

# Environmental Noise Directive Reporting guidelines

DF1\_5 Noise sources

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June 2022	Data harvesting option is included New Schema submission declaration is included



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## Summary

The reporting guidelines are intended to support reporters that will be conducting the submission of data required under the Environmental Noise Directive. The document provides an overview to the reporting process in Reportnet 3 and it describes the reporting data schemas and the quality checks that are undertaken during the submission process. In addition to this, reporting examples are also provided. A key goal of this document is to ensure a common understanding among data providers working on the implementation of the Environmental Noise Directive. This document should further be of assistance to both thematic and IT experts.

## Acknowledgements

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The report is the result of the work developed by EEA, ETC/ATNI, ETC/HE and the consultancy work to the EEA provided by the members of the consortia led by KU Leuven, especially Stefania Morrone (Epsilon Italia), Thorsten Reitz (wetransform) and Marc Olijslagers (KU Leuven).



# 1 Introduction

## 1.1 Purpose of this document

This document aims to provide detailed guidance on the practicalities and processes for reporting environmental noise data to Reportnet 3, the central hub from which all e-Reporting activities handled by the EEA with Eionet and other partners will be performed.

In this context, a user is assumed to be a representative of an EU Member State or other reporting country who is submitting relevant country-level noise data to Reportnet 3.

These reporting guidelines are intended to support reporting countries in providing high quality noise reports in an efficient manner following the new Implementing Decision on *Setting up a mandatory data repository and a mandatory digital information exchange mechanism according to Directive 2002/49/EC*.

Specifically, this document is focused on the reporting of DF1\_5 Noise sources and covers :

- The legal basis of the END requirements addressed in the Implementing Decision on Setting up a mandatory data repository and a mandatory digital information exchange mechanism according to Directive 2002/49/EC
- The technical requirements for the data submission
- The structure of Reportnet 3 in relation to this dataflow
- The practicalities involved in reporting and submitting data using Reportnet 3

These reporting guidelines are intended to be a stand-alone document that contains all necessary information for reporting. However, other documents and video recordings may offer additional detail on certain aspects and are available in the webpage : <https://www.eionet.europa.eu/reportnet/docs/noise>.

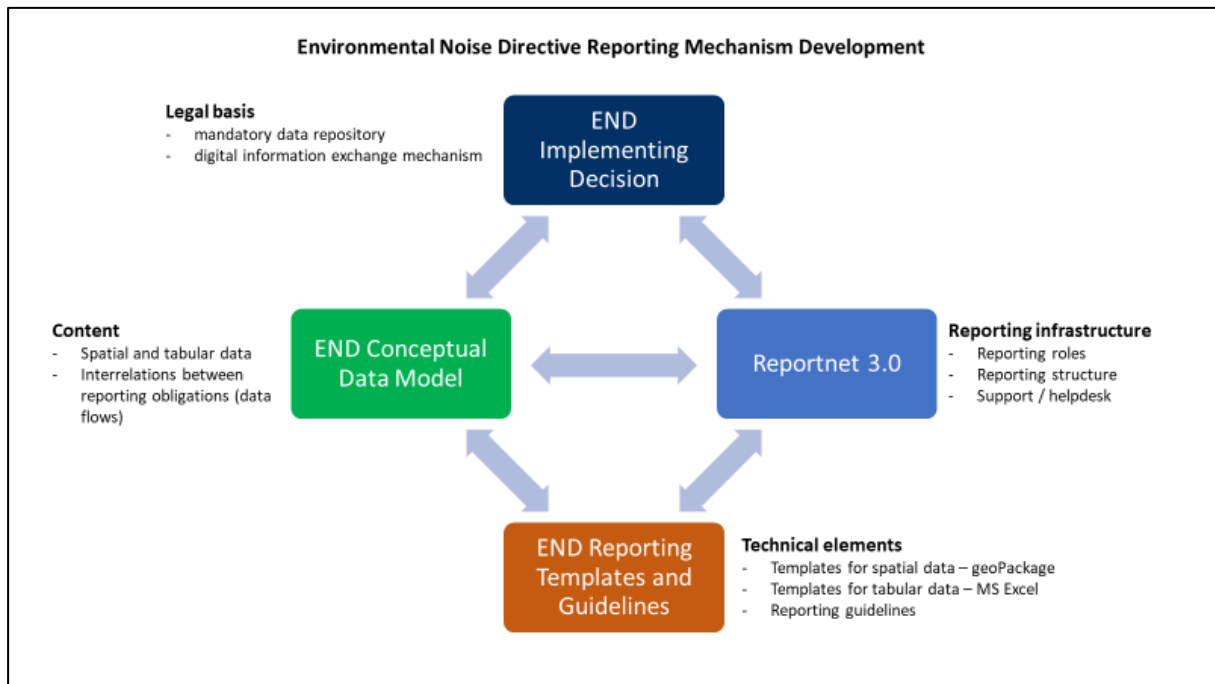
## 1.2 The legal basis

Reporting noise data under the Environmental Noise Directive (END) will occur in Reportnet 3 from 2022. The END reporting is defined in the Directive 2002/49/EC and the reporting requirements are further defined in the implementing decision *Setting up a mandatory data repository and a mandatory digital information exchange mechanism according to Directive 2002/49/EC*. The current reporting obligations of the Environmental Noise Directive have been adapted to also fulfil the new INSPIRE directive which is based on the harmonisation and sharing of spatial data and infrastructures based on the 2019 regulation<sup>1</sup> which amends different articles of the END. Firstly, the regulation obliges countries to produce *noise maps and action plans according to the Inspire Directive* and secondly, it obliges the EC and the EEA to develop a *mandatory digital information exchange mechanism* that countries have to use to report and share the data under the END directive. Therefore, the use of the Reportnet 3 platform and the use of data that is INSPIRE compliant will be mandatory for the reporting of data under the END. In order to support countries in their reporting obligations, we developed new templates and a new Reporting system that fulfils both the END and the INSPIRE requirements.

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<sup>1</sup> Regulation (EU) 2019/1010 of the European Parliament and of the Council of 5 June 2019 on the alignment of reporting obligations in the field of legislation related to the environment, and amending Regulations (EC) No 166/2006 and (EU) No 995/2010 of the European Parliament and of the Council, Directives 2002/49/EC, 2004/35/EC, 2007/2/EC, 2009/147/EC and 2010/63/EU of the European Parliament and of the Council, Council Regulations (EC) No 338/97 and (EC) No 2173/2005, and Council Directive 86/278/EEC (Text with EEA relevance). ELI: <http://data.europa.eu/eli/reg/2019/1010/oj>

Figure 1.1. Overview on new noise reporting mechanism



### 1.3 Alignment with the INSPIRE Directive

The alignment between the Environmental Noise Directive and the INSPIRE Directive has been included throughout the development process of establishing the mandatory digital information exchange mechanism.

Based on the legal basis, explained in the section above (1.2), the END conceptual data model has been developed on the basis of the INSPIRE conceptual data models for spatial data themes by combining specific END reporting requirements and INSPIRE requirements.

Further on, the END conceptual data model has been used to develop the encoding guidelines for the END spatial data in the GeoPackage file format. The encoding guidelines are based on the INSPIRE work on simplification and alternative encodings following the OGC standard on Geopackage<sup>2</sup>. Development of the INSPIRE Good Practice for GeoPackage is supported by the INSPIRE ad-hoc Working Group on GeoPackage<sup>3</sup> which joins interests of geospatial communities for GeoPackage implementation, and considers the END reported data in GeoPackage as one of the implementation examples and good practices<sup>4</sup>.

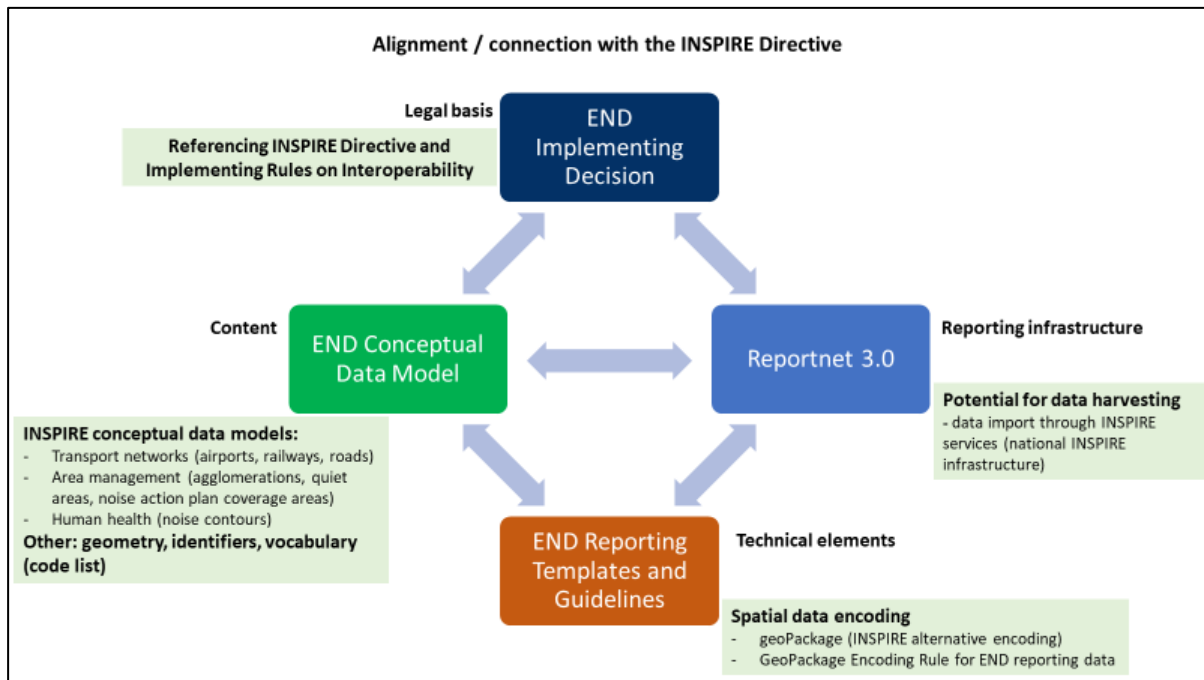
The flexibility of the reporting infrastructure Reportnet 3 allows providing reported data into infrastructure in different ways, from importing files, programmatically by configuring the Reportnet 3 API, or in the future by harvesting INSPIRE services for spatial data.

<sup>2</sup> <https://www.geopackage.org/>

<sup>3</sup> <https://github.com/INSPIRE-MIF/gp-geopackage-encodings>

<sup>4</sup> Initiation process for INSPIRE Good Practice of GeoPackage encoding of INSPIRE datasets was set-up in 2022, [https://github.com/INSPIRE-MIF/gp-geopackage-encodings/blob/main/spec/GeoPackage\\_Good\\_Practice\\_initiation\\_fiche.md](https://github.com/INSPIRE-MIF/gp-geopackage-encodings/blob/main/spec/GeoPackage_Good_Practice_initiation_fiche.md)

Figure 1.2. Overview on the integration of INSPIRE directive into noise reporting obligations



## 2 Understanding the new END data model

The structure and details of the data model are described in the *Data model documentation* and can be accessed at <https://www.eionet.europa.eu/reportnet/docs/noise/data-model-documentation>.

In order to develop the data model for Noise Sources (DF1\_5) we considered the following:

- the END requirements;
- the INSPIRE requirements for spatial data; and
- additional or optional data that links the spatial data to reference data set(s) available in the INSPIRE infrastructure.

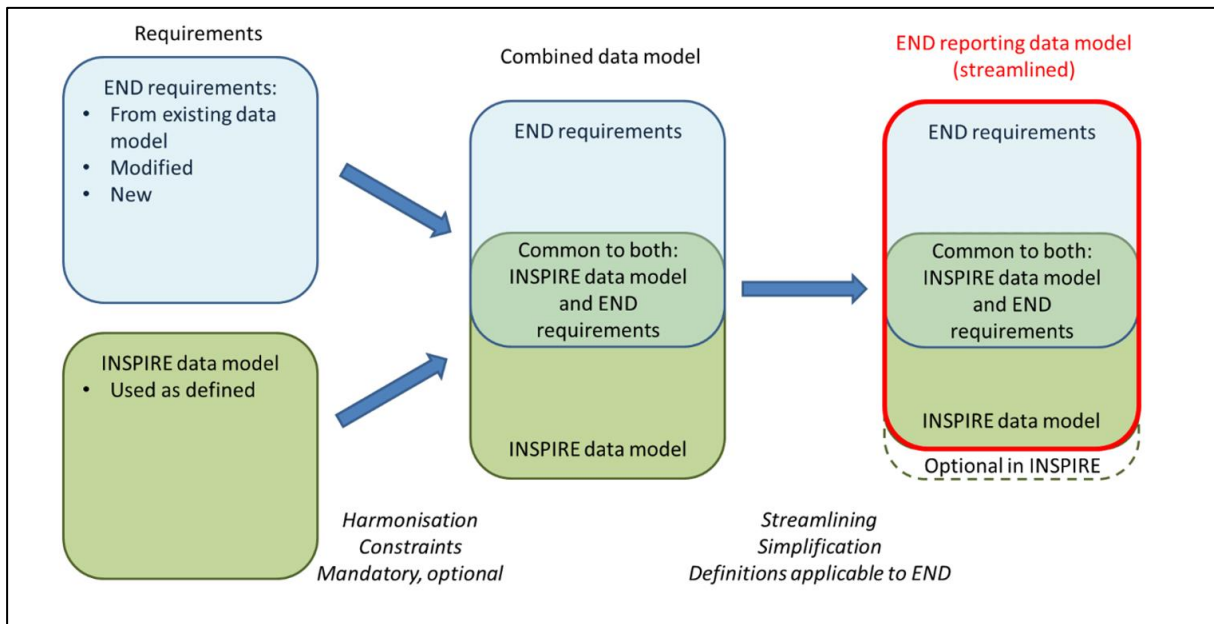
The streamlined data model combines and optimises all the input from the END and INSPIRE into one data model.

The data model described in the data model documentation is used for several interrelated purposes:

- It is used for presenting the content of the noise data that needs to be reported.
- It is used to develop the encoding templates in spatial file format GeoPackage
- It is used to design the schemas in Reportnet 3 that will be used for data reporting.

The relevant sections of the document for the reporting of dataflow DF1\_5 are section 7, 8, 9 and 10.

Figure 2.1. Streamlined data model of END and the INSPIRE requirements



### 3 Understanding the basic principles of Reportnet 3 from a reporter point of view

The Regulation (EU) 2019/1010 on the alignment of reporting obligations in the field of legislation related to the environment and the implementing decision on setting up a mandatory data repository and a mandatory digital information exchange mechanism according to Directive 2002/49/EC, specifies that a digital information exchange mechanism should be used for reporting on all dimensions of the Environmental Noise Directive (END) by Member States.

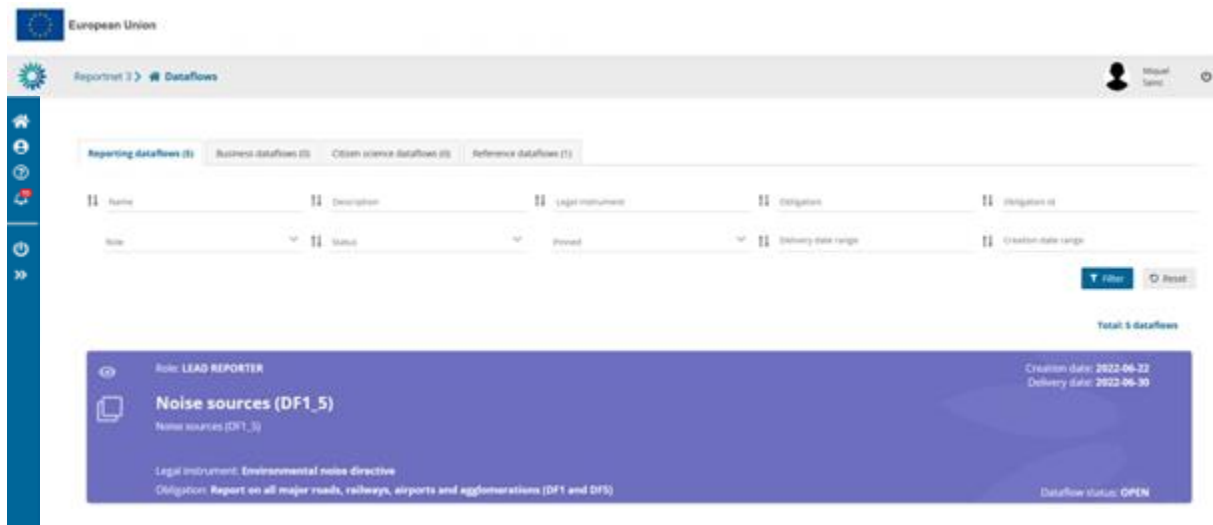
A key element of the new reporting system, Reportnet 3 is being developed by the European Environment Agency. Reportnet 3 (<https://reportnet.europa.eu/>) is the next generation platform for reporting environmental data to the EEA and also host several reporting tasks for the European Commission. Reportnet 3 is a centralized e-Reporting platform, aiming at simplifying and streamlining the data flow steps across all environmental domains. The system acts as a one-stop-shop for all involved stakeholders.

#### Important links

- Reportnet 3 reporters' manual : [https://www.eionet.europa.eu/reportnet/docs/prod/reporter\\_howto\\_reportnet3.0](https://www.eionet.europa.eu/reportnet/docs/prod/reporter_howto_reportnet3.0)
- Training videos: <https://www.eionet.europa.eu/reportnet/docs/noise/videos>

Once the reporter is successfully logged-in in Reportnet 3, the dataflows assigned to the reporter will show up as illustrated in Figure 3.1. In Reportnet 3, the reporter is able to see the list of dataflows along with information related to the role, the delivery date, the dataflow name, the dataflow description, the associated obligation and instrument, the status of the reporting obligation.

Figure 3.1. Dataflows overview: main page and list of dataflows assigned to the reporter



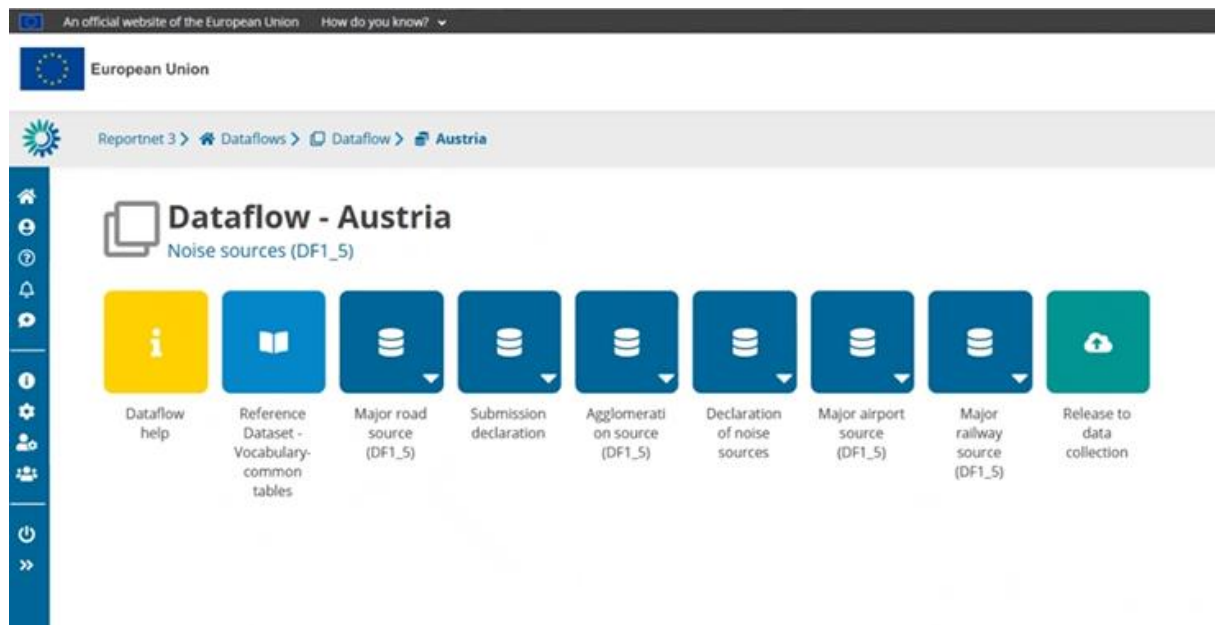
The Noise Directive reporting data flows will typically include several types of dataset schemas:

- Dataflow help includes additional support information, such as templates, UML diagrams, reporting guidelines and reporting videos, as well as the definition of the complete data schema, attributes and quality controls implemented in the dataflow.
- Reference Dataset Vocabulary – common tables include a set of applicable code lists used in the reporting data flow. The code lists can be seen in the Eionet Data Dictionary Vocabulary (<https://dd.eionet.europa.eu/vocabularies>) in the following folders: noise, inspire and common. This schema can include other datasets for data validation purposes (for example, list of airport ICAO codes, country boundaries, LAU or NUTS codes, etc.).
- A set of reporting dataset schemas.

