

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S3P2: High Photovoltaic Penetration at Urban Scale (ARMINES)

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other: \_\_\_\_\_

Partners of your project

MINES Paris PSL / ARMINES

**End Users**

End users are the intended consumers of your end products.

#### Intended end user categories

Business owners

Developers

Analysts

Data Scientists

Policy makers

Other: .....

#### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

#### Please list the datasets that you use (source datasets)

CAMS Radiation Service and CAMS Mc Clear - Copernicus - SoDA

Digital Elevation Model (SRTM) Version 4 – NASA

MERRA2 temperature re-analysis - NASA

Digital Surface Model (10-25 cm resolution) - IGN

Building footprints (BDTOPO©) - IGN

Consumption Data Models (Internal)

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: Consumption profile data

Do you integrate datasets from different sources? If yes, how do you integrate them?

The above datasets are either integrated from fetching remote dataset via service based request (WPS for Copernicus and WMS for IGN) or are included from local copy via request to local server (MERA, SRTM and Consumption Data Models)

Please identify the EO data providers and services of your source datasets

Copernicus - SoDA  
NASA  
IGN  
Internal

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

No SLA (Service Legal Agreement) for CAMS Radiation Service and an access limitation policies (100 request per day per IP / Day minus 2). This might prevent some downstream use cases to be developed.

No SLA (Service Legal Agreement) for IGN data. – Access granted based on “due care” approach. This might prevent some downstream use cases to be developed.

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

No changes in data providers so far but our service has been designed and developed to be data input agnostic. Provided the data is accessible (locally or remotely) we could easily change input data (eg. Solar radiation and/or DSM, DEM)

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

Webservice-energy catalogue, GEO Portal and GEO Knowledge Hub

<http://geocatalog.webservice-energy.org/geonetwork/srv/fre/catalog.search#/metadata/4be5ce1e-5354-4195-9bcc-9c057e62399a>

<https://www.geoportal.org/?m:activeLayerTileId=osm&targetId=4be5ce1e-5354-4195-9bcc-9c057e62399a&f:phrase=e-shape&f:dataSource=dab>

<https://gkhub.earthobservations.org/packages/t7r63-24723>

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

WPS: [http://s3p2.oie-lab.net/service/wps?Service=WPS&version=1.0.0&request=DescribeProcess&identifier=compute\\_polygon](http://s3p2.oie-lab.net/service/wps?Service=WPS&version=1.0.0&request=DescribeProcess&identifier=compute_polygon)

Jupyter Notebook (Need registration): <https://notebook.oie-lab.net/hub/login>

Please indicate which EO Digital Infrastructures you use to host and publish your products and which services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

Main end-point is DIAS WEkEO and local infra for testing purpose

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other:

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

IaaS, HPC

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

WEkEO DIAS. Good support technical and commercial. We pickup this DIAS after an open selection between all DIAS during the e-shape project.

Modularity of the offer (T-shirt size / Pay per use / Shelving / Scalability (CPU/Storage))

Effective support (Sale and technical)

Allows to assess a cost model (Cost per hectare / number of CPU)

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

See above

### This section is for you to provide an overall feedback about EO digital platforms

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep



The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated



It was difficult to compare the costs of services offered by the EO digital platforms



The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time



The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

#### Comments / Notes

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We appreciate the time you spent to answer to our survey. Thank you!

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Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

DIVE visibility app

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

DiveBase Malta

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: General Populace

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

CMEMS 300m kd490

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

.....

Please identify the EO data providers and services of your source datasets

CMEMS

.....

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

It is currently not working but generally it's a good source

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

We originally got the data via CreoDIAS which we removed due to them being unable to provide the product on a consistent basis

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

Web app, mobile app and REST API

Please indicate which EO Digital Infrastructures you use to host and publish your products and and which services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

Virtual Linux server(s) hosted under VMWARE in house

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

All of our components are dockerised and hosted in a VMWare instance

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Internal, we are very satisfied with our infrastructure.

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

We abandoned CreoDIAS due to being unsatisfied with its quality of service and timeliness of its product delivery

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

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Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S3P2 DLR

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

DLR Earth Observation Center, DLR Institute of Networked Energy Systems

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

done in the factsheet already

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

yes, parallel usage

Please identify the EO data providers and services of your source datasets

CAMS, OSM, ESA, DLR,

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

ok

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

no

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: decision support tool

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

.....

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

.....

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

own servers .....

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

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# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

P5.6 EO-based Phytoplankton Biomass for WFD Reporting

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: water managers

### Specific intended end users, if known (names)

Waterschap Noorderzijlvest (local water authority, Netherlands); Eesti Maaülikool (Center for Limnological research, Estonia)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel 2

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

We used in situ data from our users for validation, not integration

Please identify the EO data providers and services of your source datasets

Copernicus API hub

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

satisfied

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

n/a

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

Static dataset(s)

Data Streams

Mobile App

Web service(s) (e.g. WMS, WFS, etc.)

