

A Data and Information Access Service (DIAS) – Q & A

A.1 Why this initiative?

The Commission wishes to maximize the uptake of Copernicus Data and Information. Copernicus has already attracted a large number of users and there is significant further potential in the exploitation of the data and information it produces. However, in order to further enlarge the Copernicus user communities, easy access needs to be guaranteed to the broadest group of user communities. A particular challenge is the volume of data and information generated. Emerging big data technologies will offer additional opportunities.

A.2 What does the initiative consist of?

The Commission will implement a two-pronged initiative to ease data access:

Launch innovative Data and Information Access Services (DIAS): make the massive amount of Copernicus Data and Information available together with scalable processing capacities and tools. This will allow businesses and public authorities to develop and offer added-value services based on Copernicus data and information, without the need to download data.

Strengthen the Copernicus Distribution Services: these allow transferring Copernicus data and information to the users' premises and are intended for users wishing to use their own processing capacities to extract value-added information.

A.3 What is DIAS?

DIAS is a service. It allows accessing Copernicus data and information and offers computing resources and tools alongside the data to facilitate working with the data without the need to download it. DIAS allows bringing the user to the data.

DIAS provides the same level of services and resources throughout Europe to all users.

DIAS is led by industry. Users can find, access and view the data free of charge. The resources to process the data are provided close to the data under commercial terms that the DIAS provider can decide upon in a competitive environment. Competition between the DIAS will ensure that the best service is delivered to the users. DIAS providers are expected to invest in business development.

DIAS is responding to a common need and challenge across user communities: to access Copernicus data without having to replicate the data holding many times across Europe.

DIAS will allow users to access all Copernicus data and information (as well as additional data) from a single point as opposed to having to go to numerous different sites. This should enable simpler and user friendlier exploitation and data combination hence promoting innovation.

A.4 How is it implemented and what is the implementation timeline?

The Concept is based on intense consultation with Member States and Industry. Competing industrial services are being procured through ESA (4 are contracted) and one dedicated service is being built by EUMETSAT with partners from ECMWF and Mercator Ocean. Competition will stimulate innovation and avoid customer lock-in on a DIAS.

DIAS are available since June 2018. In the period to December 2018 additional data sets will be loaded onto the DIAS to complement the initial data offering.

A.5 What are the links to the Space Strategy

DIAS is anchored in the Space Strategy that states: "the Commission will launch several enabling platform services offering access to additional datasets and online processing capabilities in which European industry will take a leading role."

The space strategy also emphasizes the need to open up the space sector to private initiatives. DIAS is a concrete example of this.

A.6 What impact is expected?

Through DIAS, the Commission creates a level playing field throughout Europe for the access to Copernicus data and information and enables commercial and institutional support to the extraction of economic and societal benefits from Copernicus.

A.7 In which context are the DIAS implemented?

While the Copernicus Integrated Ground Segment and in particular the DIAS initiative is focused on access and use of Copernicus data and information, it is strongly linked to many other activities aiming at fully exploiting the potential of big data services for Earth Observation (and other data) beside Copernicus.

Cooperation with other Commission services, notably DG/RTD and DG/CNECT and with ESA will ensure full complementarity.

B Practical questions

B.1 Why use the DIAS in the context of a Collaborative Ground Segment?

The DIAS is the result of a consultation with and amongst the Member States in the context of the Integrated Ground Segment Task Force and the Copernicus Committee. This effort allowed to establish a common need across Member States, namely to store and make accessible the Copernicus data and information on a cloud platform, alongside processing capabilities and relevant tools. The cloud platform should also ensure the protection of intellectual property rights and be implemented in a way to avoid lock-in. The DIAS respond to this need.

The support to- and integration of DIAS into their own work by ESA and EUMETSAT is expected to further enrich the environment offered by DIAS, while the integration of DIAS and DIAS-based services into the European Open Science Cloud (EOSC) aims at connecting the Earth Observation domain to other fields of science at a European level and facilitates the transition from research to commercialisation.

For implementations of the Collaborative Ground Segment, the DIAS provides a fit for purpose back-office that is supported by the Commission. This allows Member States to focus their own investments on the creation of specific implementations of a front office that can easily be tailored to respond to national or regional needs.

B.2 Will industry use the DIAS?

The DIAS are provided by industry and will offer non-discriminatory access to all actors. It is designed to serve the needs of third parties that can provide value added services to their own users. This will make this environment particularly useful for Small and Medium Sized companies. They will not have

to make upfront infrastructure investments to develop and offer services. DIAS providers have started to promote their offerings that are complemented by additional data and/or tools.

The initial reaction of industry to the new DIAS offering is very positive.

B.3 Do I need to contract one DIAS only?

You can use one or several DIAS to combine particular strong features or to provide redundancy where required. The DIAS provides the back-office infrastructure. Users are free to select one or more DIAS.

B.4 How much will this cost for my implementation?