More information will be encountered in Reportnet guidelines ([https://www.eionet.europa.eu/reportnet/docs/prod/reporter\\_howto\\_reportnet3](https://www.eionet.europa.eu/reportnet/docs/prod/reporter_howto_reportnet3)).

In order to exemplify how to submit data, Austria has been taken as an example throughout this reporting guidelines.

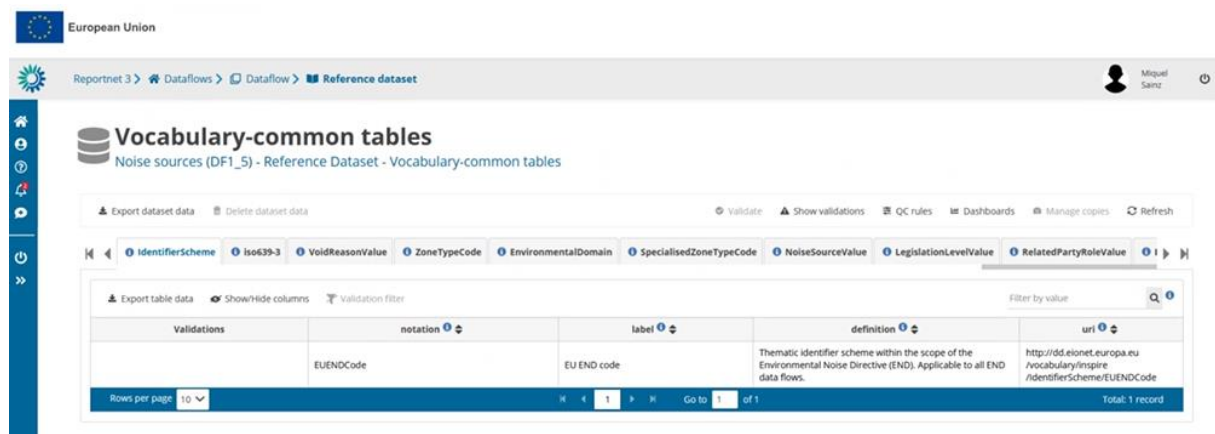
Figure 3.2. Reportnet – Reporter view: general dataflow structure for the END noise sources (DF1\_5) reporting



The dataflow is organised by schemas (see Figure 3.2). The reporting dataflow *Noise Sources (DF1\_5)* includes the following dataset schemas:

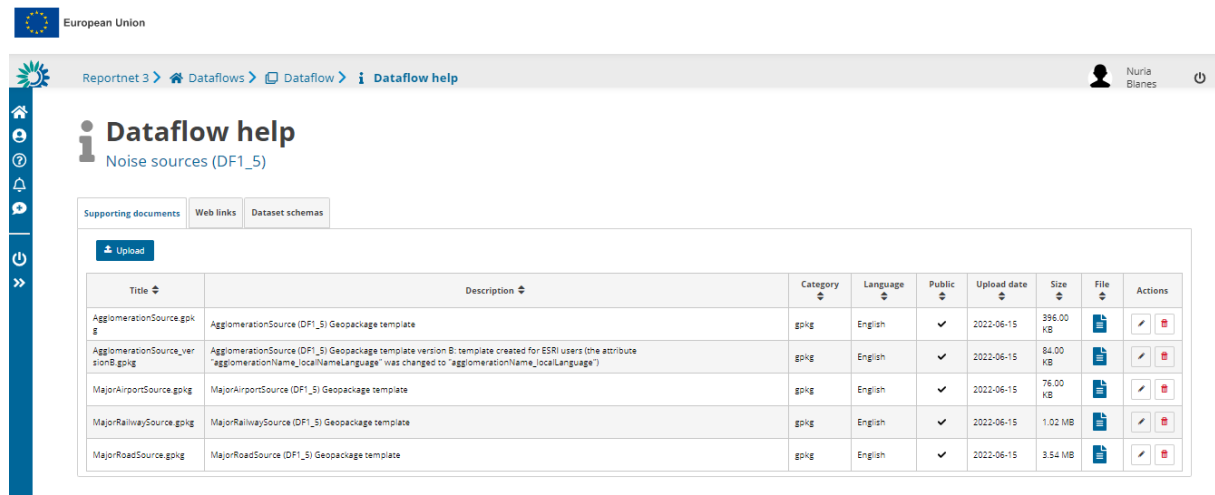
- The four thematic dataset schemas, one for each source (i.e. major roads, major railways, major airports and agglomerations),
- The dataset schema called “Declaration of noise sources”, which is a form for declaring the existing sources in the country, needs to be filled in in order to successfully upload the other schemas,
- The dataset schema called “Submission declaration”, used to provide information on incomplete reporting or information on the changes from previous submissions and the reasons for submitting updated data after the deadline,
- There is another data schema called *Reference dataset - Vocabulary – Common tables* . This is a read-only schema and contains the different code list that are applicable to this dataflow as well as several tables that are used for data validation (see Figure 3.3).

Figure 3.3. Reference dataset - Vocabulary – Common tables for Noise sources (DF1\_5)



Finally, the *Dataflow Help* contains relevant help documents, including the GeoPackage templates, the links to all supporting materials, all the information on quality controls and validation rules, as well as the description of the different tables and attributes applicable to this dataflow (see Figure 3.4).

Figure 3.4. Dataflow help page: supporting documents tab, web links tab and dataset schemas tab



If the system doesn't react click refresh/reload page



If problems with Reportnet 3 persist please contact [helpdesk@reportnet.europa.eu](mailto:helpdesk@reportnet.europa.eu)

### 3.1 Validation

The following level error types have been implemented in Reportnet 3:

- **BLOCKER:** Blocker messages indicate that the detected error will prevent data submission (data release is not possible).
- **ERROR:** Error messages indicate issues that clearly need corrective action by the data reporter.
- **WARNING:** Warning messages indicate issues that may be an error. Data reporters are expected to double-check relevant records.
- **INFO:** Informative message. Neutral or statistical feedback about the delivery, e.g. number of species reported.

The applicable validations and error types into the different data schemas of the *Noise Sources (DF1\_5)* dataflow are outlined in Table 3.1.

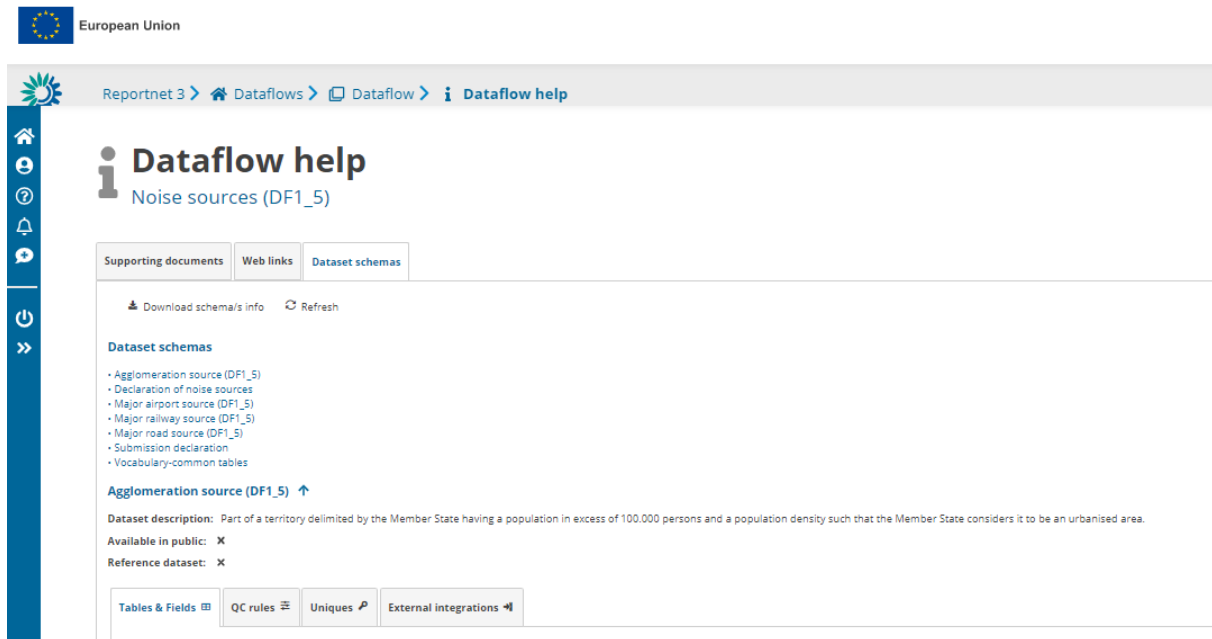
Table 3.1. Applicable validation levels in the different schemas of Noise Sources (DF1\_5) dataflow

	<b>Declaration of noise sources</b>	<b>Agglomeration Source (DF1_5)</b>	<b>MajorAirport Source (DF1_5)</b>	<b>MajorRailway Source (DF1_5)</b>	<b>MajorRoad Source</b>
<b>Applicable validation level</b>	Blocker Error	Blocker Error Warning Info	Blocker Error Warning Info	Blocker Error Warning Info	Blocker Error Warning Info



The validations (quality control - QC) are documented in the Reportnet 3 Data Flow Help schema.

Figure 3.5. Dataflow help – Details of the data schemas and applied validations

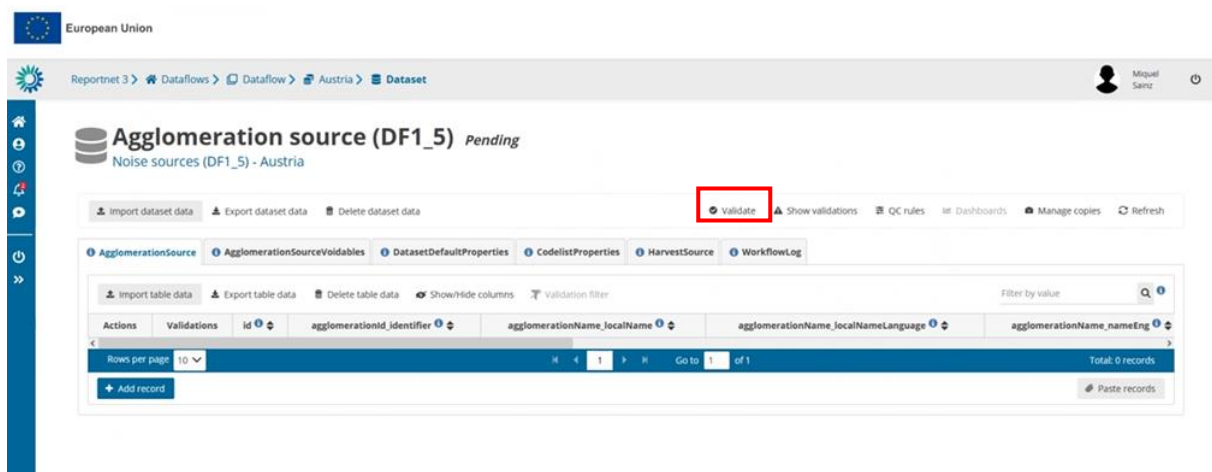


Additionally, a copy of validations applicable to the Noise sources (DF1\_5) dataflow is published in the Noise Eionet Portal for public consideration. Please note that the original information is always in the Reportnet 3 platform.

The detailed validations applicable to the Noise sources (DF1\_5) data flow can be consulted in: <https://www.eionet.europa.eu/reportnet/docs/noise/validation-rules/>

Validations need to be run for each data schema. In each schema, data should be validated by clicking on "Validate" (Figure 3.6). After importing data or after validating data it is important to press "Refresh" to display the latest update.

Figure 3.6. Validation of the data being loaded



Once the validation has been performed a notification will pop up on the top-right hand of the screen. In order to see if there are any problems in the data submitted, it is needed to click "Refresh", and (new) errors, if any, will be displayed at four types:

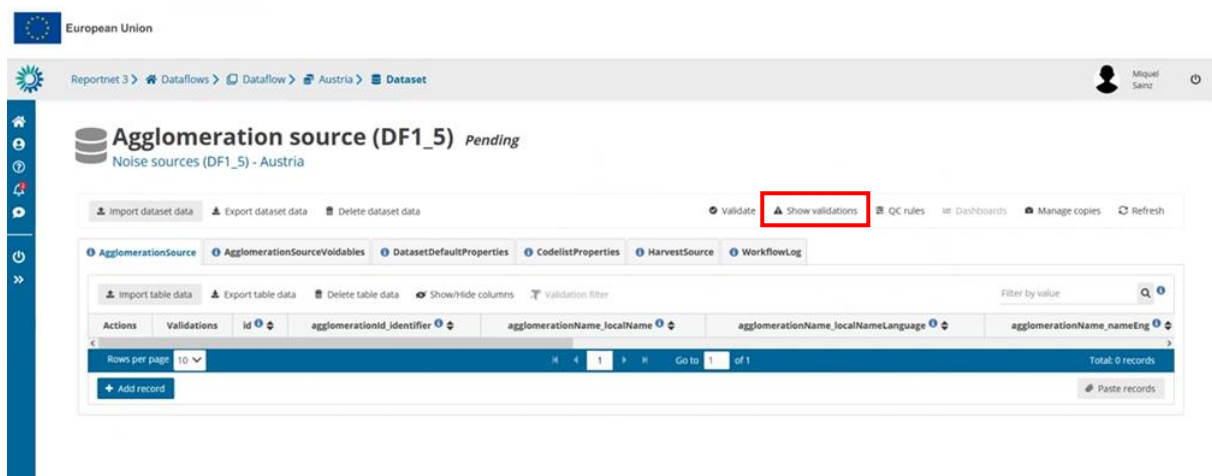


- Field error
- Record error
- Table error
- Dataset error

The column “Validations” shows for each record which level of errors at field and record level can be found.

Finally, the button “Show validations” in the dataset menu (Figure 3.7) shows the list of all errors in the dataset, displayed in a summary table grouped by a particular error type (more information can be found in [https://www.eionet.europa.eu/reportnet/docs/prod/reporter\\_howto\\_reportnet3.0](https://www.eionet.europa.eu/reportnet/docs/prod/reporter_howto_reportnet3.0)).

Figure 3.7. Show validations function in the dataset menu



## 4 Key concepts in relation to *Noise sources (DF1\_5)*

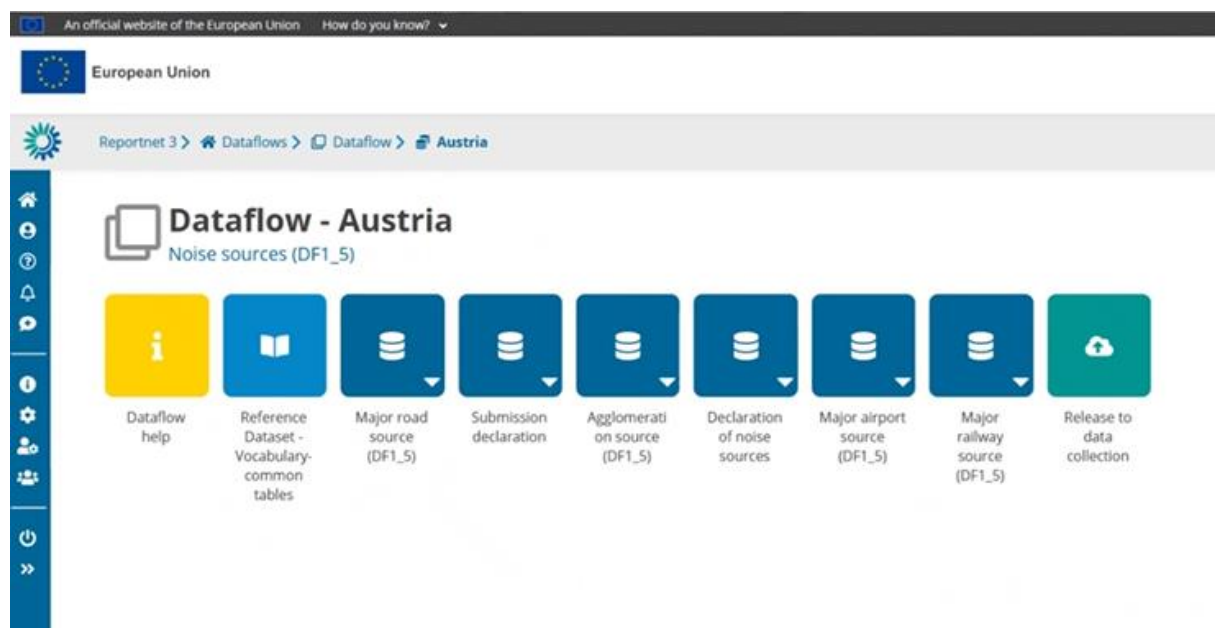
### 4.1 Reporting data schemas structure for DF1\_5

The dataset schemas developed in Reportnet 3 are based on the specific UML diagrams illustrated in the *END Data model documentation* (<https://www.eionet.europa.eu/reportnet/docs/noise/data-model-documentation>). The GeoPackage templates follow the same schemas and principles as the UML diagrams.

The code lists (vocabularies) are provided in the reference dataset schema.

Additionally, two dataset schemas are included to support managing the reporting process, i.e. Declaration of noise sources and Submission declaration.

Figure 4.1. Dataset schemas for *Noise sources (DF1\_5)* delivery in Reportnet 3



### 4.2 Identifiers

#### 4.2.1 Thematic identifiers

The concept of thematic identifiers is re-used in the END reporting scope from the INSPIRE data specifications. Thematic identifiers may have been established to meet data exchange requirements within thematic domains, e.g. different reporting obligations at International, European or national levels, and/or internal data maintenance requirements. A property that is considered a thematic identifier will use data type **ThematicIdentifier** which is composed of two mandatory parts:

- **identifier** : Unique identifier used to identify the spatial object within the specified identification scheme;
- **identifierScheme** : Identifier defining the scheme used to assign the identifier.

This concept of thematic identifiers and data type **ThematicIdentifier** are re-used across the complete END data model to uniquely identify spatial objects and all other objects – entities, e.g.: major road segments, major railway segments, agglomerations, competent authorities, quiet areas, reports of limit values, noise control programmes and noise action plans. The internationally defined ICAO code for airports is also used as a thematic identifier.