Desktop App

Other: .....

Are end products / data publicly available?

Yes

No

Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

<https://doi.org/10.5281/zenodo.7014972>

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

<https://doi.org/10.5281/zenodo.7014972>

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

We provide the maps in our portal to users

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Our in-house processing chain, which uses some parts of SNAP. Some NAP modules are only available in the user interface, not via GPT, that is not very handy

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

We tried a DIAS, but for our purposes it was too expensive. If our volume increases it might become interesting.

### **This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated



It was difficult to compare the costs of services offered by the EO digital platforms



The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time



The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.



#### Comments / Notes

We did not really try new platforms in e-shape, we based our work on previous experience

We appreciate the time you spent to answer to our survey. Thank you!

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# Use case survey

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Name of the use case

S5P7 Rheticus Aquaculture

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

Planetek Italia, Bluefarm

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-3

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: \_\_\_\_\_

Do you integrate datasets from different sources? If yes, how do you integrate them?

No \_\_\_\_\_

Please identify the EO data providers and services of your source datasets

Copernicus \_\_\_\_\_

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Accuracy of inshore data \_\_\_\_\_

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

No \_\_\_\_\_

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

Not available

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

Not published

Please indicate which EO Digital Infrastructures you use to host and publish your products and and which services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

PaaS

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other:

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

PaaS

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

CreoDIAS, chosen because we have commercial agreements. We use it since many years.

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

In-house processing platform, we switched to CreoDIAS for EO data availability

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

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# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Pilot 2.3 | EO-based pollution-health risks profiling in the urban environment

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

NOA, DLR, DRAXIS, IIASA, CNR

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Region of Attica (GR), City of Athens (GR), Ministry of Environment and Energy (GR), Health National Public Organization (GR), Ministry of Health (GR), Sustainable City Network (assoc. of 74 municipalities) (GR), Hellenic Statistical Authority (GR), HSY (Environmental Services Authority) (FI), City of Helsinki (FI), City of Porvoo (FI), Ministry of the Environment (FI), NESTE Oy (FI), Bavarian State Ministry of the Environment and Consumer Protection (DE), Bavarian State Ministry of Health and Care (DE), Municipal Authorities of Bari and Modugno (IT), World Bank.

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

Please list the datasets that you use (source datasets)

satellite data:

Sentinel-5P for NO<sub>2</sub> monitoring (used for Munich and Helsinki)

Sentinel-3 (used for Munich)

GOME-2 aboard Metop

OMI aboard NASA Aura spacecraft

SCIAMACHY aboard Envisat

remote sensing-derived data:

GHS population grid (GHS-POP) by the European Commission (EC)

GHS built-up surface grid (GHS-BUILT-S) by EC

World Settlement Footprint by European Space Agency (ESA), DLR and GEE team (used for Munich)

CAMS regional and global reanalysis products for air quality (used for Athens)

CAMS regional anthropogenic emissions data (used for Athens)

ERA5 of European Centre for Medium-Range Weather Forecasts (ECMWF)

Global Urban Footprint (GUF) by DLR

in-situ data:

national regulatory monitoring networks of air quality (Greece, Finland, Germany)

industrial reporting data by European Environment Agency (EEA) (used for Helsinki)

RI PANACEA network of low- and mid-cost smart sensors, which is a PM2.5 monitoring network developed throughout Greece (used for Athens)

gridded particulate matter (PM) pollution concentration data by Agenzia Regionale per la Prevenzione e la Protezione dell'Ambiente (ARPA Puglia) (used for Bari)

Aerosol, Clouds and Trace Gases Research Infrastructure (ACTRIS)

OpenAQ (Other open air quality datasets may be used.)

<http://84.205.254.113/airqualmap/en/leafletmap.html> (used for Athens)

NOA supersite (used for Athens)

crowdsourced: AirCasting (Other low-cost sensor networks may be involved.)

numerical modelling datasets/services:

Polyphemus/DLR chemistry transport model and chemical transport model from CAMS (used for Munich)

GEOS-Chem global air quality model predictions

EPISODE-CityChem chemistry transport model outputs (used for Athens)

UrbEm method to derive high-resolution emissions for city-scale air quality modelling (Ramacher et al., 2021; Karl et al., 2019) (used for Athens)

Weather Research and Forecasting model (WRF) meteorological simulations (used for Athens)

data from international health authorities such as WHO and European Medicines Agency (EMA) (used for Munich)

data about population density, urbanization level and time patterns of activities through national and international statistical institutes, survey results or transportation data (used for Munich)

population census, LULC patterns from EO data and other domain-specific information such as air particle pollution maps (used for Bari)

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

the methods for combination of platforms is shortly described below:

1. Numerical air quality model data (PM2.5 , PM10 , NO2 , O3 , SO2) are combined with health data (e.g.: mortality due to all causes, mortality due to cardiovascular disease) towards the estimation of Aggregated Risk Index (ARI) used to assess the impact of air quality on health caused by the exposure to the air pollutant mixture.
2. Numerical air quality model data are combined with data representing population density towards the estimation of population exposure to air pollutants.
3. Numerical air quality model data are combined with in situ monitoring data co-located in time and space with model predictions, to evaluate the performance of model outputs.
4. Numerical NO<sub>2</sub> model data for the troposphere are combined with S5P tropospheric NO<sub>2</sub> retrievals (co-located in time and space), to evaluate the performance of model outputs (aggregated for the troposphere).
5. GEOS-CHEM global air quality profiles have contributed towards the development of ad-hoc methods to convert the satellite-based observations into surface concentrations.
6. Traditional ground-based measurements from the AQ monitoring network, are co-located in space and time and combined with the added value surface S5P product, to evaluate the applied methodology, to estimate NO<sub>2</sub> surface concentrations over areas where measurements from the AQ network are not available, and to compile and perform national official AQ assessment (by the Finnish Ministry of the Environment towards the EEA).
7. The EPRT-R data are co-examined with S5P surface product, to assess the contribution of industrial sources to air pollution.
8. CAMS-REG emission fields support numerical model predictions with the city-scale model.
9. EPRT-R data on emissions from industrial sites support numerical model predictions with the city-scale model.
10. CAMS reanalysis air quality data provide transboundary air pollution for the urban domain of the city-scale model simulations
11. ERA5 meteorological fields support numerical model predictions with the city-scale model.
12. GHSL population data are combined with air pollution concentration data to provide population exposure to air pollution.

Please identify the EO data providers and services of your source datasets

Below lies the cataloguing of resources exploited in the frame of the HSAQ pilot and respective online platforms:

- European Air Quality Portal, EEA webpage 'Download of air quality' (<https://discomap.eea.europa.eu/map/fme/AirQualityExport.htm>),
- Copernicus Air Monitoring Services (CAMS), regional and global re-analysis products, (<https://www.regional.atmosphere.copernicus.eu/index.php?category=documentation>, <https://ads.atmosphere.copernicus.eu/cdsapp#!/dataset/cams-global-reanalysis-eac4?tab=overview>),
- The World Data Centre for Remote Sensing of the Atmosphere ([https://wdc.dlr.de/data\\_products/VIEWER/](https://wdc.dlr.de/data_products/VIEWER/), Polyphemus model product),
- EOC Geoservice of the German Aerospace Centre (<https://geoservice.dlr.de/web/maps/eoc:wsf2019>, for the World Settlement Footprint),
- Urban-Tep (<https://urban-tep.eu/#!>),
- [NextGEOSS (<https://nextgeoss-airquality.de/>)]
- Copernicus Air Monitoring Services (CAMS), European anthropogenic emission database CAMS-REG <https://eccad.aeris-data.fr/2019/06/05/cams-inventories/>
- stationary emission sources from the E-PRTR database <https://industry.eea.europa.eu/>
- National Monitoring Networks of Air Quality (Greece, Finland, Germany)
- PANACEA research infrastructure for PM2.5 real-time monitoring <https://air-quality.gr/>
- Copernicus Earth Observation program, ESA's Sentinel 5 Precursor (S5P) satellite, NO<sub>2</sub> data
- GHS-POP distribution of population, expressed as the number of people per cell ([https://ghsl.jrc.ec.europa.eu/ghs\\_pop2019.php](https://ghsl.jrc.ec.europa.eu/ghs_pop2019.php))
- Population data in 1km<sup>2</sup> layer ([https://www.zensus2011.de/DE/Home/home\\_node.html](https://www.zensus2011.de/DE/Home/home_node.html))
- Health data (mortality due to all causes, mortality due to cardiovascular disease)
- ERA5 meteorological data by the Copernicus Climate Change Service (C3S) at ECMWF <https://www.ecmwf.int/en/forecasts/dataset/ecmwf-reanalysis-v5>
- GEOS-CHEM global AQ model predictions
- Gridded Population from the GHSL Data Package 2022

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

Static dataset(s)

Data Streams

Mobile App

Web service(s) (e.g. WMS, WFS, etc.)

Desktop App

Other: \_\_\_\_\_

Are end products / data publicly available?

