Copernicus data access

Astrid - Christina Koch

Copernicus - Space Data for Societal Challenges & Growth

TAIEX workshop on Space Applications – Bangkok

18/19 September 2018

Copernicus EU
Copernicus EU
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www.copernicus.eu

User Uptake

4 priorities

- Maximise the benefits of space for society and the EU economy

- Foster a globally competitive and innovative European space sector

- Reinforce Europe's autonomy in accessing and using space in a secure and safe environment

- **Strengthen Europe's role as a global actor and promote international cooperation**

✓ **Copernicus data access**

✓ **Copernicus user and market uptake**

✓ **Copernicus international relations**

European Commission | Copernicus
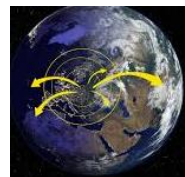Europe's eyes on Earth

User Uptake

- Promote the **uptake of Copernicus data globally** and create the conditions for integrating **data from international partners** into the EO data management system in Europe

- Maximise the **efficiency of EU investments through cooperation with international partners**

- Promote **access to international markets for European EO companies**

Cooperation on data exchange

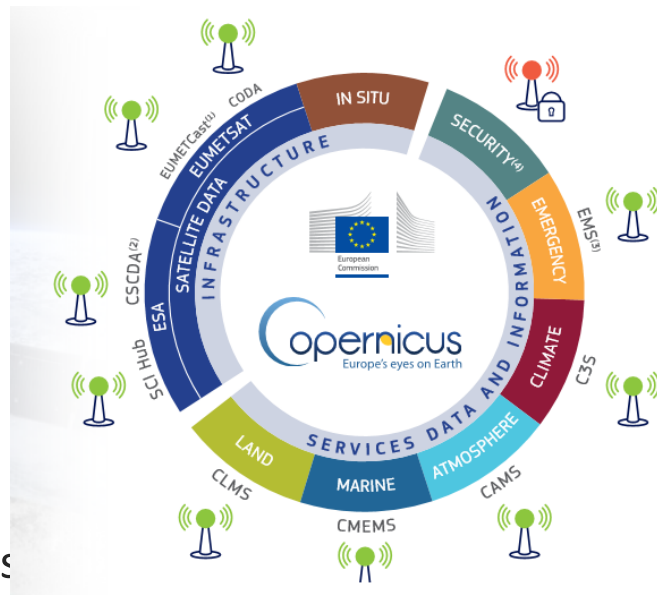Multilateral cooperation, Development cooperation

Internationalisation instruments

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User Uptake

- Satellite Data distribution Hubs
  - Sentinels
  - Contributing missions
  - Access to images in NRT
  - Access to archives

- Services Information portals for
  - Added value products, indicators
  - Models
  - Archives, Near Real Time and Forecasts products

Note: *Copernicus in situ component provides in situ data access, serving the Copernicus services. It is not delivering in-situ data to the end-users.*

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European Commission

User Uptake

Data to Users

- **Copernicus cooperation arrangement with Ukraine**
- **=> State Space Agency will create local data hub for all users in Ukraine**

User to Data

- **New Copernicus Data and Information Access Systems (DIAS)**
- **=> 5 commercial consortiums provide platforms for everyone to use**
- **Copernicus data is free, the use of the computing power needs to be paid**

European Commission | Copernicus Europe's eyes on Earth

User Uptake

Preferential access for international partners

Access for International Agreements

- **Copernicus Cooperation Arrangement with Ukraine**

- *Data provision will be done via a data hub to data hub. No direct downlink is foreseen*

- *Reciprocity: full, free and open access to Sentinel satellite data and to the future Ukrainian Earth observation constellation*

- *No exchange of fund principle*

- *User registration process to get statistical data on use and dissemination of data*

- *Implementation by ESA and EUMETSAT subject to prior agreement of the European Commission*

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User Uptake

Access to Satellite data

FULL, FREE AND OPEN *

esa

sentinel data hub

Scientific and Other Access

https://scihub.copernicus.eu/

esa

CSC data access

Copernicus Space Component Data Access Portal*
CSC-DA

https://spacedata.copernicus.eu/

EUMETSAT

FULL, FREE AND OPEN *

- Copernicus Online Data Access (CODA)

- EUMETCast:
  www.eumetcast.com
  Needs to get a station and pay a yearly fee

Access to Copernicus Services Data

FULL, FREE AND OPEN

- Land-related data: http://land.copernicus.eu
- Atmosphere-related data: http://atmosphere.copernicus.eu
- Marine-related data: http://marine.copernicus.eu
- Emergency-related data: http://emergency.copernicus.eu
- Climate change-related data: http://climate.copernicus.eu (Beta version)

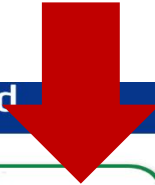* Not for Security Services
And
Data purchased from third parties

(*) Includes instructions on how to access Contributing Missions data

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European Commission

Sentinel Data Hubs – Configuration
4 types of Sentinel Data Hubs operated by ESA

Sentinel Data Dashboard

copernicus   esa   Sign out

Copernicus Open Access Hub

LATEST NEWS

>83.000

16,299,049 Products Downloaded
14.09 PB Volume Downloaded

No Rolling Policy

Sentinel-1 NTC
Sentinel-2 L1C
Sentinel-3 (preops)