## *Providing thematic identifiers in the END reported data*

### **Identifier scheme EUENDCode**

The unique identifier scheme with the name **EUENDCode** is defined for the END reporting scope. It is published in the Eionet Data Dictionary as <http://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme/EUENDCode>.

It is used across the END reporting data flows and reporting data as the default value and it is stored (pre-filled) in the table DatasetDefaultProperties. This table is included in the pre-defined data templates in MS Excel (for tabular data) and GeoPackage (spatial data), and in the Reportnet 3 dataset schemas.

To make data preparation easier, the table DatasetDefaultProperties is pre-filled with all applicable default values in the reporting data flow, therefore it doesn't require any changes.

### **Object identifier**

The only value required to be provided for each object is "identifier". The guidelines "Proposal on how to build the unique thematic identifiers for the new END data model" provides detailed information and coding system to create thematic identifiers.

Identifier will be provided in a specific field defined in each data flow and Reportnet 3 data schema. For example, in the END data flow DF1\_5:

- The field agglomerationId\_identifier in the data schema Agglomeration source will be used for identifier of an agglomeration;
- The field roadId\_identifier in the data schema Major road source will be used for identifier of a road;
- The field railId\_identifier in the data schema Major railway source will be used for identifier of a railway;
- The field ICAOCode in the data schema Major airport source will be used for identifier of an airport (ICAO code to be provided).

### *4.2.2 INSPIRE identifiers*

Spatial objects in the END reporting scope that are designed on the basis of the INSPIRE data specifications include the external unique object identifiers defined as the INSPIRE data type **Identifier**, which is composed of the three attributes:

- **localId**: A local identifier, assigned by the data provider, unique within the namespace;
- **namespace**: Namespace uniquely identifying the data source of the spatial object;
- **versionId**: The identifier of the particular version of the spatial object, voidable - optional.

For the END reporting scope, the INSPIRE identifiers are provided in the Reportnet 3 data schema and in the recommended data templates with three separate fields (attributes) corresponding to the type Identifier: localId, namespace and versionId.

Data providers who will prepare the END reporting geospatial data can apply own rules for creating external unique object identifiers according to the INSPIRE specifications. Additional information and recommendations are provided in "Creating INSPIRE external unique object identifiers in the scope of the END reporting data".

## 4.3 Spatial data

### 4.3.1 General recommendations for spatial data sets

For the END reporting scope, the following recommendations are provided for spatial data sets:

- Use of coordinate reference system ETRS89-extended / Lambert azimuthal equal-area LAEA (EPSG:3035) (one of the coordinate reference systems defined in the INSPIRE specifications that facilitates creation of the pan-European spatial data sets);
- Use of coordinate reference system World Geodetic System 1984 (EPSG: 4326) for territories outside of the continental Europe geographical scope. The WGS84 is linked to the ITRS that is in line with the INSPIRE specifications on the datum of the International Terrestrial Reference System (ITRS) or other geodetic coordinate reference systems compliant with ITRS in areas that are outside the geographical scope of ETRS89;
- Spatial data sets should be provided accordingly to the pre-defined templates in the file format GeoPackage (INSPIRE good practice for GeoPackage is in development to become INSPIRE alternative encoding to GML);
- The predefined templates in GeoPackage include geometry (e.g. point, line, polygon) and coordinate reference system information, therefore the previous reporting of location data as a list of coordinates is not used in the new reporting mechanism;
- The predefined templates in GeoPackage ensure the highest compatibility with the Reportnet 3 dataset schemas, therefore those templates shall not be modified.

### 4.3.2 From conceptual data model (UML) to templates in GeoPackage

The templates for spatial data in file format GeoPackage have been developed from the conceptual data models in UML by using a set of model transformation rules created for the END reporting scope on the basis of outcomes of the development of INSPIRE alternative encodings. More information is available in the document "GeoPackage Encoding Rule for Environmental Noise Directive Reporting Data".

The GeoPackage templates are aligned with the Reportnet 3 data schemas (names, types, cardinality, use of code lists) to facilitate reporting in the Reportnet 3 infrastructure. This section provides generic information of the GeoPackage template structure and the next chapters provide details of the Reportnet 3 data schemas.

The GeoPackage templates combine spatial and tabular data together in a data set. The conceptual data models (presented in the UML diagram) for data flow DF1\_5 are transformed into four typical tables in the GeoPackage template :

- Primary (or core)
- Voidables
- DatasetDefaultProperties
- CodelistProperties.

The **Primary (or core) table** includes the essential properties (slim primary table).

The table **Voidables** is a companion table to the primary table. It includes voidable properties which values can be assigned for individual spatial objects instead of default values. The values in the Voidables table prevail over the pre-defined default values. If default values are applicable to all spatial objects in the data set, the Voidables table can remain empty. If the conceptual data model does not include voidable properties, the table Voidables is not created in the GeoPackage template (e.g. DF1\_5 Major Airports GeoPackage template does not include voidable properties nor Voidables table).

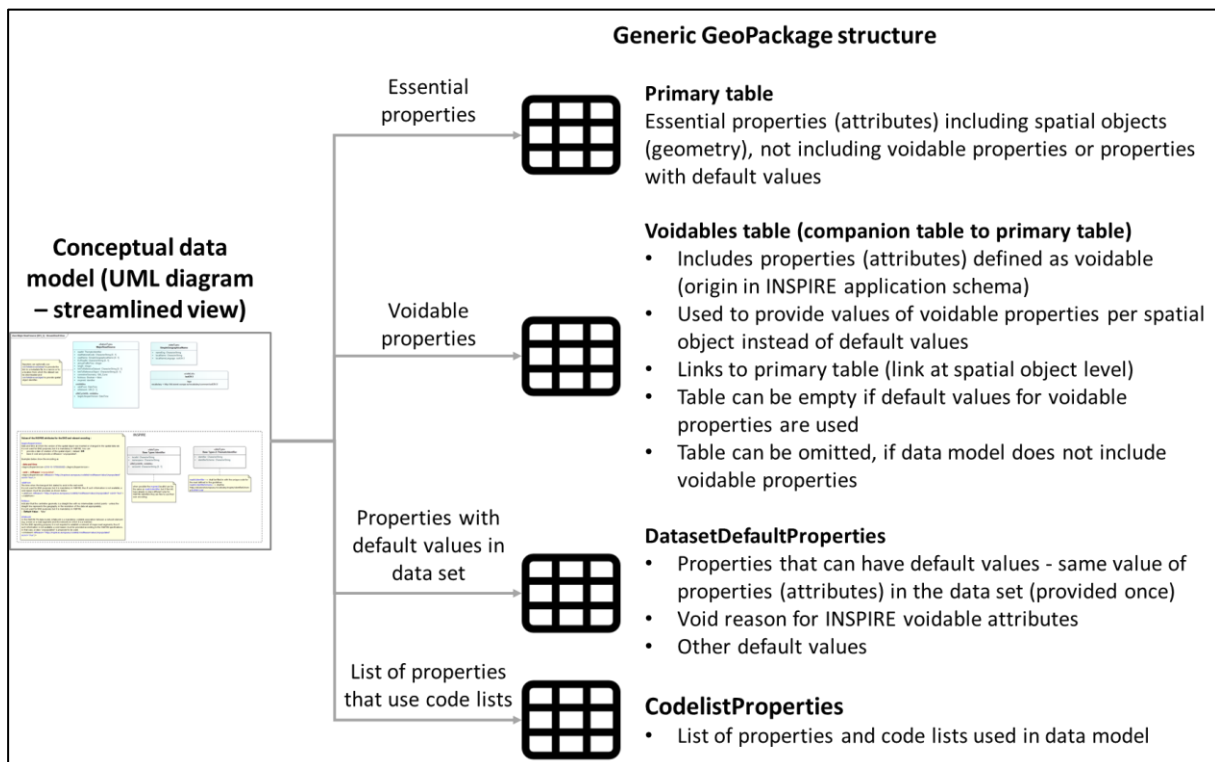
Properties that can have default values – same values in the complete data set are provided in the table **DatasetDefaultProperties**. This table can include default void reason for voidable properties, or other properties with default values. The origin of voidable properties are the underlying INSPIRE conceptual data models for spatial data. All expected properties and default values are already pre-defined and pre-filled in each GeoPackage template.

**CodelistProperties** table includes the list of properties that use values from agreed vocabularies – code lists. This table is already pre-filled in each GeoPackage template and helps finding the correct values for the properties from the related code lists. The code lists defined for the END reporting scope are published in two registers:

- [INSPIRE code list registry](#) for INSPIRE code lists (re-using INSPIRE code lists), and
- [Eionet Data Dictionary – Vocabularies](#) for other code lists used in the END reporting scope (in folders common, inspire and noise).

The following diagram in Figure 4.2 summaries the GeoPackage template structure.

*Figure 4.2 Transformation from conceptual data model (UML) to GeoPackage structure*



The GeoPackage templates have been already designed to facilitate data preparation in the following way:

- The pre-filled tables DatasetDefaultProperties and CodelistProperties don't need modifications;
- If the recommended and pre-filled void reasons or other values for voidable properties are applicable, the voidable properties in the Voidables table can remain empty;
- The main table for reporting data is therefore the primary table.

The GeoPackage templates that have been created to support data reporting can be found in the Dataflow Help page in Reportnet 3.

Figure 4.3. Screenshot of the Dataflow help page where all GeoPackage templates are available for download

The screenshot shows the 'Dataflow help' page for 'Noise sources (DF1\_5)'. It features a navigation menu on the left and a main content area with tabs for 'Supporting documents', 'Web links', and 'Dataset schemas'. Below the tabs is an 'Upload' button and a table listing five GeoPackage templates. Each row in the table includes the title, description, category, language, public status, upload date, size, and actions (download, edit, delete).

Title	Description	Category	Language	Public	Upload date	Size	File	Actions
AgglomerationSource.gpkg	AgglomerationSource (DF1_5) Geopackage template	gpkg	English	✓	2022-06-15	396.00 KB		
AgglomerationSource_versionB.gpkg	AgglomerationSource (DF1_5) Geopackage template version B: template created for ESRI users (the attribute 'agglomerationName_localNameLanguage' was changed to 'agglomerationName_localLanguage')	gpkg	English	✓	2022-06-15	84.00 KB		
MajorAirportSource.gpkg	MajorAirportSource (DF1_5) Geopackage template	gpkg	English	✓	2022-06-15	76.50 KB		
MajorRailwaySource.gpkg	MajorRailwaySource (DF1_5) Geopackage template	gpkg	English	✓	2022-06-15	1.02 MB		
MajorRoadSource.gpkg	MajorRoadSource (DF1_5) Geopackage template	gpkg	English	✓	2022-06-15	3.54 MB		

Geopackage templates can be downloaded from:  
<https://www.eionet.europa.eu/reportnet/docs/noise>

#### 4.4 Validations

The relevant information in relation to validation of data schemas included in dataflow Noise sources (DF1\_5) is described in 3.1

## 5 Data schema: Declaration of noise sources

### 5.1 Description

Declaration of existing noise sources in the country/region. The schema is included in the DF1\_5 data flow with aim to support the reporting process and validation of applicable existing noise sources and cross-checks between the END data flows.

The Declaration of noise sources data schema only includes one table:

- Declaration of noise sources

### 5.2 Table Declaration of noise sources

The table *Declaration of noise sources* includes the four noise sources specified in the END (i.e. major roads, major railways, major airports and agglomerations). In this table it should be indicated which of those sources are existing in the country/region.

*Table 5.1. Declaration of noise source table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>	<b>Code list</b>
M	declarationAgglomerationSource	Single select	
M	declarationMajorRoadSource	Single select	
M	declarationMajorRailwaySource	Single select	
M	declarationMajorAirportSource	Single select	

The following section includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

### 5.2.1 Field declaration *AgglomerationSource*

Requirement	Mandatory
Description	There is one or more agglomerations of more than 100,000 inhabitants to be declared as part of this dataflow.
Reportnet 3 type	Single select
Format	Yes No
Information	This attribute declares if the data schema <i>AgglomerationSource</i> need to be filled in or not.
Example	Yes
Reporting constraints	A blocker in reporting data is implemented if the noise source is declared as “Yes” and the information is not included in the corresponding data schema <i>Agglomeration source</i> (DF1_5). A blocker in reporting data is implemented if the noise source is declared as “No” and the information is included in the corresponding data schema. A blocker is implemented if not all the attributes are filled in in this table.

### 5.2.2 Field declaration *MajorRoadSource*

Requirement	Mandatory
Description	There is one or more major roads of more than 3,000,000 vehicle passages a year to be declared as part of this dataflow
Reportnet 3 type	Single select
Format	Yes No
Information	This attribute declares if the data schema <i>MajorRoadSource</i> need to be filled in or not.
Example	Yes
Reporting constraints	A blocker in reporting data is implemented if the noise source is declared as “Yes” and the information is not included in the corresponding data schema <i>Major road source</i> (DF1_5). A blocker in reporting data is implemented if the noise source is declared as “No” and the information is included in the corresponding data schema. A blocker is implemented if not all the attributes are filled in in this table.



### 5.2.3 Field declaration MajorRailwaySource

Requirement	Mandatory
Description	There is one or more major railways of more than 30,000 vehicle passages a year to be declared as part of this dataflow
Reportnet 3 type	Single select
Format	Yes No
Information	This attribute declares if the data schema MajorRailwaySource need to be filled in or not.
Example	No
Reporting constraints	A blocker in reporting data is implemented if the noise source is declared as “Yes” and the information is not included in the corresponding data schema Major railway source (DF1_5). A blocker in reporting data is implemented if the noise source is declared as “No” and the information is included in the corresponding data schema. A blocker is implemented if not all the attributes are filled in in this table.

### 5.2.4 Field declaration MajorAirportSource

Requirement	Mandatory
Description	There is one or more major airports of more than 50,000 movements a year to be declared as part of this dataflow
Reportnet 3 type	Single select
Format	Yes No
Information	This attribute declares if the data schema MajorAirportSource need to be filled in or not.
Example	Yes
Reporting constraints	A blocker in reporting data is implemented if the noise source is declared as “Yes” and the information is not included in the corresponding data schema Major airport source (DF1_5). A blocker in reporting data is implemented if the noise source is declared as “No” and the information is included in the corresponding data schema. A blocker is implemented if not all the attributes are filled in in this table.

## 6 Data schema: Agglomeration source (DF1\_5)

### 6.1 Description

Part of a territory delimited by the Member State having a population in excess of 100.000 persons and a population density such that the Member State considers it to be an urbanised area.

The AgglomerationSource data schema includes four thematic tables and two additional tables supporting the alternative data harvesting process :

- AgglomerationSource: primary content including spatial data
- AgglomerationSourceVoidables: table includes attributes defined as « voidable in the INSPIRE context »
- DatasetDefaultProperties: Information about the default values of objects in a data set or a table (read only schema, and already filled in in Reportnet 3)
- CodelistProperties (read only schema, and already filled in in Reportnet 3) : list of applicable code lists in that data schema
- HarvestSource: URLs from which to harvest the geospatial features needed for the reporting
- WorkflowLog: log messages from the harvesting process (i.e. harvested resources, errors occurring during harvesting)

### 6.2 Table AgglomerationSource

AgglomerationSource table includes the primary content of agglomerations, i.e. size, name of agglomeration, number of inhabitants, including also the spatial delineation in a type of polygons or multipolygon geometry.

*Table 6.1. AgglomerationSource table overview*

Mandatory /optional	Name	Reportnet 3 Type	Code list
M	id	Number - Integer	
M	agglomerationId_identifier	Text	
M	agglomerationName_localName	Text	
M	agglomerationName_localNameLanguage	Link	<a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a>
M	agglomerationName_nameEng	Text	
M	size	Number - Decimal	
M	numberOfInhabitants	Number - Integer	
M	applicableSource	Link	<a href="https://dd.eionet.europa.eu/vocabulary/noise/NoiseSourceValue/">https://dd.eionet.europa.eu/vocabulary/noise/NoiseSourceValue/</a>

Mandatory /optional	Name	Reportnet 3 Type	Code list
M	inspireId_localId	Text	
M	inspireId_namespace	Text	
O	inspireId_versionId	Text	
M	geometry	Multiple polygons	
M	sourceIdentifier	Text	

The following section includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

### 6.2.1 Field id

Requirement	Mandatory
Description	Unique identifier automatically created in Geopackage file (primary key in the SQLite database). It is mandatory.
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	This attribute is primarily required by the OGC GeoPackage standard. It must be unique within a GeoPackage file.
Example	1

### 6.2.2 Field agglomerationId\_identifier

Requirement	Mandatory
Description	Unique identifier assigned to each agglomeration.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The value of this field follows the coding system to create thematic identifiers provided in the guidelines "Proposal on how to build the unique thematic identifiers for the new END data model". It belongs to the common END identifier scheme named EUENDCode. The identifier scheme is provided as default value in the table DatasetDefaultProperties.
Example	AG_AT_00_1
Reporting constraints	agglomerationId_identifier will be re-used across the complete END data model to uniquely identify spatial objects and all other objects – entities.

### 6.2.3 Agglomeration name

Agglomeration name is based on the complex data type (SimpleGeographicalName) which is represented in the table by three interrelated fields: agglomerationName\_localName, agglomerationName\_localNameLanguage and agglomerationName\_nameEng. Values for all three fields must be provided as agglomeration name.

#### Field agglomerationName\_localName

Requirement	Mandatory
Description	Name of the agglomeration in the national or local language.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Example	Wien

#### Field agglomerationName\_localNameLanguage

Requirement	Mandatory
Description	Specification about the national or local language by providing a three-letter language code from ISO 639-3.
Reportnet 3 type	Link
Code list	Code list URL: <a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a> Applicable code list values: bul, ces, dan, deu, ell, eng, est, fin, fra, gle, hrv, hun, ita, lav, lit, mlt, nld, pol, por, ron, slk, slv, spa, swe
Example	deu

#### Field agglomerationName\_nameEng

Requirement	Mandatory
Description	Name of the agglomeration in English language.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	An established name of agglomeration in English language can be used, or a simple transliteration of name into English / latin alphabet (without specific language characters).
Example	Vienna

#### 6.2.4 Field size

Requirement	Mandatory
Description	Area of coverage of the agglomeration, in km2.
Reportnet 3 type	Number – Decimal
Format	Maximum of 40 characters
Information	Decimal separator character is “.”. Number of decimal places allowed : 2
Example	100.00

#### 6.2.5 Field numberOfInhabitants

Requirement	Mandatory
Description	Number of inhabitants living inside the boundary of the agglomeration.
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	Number is provided as integer number without 1000 separator character.
Example	1862251

## 6.2.6 Field applicableSource

Requirement	Mandatory
Description	Sources in the agglomeration for which strategic noise maps and action plans need to be provided.
Reportnet 3 type	Link
Format	Multiple values are allowed Value separated list with the separation character “;” (semicolon)
Code list	Code list URL: <a href="https://dd.eionet.europa.eu/vocabulary/noise/NoiseSourceValue/">https://dd.eionet.europa.eu/vocabulary/noise/NoiseSourceValue/</a> Applicable code list values: <ul style="list-style-type: none"> <li>- agglomerationAir</li> <li>- agglomerationIndustry</li> <li>- agglomerationRoad</li> <li>- agglomerationRailway</li> <li>- agglomerationMajorAirport</li> <li>- agglomerationMajorRoad</li> <li>- agglomerationMajorRailway</li> </ul>
Information	<p>Cities need to declare all the noise sources from which their inhabitants are exposed to. For instance cities that have roads and railways but no airports are expected to select “agglomerationRoad”, “agglomerationRailway”, “agglomerationMajorRoad”, “agglomerationMajorRailway”. However, if the city does not have roads and railways that are of more than 3 million vehicles and no railways of more than 30,000 passages a year the values “agglomerationMajorRoad”, “agglomerationMajorRailway” do not need to be selected.</p> <p>In the case that any of these values are selected within the code list “applicableSource”: “agglomerationMajorAir”, “agglomerationMajorRailway” or “agglomerationMajorRoad”, it is also mandatory to select “agglomerationAir” if “agglomerationMajorAir” is selected, “agglomerationRailway” if “agglomerationMajorRailway” is selected or “agglomerationRoad” if “agglomerationMajorRoad” is selected. This is because for instance agglomerationRoad should include all roads i.e. major roads and non-major roads.</p> <p>For the city of Berlin we expect that the values declared are:</p> <ul style="list-style-type: none"> <li>- agglomerationAir</li> <li>- agglomerationIndustry</li> <li>- agglomerationRoad</li> <li>- agglomerationRailway</li> <li>- agglomerationMajorAirport</li> <li>- agglomerationMajorRoad</li> <li>- agglomerationMajorRailway</li> </ul> <p>This is because Berlin has roads, railways, airports, industries as well as major roads, major railways and major airports.</p>
Example	agglomerationRoad; agglomerationMajorRoad; agglomerationRailway; agglomerationMajorRailway; agglomerationAir; agglomerationMajorAirport; agglomerationIndustry.
Reporting constraints	The declaration of sources will be used in subsequent dataflow reporting.

