

# Deliverable D44 (D5.10)

RI-URBANS Data management plan (Final)



**Research Infrastructures Services Reinforcing Air  
Quality Monitoring Capacities in European Urban &  
Industrial Areas (GA n. 101036245)**

**By  
NILU**



***28 March 2025***

### Deliverable D44 (D5.10): RI-URBANS Data management plan (final)

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## **1. About this document**

This document describes the updated and last version of the Data Management Plan (DMP), the tools used and the process of creating the final version of RI-URBANS (Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban & Industrial AreaS, Horizon-2020 GD project #101036245) DMP.

This is a public document that will be distributed to all RI-URBANS partners for their use and submitted to European Commission as an RI-URBANS deliverable D44 (D5.10). This document can be downloaded at <https://riurbans.eu/work-package-5/#deliverables-wp5>.

## **2. Introduction**

The RI-URBANS project is collecting data from several sources, covering observational data like aerosol optical and physical properties, atmospheric chemical composition, in situ data as well as atmospheric profile measurements as well as various secondary data products. Due to the non-uniform character of the data, the DMP describes a large number of different datasets and repositories. These datasets and repositories all have different procedures for data management. In Argos a DMP consists of "Descriptions" where each description is either a dataset or repository.

- Dataset: A dataset is a structured collection of data, often created or gathered for a specific research purpose. In the RI-URBANS DMP the Epidemiological studies are documented as datasets.
- Repository: A repository is a storage system or platform where datasets are archived, curated, and made accessible for reuse. The different repositories used in RI-URBANS are: EBAS, IAGOS, CEDA, UBIRA, Cloudnet, EARLINET and UK AIR.

The RI-URBANS DMP describe how the data is managed during and after the project is ended. This is the updated and final version of the previous DMP, Deliverable D43 (D5.9). This DMP will be the last of in total three versions published during the RI-URBANS project. The previous versions are available here:

- RI-URBANS Data management plan (preliminary). Available here: [https://riurbans.eu/wp-content/uploads/2022/03/RI-URBANS\\_D35\\_D5\\_1.pdf](https://riurbans.eu/wp-content/uploads/2022/03/RI-URBANS_D35_D5_1.pdf)
- RI-URBANS Data management plan (update). Available here: [https://riurbans.eu/wp-content/uploads/2023/04/RI-URBANS\\_D43\\_D5\\_9.pdf](https://riurbans.eu/wp-content/uploads/2023/04/RI-URBANS_D43_D5_9.pdf)

The DMP was created using the ARGOS platform by OpenAIRE and EUDAT (<https://argos.openaire.eu>) using the [Horizon 2020 template](#).

## **3. Analysis of data sources relevant for RI-URBANS**

In the beginning of the project and before creating the DMP, a Landscape Analysis was conducted to investigate the scope of the measurements and the epidemiological studies in the project. including identifying the people responsible for the different measurements and studies, so that they could contribute to describing the procedures for handling the data.

The Landscape Analysis was conducted during December 2021, and results were analysed in January 2022 as a starting point for finding out what types of data should be described in the DMP. In 2023, the landscape analysis

was extended to include the measurements listed in deliverable [D1 \(D1.1\)](#) "Guidelines, datasets of non-regulated pollutants incl. metadata, methods"

From these analyses it was apparent that there were several data repositories that were relevant for the data produced in RI-URBANS as well as data repositories relevant for various assessment during the projects. The data produced in the framework of RI-URBANS are presented in *Deliverable [D45 \(D5.11\)](#): Open Research Data (final)*

#### 4. The ARGOS platform

Argos is a platform for creating DMPs. It is open and free for everyone to use and created by OpenAIRE and EUDAT. The platform makes it possible to select a specific template for the DMP and then invite others in the project to describe how they plan to manage their data during the project.

The content of the DMP can be published so that it is openly available to others.

The DMPs can also be exported in different formats including PDF, Word Document, XML and RDA JSON. Since the tool is using the [DMP common standard](#) allows for import and export of DMP's and migration between different tools following the same standard.

This deliverable contains the updated and final version of the two previous RI-URBANS DMPs (Version 2) available here:

- RI-URBANS DMP Version 2 is available here: <https://argos.openaire.eu/explore-plans/overview/public/e0b2b4d1-1345-47d9-868b-e3a1a42b5545>
- RI-URBANS DMP Version 1 is available here: <https://argos.openaire.eu/explore-plans/overview/public/5304c6fb-389c-4861-b55e-3fc62e49ef3f>
- The first version of the DMP, Version 0, is publicly available here: <https://argos.openaire.eu/explore-plans/overview/public/ba44d55c-78d6-4e4d-b89c-4be616d149df>

The final DMP version is available here:

<https://argos.openaire.eu/explore-plans/overview/public/e0b2b4d1-1345-47d9-868b-e3a1a42b5545>

#### 5. Summary and links to full Data Management Plan for associated repositories

Below is a description of the data repositories used in RI-URBANS as well as links to the data management plan details for the associated repositories.

##### 5.1 UK-AIR (DEFRA)

**Description:** Provides air pollution information, including forecasts, historical data, and research on air quality monitoring in the UK.

**FAIR Principles:** Metadata is available for search; datasets are open-access.

**Metadata Format:** INSPIRE-compliant, linked to DEFRA UK-Air database.

**Access:** Publicly available via the UK-Air website.

##### 5.2 University of Birmingham Research Archive (UBIRA)

**Description:** Contains sensor measurement outputs from fieldwork, including air quality and GPS data.

**FAIR Principles:** Metadata is included but lacks standardization.

**Metadata Format:** To be confirmed, metadata is stored in the EBIRA service.

**Access:** Public, stored in the project repository and the university repository.

### 5.3 Epidemiological Studies

**Description:** Studies estimating the impacts of air pollution on mortality and hospital admissions across different cities, using particulate matter (PM), particle number size distributions (PNSD), and black carbon (BC) data.

**FAIR Principles:** Data is confidential and restricted due to privacy agreements.

**Metadata Format:** Limited metadata; city-specific health authorities provide data.

**Access:** Restricted, available only to authorized personnel.

### 5.4 Cloudnet

**Description:** Provides curation and processing services for cloud remote sensing data, including traceability, harmonization, and quality control.