An economist's response: it depends! Obviously, prices will vary as a function of what you want to offer to your users and how much of the DIAS commercial services you will require. The idea is that you establish your needs and you contact the DIAS to find the best service and commercial conditions that work for you.

B.5 Can I load or link my data onto/to a DIAS?

Yes you can. DIAS providers do this themselves and will have different options to propose. Remember that the DIAS will offer protection for your data and for any intellectual property you want to expose to make sure it is accessible only to those you agree to expose it to. DIAS may also offer a service that allows you to bill your customers if this is what you want to do.

B.6 Will my data and IPR be protected

Yes it will. This is one of the key requirements for the DIAS and all five of them offer a high level of protection. Contact the DIAS to find out what level of protection is offered by each of the providers.

B.7 Will all DIAS continue to operate in the next MFF?

As the DIAS operate on a commercial and competitive basis, expect that new, innovative services are added and that services levels evolve over time. The Commission has included provisions for a continued support to Data Access Services in the proposal for the next MFF to ensure continuity.

B.8 How do I find out more about each DIAS and contact DIAS providers?

We have compiled a number of relevant information in the form of a factsheet for each of the five providers. This information is up-to-date at the launch of the services in June 2018. Up to date information is available from the provider's website.

Please note that the DIAS will provide discovery and access services for all Copernicus Data and Information. Most DIAS will only store a subset of this Data and Information locally and, when needed, retrieve elements that are requested and not available locally from the Data and Information archives at the Copernicus Entrusted Entities.

The services are presented in alphabetical order.

B.8.1 CREODIAS DIAS Factsheet

B.8.1.1 Consortium

- (1.) **Creotech**: management, communication, marketing
- (2.) **CloudFerro**: Cloud provider, operations
- (3.) **Sinergise**: processing hub and EO browser
- (4.) **GEOMATYS**: data catalogue solution based on RESTO
- (5.) **sp. Z.o.o**: outsourced, Website design
- (6.) **WIZIPISI**: development and implementation of Linked data mechanisms

B.8.1.2 Website

<http://www.creodias.eu>

B.8.1.3 Data locally available on the DIAS

- Full archive of Sentinel data (ongoing)
- Full archive of Copernicus services information (all services, ongoing)
- Third party data: Landsat, ENVISAT MERIS

B.8.1.4 Services

- View, discovery and download of all data
- Cloud infrastructure – storage and processing power via CloudFerro
- Tools and utilities to access and process Earth observation data
- CREODIAS provides a series of sample applications that are re-usable by third parties. These sample applications are extensively documented. Examples include: tools to generate quicklooks from Sentinel data, changing display of Sentinel data according to various uses etc.

B.8.1.5 Status

The **CREODIAS** DIAS is open for users as of June 2018. Particularities of the DIAS include:

- Fully integrated services offering catalogue, viewing and discovering services with cloud ICT services offered by Creotech. Extensive view and discovery functionalities to discover, view and find data. The services include an EO Browser functionality, which allows visualising the data in various ways.
- CREODIAS includes an extensive offer of Copernicus Data and Information (Sentinels and Services data), which is currently made available with a focus on the Sentinel data (about 7 PB in June 2018). Copernicus services information and Third party satellite data (Landsat) is expected to be integrated in the next 6 months.

B.8.2 MUNDI DIAS factsheet

B.8.2.1 Consortium

- (1.) **ATOS**: management, cloud computing and big data EO exploitation
- (2.) **T-Systems**: infrastructure provider
- (3.) **DLR**: Long-term archive of Sentinel data, demand management
- (4.) **Thales Alenia space**: data offer, SLA and catalogue
- (5.) **EOX**: GeoData access services
- (6.) **GAF**: EO services and market
- (7.) **Sinergise**: seamless data provision services
- (8.) **Spacemetric**: data distribution services (Landsat, analysis ready EO data)
- (9.) **e-GEOS**: data offer, Cosmo-Skymed data provision, SAR applications

B.8.2.2 Website

<http://www.mundiwebservices.com>

B.8.2.3 Data locally available on the DIAS

- Focus on Europe, 2-4 years of Sentinel data over Europe, 12 months globally
- Focus on land, 4 years of Copernicus Services data (emergency, land)
- Third party data (Landsat, proba-V, CosmoSkymed, non-EO data, Copernicus VHR data)
- All other Copernicus Data and Information is retrievable through the DIAS discovery service and can be requested to be processed on the DIAS

B.8.2.4 Services

- View, discovery and download of all data
- Cloud infrastructure – storage and processing power via T-Systems
- Tools and utilities to access and process Earth observation data

B.8.2.5 Status

The Mundiwebservices DIAS is open for users as of June 2018. Particularities of the DIAS include:

- Business approach whereby Service Level Agreements are negotiated with each of the users. Mundiwebservices provides a market place for Third Parties to promote their service
- The Muniwebservices rely on the existing ICT cloud infrastructure provided by T-systems.
- Data offer includes approximately 2 petabytes of data at present, mainly Copernicus Sentinel data. Copernicus Services data and fresh sentinel data is expected to be integrated in the next 6 months