### 6.2.7 Spatial object identifier inspireId

Following the underlying INSPIRE conceptual data model, each agglomeration includes also the external unique object identifier published by the responsible body. The field inspireId is based on the complex data type (Identifier) which is represented in the table by three interrelated fields: inspireId\_localId, inspireId\_namespace and inspireId\_versionId. The external unique object identifier is provided by the mandatory values in the fields inspireId\_localId and inspireId\_namespace. The field inspireId\_versionId is optionally used when different versions of the same spatial object are provided in the data set.

Additional information and recommendations on creating INSPIRE external unique object identifiers are provided in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”.

#### Field inspireId\_localId

Requirement	Mandatory
Description	External object identifier of the spatial object, defined in the INSPIRE Implementing Rules on Interoperability. When possible the inspireId_localId can be the same as agglomerationId_identifier, but if a Member State has already in place different rules for INSPIRE identifiers these rules could be used.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”
Example	AG_AT_00_1

#### Field inspireId\_namespace

Requirement	Mandatory
Description	Part of inspireId - external object identifier of the spatial object, defined in the INSPIRE Implementing Rules on Interoperability. The attribute namespace uniquely identifies the data source or data set of the spatial object.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”
Example	end_agglomeration_AT

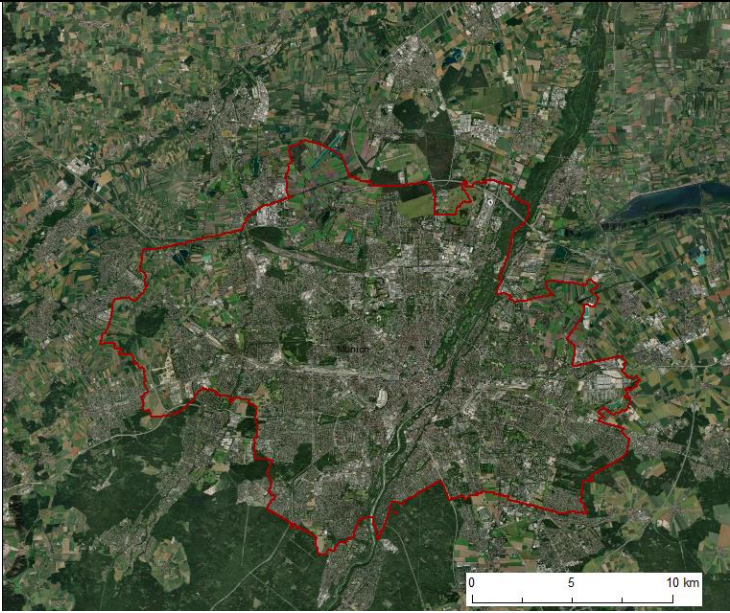

#### Field inspireId\_versionId

Requirement	Optional
Description	The attribute versionId identifies a particular version of a spatial object, defined in the INSPIRE Implementing Rules on Interoperability. This

	attribute can be used together with life-cycle information to distinguish between the different versions of a spatial object.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”. It is proposed to omit spatial object versions (no value – empty field).



### 6.2.8 Field geometry

Requirement	Mandatory
Description	Spatial extent of the agglomeration, according to the definition in the INSPIRE Implementing Rules on Interoperability. Geometry of the agglomeration shall be presented as area, by using polygon geometry type. It is mandatory.
Reportnet 3 type	Multiple polygons
Information	Geometry type of polygon or multipolygon is allowed.
Example (polygon geometry)	 <p>Source: END reported data from Munich (Germany)</p>
Example (multipolygon geometry)	 <p>Source: END reported data from Dublin (Ireland)</p>
Reporting constraints	Overlapping polygons are not allowed.

### 6.2.9 Field sourceIdentifier

Requirement	Mandatory
Description	This field is filled automatically. It indicates the source of the reporting data. It is composed of the source name and time stamp. It can be a name of the directly imported file, or the URL of an external source, from which the data was harvested, as recorded in the HarvestSource table. The field also supports the integrity between the primary table with spatial data and the voidables table.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The data source will be provided in the form of a time stamp (DateTime format) and the source name (imported file or service URL). It is provided by the import or harvest process and must not be modified.
Example	2022-05-10T10:10:46Z AgglomerationSource.gpkg

### 6.3 Table AgglomerationSourceVoidables

This table includes attributes that are defined as voidable in the data model. Only the attributes defined in the INSPIRE specifications are voidable. This table is used in case a value is assigned to a voidable attribute for an individual spatial object which is already provided in the primary (core) table AgglomerationSource. Otherwise, the default values of these attributes (defined in the DatasetDefaultProperties table) are used and therefore this table can be left empty.

It is recommended to use DatasetDefaultProperties as default values applicable to the complete dataset. By doing this, AgglomerationSourceVoidables can be left empty.

In case a value for a voidable property for each special object is provided, the following constraints apply to individual voidable property :

- 1) DateTime data type requires ISO DateTime format with UTC information. The required format is YYYY-MM-DDThh:mm:ssZ. It is applicable to the fields designationPeriod\_beginPosition, designationPeriod\_endPosition, beginLifespanVersion;
- 2) If designationPeriod\_beginPosition is provided and designationPeriod\_endPosition is not known it can be left empty (it is assumed it is not known);
- 3) If information about the competent authority is provided it shall be provided with at least the following information:
  - One of the fields competentAuthority\_indivName (individual name), competentAuthority\_orgName (organisation name) or competentAuthority\_posName (position name) must be provided;
  - Field competentAuthority\_role must be provided with the value "authority" from the designated code list;
- 4) If a legal instrument is provided in legalBasis, it must be provided in both fields legalBasis\_link and legalBasis\_level;
- 5) If any value for a voidable property of a spatial object is provided, a correct linking between both tables AgglomerationSource and AgglomerationSourceVoidables must be provided: the field AgglomerationSource\_id in the table AgglomerationSourceVoidables must include the

corresponding id of the spatial object from the table AgglomerationSource, see example below.

AgglomerationSource		AgglomerationSourceVoidables	
id	... other fields ...	AgglomerationSource_id	... other fields ...
10		10	

Detailed information about requirements of voidable properties in the INSPIRE application schema can be also found in the [INSPIRE Data Specification on Area Management/Restriction/Regulation Zones and Reporting Units – Technical Guidelines](#) and in the [Implementing Rules on Interoperability of spatial data sets and services](#).

*Table 6.2. AgglomerationSourceVoidables table overview*

Mandatory /optional	Name	Reportnet 3 Type	Code list
M	id	Number - Integer	
O	designationPeriod_beginPosition	DateTime	
O	designationPeriod_endPosition	DateTime	
O	competentAuthority_contact	Text	
O	competentAuthority_indivName	Text	
O	competentAuthority_orgName	Text	
O	competentAuthority_posName	Text	
O	competentAuthority_role	Link	<a href="https://dd.eionet.europa.eu/vocabulary/noise/CompetentAuthorityRoleValue/">https://dd.eionet.europa.eu/vocabulary/noise/CompetentAuthorityRoleValue/</a>
O	legalBasis_link	URL	
O	legalBasis_level	Link	<a href="https://dd.eionet.europa.eu/vocabulary/inspire/LegislationLevelValue/">https://dd.eionet.europa.eu/vocabulary/inspire/LegislationLevelValue/</a>
O	beginLifespanVersion	DateTime	
M	AgglomerationSource_id	Number - Integer	
M	sourceIdentifier	Text	

Detailed information about voidable properties in the Inspire application schemas are provided in the data model documentation (<https://www.eionet.europa.eu/reportnet/docs/noise/data-model-documentation>).

## 6.4 Table DatasetDefaultProperties

This table includes all properties that can have a default value in a data set. Typically, it includes: default values or void reason for voidable attributes defined in the INSPIRE specifications, and default values of other attributes. The table is prefilled and read-only.

*Table 6.3. DatasetDefaultProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
O	attribute	Text
M	defaultValue	Text

*Table 6.4. Applicable values for the DatasetDefaultProperties*

<b>tableName</b>	<b>propertyName</b>	<b>attribute</b>	<b>defaultValue</b>
AgglomerationSource	zoneType	href	<a href="http://inspire.ec.europa.eu/codelist/ZoneTypeCode/noiseRestrictionZone">http://inspire.ec.europa.eu/codelist/ZoneTypeCode/noiseRestrictionZone</a>
AgglomerationSource	environmentalDomain	href	<a href="http://inspire.ec.europa.eu/codelist/EnvironmentalDomain/noise">http://inspire.ec.europa.eu/codelist/EnvironmentalDomain/noise</a>
AgglomerationSource	competentAuthority	nilReason	<a href="http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated">http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated</a>
AgglomerationSource	beginLifespanVersion	nilReason	<a href="http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated">http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated</a>
AgglomerationSource	agglomerationId_identifierScheme	href	<a href="http://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme/EUENDCode">http://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme/EUENDCode</a>
AgglomerationSource	specialisedZoneType	href	<a href="http://dd.eionet.europa.eu/vocabulary/inspire/SpecialisedZoneTypeCode/ENDAgglomeration">http://dd.eionet.europa.eu/vocabulary/inspire/SpecialisedZoneTypeCode/ENDAgglomeration</a>
AgglomerationSource	designationPeriod	nilReason	<a href="http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated">http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated</a>
AgglomerationSource	legalBasis_link	href	<a href="http://data.europa.eu/eli/dir/2002/49/oj">http://data.europa.eu/eli/dir/2002/49/oj</a>
AgglomerationSource	legalBasis_level	href	<a href="http://inspire.ec.europa.eu/codelist/LegislationLevelValue/european">http://inspire.ec.europa.eu/codelist/LegislationLevelValue/european</a>

## 6.5 Table CodelistProperties

This table includes a list of the code lists that have to be used for reporting data on the DF1\_5 agglomerations data model. The complete code lists used in the END data model are also published in the Eionet Data Dictionary (<https://dd.eionet.europa.eu/vocabularies>) and are used in the Reportnet 3 data schemas.

The specific applicable code lists can also be found in the Vocabulary – common tables data schema of this dataflow.

The table is prefilled and read-only.

*Table 6.5. CodelistProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
M	codelist	Text

*Table 6.6. Applicable values for the CodelistProperties*

<b>tableName</b>	<b>propertyName</b>	<b>codelist</b>
AgglomerationSource	specialisedZoneType	<a href="http://dd.eionet.europa.eu/vocabulary/inspire/SpecialisedZoneTypeCode">http://dd.eionet.europa.eu/vocabulary/inspire/SpecialisedZoneTypeCode</a>
AgglomerationSource	agglomerationName_localNameLanguage	<a href="http://dd.eionet.europa.eu/vocabulary/common/iso639-3">http://dd.eionet.europa.eu/vocabulary/common/iso639-3</a>
AgglomerationSource	applicableSource	<a href="http://dd.eionet.europa.eu/vocabulary/noise/NoiseSourceValue">http://dd.eionet.europa.eu/vocabulary/noise/NoiseSourceValue</a>
AgglomerationSource	environmentalDomain	<a href="http://inspire.ec.europa.eu/codelist/EnvironmentalDomain">http://inspire.ec.europa.eu/codelist/EnvironmentalDomain</a>
AgglomerationSource	zoneType	<a href="http://inspire.ec.europa.eu/codelist/ZoneTypeCode">http://inspire.ec.europa.eu/codelist/ZoneTypeCode</a>
AgglomerationSource	competentAuthority_role	<a href="http://inspire.ec.europa.eu/codelist/RelatedPartyRoleValue">http://inspire.ec.europa.eu/codelist/RelatedPartyRoleValue</a>
AgglomerationSource	legalBasis_level	<a href="http://inspire.ec.europa.eu/codelist/LegislationLevelValue">http://inspire.ec.europa.eu/codelist/LegislationLevelValue</a>

## 6.6 Tables supporting data harvesting through INSPIRE download services

The dataset schema includes two additional tables for the alternative reporting method by providing INSPIRE download services and trigger a data harvesting process. The tables HarvestSource and WorkflowLog are described together with the harvesting process in section 11.4 and in Annex 2.

Regardless of the import process, file import or download service harvesting, the expected file format is GeoPackage provided on the pre-defined template.

## 6.7 GeoPackage format

### 6.7.1 Support to data transformation into GeoPackage

#### GeoPackage template

The GeoPackage template AgglomerationSource.gpkg that has been created to support data reporting can be found in the:

- Dataflow Help page in Reportnet 3 (see 4.3.2), and
- <https://www.eionet.europa.eu/reportnet/docs/noise>.

#### Sample data

Sample data containing information as an example of reporting best practices is available at: [https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1_5). It is important to notice that the sample data is simulated data adapted from an official reporting, including additional simulated data especially in the case of new information included in the new END data model.

#### Demonstration of data transformation with the ETL tool HALE Studio

A demonstration video on how to create the new GeoPackage file has been issued, using HALE Studio tool, which is accessible in: <https://www.eionet.europa.eu/reportnet/docs/noise/videos>.

The data transformation project (HALE Studio) details with test data (note: using simulated data for feasibility of data transformation, not exact data for noise reporting) can also be found in the repository [https://github.com/wetransform-os/geopackage-end/tree/main/DF1\\_5](https://github.com/wetransform-os/geopackage-end/tree/main/DF1_5). It shows possibilities to create a mapping between a source schema and target GeoPackage schema and transform source data into the Geopackage file format.

### 6.7.2 Use of GeoPackage file format in the Reportnet 3

The GeoPackage template for DF1\_5 agglomerations includes the same tables as the ones that are included in Reportnet 3, see example below. The data import process in the Reportnet 3 transfers data from the GeoPackage file into the correlated tables into the Reportnet 3 data schema *Agglomeration source (DF1\_5)*.

<b>GeoPackage template AgglomerationSource.gpkg – list of tables</b>	<b>Reportnet 3 data schema <i>Agglomeration source (DF1_5)</i> – list of tables</b>
AgglomerationSource	AgglomerationSource
AgglomerationSourceVoidables	AgglomerationSourceVoidables
DatasetDefaultProperties (pre-filled)	DatasetDefaultProperties (pre-filled, read-only)
CodelistProperties (pre-filled)	CodelistProperties (pre-filled, read-only)



## 7 Major airport source (DF1\_5)

### 7.1 Description

Civil airport, designated by the Member State, which has more than 50.000 movements per year (a movement being a take-off or a landing), excluding those purely for training purposes on light aircraft.

The MajorAirportSource dataset schema includes three thematic tables and two additional tables supporting the alternative data harvesting process, as following:

- MajorAirportSource : primary content including spatial data
- DatasetDefaultProperties: Information about the default values of objects in a data set or a table (read only schema, and already filled in in Reportnet 3)
- CodelistProperties (read only schema, and already filled in in Reportnet 3) : list of applicable code lists in that data schema
- HarvestSource: URLs from which to harvest the geospatial features needed for the reporting.
- WorkflowLog: log messages from the harvesting process (i.e. harvested resources, errors occurring during harvesting).

### 7.2 Table MajorAirportSource

MajorAirportSource table includes the primary content of major airport, i.e. name of major airport, ICAO code, annual traffic, including also the spatial location in a type of point geometry.

*Table 7.1. MajorAirportSource table overview*

Mandatory /optional	Name	Reportnet 3 Type	Code list
M	id	Number - Integer	
M	ICAOCode	Text	
M	airportName_localName	Text	
M	airportName_localNameLanguage	Link	<a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a>
M	airportName_nameEng	Text	
M	annualTrafficFlow	Number - Integer	
O	linkToReferenceDataset	Text	
O	linkToReferenceObject	Text	
M	geometry	Point	
M	sourceIdentifier	Text	

The following section includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

### 7.2.1 Field id

Requirement	Mandatory
Description	Unique identifier automatically created in Geopackage file (primary key in the SQLite database). It is mandatory.
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	This attribute is primarily required by the OGC GeoPackage standard. It must be unique within a GeoPackage file.
Example	1

### 7.2.2 Field ICAOCode

Requirement	Mandatory
Description	Unique international code of airport defined by the International Civil Aviation Organization. It is mandatory.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Example	LOWW
Reporting constraints	ICAOCode will be re-used across the complete END data model to uniquely identify spatial objects and all other objects – entities.

### 7.2.3 Airport name

Airport name is based on the complex data type (SimpleGeographicalName) which is represented in the table by three interrelated fields: airportName\_localName, airportName\_localNameLanguage and airportName\_nameEng. Values for all three fields must be provided as airport name.

#### Field airportName\_localName

Requirement	Mandatory
Description	Name of the major airport in the national or local language.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Example	Flughafen Wien



### Field *airportName\_localNameLanguage*

Requirement	Mandatory
Description	Specification about the national or local language by providing a three-letter language code from ISO 639-3.
Reportnet 3 type	Link
Code list	Code list URL: <a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a> Applicable code list values: bul, ces, dan, deu, ell, eng, est, fin, fra, gle, hrv, hun, ita, lav, lit, mlt, nld, pol, por, ron, slk, slv, spa, swe
Example	deu

### Field *airportName\_nameEng*

Requirement	Mandatory
Description	Name of the major airport in English language.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	An established name of major airport in English language can be used, or a simple transliteration of name into English / latin alphabet (without specific language characters).
Example	Vienna International Airport

### 7.2.4 Field *annualTrafficFlow*

Requirement	Mandatory
Description	Number of movements in a year at the major airport. It is mandatory.
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	Number is provided as integer number without 1000 separator character.
Example	78650

### 7.2.5 Field *linkToReferenceDataset*

Requirement	Optional
Description	Information about INSPIRE reference dataset of airport network to which major airport could be linked. It is optional.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 7.2.6 Field linkToReferenceObject

Requirement	Optional
Description	Reference to airport (spatial object) in the reference dataset of airport network that is provided in the attribute linkToReferenceDataset, through matching ICAO code of a major airport. It is optional.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 7.2.7 Field geometry

Requirement	Mandatory
Description	Location of the major airport. This attribute corresponds with the INSPIRE geometry attribute. For the END reporting purpose, point geometry is required. It is mandatory
Reportnet 3 type	Point

### 7.2.8 Field sourceIdentifier

Requirement	Mandatory
Description	This field is filled automatically. It indicates the source of the reporting data. It is composed of the source name and time stamp. It can be a name of the directly imported file, or the URL of an external source, from which the data was harvested, as recorded in the HarvestSource table. The field also supports the integrity between the primary table with spatial data and the voidables table.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The data source will be provided in the form of a time stamp (DateTime format) and the source name (imported file or service URL). It is provided by the import or harvest process and must not be modified.
Example	2022-05-10T10:19:00Z MajorAirportSource.gpkg

## 7.3 Table DatasetDefaultProperties

This table includes all properties that can have a default value in a data set. Typically, it includes: Default values or void reason for voidable attributes defined in INSPIRE specifications, and default values of other attributes.