**FAIR Principles:** Uses standardized metadata and ensures interoperability.

**Metadata Format:** NetCDF-4, ACTRIS vocabulary.

**Access:** Public, accessible via the Cloudnet portal.

### 5.5 EARLINET

**Description:** Hosts aerosol optical property profiles from ground-based Raman lidar measurements for urban and nearby sites.

**FAIR Principles:** Fully version-controlled and metadata-compliant.

**Metadata Format:** ISO standard, CF (Climate and Forecast) conventions.

**Access:** Public, accessible via the EARLINET database.

### 5.6 EBAS

**Description:** A database for atmospheric chemical composition and physical properties, supporting multiple research programs.

**FAIR Principles:** Uses structured metadata for data discovery and interoperability.

**Metadata Format:** NetCDF, ASCII, CF conventions.

**Access:** Public, accessible via the EBAS repository.

### 5.7 IAGOS

**Description:** Collects global atmospheric composition data from commercial aircraft for air quality and climate change research.

**FAIR Principles:** Data is structured and follows metadata standards.

**Metadata Format:** NetCDF, CF conventions, DOI for datasets.

**Access:** Public, available through the AERIS data portal.

### 5.8 CEDA Archive

**Description:** Hosts environmental data from climate models, satellites, aircraft, and meteorological observations for long-term access.

**FAIR Principles:** Ensures long-term data storage with clear metadata and searchability.

**Metadata Format:** NetCDF, CSV, ISO 19115.

**Access:** Public, accessible via the CEDA Archive.

**Appendix: Full Data Management Plan**

## **RI-URBANS**

Version 2

### **Description**

This is the final version of the RI-URBANS data management plan. The goal of the DMP is to provide data curation recommendations for all data in the project, encouraging links to existing data centers.

#### **Funder**

European Commission | EC

#### **Grant**

Grant agreement ID: 101036245  
(101036245)

#### **Researchers**

#### **Organizations**

STIFTELSEN NILU

## Main Info

Title of DMP: [RI-URBANS](#)

Description:

This is the final version of the RI-URBANS data management plan. The goal of the DMP is to provide data curation recommendations for all data in the project, encouraging links to existing data centers.

## Researchers

## Organizations

STIFTELSEN NILU

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## Funding

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Project: [RI-URBANS](#)

## License

License: [CC-BY-4.0](#)

Access Rights: [Public](#)

## Templates

Descriptions of the repositories

# UK AIR, The Department for Environment, Food & Rural Affairs (DEFRA)

Information on air pollution in the UK is available online and is provided by the Department for Environment, Food and Rural Affairs (Defra). Defra provides air quality information online, via its UK Air Information Resource website (UK-AIR), at <http://uk-air.defra.gov.uk/>. On UK-AIR, you can find:

- Forecasts & Latest Pollution Summary.
- Historical data a from the UK's national networks of air pollution monitoring sites.
- UK Air Quality Data Catalogue is a searchable catalogue of UK air quality monitoring, modelling and emissions datasets.
- Information on the UK's air quality monitoring.
- Information on science and research into air pollution.

The information given on this dataset is taken from the DEFRA UK-Air website and the Guide to UK Air Pollution Information Resources ([https://uk-air.defra.gov.uk/assets/documents/reports/cat14/1406191156\\_060618\\_Guide\\_to\\_UK\\_Air\\_Pollution\\_Information\\_Resources-issue\\_2-FINAL.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat14/1406191156_060618_Guide_to_UK_Air_Pollution_Information_Resources-issue_2-FINAL.pdf))

Template: Horizon 2020

Type: Dataset

## 1 Data Summary

### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To obtain information
- To share information
- To keep on record
- To make informed decisions

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

Forecasts, current Pollution Summary, Historical data a from the UK's national networks of air pollution monitoring sites, UK Air Quality Data Catalogue is a searchable catalogue of UK air quality

monitoring, modelling and emissions datasets, Information on the UK's air quality monitoring, Information on science and research into air pollution

#### 1.1.3 What are the formats of the described generated/collected data?

- Text files
- Numerical

general information is available on the website and in reports, data can be downloaded in csv files

#### 1.1.4 What is the origin of the described data?

Primary data

#### 1.1.5 What is the expected size of the described data?

MB (megabyte)

#### 1.1.6 To whom might it be useful ('data utility')?

- Researchers
- Research communities
- Decision makers
- Education
- The public

## 2 Reused Data

## 3 FAIR Data

### 3.1 FAIR Data

#### 3.1.1 Making data findable, including provisions for metadata

##### 3.1.1.1 Will you use metadata to describe the data?

Yes

Information about the data sets (metadata) such as keywords, location covered, website link, responsible organisation and contact details have been collated and stored in the UK-AIR database in an INSPIRE compliant form. The metadata conform with the UK GEMINI2 standard.

Couldn't find it? Insert it manually

3.1.1.2 Please provide URL/Location describing the used metadata schema

<https://uk-air.defra.gov.uk/data/data-catalogue>

3.1.1.5 Will you make the metadata available free-of-charge?

Yes

3.1.1.9 Will you provide clear version numbers for your data?

Yes

3.1.2 Making data openly accessible

3.1.2.6 Are there any methods or tools required to access the described data?

No

4 Allocation of resources

5 Data Security

6 Ethical aspects

7 Other

7.1 Other

7.1.1 Do you make use of other procedures for data management?

No

# University of Birmingham Research Archive [UBIRA]

This dataset will contain the outputs from the sensor measurements from the University of Birmingham fieldwork.

Template: [Horizon 2020](#)

Type: [Dataset](#)

## 1 Data Summary

### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

To obtain information

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

Air quality sensors including optical particle counters and GPS information will be collected

1.1.3 What are the formats of the described generated/collected data?

- Text files
- Numerical

Quantitative outputs from the sensors will be .csv format

1.1.4 What is the origin of the described data?

Primary data

1.1.5 What is the expected size of the described data?

GB (gigabyte)

1.1.6 To whom might it be useful ('data utility')?

- Researchers
- Research communities
- Decision makers

- Education

Air quality data is of key societal concern. A variety of stakeholders will be interested in the results.