B.8.3 ONDA DIAS factsheet

B.8.3.1 Consortium

1. **Serco:** management, commercial and marketing
2. **OVH:** Cloud services
3. **GAEL:** data access interfaces and interface software development
4. **Sinergise:** DIAS view service

B.8.3.2 Website

<http://www.onda-dias.eu>

B.8.3.3 Data locally available on the DIAS

- At least 2-years of Sentinel data (from June 2018 and continuously growing from that baseline)
- 1 year of Copernicus services information (marine and land services data)
- Third party data: Landsat 8, ENVISAT ASAR
- All other Copernicus Data and Information is easily retrievable through the DIAS discovery service and can be requested to be processed on the DIAS

B.8.3.4 Services

- View, discovery and download of all data and information
- Cloud infrastructure – storage and processing power via OVH
- Tools and utilities to access and process Earth observation data

B.8.3.5 Status

The ONDA DIAS is open for users as of June 2018. Particularities of the ONDA DIAS include:

- Fully integrated services offering a catalogue, viewing and discovering services with cloud ICT services offered by OVH (including billing functionality). Catalogue is based upon the Sentinel Data Hub Solution used for the regular distribution of the Sentinels
- ONDA offers innovative access to the Copernicus Data and Information via an Elastic Node Service (ENS)
- ONDA offers mainly Sentinel data, 24 months at present (June 2018) and growing, Copernicus services information (12 months of rolling archive) and Third party satellite data (Landsat, MODIS, METOP GOME, etc.) is expected to be integrated in the next 6 months

B.8.4 SOBLOO DIAS factsheet

B.8.4.1 Consortium

- (1.) **Airbus**: management, catalogue and ingestion software
- (2.) **Orange**: data management, cloud provider
- (3.) **CLS**: Maritime catalogue & ingestion software
- (4.) **VITO**: Land catalogue & ingestion software
- (5.) **Cap gemini**: Billing and technical expertise

B.8.4.2 Website

<http://www.sobloo.eu>

B.8.4.3 Data locally available on the DIAS

- 24 Months of Sentinel data (ongoing for Sentinel-2, with plan to grow this base-line according to use)
- 24 months of Copernicus services information (all services, ongoing)
- Access to third party data: Landsat, SPOT 5/6 and Pleiades ...
- All other Copernicus Data and Information is easily retrievable through the DIAS discovery service and can be requested to be processed on the DIAS

B.8.4.4 Services

- View, discovery and download of all data
- Cloud infrastructure – storage and processing power via Orange
- Tools and utilities to access and process Earth observation data

B.8.4.5 Status

The **SOBLOO** DIAS is open for users as of June 2018. Particularities of the DIAS include:

- Business approach whereby tailored solutions are offered to users. Users can choose between various packages tailored to their needs. Sobloo aims to address both small and large customers.
- Sobloo relies on the existing ICT cloud infrastructure provided by Orange.
- Data offer locally stored on Sobloo includes approximately 0.3 petabytes of data (Sentinel-2) as a start. Copernicus Services information and fresh sentinel data is expected to be integrated in the next 6 months.

B.8.5 WEKEO DIAS factsheet

B.8.5.1 Consortium

- (6.) **EUMETSAT**, overall management and coordination and infrastructure
- (7.) **ECMWF**, processing services and data
- (8.) **Mercator Ocean**, user management, communication
- (9.) Infrastructure and service providers (to be selected)

B.8.5.2 Website

<http://www.wekeo.eu>

B.8.5.3 Data locally available on the DIAS

- All Sentinel data from Sentinel-3 marine online and remote access to Sentinel-1 and -2
- All ECMWF, Copernicus Atmosphere Monitoring and Climate Change Services via ECMWF
- All Copernicus Marine Environment Monitoring Services via Mercator Ocean
- Online access to third party data from EUMETSAT, Mercator Ocean and ECMWF

B.8.5.4 Services

- View, discovery and download of all data
- Cloud infrastructure – storage and processing power via ECMWF, EUMETSAT, Mercator Ocean and commercial infrastructure and services providers
- Tools and utilities to access and process Earth observation data

B.8.5.5 Status

The **WEKEO** DIAS V0 is open for users as of June 2018.

The EUMETSAT DIAS is based upon a federated approach whereby direct access is given to the data holdings at ECMWF, Mercator ocean and EUMETSAT (including the Copernicus Services and Sentinel data) through a distributed architecture.

WEKEO DIAS offers all EUMETSAT, ECMWF and Mercator Ocean data and information and is being implemented in a phased approach. Version 0 is available in June 2018. It combines Sentinel data and information from ECMWF and Mercator Ocean. The services and Data offers will be further increased through subsequent releases of Version 1 (January 2019), Version 2 (January 2020) and Version 3 (December 2020).