In the case of major airports, no default properties are established, but the table has been included in alignment with the rest of data schemas, however the table is empty.

*Table 7.2. DatasetDefaultProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
O	attribute	Text
M	defaultValue	Text

#### 7.4 Table CodelistProperties

This table includes a list of the code lists that have to be used for reporting data on the DF1\_5 major airports data model. The complete code lists used in the END data model are also published in the Eionet Data Dictionary (<https://dd.eionet.europa.eu/vocabularies>) and are used in the Reportnet 3 data schemas.

The specific applicable code lists can also be found in the Vocabulary – common tables data schema of this dataflow.

The table is prefilled and read-only.

*Table 7.3. CodelistProperties table overview*

<b>Mandatory/ optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
M	codelist	Text

*Table 7.4. Applicable values for the CodelistProperties*

<b>tableName</b>	<b>propertyName</b>	<b>codelist</b>
MajorAirportSource	airportName_localNameLanguage	<a href="http://dd.eionet.europa.eu/vocabulary/common/iso639-3">http://dd.eionet.europa.eu/vocabulary/common/iso639-3</a>

#### 7.5 Tables supporting data harvesting through INSPIRE download services

The dataset schema includes two additional tables for the alternative reporting method by providing INSPIRE download services and trigger a data harvesting process. The tables HarvestSource and WorkflowLog are described together with the harvesting process in section 11.4 and in Annex 2.

Regardless of the import process, file import or download service harvesting, the expected file format is GeoPackage provided on the pre-defined template.

## 7.6 GeoPackage format

### 7.6.1 Support to data transformation into GeoPackage

#### GeoPackage template

The GeoPackage template `MajorAirportSource.gpkg` that has been created to support data reporting can be found in the:

- Dataflow Help page in Reportnet 3 (see 4.3.2), and
- [https://www.eionet.europa.eu/reportnet/docs/noise/templates/df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/templates/df1_5).

#### Sample data

Sample data containing information as an example of reporting best practices is available at: [https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1_5). It is important to notice that the sample data is simulated data adapted from an official reporting, including additional simulated information especially in the case of new information included in the new END data model.

#### Demonstration of data transformation with the ETL tool HALE Studio

A demonstration video on how to create the new GeoPackage file has been issued, using HALE Studio tool, which is accessible in: <https://www.eionet.europa.eu/reportnet/docs/noise/videos>.

The data transformation project (HALE Studio) details with test data (note: using simulated data for feasibility of data transformation, not exact data for noise reporting) can also be found in the repository [https://github.com/wetransform-os/geopackage-end/tree/main/DF1\\_5](https://github.com/wetransform-os/geopackage-end/tree/main/DF1_5). It shows possibilities to create a mapping between a source schema and target GeoPackage schema and transform source data into the Geopackage file format.

### 7.6.2 Use of GeoPackage file format in the Reportnet 3

The GeoPackage template for DF1\_5 major airports includes the same tables as the ones that are included in Reportnet 3, see example below. The data import process in the Reportnet 3 transfers data from the GeoPackage file into the correlated tables in the Reportnet 3 data schema Major airport source (DF1\_5).

<b>GeoPackage template MajorAirportSource.gpkg – list of tables</b>	<b>Reportnet 3 data schema <i>Major airport source (DF1_5)</i> – list of tables</b>
MajorAirportSource	MajorAirportSource
DatasetDefaultProperties (empty table)	DatasetDefaultProperties (empty table, read-only)
CodelistProperties (pre-filled)	CodelistProperties (pre-filled, read-only)

## 8 Major railway source (DF1\_5)

### 8.1 Description

Railway, designated by the Member State, which has more than 30.000 train passages per year.

The MajorRailwaySource dataset schema includes four thematic tables and two additional tables supporting the alternative data harvesting process, as following :

- MajorRailwaySource : primary content including spatial data
- MajorRailwaySourceVoidables : table includes attributes defined as « voidable in the INSPIRE context »
- DatasetDefaultProperties: Information about the default values of objects in a data set or a table (read only schema, and already filled in in Reportnet 3)
- CodelistProperties (read only schema, and already filled in in Reportnet 3) : list of applicable code lists in that data schema.
- HarvestSource: URLs from which to harvest the geospatial features needed for the reporting.
- WorkflowLog: log messages from the harvesting process (i.e. harvested resources, errors occurring during harvesting).

### 8.2 Table MajorRailwaySource

MajorRailwaySource table includes the primary content of major railways, i.e. length, annual traffic, including also the spatial delineation in a type of lines or multiple line geometry.

*Table 8.1. MajorRailwaySource table overview*

Mandatory /optional / conditional	Name	Reportnet 3 Type	Code list
M	id	Number – Integer	
M	railId_identifier	Text	
O	railNationalCode	Text	
O	railName_localName	Text	
O	railName_localNameLanguage	Link	<a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a>
O	railName_nameEng	Text	
M	annualTrafficFlow	Number – Integer	
M	length	Number – Integer	
O	linkToReferenceDataset	Text	

<b>Mandatory /optional / conditional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>	<b>Code list</b>
O	linkToReferenceObject	Text	
M	inspireId_localId	Text	
M	inspireId_namespace	Text	
O	inspireId_versionId	Text	
C	geometry_line	Line	
C	geometry_multiline	Multiple lines	
M	sourceIdentifier	Text	

The following section includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

### 8.2.1 Field id

Requirement	Mandatory
Description	Unique identifier automatically created in Geopackage file (primary key in the SQLite database).
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	This attribute is primarily required by the OGC GeoPackage standard. It must be unique within a GeoPackage file.
Example	1

### 8.2.2 Field railId\_identifier

Requirement	Mandatory
Description	Unique identifier assigned to each major railway segment.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The value of this field follows the coding system to create thematic identifiers provided in the guidelines “Proposal on how to build the unique thematic identifiers for the new END data model”.  It belongs to the common END identifier scheme named EUENDCode. The identifier scheme is provided as default value in the table DatasetDefaultProperties.
Example	RL_AT_00_1
Reporting constraints	railId_identifier will be re-used across the complete END data model to uniquely identify spatial objects and all other objects – entities.

### 8.2.3 Field railNationalCode

Requirement	Optional
Description	Railway code (railway identification number) used within Member State.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 8.2.4 Rail name

Rail name is based on the complex data type (SimpleGeographicalName) which is represented in the table by three interrelated fields: railName\_localName, railName\_localNameLanguage and railName\_nameEng. Values for all three fields must be provided as rail name.

#### Field railName\_localName

Requirement	Optional
Description	Official rail name used within Member State in the national or local language.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### *Field railName\_localNameLanguage*

Requirement	Optional
Description	Specification about the national or local language by providing a three-letter language code from ISO 639-3.
Reportnet 3 type	Link
Code list	Code list URL: <a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a> Applicable code list values: bul, ces, dan, deu, ell, eng, est, fin, fra, gle, hrv, hun, ita, lav, lit, mlt, nld, pol, por, ron, slk, slv, spa, swe
Example	deu

### *Field railName\_nameEng*

Requirement	Optional
Description	Official rail name used within Member State in English language
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### *8.2.5 Field annualTrafficFlow*

Requirement	Mandatory
Description	Number of train passages in a year on the major railway segment.
Reportnet 3 type	Number – Integer
Format	Maximum of 20 characters
Information	Number is provided as integer number without 1000 separator character.
Example	65800

### *8.2.6 Field length*

Requirement	Mandatory
Description	Actual length of the major railway segment, in metres.
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	Number is provided as integer number without 1000 separator character.
Example	1345



### 8.2.7 Field *linkToReferenceDataset*

Requirement	Optional
Description	Information about INSPIRE reference dataset of railway network to which major railway could be linked.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 8.2.8 Field *linkToReferenceObject*

Requirement	Optional
Description	Reference to railway (spatial object) in the reference dataset of railway network that is provided in the attribute <i>linkToReferenceDataset</i> .
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 8.2.9 Spatial object identifier *inspireId*

Following the underlying INSPIRE conceptual data model, each major railway includes also the external unique object identifier published by the responsible body. The field *inspireId* is based on the complex data type (Identifier) which is represented in the table by three interrelated fields: *inspireId\_localId*, *inspireId\_namespace* and *inspireId\_versionId*. The external unique object identifier is provided by the mandatory values in the fields *inspireId\_localId* and *inspireId\_namespace*. The field *inspireId\_versionId* is optionally used when different versions of the same spatial object are provided in the data set.

Additional information and recommendations on creating INSPIRE external unique object identifiers are provided in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”.

#### *Field inspireId\_localId*

Requirement	Mandatory
Description	Part of <i>inspireId</i> - external object identifier of the spatial object, defined in the INSPIRE Implementing Rules on Interoperability. The attribute <i>localId</i> is a local identifier that is unique within the namespace.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”
Example	RL_AT_00_1


### *Field inspireId\_namespace*

Requirement	Mandatory
Description	External object identifier of the spatial object, defined in the INSPIRE Implementing Rules on Interoperability. The attribute namespace uniquely identifies the data source of the spatial object.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”
Example	end_majorrailway_AT

### *Field inspireId\_versionId*

Requirement	Optional
Description	The attribute versionId identifies a particular version of a spatial object, defined in the INSPIRE Implementing Rules on Interoperability. This attribute can be used together with life-cycle information to distinguish between the different versions of a spatial object.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”. It is proposed to omit spatial object versions (no value – empty field).

### 8.2.10 Field geometry\_line

Requirement	Conditional
Description	It presents geometry of major railway, according to the definition in the INSPIRE Implementing Rules on Interoperability. Geometry shall be represented as a centreline of a major railway.
Reportnet 3 type	Line
Information	This field is used to store geometry type line only, depending on if the line geometry is provided in the reported data. It is recommended.
Example	 <p>Source: END reported data from Germany</p>
Reporting constraints	Only one of the geometry types (line or multiline) should be provided.

### 8.2.11 Field geometry\_multiline

Requirement	Conditional
Description	It presents geometry of major railway, according to the definition in the INSPIRE Implementing Rules on Interoperability. Geometry shall be represented as a centreline of a major railway.
Reportnet 3 type	Multiple lines
Information	This field is used to store geometry type multiple lines only, depending on if the multiple lines geometry is provided in the reported data.
Reporting constraints	Only one of the geometry types (line or multiline) should be provided.

### 8.2.12 Field sourceIdentifier

Requirement	Mandatory
Description	This field is filled automatically. It indicates the source of the reporting data. It is composed of the source name and time stamp. It can be a name of the directly imported file, or the URL of an external source, from which the data was harvested, as recorded in the HarvestSource table. The field also supports the integrity between the primary table with spatial data and the voidables table.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The data source will be provided in the form of a time stamp (DateTime format) and the source name (imported file or service URL). It is provided by the import or harvest process and must not be modified.
Example	2022-05-10T10:19:00Z MajorRailwaySource.gpkg

### 8.3 Table MajorRailwaySourceVoidables

This table includes attributes that are defined as voidable in the data model. Only the attributes defined in the INSPIRE specifications are voidable. This table is used in case a value is assigned to a voidable attribute for an individual spatial object which is already provided in the primary (core) table MajorRailwaySource. Otherwise, the default value of these attributes is used and therefore this table can be left empty.

It is recommended to use DatasetDefaultProperties as default values applicable to the complete data schema. By doing this, MajorRailwaySourceVoidables can be left empty.

In case a value for a voidable property for each special object is provided, the following constraints apply to individual voidable property :

- 1) DateTime data type requires ISO DateTime format with UTC information. The required format is YYYY-MM-DDThh:mm:ssZ. It is applicable to the fields validFrom and beginLifespanVersion;
- 2) If any value for a voidable property of a spatial object is provided, a correct linking between both tables MajorRailwaySource and MajorRailwaySourceVoidables must be provided: the field MajorRailwaySource\_id in the table MajorRailwaySourceVoidables must include the corresponding id of the spatial object from the table MajorRailwaySource, see example below.

MajorRailwaySource	
id	... other fields ...
10	

MajorRailwaySourceVoidables	
MajorRailwaySource_id	... other fields ...
10	

Detailed information about requirements of voidable properties in the INSPIRE application schema can be also found in the [INSPIRE Data Specification on Transport Networks – Technical Guidelines](https://inspire.ec.europa.eu/id/document/tg/am) <https://inspire.ec.europa.eu/id/document/tg/am> and in the [Implementing Rules on Interoperability of spatial data sets and services](#).

*Table 8.2. MajorRailwaySourceVoidables table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>	<b>Code list</b>
M	id	Number - Integer	
O	validFrom	DateTime	
O	inNetwork	Text	
O	beginLifespanVersion	DateTime	
M	MajorRailwaySource_id	Number - Integer	
M	sourcIdentifier	Text	

Detailed information about voidable properties in the Inspire application schemas are provided in the data model documentation (<https://www.eionet.europa.eu/reportnet/docs/noise/data-model-documentation>).

#### 8.4 Table DatasetDefaultProperties

This table includes all properties that can have a default value in a data set. Typically, it includes: default values or void reason for voidable attributes defined in INSPIRE specifications, and default values of other attributes. The table is prefilled and read-only.

*Table 8.3. DatasetDefaultProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
O	attribute	Text
M	defaultValue	Text

*Table 8.4. Applicable values for the DatasetDefaultProperties*

<b>tableName</b>	<b>propertyName</b>	<b>attribute</b>	<b>defaultValue</b>
MajorRailwaySource	inNetwork	nilReason	http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated
MajorRailwaySource	validFrom	nilReason	http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated
MajorRailwaySource	beginLifespanVersion	nilReason	http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated
MajorRailwaySource	fictitious		false
MajorRailwaySource	railId_identifierScheme	href	https://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme/EUENDCode

## 8.5 Table CodelistProperties

This table includes a list of the code lists that have to be used for reporting data on the DF1\_5 major railways data model. The complete code lists used in the END data model are also published in the Eionet Data Dictionary (<https://dd.eionet.europa.eu/vocabularies>) and are used in the Reportnet 3 data schemas.

The specific applicable code lists can also be found in the Vocabulary – common tables data schema of this dataflow.

The table is prefilled and read-only.

*Table 8.5. CodelistProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
M	codelist	Text

*Table 8.6. Applicable values for the CodelistProperties*

<b>tableName</b>	<b>propertyName</b>	<b>codelist</b>
MajorRailwaySource	railName_localNameLanguage	http://dd.eionet.europa.eu/vocabulary/common/iso639-3
MajorRailwaySource	railId_identifierScheme	http://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme

## 8.6 Tables supporting data harvesting through INSPIRE download services

The dataset schema includes two additional tables for the alternative reporting method by providing INSPIRE download services and trigger a data harvesting process. The tables HarvestSource and WorkflowLog are described together with the harvesting process in section 11.4 and in Annex 2.

Regardless of the import process, file import or download service harvesting, the expected file format is GeoPackage provided on the pre-defined template.

## 8.7 GeoPackage format

### 8.7.1 Support to data transformation into GeoPackage

#### GeoPackage template

The GeoPackage template MajorRailwaySource.gpkg that has been created to support data reporting can be found in the:

- Dataflow Help page in Reportnet 3 (see 4.3.2), and
- [https://www.eionet.europa.eu/reportnet/docs/noise/templates/df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/templates/df1_5).

#### Sample data

Sample data containing information as an example of reporting best practices is available at: [https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1_5). It is important to notice that the sample data is simulated data adapted from an official reporting, including additional simulated information especially in the case of new information included in the new END data model.

#### Demonstration of data transformation with the ETL tool HALE Studio

A demonstration video on how to create the new GeoPackage file has been issued, using HALE Studio tool, which is accessible in: <https://www.eionet.europa.eu/reportnet/docs/noise/videos>.

The data transformation project (HALE Studio) details with test data (note: using simulated data for feasibility of data transformation, not exact data for noise reporting) can also be found in the repository [https://github.com/wetransform-os/geopackage-end/tree/main/DF1\\_5](https://github.com/wetransform-os/geopackage-end/tree/main/DF1_5). It shows possibilities to create a mapping between a source schema and target GeoPackage schema and transform source data into the Geopackage file format.

### 8.7.2 Use of GeoPackage file format in the Reportnet 3

The GeoPackage template for DF1\_5 major railways includes the same tables as the ones that are included in Reportnet 3, see example below. The data import process in the Reportnet 3 transfers data from the GeoPackage file into the correlated tables in the Reportnet 3 data schema *Major railway source (DF1\_5)*.

<b>GeoPackage</b> <b>MajorRailwaySource.gpkg – list of tables</b>	<b>template</b>	<b>Reportnet 3 data schema <i>Major railway source (DF1_5)</i> – list of tables</b>
MajorRailwaySource		MajorRailwaySource
MajorRailwaySourceVoidables		MajorRailwaySourceVoidables
DatasetDefaultProperties (pre-filled)		DatasetDefaultProperties (pre-filled, read-only)
CodelistProperties (pre-filled)		CodelistProperties (pre-filled, read-only)



## 9 Major road source (DF1\_5)

### 9.1 Description

Regional, national or international road, designated by the Member State, which has more than three million vehicle passages a year

The MajorRoadSource dataset schema includes four thematic tables and two additional tables supporting the alternative data harvesting process, as following :

- MajorRoadSource : primary content including spatial data
- MajorRoadSourceVoidables : table includes attributes defined as « voidable in the INSPIRE context »
- DatasetDefaultProperties: Information about the default values of objects in a data set or a table (read only schema, and already filled in in Reportnet 3)
- CodelistProperties (read only schema, and already filled in in Reportnet 3) : list of applicable code lists in that data schema.
- HarvestSource: URLs from which to harvest the geospatial features needed for the reporting.
- WorkflowLog: log messages from the harvesting process (i.e. harvested resources, errors occurring during harvesting).

### 9.2 Table MajorRoadSource

MajorRoadSource table includes the primary content of major roads, i.e. length, annual traffic, including also the spatial delineation in a type of lines or multiple line geometry.

*Table 9.1. MajorRoadSource table overview*

Mandatory /optional / conditional	Name	Reportnet 3 Type	Code list
M	id	Number - Integer	
M	roadId_identifier	Text	
O	roadNationalCode	Text	
O	roadName_localName	Text	
O	roadName_localNameLanguage	Link	<a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a>
O	roadName_nameEng	Text	
O	EURoadId	Text	
M	annualTrafficFlow	Number - Integer	

<b>Mandatory /optional / conditional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>	<b>Code list</b>
M	length	Number - Integer	
O	linkToReferenceDataset	Text	
O	linkToReferenceObject	Text	
M	inspireId_localId	Text	
M	inspireId_namespace	Text	
O	inspireId_versionId	Text	
C	geometry_line	Line	
C	geometry_multiline	Multiple lines	
M	sourceIdentifier	Text	

The following section includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

### 9.2.1 Field id

Requirement	Mandatory
Description	Unique identifier automatically created in Geopackage file (primary key in the SQLite database).
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	This attribute is primarily required by the OGC GeoPackage standard. It must be unique within a GeoPackage file.
Example	1

### 9.2.2 Field roadId\_identifier

Requirement	Mandatory
Description	Unique identifier assigned to each major road segment.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The value of this field follows the coding system to create thematic identifiers provided in the guidelines “Proposal on how to build the unique thematic identifiers for the new END data model”.  It belongs to the common END identifier scheme named EUENDCode. The identifier scheme is provided as default value in the table DatasetDefaultProperties.
Example	RD_AT_00_1
Reporting constraints	roadId_identifier will be re-used across the complete END data model to uniquely identify spatial objects and all other objects – entities.