## 2 Reused Data

### 2.1 Reused Data

2.1.1 Are you re-using the described data and how?

No

## 3 FAIR Data

### 3.1 FAIR Data

3.1.1 Making data findable, including provisions for metadata

3.1.1.1 Will you use metadata to describe the data?

Yes

A standardised metadata approach for air quality sensor data does not currently exist.

3.1.1.3 Will your metadata use standardised vocabularies?

No

3.1.1.5 Will you make the metadata available free-of-charge?

Yes

3.1.1.6 Will your metadata be harvestable?

No

3.1.1.7 Will you use naming conventions for your data?

No

A standardised naming convention approach for air quality sensor data does not currently exist.

3.1.1.9 Will you provide clear version numbers for your data?

Yes

3.1.1.10 Will you provide persistent identifiers for the described data?

Yes

3.1.1.11 Persistent identifiers

DOI

3.1.1.12 Will you provide searchable metadata for the described data?

Yes

3.1.1.13 What services will you use to provide searchable metadata?

Other

to be confirmed.

3.1.1.15 Will you use standardised formats for the described data?

No

3.1.1.18 Are the file formats you will use open?

Yes

3.1.1.20 Do supported open-source tools exist for accessing the data?

No

3.1.1.22 Will you provide metadata describing the quality of the data?

No

3.1.2 Making data openly accessible

3.1.2.1 Are there ethical or legal issues that can impact sharing the described data?

No

3.1.2.3 How will the data be made available?

- Project website
- University repository

Couldn't find it? Insert it manually

3.1.2.4 Please provide URL/Name of used data repositories

<https://edata.bham.ac.uk>

3.1.2.5 Is the storage sufficiently secure for the data and does the storage provide backup and recovery procedures?

secure with backup and recovery

3.1.2.6 Are there any methods or tools required to access the described data?

No

3.1.2.9 Will you also make auxiliary data that may be of interest to researchers available?

no auxiliary data

### 3.1.3 Making data interoperable

3.1.3.1 Will you use a controlled vocabulary for the described data?

No

3.1.3.2 Will you provide a mapping to more commonly used ontologies?

No

### 3.1.4 Increase data reuse

3.1.4.1 When do you plan to make the described data available for reuse?

after article publication

3.1.4.5 Do you have documented procedures for quality assurance of the described data?

Yes

3.1.4.7 Describe the data quality assurance processes

Data conform to format specification

3.1.4.8 Will you provide any support for data reuse?

Yes

3.1.4.9 How long do you intend to support data reuse?

Up to 5 years

## 4 Allocation of resources

### 4.1 Allocation of resources

4.1.1 How will the cost of making the described data findable, accessible, interoperable and reusable be covered?

Use of institution infrastructure

4.1.2 Will you identify a data manager to manage the described data? If not who will be responsible for the management of the data?

No

4.1.3 Identify the people or roles that will be responsible for the management of the described data

0000-0001-6583-8347

4.1.4 How do you intend to ensure data reuse after your project finishes?

Institutional archive

## 5 Data Security

## 6 Ethical aspects

### 6.1 Ethical aspects

6.1.1 Are there any ethical or legal issues that can have an impact on data sharing?

No

## 7 Other

### 7.1 Other

7.1.1 Do you make use of other procedures for data management?

No

## Epidemiological studies

We aimed to estimate the impacts of air pollution on mortality and hospital admissions in urban areas. To this end, we have associated daily mean concentrations of particulate matter (PM, mass concentration), and components such as ultrafine particles (aerodynamic diameter < 100nm, UFP, number concentration) and black carbon (BC, mass concentration), with daily counts of mortality and hospital admissions from a number of cities. The cities included in the study are: Barcelona, Granada and Madrid (Spain); Athens (Greece); London (United Kingdom); Dresden, Ruhr Area, and Leipzig (Germany); Paris and Grenoble (France); Zurich (Switzerland); and Helsinki (Finland).

We collected two datasets for each of the above-mentioned cities, one of daily mortality counts, and one of hospital admission counts (when available). The datasets were named [city\_name]\_mort\_startyear\_endyear.csv (or .txt) and [city\_name]\_hosp\_startyear\_endyear.csv (or .txt), for mortality and hospital admissions respectively, and contained information on the gender of the patient, date of hospital admission or death, cause of admission or death, and age (grouped as 0-74, +75 years). The study considered deaths by natural causes, and cardiovascular and respiratory diseases – classified by the International Statistical Classification of Diseases and Related Health Problems (ICD-10) as A00-R99, I00-I99 and J00-J99, respectively. The hospital admission dataset consisted of daily counts of hospital admissions from respiratory or cardiovascular diseases.

The mortality and hospital admission datasets were requested from the corresponding health authorities in each city through confidentiality agreements that prevent data sharing. The health data is stored in a password-secured server in ISGlobal and cannot be shared with third parties without previous consent from the corresponding health authorities.

The health data from Germany, France and UK could not be sent abroad for the epidemiological studies. In these cases, the algorithms and the data on pollutants were sent to national expert epidemiology teams or a RI-Urban scientist went in person to access the data locally (through secured settings) and then run the analyses in situ.

Template: [Horizon 2020](#)

Type: [Dataset](#)

### 1 Data Summary

#### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To obtain information
- To make informed decisions

- To develop a product
- To combine with other data

#### 1.1.2 What are the types of the described generated/collected data?

Observational (time series of different air pollutants from fixed monitoring sites)

Data on mortality and hospital admissions obtained from national health or statistical authorities of European cities

#### 1.1.3 What are the formats of the described generated/collected data?

- Text files
- Other

Text files (.txt)

Comma-separated values (.csv)

R data (.RData)

Excel files (.xlsx)

#### 1.1.4 What is the origin of the described data?

Secondary data

#### 1.1.5 What is the expected size of the described data?

We have 164 MB (megabyte) of health – air quality aggregated data.

#### 1.1.6 To whom might it be useful ('data utility')?

Other

The health datasets are collected through confidentiality agreements and can only be accessed by authorized personnel.

## 2 Reused Data

### 2.1 Reused Data

#### 2.1.1 Are you re-using the described data and how?

Yes

Air quality and meteorological data

To compare and combine with other data

## 2.1.2 Where do the described data reside?

ISGlobal server

## 2.1.3 Which data will be re-used?

PM<sub>2.5</sub>, PM<sub>10</sub>, BC and BC sources, NO<sub>2</sub>, OP, particle number size distributions and sources, temperature, relative humidity.