Yes

No

Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

GeoCatalogue <http://geocatalog.webservice-energy.org/geonetwork/srv/fre/catalog.search#/metadata/a3e4148f-c3d6-4c2b-b9c7-3982c71886df>

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

---

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

---

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

---

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Pilot 1.7 | DynaCrop- unlocking EO intelligence across the food value chain

Sector

Agriculture

Health

Energy

Ecosystem

Water

Disaster management

Climate and climate change

Other:

Partners of your project

VITO and others from e-shape

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

digital farming tool integrators

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-1, -2 and -3, Copernicus Climate Change Service (C3S) ERA5 datasets, World Soil Information (ISRIC)

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: \_\_\_\_\_

Do you integrate datasets from different sources? If yes, how do you integrate them?

in AWS

Please identify the EO data providers and services of your source datasets

Copernicus, Planet, USGS

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Spatial, spectral and temporal resolution and corregistration error would be nice to improve

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

no

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: API

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

only to the customer

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

-

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

Sentinel Hub, AWS

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

-

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

-

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

(Creo)DIAS - considered for the future

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S7P3: Forestry Conditions; Climate Service; Harvester Seasons

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other: Forestry (Agriculture, Energy, Climate)

Partners of your project

FMI, Uni Helsinki

## End Users

End users are the intended consumers of your end products.

## Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

## Specific intended end users, if known (names)

Forestry sector: forest owners, contractors, operation planners, forestry operation managers, foremen

## Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

## Please list the datasets that you use (source datasets)

ERA5 Land, ERA5, forest fire index CEMS, Sentinel NDVI, tree cover density CLMS, soil trafficability classification by Finnish forest center, FMI 10d weather forecast

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: \_\_\_\_\_

Do you integrate datasets from different sources? If yes, how do you integrate them?

Climate Data Store CDS API, operational access and download from CDS; FMI direct data stream via SmartMet; soil classification for Finland static map downloaded on server;

Please identify the EO data providers and services of your source datasets

Climate Data Store CDS; CLMS, CEMS; FMI; Finnish forest center

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

ERA5-Land sometimes changing format without proper notice, and dissemination delayed; CDS API working well

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

nothing to report

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: partly API access on input data via SmartMet server

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

web app <https://harvesterseasons.com>

Please indicate which EO Digital Infrastructures you use to host and publish your products and and which services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

WEkEO DIAS as IaaS

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other:

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Machine learning algorithms running on HPC LUMI

service containerized in Docker images; hosted on IaaS WEkEO DIAS server

FMI SmartMet data cube service as service backend hosted on WEkEO DIAS + HPC LUMI

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

WEkEO DIAS: why? test use case  
satisfaction? working well; user support immediate and on point; resources sufficient; good data access to CDS

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

nothing to report

### This section is for you to provide an overall feedback about EO digital platforms

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated



It was difficult to compare the costs of services offered by the EO digital platforms



The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time



The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.



Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

HarvesterSeasons

Sector

Agriculture

Health

Energy

Ecosystem

Water

Disaster management

Climate and climate change

Other:

Partners of your project

MetsäTeho Oy and MetsäGroup

## End Users

End users are the intended consumers of your end products.

## Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

## Specific intended end users, if known (names)

## Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

## Please list the datasets that you use (source datasets)

Copernicus Climate Change Service seasonal forecasts, ERA-5, Sentinel-3 Synergy, Finnish weather service forecasts

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

we ingest into the SmartMet-server data cube and use from there different data in a unified way.

Please identify the EO data providers and services of your source datasets

ECMWF for C3S, FMI for weather forecasts and ESA for S-3

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

All good. Seasonal forecasts could extend to 1 year length

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

no

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

Finnish Spatial Data Infrastructure

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

web, WMS and smartMet timeseries APIs

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each WEkEO / EuroHPC IaaS for running the smartMet-server. Which is an open data cube also for others to use.

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

all except PaaS and GPUs are used in WEkEO, EuroHPC/LUMI and FMI own infrastructures

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Project resources have guided us, but we are very satisfied with all our assets from both providers. For fetching some data also CreoDIAS and others have been used, with a more mixed satisfaction landscape.

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

CreoDIAS, would have worked well as well, we just got other resources for free.

### **This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1

2

3

4

5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1

2

3

4

5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated



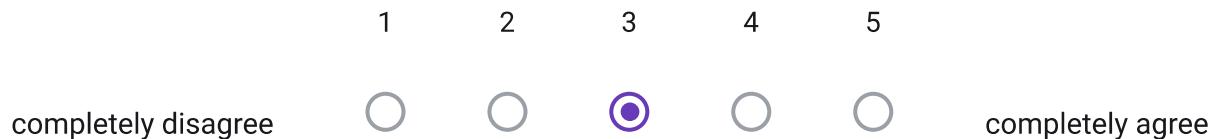
It was difficult to compare the costs of services offered by the EO digital platforms



The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time



The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.



#### Comments / Notes

helpdesks are often time consuming without actual progress as the helpdesk staff is just a buffer to the actual knowhow behind them.

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S7P2 urban resilience to extreme weather

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

German city of Aschaffenburg

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: various authorities in municipalities

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

ECMWF seasonal forecast (German model) , decadal forecasts, German meteorological observations for skill assessment

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

.....

Please identify the EO data providers and services of your source datasets

Copernicus C3S, DWD

.....

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

.....

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

.....