Max 2 concurrent Downloads

Collaborative Hub

LATEST NEWS

13 Collaborative GS
7 Data Hub Relays

6,864,273 Products Downloaded
6.88 PB Volume Downloaded

Node1: 30 days
Node2: 9 days

Sentinel-1 NRT & NTC
Sentinel-2 L1C

Node1: Max 10 downloads
Node2: No Limits

International Hub

LATEST NEWS

4 now 9
International Agreements

2,303,826 Products Downloaded
2.08 PB Volume Downloaded

30 days

Sentinel-1 NTC
Sentinel-2 L1C

Max 10 concurrent downloads

Copernicus Services Hub

LATEST NEWS

185 Registered Users

919,802 Products Downloaded
710.71 TB Volume Downloaded

No Rolling Policy

Sentinel-1 NTC
Sentinel-2 L1C

Max 10 concurrent downloads

User Uptake

- **Massive amounts of data**
- **Full, open and free-of-charge**

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Over 10 Petabyte/year of new data
with just Sentinels-1, -2 and -3 fully operational (data are downloaded **many time over**)

- Different types of **dissemination** infrastructures
- **New technology** developments
- ICT and EO **cross-fertilisation**
- **Interoperability** with non-EO datasets
- Global EO **competition**
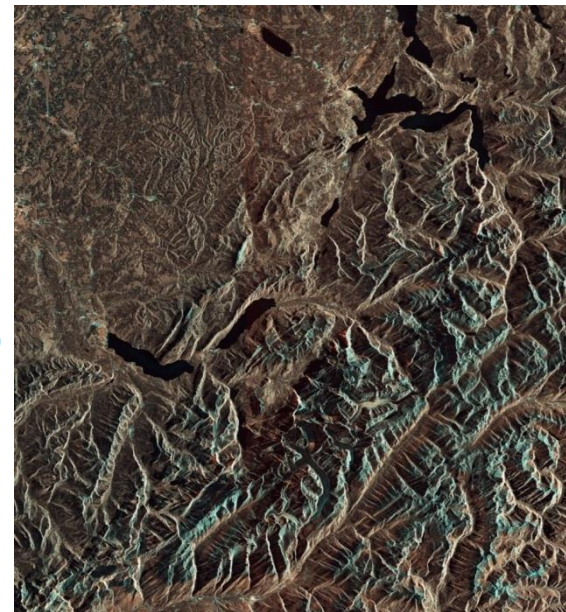- Growth and jobs in **downstream** sector

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European Commission
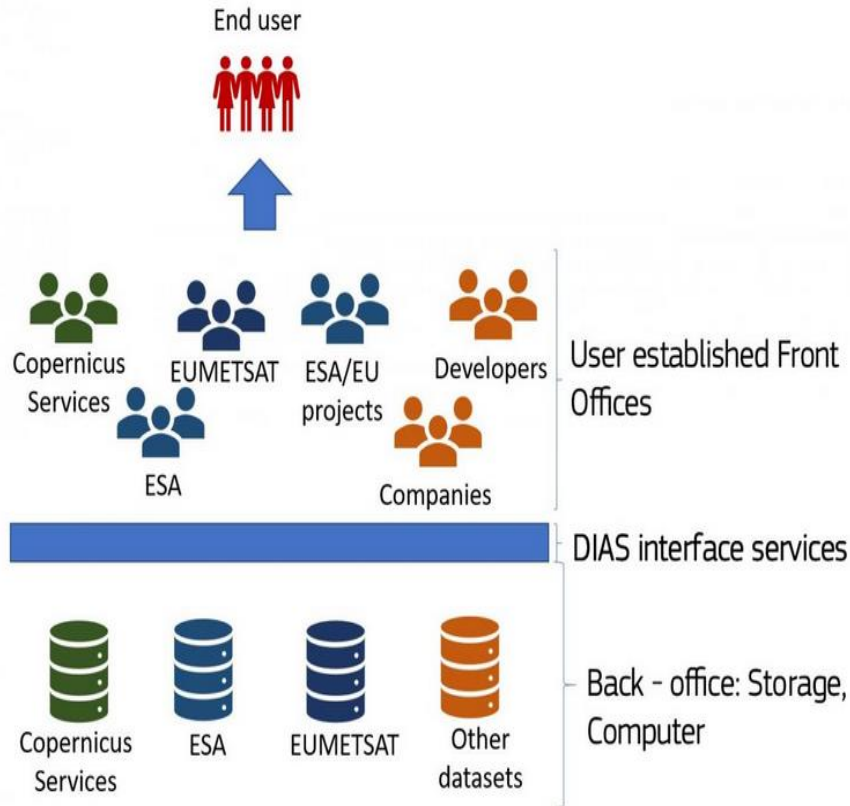
User Uptake

Dual approach:

- Strengthening Copernicus Distribution Services for search, view, download

- Setting up of **Data Access and Information Services** (DIAS)

  – **Access to all Copernicus data and information virtually collocated with computing resources**

  – **Allowing Big Data analytics without the need to download the data and information**

  – **Allowing data fusion with non-EO data and information**

  – **Bring together all user communities (public authorities, research, commercial, ONG,…)**

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End user

Copernicus Services — EUMETSAT — ESA/EU projects — Developers

ESA — Companies

User established Front Offices

DIAS interface services

Copernicus Services — ESA — EUMETSAT — Other datasets

Back - office: Storage, Computer

➔ The **Copernicus Data and Information Access Service** (DIAS)

➔ Bring Users and the processing to the data

➔ Operation of 5 service offerings launched in Baveno in June

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European Commission

Copernicus

- Creotech (PL) with cloud provider CloudFerro (PL): **http://www.creodias.eu**

- Serco (IT) with cloud provider OVH (FR): **http://www.onda-dias.eu**

- Airbus (FR) with cloud provider Orange (FR): **http://www.sobloo.eu**

- ATOS (FR) with cloud provider T-Systems (DE): **www.mundiwebservices.eu**

- EUMETSAT, with Mercator Ocean and ECMWF: **http://wekeo.eu**