## 3 FAIR Data

### 3.1 FAIR Data

#### 3.1.1 Making data findable, including provisions for metadata

##### 3.1.1.1 Will you use metadata to describe the data?

No

The only metadata we could provide is the city-specific health/statistics authority that provided the data.

##### 3.1.1.3 Will your metadata use standardised vocabularies?

No

no meta-data will be made available as the health data will not be shared

##### 3.1.1.7 Will you use naming conventions for your data?

Yes

##### 3.1.1.9 Will you provide clear version numbers for your data?

No

The health data will not be shared due to confidentiality agreements. Therefore

no version number will be provided.

##### 3.1.1.10 Will you provide persistent identifiers for the described data?

No

3.1.1.12 Will you provide searchable metadata for the described data?

No

The health data will not be shared due to confidentiality agreements

3.1.1.15 Will you use standardised formats for the described data?

Yes

Text files (.txt), Comma-separated values (.csv), R data (.RData), Excel files  
(.xlsx)

3.1.1.18 Are the file formats you will use open?

Yes

3.1.1.20 Do supported open-source tools exist for accessing the data?

Yes

3.1.1.21 Please describe if data require proprietary tools to access the data.

The data will be accessible by authorized personnel by using encrypted passwords.

3.1.1.22 Will you provide metadata describing the quality of the data?

No

### 3.1.2 Making data openly accessible

#### 3.1.2.1 Are there ethical or legal issues that can impact sharing the described data?

Yes

The mortality and hospital admission datasets were requested from the health and statistical authorities in each city, and confidentiality agreements were signed. These confidentiality agreements prevent data sharing. In addition, health data from France, Germany and UK were not stored on the ISGlobal server. For these countries, the analysis were done in-situ by qualified personnel.

#### 3.1.2.2 Will the described data be openly accessible?

No

#### 3.1.2.3 How will the data be made available?

Other

The data will not be made available.

#### 3.1.2.5 Is the storage sufficiently secure for the data and does the storage provide backup and recovery procedures?

secure with backup and recovery

Yes, the storage is secured with backup routines and recovery possibilities.

#### 3.1.2.6 Are there any methods or tools required to access the described data?

No

The data is stored in a password secured server at ISGlobal. It cannot be accessed by unauthorized people.

#### 3.1.2.9 Will you also make auxiliary data that may be of interest to researchers available?

no auxiliary data

### 3.1.3 Making data interoperable

#### 3.1.3.1 Will you use a controlled vocabulary for the described data?

No

#### 3.1.3.2 Will you provide a mapping to more commonly used ontologies?

No

### 3.1.4 Increase data reuse

#### 3.1.4.1 When do you plan to make the described data available for reuse?

never

The mortality and hospital admission datasets were requested from the health and statistical authorities in each city, and confidentiality agreements were signed. These confidentiality agreements prevent data sharing.

#### 3.1.4.3 Please describe the reason the described data will not be made available

The health data is obtained from city-specific national health/statistics authorities upon signature of confidentiality agreements that prevent data sharing and data handling by unauthorized personnel. The health data will be kept on an encrypted password-secured private server in ISGlobal, and when the usage licenses expire the health data and any copies must be destroyed.

As stated above, the health data from Germany, France and UK could not be used for epidemiology studies outside the local secure settings. In these cases, the algorithms and the data on pollutants were sent to national expert epidemiology teams or a RI-Urbans scientist went to the national point to locally access the data and then analysed in situ. Thus, RI-URBANS is not in possession of these health data.

#### 3.1.4.5 Do you have documented procedures for quality assurance of the described data?

Yes

The health data cannot have duplicated or missing dates.

#### 3.1.4.7 Describe the data quality assurance processes

- Use of tools for automatic checks
- Data conform to format specification

#### 3.1.4.8 Will you provide any support for data reuse?

No

## 4 Allocation of resources

### 4.1 Allocation of resources

#### 4.1.2 Will you identify a data manager to manage the described data? If not who will be responsible for the management of the data?

Yes

4.1.3 Identify the people or roles that will be responsible for the management of the described data

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Data analysis and management

b. Ioar Rivas (orcid: [0000-0002-4743-619X](https://orcid.org/0000-0002-4743-619X))

Data analysis and management

## 5 Data Security

### 5.1 Data Security

5.1.1 Where do you plan to keep the described data?

Kept on secure, managed storage for limited time

After the health data licenses expires, the data must be destroyed and the corresponding health authorities must be notified. Data from France, UK and Germany was not stored but was analyzed in situ instead.

## 6 Ethical aspects

### 6.1 Ethical aspects

6.1.1 Are there any ethical or legal issues that can have an impact on data sharing?

Yes

6.1.2 Are the described data sensitive?

Yes

6.1.3 Are the described data personal?

No

6.1.4 What are the methods used for processing sensitive/personal data?

- Anonymising data where necessary
- Privacy constraints and applicable ethical norms
- Privacy policies
- National laws

We used aggregated health data that contained daily counts of death or hospitalizations, including sex and age information, as well as cause of death or hospitalization (respiratory or cardiovascular).

The datasets do not contain direct personal identifiers as they were provided in an aggregated form. The data will be accessible only by authorized personnel through the use of encrypted passwords.

## 7 Other

### 7.1 Other

7.1.1 Do you make use of other procedures for data management?

No

# Cloudnet

Cloudnet provides data curation and data processing service of cloud remote sensing data. This includes centralized processing, traceability, harmonization and data versioning, quality control, data provision and archiving, and documentation.

