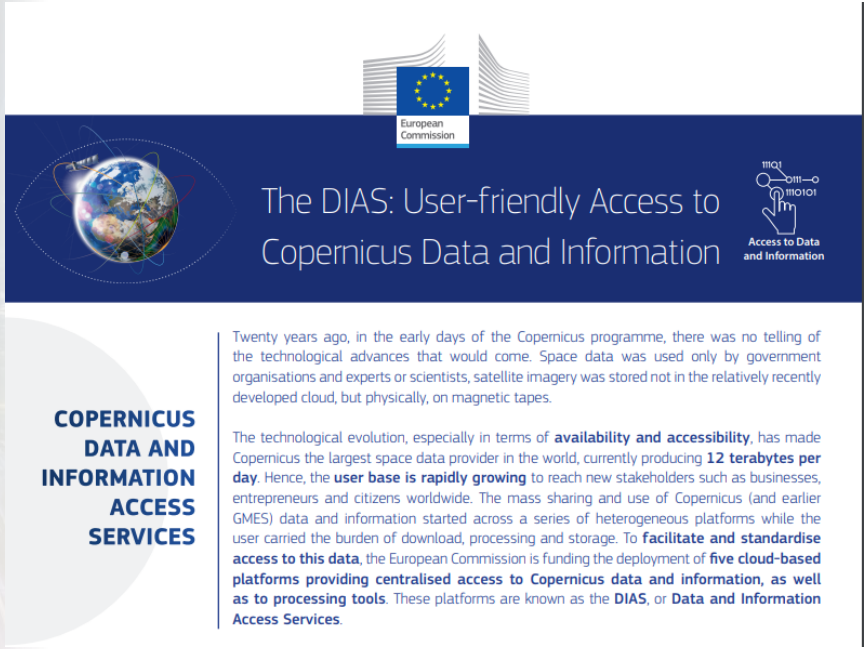
OTHER DATA ACCESS PUBLIC INITIATIVES

National Initiatives- Collaborative Ground Segment (examples)

Initiative Name	Initiative Leader	Website and Target User Group
THEIA Land Data Centre	CEA, Cerema, IRSTEA, IRD, CNRS, INRA, IGN, Meteo France, CIRAD, ONERA	• URL: theia-land.fr • Scientific communities and public authorities
NOA Hellenic National Sentinel Data Mirror Site	NOA, IAASARS	• URL: sentinels.space.noa.fr • Scientific communities, public authorities, private industry players
CATAPULT Satellite Applications and CEDA	UK Space Agency	• URL: sa.catapult.org.uk • Scientific communities, public authorities, private industry players
ESA Thematic Exploitation Platforms	ESA	• URL: tep.eo.esa.int • All user types
CODE-DE	DLR	• URL: code-de.org • Scientific communities, public authorities, private industry players

More information

Data Access



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The DIAS: User-friendly Access to Copernicus Data and Information

Access to Data and Information

COPERNICUS DATA AND INFORMATION ACCESS SERVICES

Twenty years ago, in the early days of the Copernicus programme, there was no telling of the technological advances that would come. Space data was used only by government organisations and experts or scientists, satellite imagery was stored not in the relatively recently developed cloud, but physically, on magnetic tapes.

The technological evolution, especially in terms of **availability and accessibility**, has made Copernicus the largest space data provider in the world, currently producing **12 terabytes per day**. Hence, the **user base is rapidly growing** to reach new stakeholders such as businesses, entrepreneurs and citizens worldwide. The mass sharing and use of Copernicus (and earlier GMES) data and information started across a series of heterogeneous platforms while the user carried the burden of download, processing and storage. To **facilitate and standardise access to this data**, the European Commission is funding the deployment of **five cloud-based platforms providing centralised access to Copernicus data and information, as well as to processing tools**. These platforms are known as the **DIAS**, or **Data and Information Access Services**.

- Copernicus.eu http://copernicus.eu/data-access
- Copernicus Support Office support@copernicus.eu

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