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

[https://www.dwd.de/DE/leistungen/kvhs\\_de/help\\_de/2\\_data\\_publications/03\\_access/start\\_node.html](https://www.dwd.de/DE/leistungen/kvhs_de/help_de/2_data_publications/03_access/start_node.html)

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

web

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

---

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

---

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

---

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S2P2 - EO-based surveillance of POPs pollution

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

MU, CNR-IIA and BRS Secretariat, WHO and GEO as associate partners

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Secretariats and Parties to the Stockholm, Basel, Rotterdam, and CLRTAP Conventions, Policy Makers, Governments, State and Regional Authorities, Industry, IGOs, NGOs, Scientific Community

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

EMEP, MONET, GAPS Network, IADN, LAPAN, (WHO) / UNEP human milk survey and national human biomonitoring programs, Aqua Monet, Joint Danube Surveys

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

.....

Please identify the EO data providers and services of your source datasets

.....

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

.....

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

.....

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

<https://pops-gmp.org/>

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

<https://www.geoportal.org/?f:sources=recetoxID&f:source=recetoxID&m:activeLayerTileId=osm&f:dataSource=dab>

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

---

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

---

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

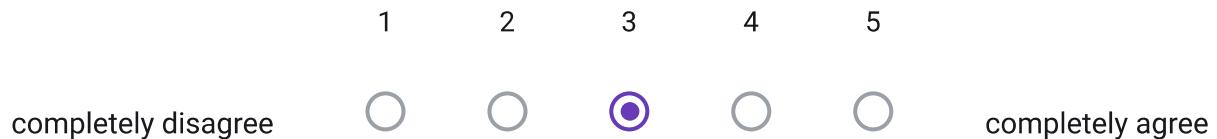
1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated



It was difficult to compare the costs of services offered by the EO digital platforms



The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time



The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.



Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Ilias Pechlivanidis

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

SMHI

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Check <https://hess.copernicus.org/articles/24/535/2020/>

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

.....

Please identify the EO data providers and services of your source datasets

ESA CCI, Cryoland project, NASA MODIS

.....

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Yes, but need for better spatial and temporal resolution

.....

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

.....

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

<https://hypeweb.smhi.se/explore-water/>

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

<https://hypeweb.smhi.se/water-services/>

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

---

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

---

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

---

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S1P5: Linking EO and Farm IoT for Automated Decision Support

Sector

Agriculture

Health

Energy

Ecosystem

Water

Disaster management

Climate and climate change

Other:

Partners of your project

eVineyard / Elmibit

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

Business owners

Developers

Analysts

Data Scientists

Policy makers

Other:

The user of our API is the developer. The final enduser of the data is the farmer.

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-2, Sentinel-1, in-situ data

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

We do not fuse data but try to calibrate in-situ data with EO-based soil moisture products.

Please identify the EO data providers and services of your source datasets

ESA Copernicus Open Access Hub

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
  - Data Streams
  - Mobile App
  - Web service(s) (e.g. WMS, WFS, etc.)
  - Desktop App
- Other:  
EO-derived information that is delivered through API. Data is dynamic, i.e. when new EO image is available it is updated.

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

---

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

REST API, <https://riscognition.io/docs/#introduction>

---

Please indicate which EO Digital Infrastructures you use to host and publish your products and and which services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

We offer DaaS

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other:

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

We use our own cloud environment deployed on Hetzner infrastructure.

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

See above.

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

We tested AWS and CreoDIAS. Esp. CreoDias has a great support. In the end we decided to setup our own environment, though.

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

mySITE (S4P2)

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

EAA, BSI, UFZ

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: Research community, Site managers

### Specific intended end users, if known (names)

the pilot is targeted mainly to the scientific community and local site management as well as protected area managers

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

in-situ from long-term ecosystem observations; earth observation data products (mySPACE); documentation of long-term observation sites;

### In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

### Do you integrate datasets from different sources? If yes, how do you integrate them?

in-situ data are provided from long-term ecosystem observation facilities taking into account for the mySITE pilot; in-situ data are integrated on the level of metadata; if possible and not already shared, datasets are harmonised according to the eLTER data specification (Peterseil & Geiger, 2020; <https://zenodo.org/record/6373410#.ZGSDRnZByUk>); metadata were collected using deims.org and recently moved to the eLTER Digital Asset Register (central datacatalogue, shared soon)

### Please identify the EO data providers and services of your source datasets

EO data products provided by mySPACE were integrated into the pilot (snow cover, snow cover duration, hydroperiod, GPP, Phenology, etc.) based on Copernicus Sentinel 2 data

### Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

especially for in-situ data more efforts on data mobilisation needs to be done; mySITE cooperated with the eLTER network in order to foster mobilisation of in-situ data. The work was started within the eShape project and is further continued beyond the project runtime.

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

efforts of providing especially historic in-situ data is often an effort for data providers as well as the harmonisation and proper documentation. This was addressed in supporting data providers in data management and FAIR data sharing. This effort was started within the eShape project in cooperation with ELTER. Main problem is, that data providers are usually not part of the projects and therefore no financial support could be provided for data harmonisation and documentation. Special efforts on the mobilisation of in-situ data needs to be taken.