### 9.2.3 Field roadNationalCode

Requirement	Optional
Description	Road national code (road identification number) used within Member State.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 9.2.4 Road name

Road name is based on the complex data type (SimpleGeographicalName) which is represented in the table by three interrelated fields: roadName\_localName, roadName\_localNameLanguage and roadName\_nameEng. Values for all three fields must be provided as rail name.

#### Field roadName\_localName

Requirement	Optional
Description	Official road name used within Member State in the national or local language.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### *Field roadName\_localNameLanguage*

Requirement	Optional
Description	Specification about the national or local language by providing a three-letter language code from ISO 639-3.
Reportnet 3 type	Link
Code list	Code list URL: <a href="https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/">https://dd.eionet.europa.eu/vocabulary/noise/iso639-3/</a> Applicable code list values: bul, ces, dan, deu, ell, eng, est, fin, fra, gle, hrv, hun, ita, lav, lit, mlt, nld, pol, por, ron, slk, slv, spa, swe
Example	deu

### *Field roadName\_nameEng*

Requirement	Optional
Description	Official road name used within Member State in English language
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### *9.2.5 Field EURoadId*

Requirement	Optional
Description	European road code used to reference the road.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### *9.2.6 Field annualTrafficFlow*

Requirement	Mandatory
Description	Number of vehicle passages in a year on the major road segment
Reportnet 3 type	Number – Integer
Format	Maximum of 20 characters
Information	Number is provided as integer number without 1000 separator character.
Example	4500000

### 9.2.7 Field length

Requirement	Mandatory
Description	Actual length of the major road segment, in metres.
Reportnet 3 type	Number - Integer
Format	Maximum of 20 characters
Information	Number is provided as integer number without 1000 separator character.
Example	629

### 9.2.8 Field linkToReferenceDataset

Requirement	Optional
Description	Information about INSPIRE reference dataset of road network to which major road could be linked.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 9.2.9 Field linkToReferenceObject

Requirement	Optional
Description	Reference to road (spatial object) in the reference dataset of road network that is provided in the attribute linkToReferenceDataset.
Reportnet 3 type	Text
Format	Maximum of 10000 characters

### 9.2.10 Spatial object identifier inspireId

Following the underlying INSPIRE conceptual data model, each major road includes also the external unique object identifier published by the responsible body. The field inspireId is based on the complex data type (Identifier) which is represented in the table by three interrelated fields: inspireId\_localId, inspireId\_namespace and inspireId\_versionId. The external unique object identifier is provided by the mandatory values in the fields inspireId\_localId and inspireId\_namespace. The field inspireId\_versionId is optionally used when different versions of the same spatial object are provided in the data set.

Additional information and recommendations on creating INSPIRE external unique object identifiers are provided in "Creating INSPIRE external unique object identifiers in the scope of the END reporting data".

### *Field inspireId\_localId*

Requirement	Mandatory
Description	Part of inspireId - external object identifier of the spatial object, defined in the INSPIRE Implementing Rules on Interoperability. The attribute localId is a local identifier that is unique within the namespace.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”
Example	RD_AT_00_1


### *Field inspireId\_namespace*

Requirement	Mandatory
Description	External object identifier of the spatial object, defined in the INSPIRE Implementing Rules on Interoperability. The attribute namespace uniquely identifies the data source of the spatial object.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”
Example	end_majorroad_AT

### *Field inspireId\_versionId*

Requirement	Optional
Description	The attribute versionId identifies a particular version of a spatial object, defined in the INSPIRE Implementing Rules on Interoperability. This attribute can be used together with life-cycle information to distinguish between the different versions of a spatial object.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	See more information in “Creating INSPIRE external unique object identifiers in the scope of the END reporting data”. It is proposed to omit spatial object versions (no value – empty field).

### 9.2.11 Field geometry\_line

Requirement	Conditional
Description	It presents geometry of major road, according to the definition in the INSPIRE Implementing Rules on Interoperability. Geometry shall be represented as a centreline of a major road.
Reportnet 3 type	Line
Information	This field is used to store geometry type line only, depending on if the line geometry is provided in the reported data. It is recommended.
Example	 <p>Source: END reported data from Austria</p>
Reporting constraints	Only one of the geometry types (line or multiline) should be provided.

### 9.2.12 Field geometry\_multiline

Requirement	Conditional
Description	It presents geometry of major road, according to the definition in the INSPIRE Implementing Rules on Interoperability. Geometry shall be represented as a centreline of a major railway.
Reportnet 3 type	Multiple lines
Information	This field is used to store geometry type multiple lines only, depending on if the multiple lines geometry is provided in the reported data.
Reporting constraints	Only one of the geometry types (line or multiline) should be provided.

### 9.2.13 Field sourceIdentifier

Requirement	Mandatory
Description	This field is filled automatically. It indicates the source of the reporting data. It is composed of the source name and time stamp. It can be a name of the directly imported file, or the URL of an external source, from which the data was harvested, as recorded in the HarvestSource table. The field also supports the integrity between the primary table with spatial data and the voidables table.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	The data source will be provided in the form of a time stamp (DateTime format) and the source name (imported file or service URL). It is provided by the import or harvest process and must not be modified.
Example	2022-05-10T10:19:00Z MajorRoadSource.gpkg

### 9.3 Table MajorRoadSourceVoidables

This table includes attributes that are defined as voidable in the data model. Only the attributes defined in the INSPIRE specifications are voidable. This table is used in case a value is assigned to a voidable attribute for an individual spatial object which is already provided in the primary (core) table MajorRoadSource. Otherwise, the default value of these attributes is used and therefore this table can be left empty.

It is recommended to use DatasetDefaultProperties as default values applicable to the complete data schema. By doing this, MajorRoadSourceVoidables can be left empty.

In case a value for a voidable property for each special object is provided, the following constraints apply to individual voidable property :

- 1) DateTime data type requires ISO DateTime format with UTC information. The required format is YYYY-MM-DDThh:mm:ssZ. It is applicable to the fields validFrom and beginLifespanVersion;
- 2) If any value for a voidable property of a spatial object is provided, a correct linking between both tables MajorRoadSource and MajorRoadSourceVoidables must be provided: the field MajorRoadSource\_id in the table MajorRoadSourceVoidables must include the corresponding id of the spatial object from the table MajorRoadSource, see example below.

MajorRoadSource	
id	... other fields ...
10	

MajorRoadSourceVoidables	
MajorRoadSource_id	... other fields ...
10	

Detailed information about requirements of voidable properties in the INSPIRE application schema can be also found in the [INSPIRE Data Specification on Transport Networks – Technical Guidelines](https://inspire.ec.europa.eu/id/document/tg/am) <https://inspire.ec.europa.eu/id/document/tg/am> and in the [Implementing Rules on Interoperability of spatial data sets and services](#).



*Table 9.2. MajorRoadSourceVoidables table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>	<b>Code list</b>
M	id	Number - Integer	
O	validFrom	DateTime	
O	inNetwork	Text	
O	beginLifespanVersion	DateTime	
M	MajorRailwaySource_id	Number - Integer	
M	sourceIdentifier	Text	

Detailed information about voidable properties in the Inspire application schemas are provided in the data model documentation (<https://www.eionet.europa.eu/reportnet/docs/noise/data-model-documentation>).

#### 9.4 Table DatasetDefaultProperties

This table includes all properties that can have a default value in a data set. Typically, it includes: default values or void reason for voidable attributes defined in INSPIRE specifications, and default values of other attributes. The table is prefilled and read-only.

*Table 9.3. DatasetDefaultProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
O	attribute	Text
M	defaultValue	Text

*Table 9.4. Applicable values for the DatasetDefaultProperties*

<b>tableName</b>	<b>propertyName</b>	<b>attribute</b>	<b>defaultValue</b>
MajorRoadSource	inNetwork	nilReason	<a href="http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated">http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated</a>
MajorRoadSource	validFrom	nilReason	<a href="http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated">http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated</a>
MajorRoadSource	beginLifespanVersion	nilReason	<a href="http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated">http://inspire.ec.europa.eu/codelist/VoidReasonValue/Unpopulated</a>
MajorRoadSource	fictitious		false
MajorRoadSource	roadId_identifierScheme	href	<a href="https://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme/EUENDCode">https://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme/EUENDCode</a>

## 9.5 Table CodelistProperties

This table includes a list of the code lists that have to be used for reporting data on the DF1\_5 major roads data model. The complete code lists used in the END data model are also published in the Eionet Data Dictionary (<https://dd.eionet.europa.eu/vocabularies>) and are used in the Reportnet 3 data schemas.

The specific applicable code lists can also be found in the Vocabulary – common tables data schema of this dataflow.

The table is prefilled and read-only.

*Table 9.5. CodelistProperties table overview*

<b>Mandatory /optional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>
M	tableName	Text
M	propertyName	Text
M	codelist	Text

*Table 9.6. Applicable values for the CodelistProperties*

<b>tableName</b>	<b>propertyName</b>	<b>codelist</b>
MajorRoadSource	roadName_localNameLanguage	<a href="http://dd.eionet.europa.eu/vocabulary/common/iso639-3">http://dd.eionet.europa.eu/vocabulary/common/iso639-3</a>
MajorRoadSource	roadId_identifierScheme	<a href="http://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme">http://dd.eionet.europa.eu/vocabulary/inspire/IdentifierScheme</a>

## 9.6 Tables supporting data harvesting through INSPIRE download services

The dataset schema includes two additional tables for the alternative reporting method by providing INSPIRE download services and trigger a data harvesting process. The tables HarvestSource and WorkflowLog are described together with the harvesting process in section 11.4 and in Annex 2.

Regardless of the import process, file import or download service harvesting, the expected file format is GeoPackage provided on the pre-defined template.

## 9.7 GeoPackage format

### 9.7.1 Support to data transformation into GeoPackage

#### GeoPackage template

The GeoPackage template MajorRoadSource.gpkg that has been created to support data reporting can be found in the:

- Dataflow Help page in Reportnet 3 (see 4.3.2), and
- [https://www.eionet.europa.eu/reportnet/docs/noise/templates/df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/templates/df1_5).

#### Sample data

Sample data containing information as an example of reporting best practices is available at: [https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1\\_5](https://www.eionet.europa.eu/reportnet/docs/noise/reporting-examples/sample-data-noise-sources-df1_5). It is important to notice that the sample data is simulated data adapted from an official reporting, including additional simulated information especially in the case of new information included in the new END data model.

#### Demonstration of data transformation with the ETL tool HALE Studio

A demonstration video on how to create the new GeoPackage file has been issued, using HALE Studio tool, which is accessible in: <https://www.eionet.europa.eu/reportnet/docs/noise/videos>.

The data transformation project (HALE Studio) details with test data (note: using simulated data for feasibility of data transformation, not exact data for noise reporting) can also be found in the repository [https://github.com/wetransform-os/geopackage-end/tree/main/DF1\\_5](https://github.com/wetransform-os/geopackage-end/tree/main/DF1_5). It shows possibilities to create a mapping between a source schema and target GeoPackage schema and transform source data into the Geopackage file format.

### 9.7.2 Use of GeoPackage file format in the Reportnet 3

The GeoPackage template for DF1\_5 major roads includes the same tables as the ones that are included in Reportnet 3, see example below. The data import process in the Reportnet 3 transfers data from the GeoPackage file into the correlated tables in the Reportnet 3 data schema *Major road source (DF1\_5)*.

<b>GeoPackage template MajorRoadSource.gpkg – list of tables</b>	<b>Reportnet 3 data schema <i>Major road source (DF1_5)</i> – list of tables</b>
MajorRoadSource	MajorRoadSource
MajorRoadSourceVoidables	MajorRoadSourceVoidables
DatasetDefaultProperties (pre-filled)	DatasetDefaultProperties (pre-filled, read-only)
CodelistProperties (pre-filled)	CodelistProperties (pre-filled, read-only)

## 10 Data schema: Submission Declaration

### 10.1 Description

Information on noise sources submitted before the deadline or information on the changes from previous submissions and the reasons for submitting updated data after the deadline. According to Article 10, if the country wishes to modify the submission after the deadline, the country needs to explain the changes from the previous submission and the reasons for the update. The information of this schema is also used to understand completeness of the data provided.

The SubmissionDeclaration dataset schema only includes one table:

- SubmissionDeclaration

### 10.2 Table SubmissionDeclaration

The table *SubmissionDeclaration* includes a list of fields that describe reporting and completeness status of each noise source. It also provides a field for specifying the changes from previous submissions and the reasons for re-submitting data.

*Table 10.1. Submission Declaration table overview*

<b>Mandatory /optional / conditional</b>	<b>Name</b>	<b>Reportnet 3 Type</b>	<b>Code list</b>
M	processStatus	Single select	
M	agglomerationSource	Single select	
M	majorAirportSource	Single select	
M	majorRailwaySource	Single select	
M	majorRoadSource	Single select	
C	difference	Text	
C	reason	Text	
O	explanatoryFile	Attachment	
O	dateOfChange	Date	

The following section includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

### 10.2.1 Field processStatus

Requirement	Mandatory
Description	Type of submission
Reportnet 3 type	Single select
Format	<ul style="list-style-type: none"> <li>- submissionBeforeDeadline</li> <li>- resubmission</li> </ul>
Information	<p>“submissionBeforeDeadline” needs to be selected if the reporting is done before the legal deadline of the dataflow. The value “resubmission” needs to be selected in the following cases:</p> <ul style="list-style-type: none"> <li>- The first submission is done after the deadline of the dataflow.</li> <li>- A resubmission of the data is done after the deadline, replacing the previous submission.</li> </ul>
Example	submissionBeforeDeadline

### 10.2.2 Field agglomerationSource

Requirement	Mandatory
Description	Submission of agglomeration information
Reportnet 3 type	Single select
Format	<ul style="list-style-type: none"> <li>- includedInSubmission</li> <li>- includedInResubmissionUpdate</li> <li>- includedInResubmissionNoChange</li> <li>- notIncluded</li> <li>- notApplicable</li> </ul>
Information	<p>The value “includedInSubmission” needs to be selected when the data in agglomeration source dataset schema is included in the submission.</p> <p>The value “includedInResubmissionUpdate” needs to be selected when the data in agglomeration source dataset schema is updated in the new submission.</p> <p>The value “includedInResubmissionNoChange” needs to be selected when the data in agglomeration source dataset schema has not changed from previous submissions.</p> <p>The value “notIncluded” needs to be selected when the agglomeration source dataset schema is empty (no data included in the dataset schema).</p> <p>The value “notApplicable” needs to be selected when the agglomeration source is not applicable to be reported.</p>
Example	includedInSubmission

### 10.2.3 Field majorAirportSource

Requirement	Mandatory
Description	Submission of major airport information
Reportnet 3 type	Single select
Format	<ul style="list-style-type: none"> <li>- includedInSubmission</li> <li>- includedInResubmissionUpdate</li> <li>- includedInResubmissionNoChange</li> <li>- notIncluded</li> <li>- notApplicable</li> </ul>
Information	<p>The value “includedInSubmission” needs to be selected when the data in major airport source dataset schema is included in the submission.</p> <p>The value “includedInResubmissionUpdate” needs to be selected when the data in major airport source dataset schema is updated in the new submission.</p> <p>The value “includedInResubmissionNoChange” needs to be selected when the data in major airport source dataset schema has not changed from previous submissions.</p> <p>The value “notIncluded” needs to be selected when the major airport source dataset schema is empty (no data included in the dataset schema).</p> <p>The value “notApplicable” needs to be selected when the major airport source is not applicable to be reported.</p>
Example	includedInSubmission

### 10.2.4 Field majorRailwaySource

Requirement	Mandatory
Description	Submission of major railway information
Reportnet 3 type	Single select
Format	<ul style="list-style-type: none"> <li>- includedInSubmission</li> <li>- includedInResubmissionUpdate</li> <li>- includedInResubmissionNoChange</li> <li>- notIncluded</li> <li>- notApplicable</li> </ul>
Information	<p>The value “includedInSubmission” needs to be selected when the data in major railway source dataset schema is included in the submission.</p> <p>The value “includedInResubmissionUpdate” needs to be selected when the data in major railway source dataset schema is updated in the new submission.</p> <p>The value “includedInResubmissionNoChange” needs to be selected when the data in major railway source dataset schema has not changed from previous submissions.</p> <p>The value “notIncluded” needs to be selected when the major railway source dataset schema is empty (no data included in the dataset schema).</p> <p>The value “notApplicable” needs to be selected when the major railway source is not applicable to be reported.</p>
Example	includedInResubmissionUpdate

### 10.2.5 Field majorRoadSource

Requirement	Mandatory
Description	Submission of major road information
Reportnet 3 type	Single select
Format	<ul style="list-style-type: none"> <li>- includedInSubmission</li> <li>- includedInResubmissionUpdate</li> <li>- includedInResubmissionNoChange</li> <li>- notIncluded</li> <li>- notApplicable</li> </ul>
Information	<p>The value “includedInSubmission” needs to be selected when the data in major road source dataset schema is included in the submission.</p> <p>The value “includedInResubmissionUpdate” needs to be selected when the data in major road source dataset schema is updated in the new submission.</p> <p>The value “includedInResubmissionNoChange” needs to be selected when the data in major road source dataset schema has not changed from previous submissions.</p> <p>The value “notIncluded” needs to be selected when the major road source dataset schema is empty (no data included in the dataset schema).</p> <p>The value “notApplicable” needs to be selected when the major road source is not applicable to be reported.</p>
Example	includedInResubmissionNoChange

### 10.2.6 Field difference

Requirement	Conditional
Description	Description of the differences from the previous submission
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	Briefly describe all the differences that apply to the resubmission
Example	<p>Agglomeration with identifier AG_AT_00_3 has been added</p> <p>Major road with identifier RD_AT_00_1430 geometry has been modified</p>
Reporting constraints	It must be provided for any resubmission

### 10.2.7 Field reason

Requirement	Conditional
Description	Description of the reasons for the data update
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Information	Briefly describe the reasons for the data update
Example	<p>Agglomeration with identifier AG_AT_00_1 was not reported in time by the competent authority</p> <p>Traffic flow of Major road with identifier RD_AT_00_187 was recalculated</p>
Reporting constraints	It must be provided for any resubmission

### 10.2.8 Field explanatoryFile

Requirement	Optional
Description	Placeholder to include an extra explanatory file with details of the resubmission, if applicable
Reportnet 3 type	Attachment
Format	Any file extension
Information	Recommended .doc, .pdf, .xls
Reporting constraints	Maximum size of the file is 20 MB

### 10.2.9 Field dateOfChange

Requirement	Optional
Description	Date when the change in the delivery is done
Reportnet 3 type	Date
Format	YYYY-MM-DD
Information	Date of submission or resubmission
Example	2023-01-20