Template: [Horizon 2020](#)

Type: [Dataset](#)

## 1 Data Summary

### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To obtain information
- To share information

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

1.1.3 What are the formats of the described generated/collected data?

Numerical

1.1.4 What is the origin of the described data?

Primary data

1.1.5 What is the expected size of the described data?

GB (gigabyte)

1.1.6 To whom might it be useful ('data utility')?

- Researchers
- Research communities

## 2 Reused Data

### 2.1 Reused Data

2.1.1 Are you re-using the described data and how?

No

## 3 FAIR Data

### 3.1 FAIR Data

3.1.1 Making data findable, including provisions for metadata

3.1.1.1 Will you use metadata to describe the data?

Yes

Couldn't find it? Insert it manually

3.1.1.2 Please provide URL/Location describing the used metadata schema

<https://docs.cloudnet.fmi.fi/api/data-portal.html>

Cloudnet data portal (cloudnet.fmi.fi)

3.1.1.3 Will your metadata use standardised vocabularies?

Yes

3.1.1.4 Please provide URL/Description of used vocabularies

[https://vocabulary.actris.nilu.no/skosmos/actris\\_vocab/en/](https://vocabulary.actris.nilu.no/skosmos/actris_vocab/en/)

ACTRIS vocabulary

3.1.1.5 Will you make the metadata available free-of-charge?

Yes

3.1.1.6 Will your metadata be harvestable?

No

3.1.1.7 Will you use naming conventions for your data?

No

3.1.1.9 Will you provide clear version numbers for your data?

Yes

3.1.1.10 Will you provide persistent identifiers for the described data?

Yes

3.1.1.11 Persistent identifiers

Handle System

3.1.1.12 Will you provide searchable metadata for the described data?

No

3.1.1.15 Will you use standardised formats for the described data?

Yes

3.1.1.16 Provide information about used standardised formats

<https://www.unidata.ucar.edu/software/netcdf/>

NetCDF-4

3.1.1.18 Are the file formats you will use open?

Yes

3.1.1.20 Do supported open-source tools exist for accessing the data?

Yes

3.1.1.22 Will you provide metadata describing the quality of the data?

Yes

3.1.2 Making data openly accessible

3.1.2.1 Are there ethical or legal issues that can impact sharing the described data?

No

3.1.2.3 How will the data be made available?

Project website

Couldn't find it? Insert it manually

3.1.2.4 Please provide URL/Name of used data repositories

<https://cloudnet.fmi.fi/>

Cloudnet data portal

3.1.2.5 Is the storage sufficiently secure for the data and does the storage provide backup and recovery procedures?

secure with backup and recovery

3.1.2.6 Are there any methods or tools required to access the described data?

Yes

3.1.2.7 Please provide information about the method(s) needed to access the data

REST API and GUI

### 3.1.3 Making data interoperable

3.1.3.1 Will you use a controlled vocabulary for the described data?

No

3.1.3.2 Will you provide a mapping to more commonly used ontologies?

No

### 3.1.4 Increase data reuse

3.1.4.1 When do you plan to make the described data available for reuse?

immediately

3.1.4.4 What internationally recognised licence(s) will you use for the described data?

Creative Commons Attribution 4.0

3.1.4.5 Do you have documented procedures for quality assurance of the described data?

No

3.1.4.8 Will you provide any support for data reuse?

No

## 4 Allocation of resources

### 4.1 Allocation of resources

4.1.1 How will the cost of making the described data findable, accessible, interoperable and reusable be covered?

- Use of institution infrastructure
- Collaboration with other Projects

4.1.2 Will you identify a data manager to manage the described data? If not who will be responsible for the management of the data?

No

4.1.3 Identify the people or roles that will be responsible for the management of the described data

Simo Tukiainen (orcid: [0000-0002-0651-4622](https://orcid.org/0000-0002-0651-4622))

Data engineer

4.1.4 How do you intend to ensure data reuse after your project finishes?

Institutional archive

## 5 Data Security

### 5.1 Data Security

5.1.1 Where do you plan to keep the described data?

Kept on secure, managed storage for limited time

## 6 Ethical aspects

### 6.1 Ethical aspects

6.1.1 Are there any ethical or legal issues that can have an impact on data sharing?

No

## 7 Other

### 7.1 Other

7.1.1 Do you make use of other procedures for data management?

No

# ACTRIS/EARLINET database

ACTRIS/Earlinet database hosts vertical profiles of the aerosol optical properties obtained by ground-based aerosol Raman lidar measurements.

Template: [Horizon 2020](#)

Type: [Dataset](#)

## 1 Data Summary

### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To obtain information
- To develop a product
- To improve a product

ACTRIS/EARLINET database collect data products at different RI-URBANS pilot sites (and close-by sites) about the aerosol vertical profiles. This is an important additional information for having better insight about aerosol dynamics and processes. Data are collected at the following Pilot sites: Athens, Barcelona, Bucharest, Paris and at site close-by to RI-URBANS Pilot cities: Cabaw (close to Rotterdam), Ispra (close to Milano), Helsinki (close to Kuopio), Palaiseu (close to Paris)

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

ACTRIS/EARLINET database will collect the following datasets as of interest for RI-URBANS: aerosol optical properties profiles, aerosol type profiles and concentration profiles

1.1.3 What are the formats of the described generated/collected data?

- Numerical
- Discipline specific formats
- \* Numerical
- \* Discipline specific formatted netcdf files

#### 1.1.4 What is the origin of the described data?

- Primary data
- Secondary data

#### 1.1.5 What is the expected size of the described data?

GB (gigabyte)

The specific products considered as of interest for RI-URBANS will be in the range between 100MB and 10GB.

#### 1.1.6 To whom might it be useful ('data utility')?

- Researchers
- Research communities
- Decision makers
- Education
- The public

These data products could be of interest for researcher communities for algorithms developments, satellite retrieval's improvements and validation studies, but the target is more on decision makers and public at large providing information about the vertical distribution of the different types of aerosols and the contribution of long range transported ones at the ground.

## 2 Reused Data

### 2.1 Reused Data

#### 2.1.1 Are you re-using the described data and how?

No

## 3 FAIR Data

### 3.1 FAIR Data

#### 3.1.1 Making data findable, including provisions for metadata

##### 3.1.1.1 Will you use metadata to describe the data?

Yes

CF (Climate and Forecast) Metadata Conventions

ACTRIS/EARLINET has different metadata services in place: ISO via Thredds server, JSON via REST API, HTTP via Apache Server.