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

Metadata are shared via DEIMS-SDR and currently moved to eLTER Digital Asset Register (DAR)

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

DEIMS-SDR (<https://deims.org>; documentation & metadata; providing WFS/WMS, API, OAI-PMH, CSW; EcoSense (<https://ecosense.biosense.rs/#/home>; visualisation); geoserver (WFS/WMS; service provision)

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

not relevant for mySITE

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: WebServer, data services

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

not relevant for mySITE

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

not relevant for mySITE

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

eLTER DataLabs (<https://datalab.datalabs.ceh.ac.uk/>) for data manipulation and analysis

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S3P3

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

DTU

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Wind energy developers, consultants in the wind energy sector

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-1 and Envisat SAR scenes, ASCAT wind data

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

Satellite observations are used together with numerical modeling for wind retrieval

Please identify the EO data providers and services of your source datasets

Copernicus, EUMETSAT, CMEMS

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Satisfied - obtaining archived data can be time consuming

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

No

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

Published together with the data in NetCDF files

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

Web site created for the service

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Internal university HPC was chosen due to low cost

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

We explored DIAS but found it too costly with respect to our needs

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S6P5: FRIEND

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

SATCEN

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

NGOs supporting local policy makers in climate change adaptation and mitigation actions

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

COPERNICUS (Sentinel 1, sentinel 2, Glofas, C3S, DEM)

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: \_\_\_\_\_

Do you integrate datasets from different sources? If yes, how do you integrate them?

data discovery (opensearch) and data access ( datacube, OGC API Coverage))

Please identify the EO data providers and services of your source datasets

CreoDIAS for Sentinel 1 and Sentinel 2, ECMWF C3S for Glofas

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

partially satisfied, the Global Flood Monitoring service, part of GloFas, could be improved. It is too conservative.

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

CreoDIAS and ECMWF CDS are fine

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

Yes

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

APIs, web service

Please indicate which EO Digital Infrastructures you use to host and publish your products and and which services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

Data Cubes

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other:

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Data Cube, MEEO ADAM platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

MEEO ADAM platform, CreoDIAS, AWS

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

We are using our own facility, CreoDIAS, AWS according to projects and services specifications

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

E-shape Pilot 5.5 Monitoring Fishing Activity

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

IPMA, DEIMOS

## End Users

End users are the intended consumers of your end products.

## Intended end user categories

Business owners

Developers

Analysts

Data Scientists

Policy makers

Other: NGOs

## Specific intended end users, if known (names)

Portuguese Central Fisheries Administration and Regional Fisheries Administrations (Azores, Madeira)

## Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

## Please list the datasets that you use (source datasets)

Fisheries landing declarations, E-logbooks, vessel tracking (SAT-AIS) data, EMODNET

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: Anonymized fisheries dependent datasets

Do you integrate datasets from different sources? If yes, how do you integrate them?

Integration at the level of vessel codes and timestamps

Please identify the EO data providers and services of your source datasets

EMODNET, Astra Paging Ltd.

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

VMS datasets were not made available by the Portuguese Fisheries Administration, which expressed interest in the project as a main final user of this pilot .Alternatively, sat-AIS data were acquired but these data are characterized by having incomplete coverage.

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

First: There are no current alternative to acquire VMS data and sat AIS is characterized by incomplete coverage

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

.....

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

.....

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

---

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

---

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

---

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

S2P4: EYWA: EarLY WArning System for Mosquito-Borne Diseases

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

National Observatory of Athens, Greece  
Laboratory of Atmospheric Physics, University of Patras, Greece  
Bernhard Nocht Institute for Tropical Medicine, Germany

**End Users**

End users are the intended consumers of your end products.

#### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: Public Health Authorities, Vector Control Companies

#### Specific intended end users, if known (names)

#### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

#### Please list the datasets that you use (source datasets)

Sentinel-2, Landsat 7/ 8, MODIS, IMERG, ERA5

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

Yes through a CreoDIAS platform and Google Earth Engine for the initial processing, then stored in a datacube.

Please identify the EO data providers and services of your source datasets

Copernicus, NASA

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

The datasets from the data providers cover the requirements of the project at this stage

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

No

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

NextGEOSS platform

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

The end product is sensitive (due to the health nature) hence are not available publicly

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

On-premises datacube installation, on-premises hosting of the platform, CreoDIAS & Google Earth Engine for the initial EO data processing

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

Machine learning

Deep learning

HPC

Parallel Computing

Virtualization / Containers

Cloud computing

Data Cubes

Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

On-premises server

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

CreoDIAS platform and Google Earth Engine (GEE). CreoDIAS was selected because it offers a VM to do analysis, GEE because of data availability (not in CreoDIAS)

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

Other DIAS platforms but they didn't offer the data products that CreoDIAS offers.