## 11 Reporting process

### 11.1 Reporting data in Reportnet 3: overall workflow

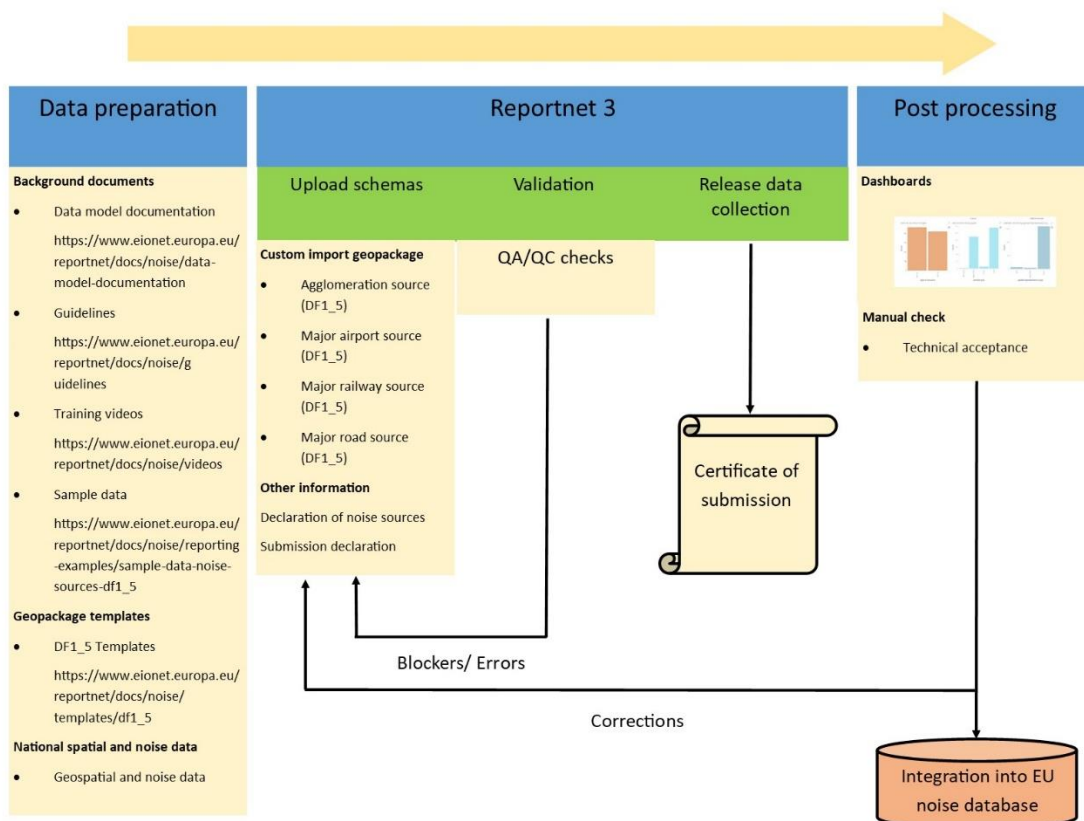


Figure 11.1 illustrates the different processes involved in the reporting of DF1\_5 Noise Sources. The direct link to access to the all the available supporting material of the noise sources can be found here: <https://www.eionet.europa.eu/reportnet/docs/noise>. The preparation of the data involves using predefined templates in GeoPackage with the spatial information of the country's major roads, major railways, major airports and agglomerations. The dataflow is organised by data schemas and a GeoPackage template is available for each noise source. Data sets for each data schema will need to be uploaded according to the existing and applicable noise sources declared in "Declaration of noise sources" data schema. In addition, to comply with Article 10, if the country wishes to modify a submission after the deadline, an explanation stating the changes from the previous submission and the reasons for the update needs to be provided. This information needs to be provided in "Submission declaration". Once the data files have been uploaded, they can be assessed based on the quality assurance validations that are programmed inside Reportnet 3. The description of these quality checks can be downloaded here:

[https://www.eionet.europa.eu/reportnet/docs/noise/guidelines/document\\_qcs\\_df1\\_5.xlsx/view](https://www.eionet.europa.eu/reportnet/docs/noise/guidelines/document_qcs_df1_5.xlsx/view).

Once the data is correct, without any blocking errors in the quality checks, the delivery can be completed by releasing the data collection. In case of blocking errors in the validation, the data cannot be released and the reporter will need to correct the content, replace the files and release the data collection again. After the data has been released, a confirmation receipt will be issued and will be available in the dataflow page. The data submitted will be available in Reportnet 3 and if there are other errors, you will receive a standard notification that a correction and a resubmission is needed. All the submissions will be integrated in the EU noise database.

Figure 11.1. Reporting workflow



#### Further information on the reporting process of DF1\_5

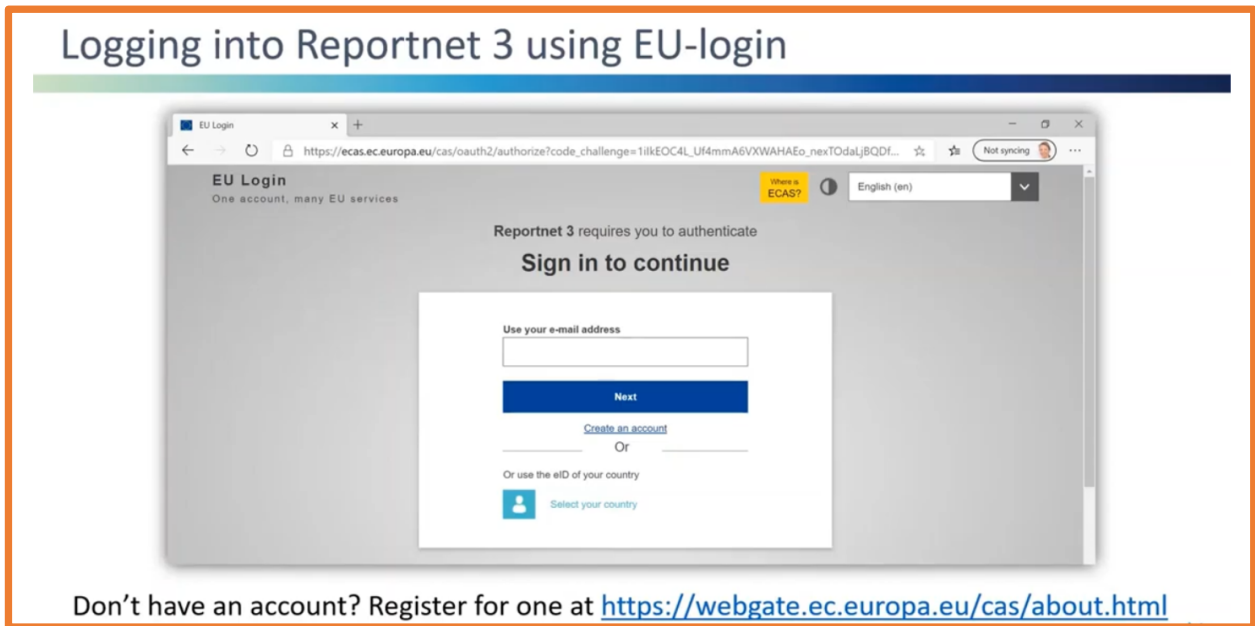
- Reportnet 3 reporters' manual : [https://www.eionet.europa.eu/reportnet/docs/prod/reporter\\_howto\\_reportnet3.0](https://www.eionet.europa.eu/reportnet/docs/prod/reporter_howto_reportnet3.0)
- Training video: [https://www.eionet.europa.eu/reportnet/docs/noise/videos/df1\\_5\\_reportnet\\_final\\_v4.mp4/view](https://www.eionet.europa.eu/reportnet/docs/noise/videos/df1_5_reportnet_final_v4.mp4/view)

## 11.2 User accounts and permissions

The official reporting will be done through the following URL: <https://reportnet.europa.eu/>.

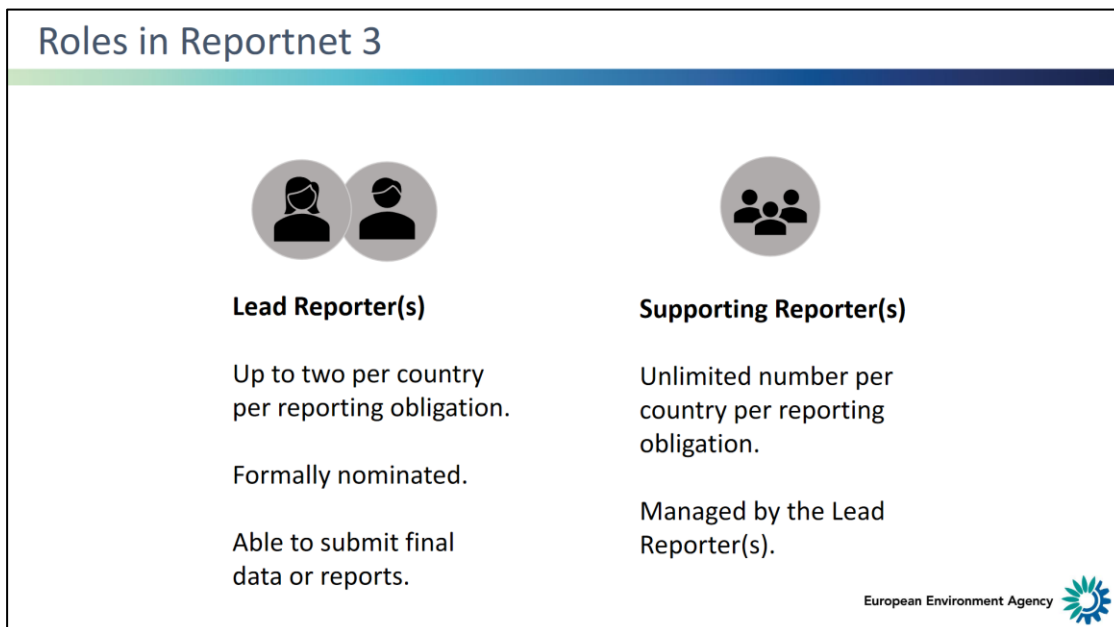
The log in will be done through the EU login portal and the reporter will have to use the EU login details. Therefore, reporters will not be managing an Eionet login account but they will use an EU login account which is separately maintained and that can be more easily updated. The EU accounts can be created at <https://webgate.ec.europa.eu/cas/about.html>.

Figure 11.2. Log in into Reportnet 3 using EU-login



In Reportnet 3 there are two main roles for reporters, one is the lead reporter's role and the other is the supporting reporter's role. Prior, in Reportnet 2, all reporters were registered by the EEA and the lists were maintained by the agency. In the new reporting mechanism, the supporting reporters can prepare the data and can access the reporting platform. The number of supporting reporters is unlimited but those will be managed by the lead reporter. The lead reporter will be in charge to submit the final data and needs to be formally nominated.

Figure 11.3. Roles in Reportnet 3



### 11.3 Importing data from a file

To import the GeoPackage file, the custom imports (gpkg) needs to be selected as indicated in Figure 11.4. The reporter will be asked to select a file and upload it.

If the reporter is replacing the existing data, *Replace data* can be selected (see Figure 11.5).

The option *Replace data* will delete all previously imported data in all tables, which is particularly important if different reporters will import data for the same data schema.

Figure 11.4. Import dataset data

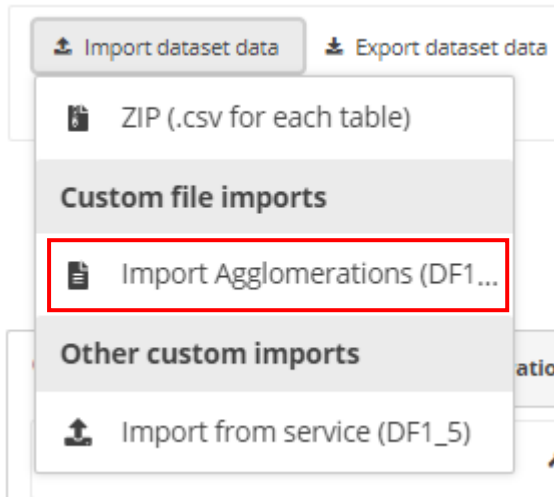
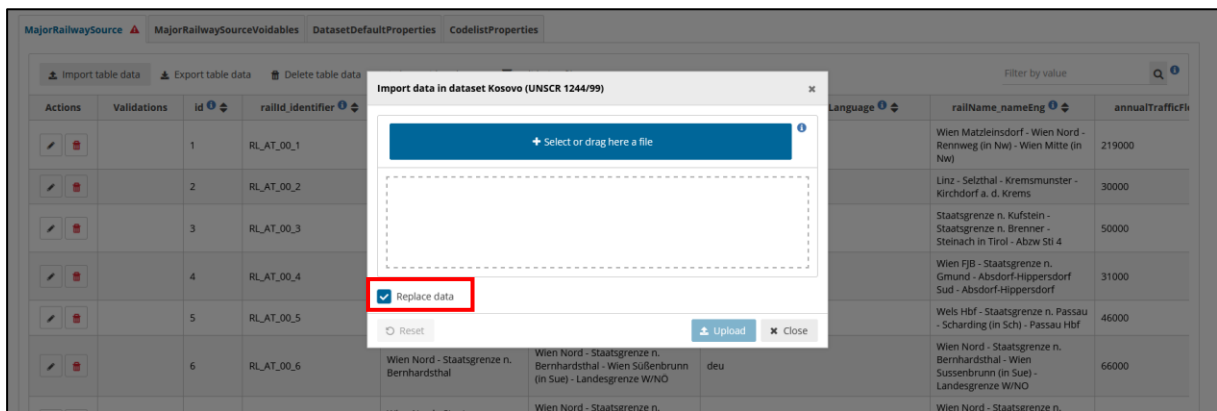


Figure 11.5. Replace data







## 11.4 Importing data from a service

For importing data from a service, the dataset schema in the Reportnet 3 includes two tables: HarvestSource and WorkflowLog which are described in details in Annex 2.

A typical import from a service workflow will look as the following:

1. Manually enter the information about the download services to use in the HarvestSource table.

Figure 11.6. Example of the manual entry of the information in the HarvestSource table

Actions	Validations	serviceType	serviceUri	operation
 		Direct file	https://projects.sadl.kuleuven.be/downloadfolder/eea_testdata/df1_5-1/Agglomeration_IR3_MT.gpkg	Append to table data
 		Direct file	https://projects.sadl.kuleuven.be/downloadfolder/eea_testdata/df1_5-1/AgglomerationSource_samples.gpkg	Do not import

Another option is to upload a pre-defined file with service information in csv format using function Import table data.

All three fields in the table HarvestSource must be provided as following:

- **serviceType:** can be Direct file only.
- **serviceUrl:** contains the link to the service. If Direct file is selected, serviceUrl must point to a downloadable GeoPackage file (zipped or unzipped). It is not allowed to point to an atom feed containing the information of a downloadable file.
- **operation:** tells Reportnet what to do with this service. The following options need to be selected:
  - **Append to table data:** This will add the downloaded data to the data already in the thematic tables in the noise source dataset schema, as following:
    - In the dataset schema Agglomeration source, the tables are: AgglomerationSource and AgglomerationSourceVoidables
    - In the dataset schema Major airport source, the table is MajorAirportSource
    - In the dataset schema Major railway source, the tables are: MajorRailwaySource and MajorRailwaySourceVoidables
    - In the dataset schema Major road source, the tables are: MajorRoadSource and MajorRoadSourceVoidables
  - **Delete all data before import:** This will delete the data in in the thematic tables in the noise source dataset schema before starting import. You cannot delete data from one service source only. If “Delete all data before import” is selected for one of the services, ALL data in all thematic tables in the corresponding dataset schema will be deleted before the process starts.
    - For example: in the dataset schema Agglomeration source, if “Delete all data before import” is selected for one of the services, ALL data in the tables AgglomerationSource and AgglomerationSourceVoidables will be deleted.
    - This logic applies also to dataset schemas Major airport source, Major railway source and Major road source.
  - **Do not import:** This will ignore this record when import is started. For example: if you have three services in the HarvestSource table, and you want to test one of them, you can set operation “Do not import” for the other two services.

**Remark: Import from a file can only process one file for each import. Import from a service will import in one step ALL services in HarvestSource table that do not have operation set to “Do not import”.**



2. If you want to start from empty tables in the noise source dataset schema and import all data again, there are several ways to do this. The first option could be to delete data in one table manually by using “Delete table data” (except in HarvestSource table). The second option could be “Delete dataset data” which will delete data from all tables in the dataset schema (except read-only tables). The third option is to ‘Delete all data before import’ as explained in step 1 from the harvesting operation. Please be aware that if you use option 2 and 3, HarvestSource data will also be deleted and you will need to include service information again.

If you use option 1 (see Figure 11.7), you should manually delete data in the following tables:

- In the dataset schema Agglomeration source, delete the tables AgglomerationSource and AgglomerationSourceVoidables

- In the dataset schema Major airport source, delete the table MajorAirportSource
- In the dataset schema Major railway source, delete the tables MajorRailwaySource and MajorRailwaySourceVoidables
- In the dataset schema Major road source, delete the tables MajorRoadSource and MajorRoadSourceVoidables

Figure 11.7. Delete table data option: to delete each thematic table in that dataset schema manually

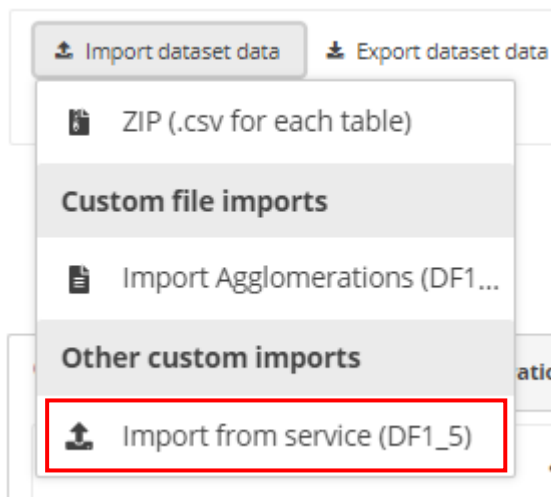
Actions	Validations	id	ICAOCode	airportName_localName	airportName_localNam
 		1	LOWW	Flughafen Wien	deu

Be aware that this deletes all data in the table, also those previously imported from a file or from a service. It is not possible to delete records from one import only.

If you don't need the logged feedback from previous service imports, you can also delete table data for WorkflowLog.

3. Click on the **Import dataset data** button on the top left of the menu, choose "Import from a service".

Figure 11.8. Import from a service option

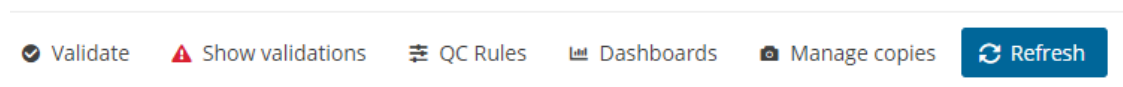


4. **Do not check Replace data.** See step 2 if you want to start from empty thematic tables in the noise source dataset schema and import all data again. "Replace data" will delete all data in all non-predefined tables, including the tables HarvestSource and WorkflowLog, therefore information about services will be deleted.
5. If the operation field of one of the services in the HarvestSource table is set to "Delete all data before import", Reportnet 3 will first empty the thematic tables in the noise source dataset schema (e.g. in the dataset schema Agglomeration source, the tables AgglomerationSource and

AgglomerationSourceVoidables). After that it will connect to each service in HarvestSource and download the data provided by the service. Services with operation set to “Do not import” are not processed.