#### 3.1.1.3 Will your metadata use standardised vocabularies?

Yes

CF convention

#### 3.1.1.4 Please provide URL/Description of used vocabularies

<https://cfconventions.org/standard-names.html>

This vocabulary is the one used by modelling community and policy makers for climate

#### 3.1.1.5 Will you make the metadata available free-of-charge?

Yes

Metadata are available through the metadata services: <https://data.earlinet.org/api/swagger-ui/#>

#### 3.1.1.6 Will your metadata be harvestable?

Yes

#### 3.1.1.7 Will you use naming conventions for your data?

Yes

#### 3.1.1.8 Please provide more details and examples on used naming conversions

<https://www.earlinet.org/index.php?id=125>

#### 3.1.1.9 Will you provide clear version numbers for your data?

Yes

The ACTRIS/EARLINET database is fully version controlled database. The version of the file is reported in the file name and into the metadata.

#### 3.1.1.10 Will you provide persistent identifiers for the described data?

Yes

ACTRIS/ EARLINET provides PID to each single file and DOI to data collection.

#### 3.1.1.11 Persistent identifiers

a. Handle System

b. DOI

3.1.1.12 Will you provide searchable metadata for the described data?

Yes

3.1.1.13 What services will you use to provide searchable metadata?

Other

3.1.1.15 Will you use standardised formats for the described data?

Yes

NetCDF-3 Classic

3.1.1.18 Are the file formats you will use open?

Yes

3.1.1.20 Do supported open-source tools exist for accessing the data?

Yes

3.1.1.22 Will you provide metadata describing the quality of the data?

Yes

The quality of the data is reported in the name of the file (Level2 data are fully quality controls compliant) and in the variables: "quality\_control\_level", "basic\_quality\_control", and "advanced\_quality\_control".

### 3.1.2 Making data openly accessible

3.1.2.1 Are there ethical or legal issues that can impact sharing the described data?

No

3.1.2.2 Will the described data be openly accessible?

Yes

3.1.2.3 How will the data be made available?

- Domain-specific database
- Repository of Archive

Couldn't find it? Insert it manually

3.1.2.4 Please provide URL/Name of used data repositories

<https://data.earlinet.org/>

3.1.2.5 Is the storage sufficiently secure for the data and does the storage provide backup and recovery procedures?

secure with backup and recovery

3.1.2.6 Are there any methods or tools required to access the described data?

Yes

3.1.2.7 Please provide information about the method(s) needed to access the data

The access is fully open and possible through the ACTRIS/ EARLINET specialized data portal data.earlinet.org, through ACTRIS portal <https://data.actris.eu/search> and through the API on top of both of them.

<https://data.earlinet.org/earlinet/userRegistration.zul>

3.1.2.9 Will you also make auxiliary data that may be of interest to researchers available?

no auxiliary data

3.1.3 Making data interoperable

3.1.3.1 Will you use a controlled vocabulary for the described data?

No

3.1.3.2 Will you provide a mapping to more commonly used ontologies?

No

3.1.4 Increase data reuse

3.1.4.1 When do you plan to make the described data available for reuse?

immediately

3.1.4.4 What internationally recognised licence(s) will you use for the described data?

Creative Commons Attribution 4.0

3.1.4.5 Do you have documented procedures for quality assurance of the described data?

Yes

For aerosol optical properties, quality control procedures are defined: <https://www.earlinet.org/index.php?id=293>. For the other data products which will be implemented for RI-URBANS the QA/QC policy is based on the quality of the aerosol optical properties ones.

3.1.4.6 Please provide URL with the documented procedures

<https://www.earlinet.org/index.php?id=293>

3.1.4.7 Describe the data quality assurance processes

- Set up of scientific and technical committee
- Use of tools for automatic checks
- Data conform to format specification

3.1.4.8 Will you provide any support for data reuse?

Yes

It is possible to contact the Data Center staff for support.

3.1.4.9 How long do you intend to support data reuse?

More than 10 years

## 4 Allocation of resources

### 4.1 Allocation of resources

4.1.1 How will the cost of making the described data findable, accessible, interoperable and reusable be covered?

- Use of national infrastructure
- Use of institution infrastructure
- Infrastructure Grant
- Collaboration with other Projects

ACTRIS/EARLINET database is part of ACTRIS RI and funded for operational effort from ESFRI forum. Now however ACTRIS is in its implementation phase and funds are available from projects and national funds.

4.1.2 Will you identify a data manager to manage the described data? If not who will be responsible for the management of the data?

Yes

4.1.3 Identify the people or roles that will be responsible for the management of the described data

a. LUCIA MONA (orcid: [0000-0003-4157-0838](https://orcid.org/0000-0003-4157-0838))

custodian

b. CLAUDIO DEMA (orcid: [0000-0001-8301-1319](https://orcid.org/0000-0001-8301-1319))

custodian

4.1.4 How do you intend to ensure data reuse after your project finishes?

Data Center Archive Storage

ACTRIS/EARLINET node, namely ARES, is a data repository registered on re3data (<https://www.re3data.org/repository/r3d100014413> ) and refers here to all data stored in it following the same QA procedures in the RI-URBANS project.

## 5 Data Security

### 5.1 Data Security

5.1.1 Where do you plan to keep the described data?

Kept on secure, managed storage for limited time

## 6 Ethical aspects

### 6.1 Ethical aspects

6.1.1 Are there any ethical or legal issues that can have an impact on data sharing?

No

6.1.2 Are the described data sensitive?

No

6.1.3 Are the described data personal?

No

## 7 Other

### 7.1 Other

7.1.1 Do you make use of other procedures for data management?

No

# EBAS

EBAS is a database hosting observation data of atmospheric chemical composition and physical properties. EBAS hosts data submitted by data originators in support of a number of national and international programs ranging from monitoring activities to research projects. EBAS is developed and operated by The Climate and Environmental Research Institute NILU at The Centre for Atmospheric Data.