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated



It was difficult to compare the costs of services offered by the EO digital platforms



The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time



The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.



Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

SDG15.3.1

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

CNR, ESA, Eversis

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Land Cover (ESA CCI); Land Productivity (LPD JRC); Soil Carbon (SoilGRIDS)

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

Using the VLab technology developed by CNR and Trends.Earth model

Please identify the EO data providers and services of your source datasets

ESA, JRC, ISRIC

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Improve the Above Ground Biomass

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

The spatial resolution is not adequate

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

<https://geoessential.unepgrid.ch/geonetwork/>

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

<http://geoessential.unepgrid.ch/geoserver/web/>

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each PaaS (VLab); Swiss Data Cube

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Data Cube (Open Data Cube); HPC + GPU (UNIGE Cluster)

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Google Earth Engine + Swiss Data Cube + DIAS

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

EO-based Surveillance of Mercury Pollution

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

Consiglio Nazionale delle Ricerche (CNR, National Research Council, Italy), Helmholtz-Zentrum Geesthacht (HZG), Università della Calabria (UniCal), Planetek Italia

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

AMAP inventory; EDGAR TOX V2, GOS4M database; pTomcat; Mozart

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: \_\_\_\_\_

Do you integrate datasets from different sources? If yes, how do you integrate them?

Inside the CTMs

Please identify the EO data providers and services of your source datasets

NCAR; ECMWF; NASA; Copernicus

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Yes

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

No

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

---

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

<https://sdi.iiia.cnr.it/gos4mcat>

---

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

---

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

---

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

---

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Agricultural Monitoring

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

NSMC

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Agricultural Manager

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-2,landsat8/9,GF-1

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

download and then process

Please identify the EO data providers and services of your source datasets

Copernicus, USGS

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

YES.But the downloading of satellite is not so fast in many time.

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

no

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

.....

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

.....

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

gee \_\_\_\_\_

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

gee \_\_\_\_\_

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Agricultural Monitoring

Sector

Agriculture

Health

Energy

Ecosystem

Water

Disaster management

Climate and climate change

Other:

Partners of your project

NSMC

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Agricultural Manager

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-2,landsat8/9,GF-1

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

download and then process

Please identify the EO data providers and services of your source datasets

Copernicus, USGS

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

YES.But the downloading of satellite is not so fast in many time.

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

no

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: \_\_\_\_\_

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

.....

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

.....

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

gee \_\_\_\_\_

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

gee \_\_\_\_\_

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Use of Sentinel data for agricultural monitoring in Ukraine

Sector

Agriculture

Health

Energy

Ecosystem

Water

Disaster management

Climate and climate change

Other:

Partners of your project

NTUU "KPI", JRC, World Bank

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Ministry of Agriculture, Ministry of Digitalization (Dept of Statistics)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel-1, Sentinel-2, ground surveys

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

We integrated delineation datasets delivered by Sinergise

Please identify the EO data providers and services of your source datasets

ESA, CloudFerro (CREODIAS), Sinergise

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

yes

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

No

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

---

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

End products are published on the geoportal of Ukrainian Geocadastre (internal use) as well as for public access <https://ukraine-cropmaps.com/>

---

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each CREODIAS cloud platform

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: .....

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

We are fully satisfied with CREODIAS

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

No

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

#### Comments / Notes

In general, we are fully satisfied by services, provided by CloudFerro. We have close communication and they assist us with all the issues.

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Invasive species monitoring

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

Institute of Botany, The Czech Academy of Sciences

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: Land managers

### Specific intended end users, if known (names)

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

drone data, aerial data, VHR satellite data

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: \_\_\_\_\_

Do you integrate datasets from different sources? If yes, how do you integrate them?

scalling up

Please identify the EO data providers and services of your source datasets

national aerial surveys, RapidEye, Pleiades

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

improve spatial resolution of freely available datasets

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

institutional website

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

interface, mobile app

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Iliad

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other: Ocean

Partners of your project

56 European, African and Middle East industry, academic and NGOs

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

Business owners

Developers

Analysts

Data Scientists

Policy makers

Other: .....

### Specific intended end users, if known (names)

Insurance and reinsurance, aquaculture farms, policy-makers

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Sentinel/Copernicus, model data, gliders, citizen science data

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: small sat

Do you integrate datasets from different sources? If yes, how do you integrate them?

Yes, standards and best practices

Please identify the EO data providers and services of your source datasets

ESA, met.no, EMODNET, ODIS

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

More private/industrial data related to the ocean

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

Some model data were private and non affordable

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other: .....

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

NextGEOSS catalogue, Iliad and HubOcean

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The learning curve required for using EO digital platforms is rather steep

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

	1	2	3	4	5	
completely disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

Comments / Notes

We appreciate the time you spent to answer to our survey. Thank you!

This content is neither created nor endorsed by Google.

