About the DIAS

Data and Information Access Services
funded by the European Commission
Managed by the European Space Agency

New paradigm in accessing and exploiting data

- facilitate access to Copernicus data and information
- support the development of Copernicus-based user applications and enable research & business
What is ONDA?

A unified place to access geospatial data

A Cloud-based Platform to build applications

**Bring solution to current challenges**

- Extended Portfolio / Big Data Application
- Increasing storage needs / computing power
- Bandwidth challenge / System redundancy...
Who is ONDA?

- Serco Italia
- OVH
- Gael Systems
- Sinergise
Cloud Resources

- Tailored Virtual Servers for any scenario
  - Your VM in 120 seconds

- Scalability
  - Tenants
  - Kubernetes

- Open & free SW already installed

- Guaranteed Service Quality
  - Full control on DC Exploitation / Network / Security / Evolution
  - No external contribution / additional cost

- Eco-Friendly cloud provider
  - In house cooling systems / Total elimination of air conditioning in DC
  - Savings reflected in server prices

- Multiple Solution & Flexible Payment methods
Data Access

- **Catalogue capabilities**
  - Search / View
  - API / GUI

- **Open/Free APIs**
  - **OData**
    - ZIP product
    - Semantic Search
  - **ENS (Advanced API)**
    - Product in a standard file system
    - No product download (Process the information)
    - No Need for specific libraries (HTTP, OData, NFS)
    - Supported by all programming languages
    - Integration into Jupyter Notebook

- **Linux Command line / Remote Desktop**
- **GIS Interface (Rest APIs)**
ONDA ENS -> Example of NDVI Processing Chain

- Apply custom color palette
- Compute NDVI
- Only read needed data subset
- Access archive using ONDA VFS
- Customize UI using ONDA Catalogue API
- Use a virtual server in ONDA

ONDA

Thanks to the huge archive, processing can be applied to time series with multiple products covering the same area:
- Filter unwanted cloud coverage
- Monitor crops growth and harvest
- Change detection
- Precision agriculture
User Services

User Support
- Newsletter
- RSS Feed
- Online Documentation
- Multilingual web content

Showcase
Publish and promote your service developed on ONDA platform

Free Trial Access
- Raise confidence
- Migrate your application

Professional Services
Premium support to our customers customizable on request
Evolution – New Services

- **VHR satellite images** up to 40 cm *(Optical/SAR)*
- **New Digital information** *(Non Earth Observation)*
- **ONDA for Education**
- **Additional Cloud Features**
# A MODULAR APPROACH

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**Upstream - Downstream**

**Data Providers – Intermediate Users – End Users**

**Expert – Medium – New**

Use Cases (Example of Tailored services / Products)

Sentinel-3 World Fires Atlas Prototype

- Institutional Service
- Daily Fire Maps + Fire Detection System from systematic process of Sentinel-3A/3B
- SNAP and GDAL hosted in ONDA
Use Cases

HARRIS Analytics

- Commercial Services
- Major Industrial actors
- Automatic Extraction of information linking ONDA Services with Harris analytics capabilities
Use Cases

SIAM (Satellite Image Automatic Mapper)

- Research and Development (AI)
- University of Salzburg, Z-GIS, Spatial Services
- Fully automatic Spectral Categorization of Satellite data (multi-sensor) to improve spatial/temporal analytics
Use Cases

FARming Observation System

- Commercial Service
- Precise Farming
- Generation of Environmental indicators and modelization
Use Cases
Earth Surface Deformation Monitoring System

- R&D + Operational
- Ground-deformation velocity maps on a wide scale (cm/mm accuracy)
- **CNR IREA**
  National Council of Research, Institute for Electromagnetic Sensing of the Environment
Use Cases

Evaluation of Climate Change Effects

- Interactive visualizations of global time series analysis
- Geophysical Indicators maps from Sentinel-3, to track, measure and visualize changes
- Source: Earth Starts Beating
Thank You and Stay connected!

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