Template: [Horizon 2020](#)

Type: [Dataset](#)

## 1 Data Summary

### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To obtain information
- To share information
- To keep on record
- To make informed decisions
- To combine with other data

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

In-Situ data, including C2-C9 NMHCs and C2-C4 OVOCs, light absorption coefficient (PM2.5), Particle number size distribution, aerosol absorption, PM chemistry online, PM chemistry offline, VOCs, PM1 non-refractory chemical species (OA, NO<sub>3</sub>, SO<sub>4</sub>, NH<sub>4</sub> and Cl), Black Carbon (BC), gaseous pollutants (SO<sub>2</sub>, O<sub>3</sub>, NO<sub>x</sub>, CO, CO<sub>2</sub> and CH<sub>4</sub>), Organics, sulphate, nitrate, chloride, ammonium, BC, PN, PM, size distribution, in situ: PM, BC, NR-PM1 (ACSM), size distribution, non-refractory chemical composition of submicron aerosol, aerosol absorption, submicron aerosol granulometry, NO<sub>2</sub>CAPS; Solar Radiation; CH<sub>4</sub>; CO; CO<sub>2</sub>; H<sub>2</sub>O; BC; PNSD; PNC >7nm; Metals; Wind direction and speed; Rain fall; Ceilometer 8k, OC/EC

1.1.3 What are the formats of the described generated/collected data?

- Text files
- Software

EBAS Nasa Ames

Custom software for Near Real Time import of data

1.1.4 What is the origin of the described data?

Primary data

1.1.5 What is the expected size of the described data?

KB (kilobyte)

1.1.6 To whom might it be useful ('data utility')?

- Researchers
- Research communities
- Decision makers
- Education
- The public
- Industry

## 2 Reused Data

### 2.1 Reused Data

2.1.1 Are you re-using the described data and how?

No

## 3 FAIR Data

### 3.1 FAIR Data

3.1.1 Making data findable, including provisions for metadata

3.1.1.1 Will you use metadata to describe the data?

Yes

CF (Climate and Forecast) Metadata Conventions

Export of data is available as NetCDF following the CF convention. In addition, there is more extensive use of metadata when importing. Where the import format follows the EBAS Nasa Ames format with different templates depending on the parameters measured.

Couldn't find it? Insert it manually

3.1.1.2 Please provide URL/Location describing the used metadata schema

[https://ebas.pages.nilu.no/ebas-io/fileformat\\_netcdf/index.html](https://ebas.pages.nilu.no/ebas-io/fileformat_netcdf/index.html)

EBAS

3.1.1.3 Will your metadata use standardised vocabularies?

Yes

The IUPAC terminology is used for variable names in EBAS

3.1.1.5 Will you make the metadata available free-of-charge?

Yes

3.1.1.6 Will your metadata be harvestable?

Yes

3.1.1.7 Will you use naming conventions for your data?

Yes

3.1.1.8 Please provide more details and examples on used naming conversions

[https://ebas-submit.nilu.no/templates/comments/file\\_name](https://ebas-submit.nilu.no/templates/comments/file_name)

3.1.1.9 Will you provide clear version numbers for your data?

Yes

3.1.1.10 Will you provide persistent identifiers for the described data?

Yes

3.1.1.11 Persistent identifiers

DOI

3.1.1.12 Will you provide searchable metadata for the described data?

Yes

3.1.1.13 What services will you use to provide searchable metadata?

Metadata repository

3.1.1.14 Please provide URL/Name for the used searchable metadata

<https://gisc.dwd.de/wisportal/#>

WIS-Portal

3.1.1.15 Will you use standardised formats for the described data?

Yes

3.1.1.18 Are the file formats you will use open?

Yes

3.1.1.20 Do supported open-source tools exist for accessing the data?

Yes

<https://git.nilu.no/ebas/ebas-io/-/wikis/home>

3.1.1.22 Will you provide metadata describing the quality of the data?

Yes

3.1.2 Making data openly accessible

3.1.2.1 Are there ethical or legal issues that can impact sharing the described data?

No

3.1.2.2 Will the described data be openly accessible?

Yes

3.1.2.3 How will the data be made available?

Repository of Archive

EBAS

<http://ebas-data.nilu.no/>

3.1.2.5 Is the storage sufficiently secure for the data and does the storage provide backup and recovery procedures?

secure with backup and recovery

3.1.2.6 Are there any methods or tools required to access the described data?

No

3.1.2.9 Will you also make auxiliary data that may be of interest to researchers available?

no auxiliary data

### 3.1.3 Making data interoperable

3.1.3.1 Will you use a controlled vocabulary for the described data?

No

3.1.3.2 Will you provide a mapping to more commonly used ontologies?

No

### 3.1.4 Increase data reuse

3.1.4.1 When do you plan to make the described data available for reuse?

immediately

3.1.4.4 What internationally recognised licence(s) will you use for the described data?

Creative Commons Attribution 4.0

3.1.4.5 Do you have documented procedures for quality assurance of the described data?

Yes

3.1.4.6 Please provide URL with the documented procedures

<https://ebas-submit-tool.nilu.no/>

3.1.4.7 Describe the data quality assurance processes

- Use of tools for automatic checks
- Data conform to format specification

3.1.4.8 Will you provide any support for data reuse?

Yes

3.1.4.9 How long do you intend to support data reuse?

More than 10 years

## 4 Allocation of resources

### 4.1 Allocation of resources

4.1.1 How will the cost of making the described data findable, accessible, interoperable and reusable be covered?

- Use of national infrastructure
- Use of institution infrastructure
- Infrastructure Grant
- Collaboration with other Projects

4.1.2 Will you identify a data manager to manage the described data? If not who will be responsible for the management of the data?

Yes

4.1.3 Identify the people or roles that will be responsible for the management of the described data

a. Markus Fiebig (orcid: [0000-0002-3380-3470](https://orcid.org/0000-0002-3380-3470))

Custodian

b. Cathrine Lund Myhre (orcid: [0000-0003-3587-5926](https://orcid.org/0000-0003-3587-5926))

Custodian

4.1.4 How do you intend to ensure data reuse after your project finishes?

Data Center Archive Storage

## 5 Data Security

### 5.1 Data Security

5.1.1 Where do you plan to keep the described data?

Kept on secure, managed storage for limited time

## 6 Ethical aspects

### 6.1 Ethical aspects

6.1.1 Are there any ethical or legal issues that can have an impact on data sharing?

No

## 7 Other

### 7.1 Other

7.1.1 Do you make use of other procedures for data management?

Yes

7.1.2 Please provide links to documentation on these other procedures

<https://ebas.nilu.no/>

## IAGOS

IAGOS (In-service Aircraft for a Global Observing System) is a European Research Infrastructure for global observations of atmospheric composition from commercial aircraft. IAGOS combines the expertise of scientific institutions with the infrastructure of civil aviation in order to provide essential data on climate change and air quality at a global scale.