Google Forms

# Use case survey

This form was created for collecting user experiences, needs and bottlenecks about Earth Observation (EO) clouds and digital infrastructures

Name of the use case

Mapping and Monitoring habitat types in the nort of Spain with Remote Sensing and Copernicus data and services

Sector

- Agriculture
- Health
- Energy
- Ecosystem
- Water
- Disaster management
- Climate and climate change
- Other:

Partners of your project

IHCantabria (University of Cantabria), University of Oviedo

## End Users

End users are the intended consumers of your end products.

### Intended end user categories

- Business owners
- Developers
- Analysts
- Data Scientists
- Policy makers
- Other: .....

### Specific intended end users, if known (names)

Regional Governments and Ministry of Spain, SMEs interested in new developments

### Source datasets

Source datasets are the data that you take as input. We want to identify them and the services / providers. We also would like to understand if you need to integrate data from different sources and how you proceed to do so.

### Please list the datasets that you use (source datasets)

Satellite imagery (Landsat 5, 8 and 9, and Sentinel 2), CLMS datasets and abiotic variables derived from DEM, climatic reanalysis data and LiDAR information (Spain, PNOA)

In which categories do the source datasets belong?

- Public data, free of charge remote sensing data (e.g. Copernicus, etc.)
- Paid remote sensing data / services
- Private data, not published/available
- In situ / survey data
- Meteo data
- Citizen contributed / crowd sourced data
- Data streams / real time / near real time
- Other: .....

Do you integrate datasets from different sources? If yes, how do you integrate them?

RS-base spatial modelling (AI, deep learning, machine learning)

Please identify the EO data providers and services of your source datasets

Copernicus, NASA/USGS, CNIG (Spain)

Are you satisfied with the current offer of the data providers that you selected? Is there anything that you would improve?

Yes, very satisfied

Did you have to change the data provider because the one you picked in the first place didn't meet your needs? What did you need and which kind of problem did you encounter? Can you share your experience?

Time series of satellite imagery easily accessible and to download or cloud-computing, cloud-free mosaics with high temporal resolution

## End products

End products are the products of your project and can be of different nature such as data streams, static data, services etc.

What is the nature of the end products of your project?

- Static dataset(s)
- Data Streams
- Mobile App
- Web service(s) (e.g. WMS, WFS, etc.)
- Desktop App
- Other:

Are end products / data publicly available?

- Yes
- No
- Partly

Are metadata of end products / services publicly available?

- Yes, both for data and for services
- Only for services
- Only for datasets
- Not publicly available
- No

Are metadata INSPIRE compliant?

- Yes, fully
- Partly
- No
- Not applicable / no metadata available

If metadata of end product(s) are available, where are they published?

---

If end products are published, indicate where and how are served (interfaces, APIs, web or mobile apps that get this data to the end users)

Web services to consult and download, e.g. <https://rednatura2000cantabria.ihcantabria.com/habitats/> (in Spanish for the moment)

---

Please indicate which EO Digital Infrastructures you use to host and publish your products and services (e.g. DaaS, PaaS, IaaS, Data Cubes, GPUs, etc.) from each Data Cubes, but developing/exploring this at this moment

## Processing

This section is about where and how you process your input data

Do you use any of these Data Processing tools / techniques?

- Machine learning
- Deep learning
- HPC
- Parallel Computing
- Virtualization / Containers
- Cloud computing
- Data Cubes
- Other: \_\_\_\_\_

Please specify which services (e.g. DaaS, PaaS, IaaS, Data Cubes, HPC, GPUs, etc.) you use for the technique indicated above, and from which platform

IT team

Which EO digital infrastructure do you currently use to process your data? How is your level of satisfaction? Why did you pick this platform?

IT team

Did you explore any other digital infrastructure for processing your data? If yes, why did you abandon it? What did it miss? How could they have improved?

IT team

**This section is for you to provide an overall feedback about EO digital platforms**

Rate from 1 (completely disagree) to 5 (completely agree) the following sentences.

It was rather difficult to compare services offered by various EO infrastructure providers

1      2      3      4      5

completely disagree

completely agree

The learning curve required for using EO digital platforms is rather steep

1      2      3      4      5

completely disagree

completely agree

The time we allocated at the start of the project to getting familiar with EO digital infrastructures was underestimated

1      2      3      4      5

completely disagree

completely agree

It was difficult to compare the costs of services offered by the EO digital platforms

1      2      3      4      5

completely disagree

completely agree

The documentation / tutorials / learning material offered by the EO digital platforms was generally enough to getting our team up to speed in the expected time

1      2      3      4      5

completely disagree

completely agree

The channels set up for communication with the EO digital platforms (helpdesk / forum / etc) were useful / timely to provide assistance.

1      2      3      4      5

completely disagree

completely agree

#### Comments / Notes

Thanks!

We appreciate the time you spent to answer to our survey. Thank you!

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