The IAGOS Data Centre manages all the data acquired and produced in the framework of IAGOS. The Data Centre accepts data submitted by the IAGOS data providers that are in charge of the IAGOS instruments or the production of elaborated data products that are derived products from observational data and external datasets.

The IAGOS Data Portal is developed and operated by the French Cluster of Data and Services for Atmosphere (AERIS) and the French National Centre for Scientific Research (CNRS).

Template: [Horizon 2020](#)

Type: [Dataset](#)

### 1 Data Summary

#### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To obtain information
- To share information

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

Observations from IAGOS or AERIS campaigns.

1.1.3 What are the formats of the described generated/collected data?

- Text files
- Numerical

CSV or NetCDF

#### 1.1.4 What is the origin of the described data?

Primary data

#### 1.1.5 What is the expected size of the described data?

MB (megabyte)

#### 1.1.6 To whom might it be useful ('data utility')?

- Researchers
- Research communities

### 2 Reused Data

#### 2.1 Reused Data

##### 2.1.1 Are you re-using the described data and how?

No

### 3 FAIR Data

#### 3.1 FAIR Data

##### 3.1.1 Making data findable, including provisions for metadata

###### 3.1.1.1 Will you use metadata to describe the data?

Yes

CF (Climate and Forecast) Metadata Conventions

###### 3.1.1.3 Will your metadata use standardised vocabularies?

Yes

For the names of the variables, instrument and platform types

###### 3.1.1.5 Will you make the metadata available free-of-charge?

Yes

###### 3.1.1.6 Will your metadata be harvestable?

Yes

###### 3.1.1.7 Will you use naming conventions for your data?

No

3.1.1.9 Will you provide clear version numbers for your data?

Yes

3.1.1.10 Will you provide persistent identifiers for the described data?

Yes

3.1.1.11 Persistent identifiers

DOI

3.1.1.12 Will you provide searchable metadata for the described data?

Yes

3.1.1.13 What services will you use to provide searchable metadata?

Metadata repository

3.1.1.15 Will you use standardised formats for the described data?

Yes

3.1.1.18 Are the file formats you will use open?

Yes

3.1.1.20 Do supported open-source tools exist for accessing the data?

No

3.1.1.22 Will you provide metadata describing the quality of the data?

Yes

### 3.1.2 Making data openly accessible

3.1.2.1 Are there ethical or legal issues that can impact sharing the described data?

No

3.1.2.3 How will the data be made available?

Domain-specific database

AERIS

Couldn't find it? Insert it manually

3.1.2.4 Please provide URL/Name of used data repositories

<https://www.atmo-access.eu/catalogue/>

AERIS - Homeless Data Portal

3.1.2.5 Is the storage sufficiently secure for the data and does the storage provide backup and recovery procedures?

secure with backup and recovery

3.1.2.6 Are there any methods or tools required to access the described data?

No

3.1.2.9 Will you also make auxiliary data that may be of interest to researchers available?

no auxiliary data

3.1.3 Making data interoperable

3.1.3.1 Will you use a controlled vocabulary for the described data?

No

3.1.3.2 Will you provide a mapping to more commonly used ontologies?

No

3.1.4 Increase data reuse

3.1.4.1 When do you plan to make the described data available for reuse?

immediately

3.1.4.4 What internationally recognised licence(s) will you use for the described data?

Creative Commons Attribution 4.0

3.1.4.5 Do you have documented procedures for quality assurance of the described data?

Yes

3.1.4.7 Describe the data quality assurance processes

Data conform to format specification

3.1.4.8 Will you provide any support for data reuse?

Yes

### 3.1.4.9 How long do you intend to support data reuse?

Up to 5 years

## 4 Allocation of resources

### 4.1 Allocation of resources

4.1.1 How will the cost of making the described data findable, accessible, interoperable and reusable be covered?

- Use of national infrastructure
- Use of institution infrastructure
- Collaboration with other Projects

4.1.2 Will you identify a data manager to manage the described data? If not who will be responsible for the management of the data?

Yes

4.1.3 Identify the people or roles that will be responsible for the management of the described data

Damien Boulanger (orcid: [0000-0001-6935-1106](https://orcid.org/0000-0001-6935-1106))

Custodian

4.1.4 How do you intend to ensure data reuse after your project finishes?

Institutional archive

## 5 Data Security

### 5.1 Data Security

5.1.1 Where do you plan to keep the described data?

Kept on secure, managed storage for limited time

## 6 Ethical aspects

### 6.1 Ethical aspects

6.1.1 Are there any ethical or legal issues that can have an impact on data sharing?

No

## 7 Other

### 7.1 Other

7.1.1 Do you make use of other procedures for data management?

No

## Centre for Environmental Data Analysis (CEDA); CEDA Archive

The CEDA Archive forms part of NERC's Environmental Data Service (EDS) and is responsible for looking after data from atmospheric and earth observation research. We host over 18 Petabytes of data from climate models, satellites, aircraft, met observations, and other sources.

<https://archive.ceda.ac.uk/>

Template: Horizon 2020

Type: Dataset

### 1 Data Summary

#### 1.1 Data Summary

1.1.1 What is the purpose of the data collection/generation and its relation to the objectives of the project?

- To share information
- To keep on record

1.1.2 What are the types of the described generated/collected data?

observational (e.g., sensor data, data from surveys)

Data covering all aspects of environmental science

1.1.3 What are the formats of the described generated/collected data?

Numerical

csv

1.1.4 What is the origin of the described data?

Primary data

1.1.5 What is the expected size of the described data?

MB (megabyte)

1.1.6 To whom might it be useful ('data utility')?

- Researchers

- Research communities

## 2 Reused Data

## 3 FAIR Data

### 3.1 FAIR Data

#### 3.1.1 Making data findable, including provisions for metadata

##### 3.1.1.9 Will you provide clear version numbers for your data?

Yes

#### 3.1.2 Making data openly accessible

##### 3.1.2.6 Are there any methods or tools required to access the described data?

No

## 4 Allocation of resources

## 5 Data Security

## 6 Ethical aspects

## 7 Other

### 7.1 Other

#### 7.1.1 Do you make use of other procedures for data management?

No

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