6. During the process, Reportnet 3 will enter feedback on the process in the WorkflowLog table. This can be information (logType=info, e.g. number of records downloaded from a service), warnings (logType=warning, e.g. if HarvestSource doesn't contain any services to harvest) or errors (logType=error, e.g. there is something wrong with a service or with the data provided by a service). The logMessage will contain the error received.
7. Notifications in the top right will inform you the import / load has started and when it has finished. Remember to press the “Refresh” button to properly display the data uploaded.

*Figure 11.9. Refresh button to see the results of data load or validation*



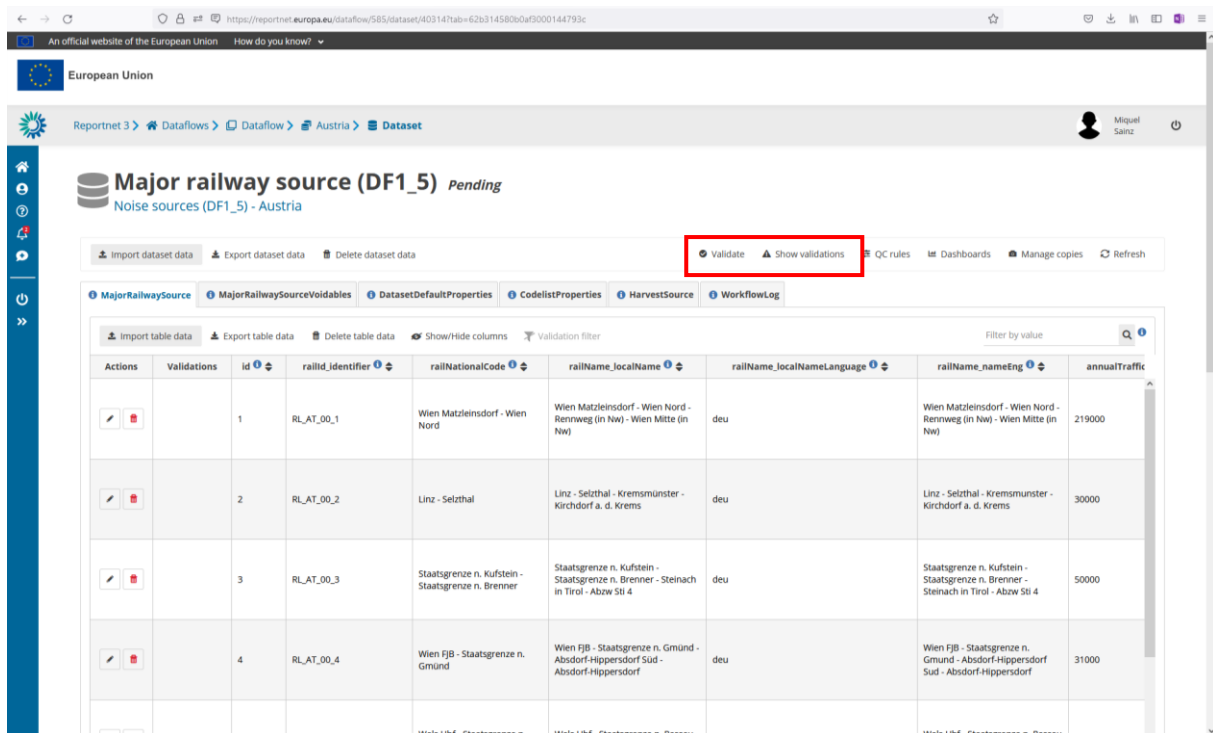
8. After import from a service, the validation must be activated by triggering the Validate button.
9. Once the validation is finished the “Refresh” button will be highlighted and after clicking it you will see the results of the validation. The validation can be run manually many times and it is triggered automatically when data flow is released to data collection.
10. If you want to upload additional data from files, continue with process described in section 11.3.

A reporter can consult the WorkflowLog table for feedback information from processing the services, see step 6 in the workflow above. The WorkflowLog information should help a reporter to adjust service information and parameters.

## 11.5 Validations

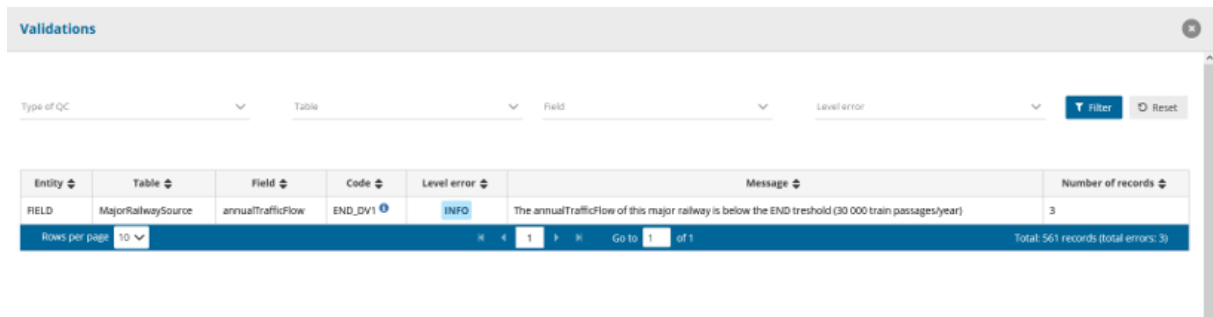
The data to be submitted can be assessed with the validation tools provided in Reportnet 3 as shown in Figure 11.10.

Figure 11.10. Show validations



The validations are run automatically when the data is uploaded and the reports can be consulted as shown in Figure 11.11. Corresponding error reports will be displayed at the schema level.

Figure 11.11. Validations report

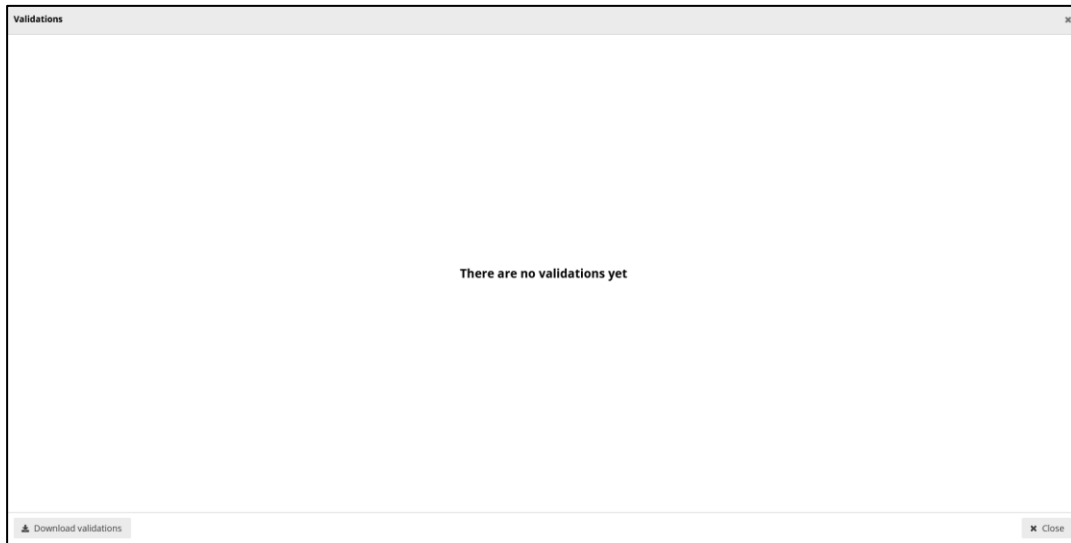


If there are no blockers, errors, warnings, or information messages in the data uploaded, the message shown in Figure 11.12 will be given. Errors identified as “blockers” will not allow the reporter to release the data collection. Obtaining blockers in the validation process means that the data delivered has missing or erroneous elements that may corrupt the integrity of the European noise database or undermine the consistency of the reported data.

All quality control rules are described in Dataflow Help - Dataset schemas / QC rules (see chapter 3.1).



Figure 11.12. Successful validation message



## 11.6 Official submission of the report

The reporter will be able to submit the data by clicking on "Release to data collection" as shown in Figure 11.13. If there are blockers in any dataset schema, the release will be stopped and the reporter will receive a message indicating that releasing the data is not possible due to errors in the dataset. The reporter can make copies of the data submitted. After the submission a new icon will appear with the confirmation receipt as shown in Figure 11.14. The confirmation receipt includes a confirmation of the submission which indicates the data schemas that were submitted; and it is provided in the pdf format. If the reporter changes the data and resubmits a new copy to the data collection, then a new confirmation receipt will be available for download.

Figure 11.13. Release data collection

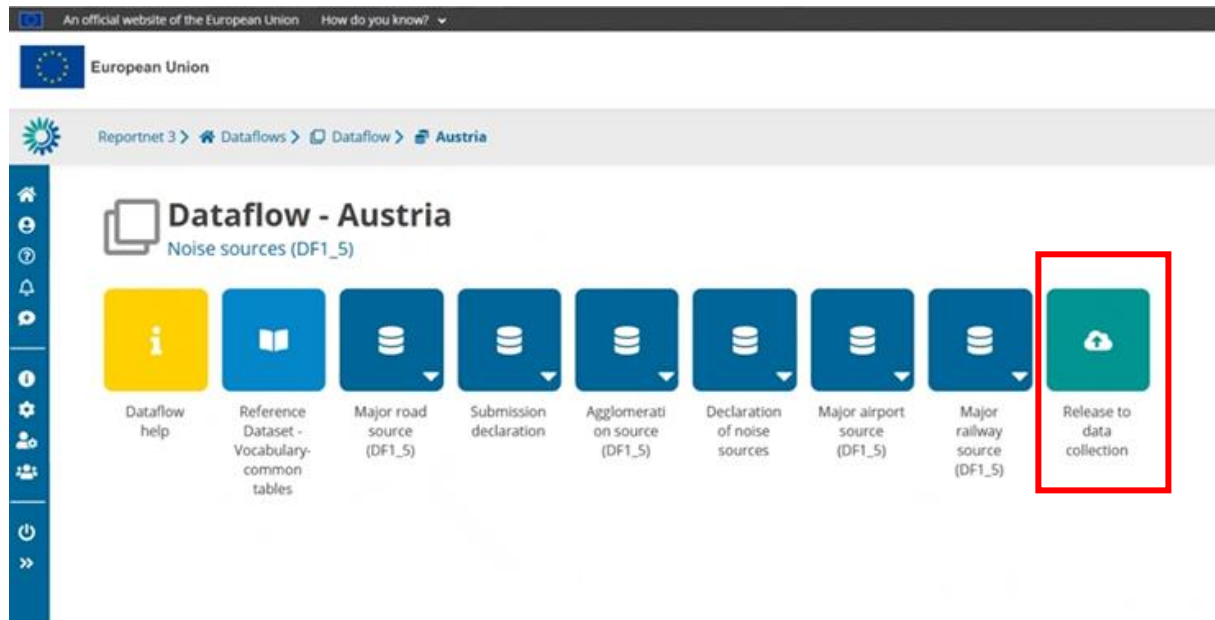


Figure 11.14. Confirmation receipt



## 11.7 Resubmission

The reporter will be able to replace/update the submission until the deadline. According to the Directive 2002/49/EC Article 10 (see below), if the reporter wishes to modify the submission after the deadline, an official communication to the EEA and the EC will have to be provided stating the changes from the previous submission and the reasons for the update. This information on changes from previous submissions and reasons for resubmitting data will need to be provided within the schema "Submission declaration".

Article 10 – paragraph 2: 'Member States shall ensure that the information from strategic noise maps and summaries of the action plans as referred to in Annex VI are sent to the Commission within six months of the dates laid down in Articles 7 and 8 respectively. For that purpose, Member States shall only report the information by electronic means to a mandatory data repository to be established by the Commission by means of implementing acts. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 13(2). **In the event that a Member State wants to update information, it shall describe the differences between the updated and original information and the reasons for the update when making the updated information available to the data repository.**

## Annex 1. Recommendations for INSPIRE metadata for datasets of END noise sources

The INSPIRE Directive sets conditions for several technical infrastructure components that are further defined by the legal implementing acts and technical guidelines. The main components are:

- metadata for spatial data sets and services
- interoperability of spatial data sets and services
- network services (discovery, view, download, transformation, invoke)
- measures for the sharing of spatial data sets and services between public authorities, including to public authorities of other Member State and to the institutions and bodies of the Community, and
- monitoring and reporting of the implementation and use of national infrastructures for spatial information.

The spatial data sets in the END reporting scope are designed to be compliant with the INSPIRE Directive and requirements for spatial data sets. In the INSPIRE Directive scope, spatial data sets are only one of the infrastructure components. To fulfil the INSPIRE Directive and make spatial data sets available, all other components must be provided.

This annex describes recommendations to support creating INSPIRE metadata for the reporting data sets of END noise sources for the END data flow DF1\_5. The recommendations are based on proposed GeoPackage templates for providing data sets of END noise sources.

The metadata documents that have been previously reported as part of the END reporting cycle can be easily mapped to the INSPIRE metadata elements. Thus, the recommendations in this annex are provided for a few INSPIRE metadata elements with aim to encourage a more harmonised description of END noise sources. The recommendations are provided for the following INSPIRE metadata elements.

- Identification – resource title
- Identification – resource abstract
- Keyword
- Lineage
- Conformity.

Metadata will be mostly prepared in national or local languages. The following examples are provided in English language.

### 1. INSPIRE metadata for spatial data sets overview

The INSPIRE Directive sets the legal basis for creating metadata for spatial data sets, series and services as part of the infrastructure for spatial information in Europe. The INSPIRE Metadata Regulation further defines the metadata requirements. Specific metadata requirements are also defined in other INSPIRE implementing rules where applicable. The implementation of the complete metadata catalogue is described in detail in the INSPIRE Metadata technical guidelines.

The overview of the INSPIRE instruments and documents related to metadata is provided below:

- The INSPIRE Directive<sup>5</sup> defines that Member States shall ensure that metadata are created for the spatial data sets and services corresponding to the themes listed in the Directive Annexes I, II and III, and that those metadata are kept up to date;
- The INSPIRE Implementing Rules for Metadata (Metadata Regulation) and its amendments<sup>6</sup> define requirements for the creation and maintenance of metadata for spatial data sets, spatial data set series and spatial data services;
- The INSPIRE Implementing Rules on interoperability of spatial data sets and services<sup>7</sup> define metadata requirements supporting the interoperability and specific thematic requirements;
- The new INSPIRE Monitoring and Reporting Decision<sup>8</sup> defines indicators for monitoring of implementation and use of national infrastructures for spatial information. The indicators are calculated using the metadata of the spatial data sets and the spatial data services. The Decision defines new indicators for monitoring of the availability of spatial data and services:
  - indicator which measures the number of spatial data sets that are already used by the Member State for reporting to the Commission under the environmental legislation (INSPIRE priority list of data sets for e-Reporting)
  - indicator which measures the number of the spatial data sets that respectively cover regional or national territory.
- The INSPIRE priority list of datasets for e-Reporting<sup>9</sup> is primarily focused on the data sets in the scope of the reporting obligations of the environmental legislation. Relevant data sets must be properly documented through specific keywords in metadata for spatial data sets. The keywords are provided from the INSPIRE priority data set code list<sup>10</sup>;
- The INSPIRE Metadata technical guidelines<sup>11</sup> provide technical details for providing metadata for INSPIRE data sets and services in ISO/TS 19139 based XML format in compliance with the INSPIRE Implementing Rules.

**[The INSPIRE Metadata technical guidelines](#) provide detailed description of metadata elements and their encoding in XML according to the ISO/TS 19139 Geographic information - Metadata - XML schema implementation standard. The complete INSPIRE metadata element catalogue is described in the Annex C, including legal basis, metadata element name, requirements (e.g. multiplicity and INSPIRE obligation) and details for implementation.**

The INSPIRE Metadata for spatial data sets shall be validated with the [INSPIRE Reference Validator](#) to obtain clear information about the metadata conformance to the INSPIRE requirements. The recent validation of metadata for data sets and data set series shall be configured to use Technical Guidelines Version 2.0 and all conformance classes for metadata, as shown on the next figure.

---

<sup>5</sup> <http://data.europa.eu/eli/dir/2007/2/2019-06-26>

<sup>6</sup> <https://inspire.ec.europa.eu/Legislation/Metadata/6541>

<sup>7</sup> <https://inspire.ec.europa.eu/Legislation/Data-Specifications/2892>

<sup>8</sup> [http://data.europa.eu/eli/dec\\_impl/2019/1372/oj](http://data.europa.eu/eli/dec_impl/2019/1372/oj)

<sup>9</sup> <https://github.com/INSPIRE-MIF/need-driven-data-prioritisation/tree/main/documents>

<sup>10</sup> <https://inspire.ec.europa.eu/metadata-codelist/PriorityDataset>

<sup>11</sup> <https://inspire.ec.europa.eu/Technical-Guidelines2/Metadata/6541> and <https://inspire.ec.europa.eu/id/document/tg/metadata-iso19139>

Figure 11.15 INSPIRE Reference Validator for metadata for spatial data sets

European Commission | English | Search

European Commission > INSPIRE > Validator > Test selection

## INSPIRE Reference Validator - Test selection

Home Test selection Test reports Get support More on the INSPIRE Reference Validator

### Configure your test

Select the INSPIRE resource you would like to test

- Metadata
- View Service
- Download Service
- Discovery Service
- Data set

Select the Technical Guidelines version

- Version 1.3 - DEPRECATED
- Version 2.0

Select the type of metadata record(s) to be tested

- Data sets and data set series
- Network Service
- Spatial Data Service

Advanced options ^

Select the conformance classes to be assessed

- Common Requirements for ISO/TC 19139:2007 based INSPIRE metadata records ([source](#))
- Conformance Class 1: 'Baseline metadata for data sets and data set series' ([source](#))
- Conformance Class 2: 'INSPIRE data sets and data set series interoperability metadata' ([source](#))
- Conformance Class 2b: 'INSPIRE data sets and data set series metadata for Monitoring' ([source](#))

Antispam:  
Move the slider to the number which is highest: one or 6.

Your selected answer is: 0

Verify

Start test >

The following sections provide recommendations for some of the INSPIRE metadata elements from the point of view of data sets of END noise sources, a reporting data flow END DF1\_5.

## 2. Identification – resource title

A resource title is a characteristic, and often unique, name by which the resource is known.

The detailed description of providing resource title is in the INSPIRE Metadata technical guidelines, C.2.1 Resource title.

### Recommendation for describing the reporting data sets of END noise sources:

The title could refer to the END noise source, key thematic data in a data set (e.g. population in agglomerations, annual traffic flow for major airports, major railways or major roads) and a reporting year for which the reporting data set was created, in accordance with the content of the data set.

For example:

- Agglomerations in the Environmental Noise Directive scope and population data, 2020
- Noise source – major airports and annual traffic flow data, 2020
- Noise source – major railways and annual traffic flow data, 2020
- Noise source - major roads and annual traffic flow data, 2020.

### 3. Identification – resource abstract

A resource abstract is a brief narrative summary of the content of the resource.

**The detailed description of providing resource abstract is in the INSPIRE Metadata technical guidelines, C.2.2 Resource abstract.**

#### **Recommendation for describing the reporting data sets of END noise sources:**

In addition to other summary information, it is recommended to include also information about the reporting obligation and the reporting year or reporting cycle for which this resource – reporting data set was created. The reporting information would include also the reference to the [Reporting Obligations Database \(ROD\)](#).

For example:

This resource is created for the Environmental Noise Directive (END) reporting obligation of DF1\_5 noise sources, ROD: <https://rod.eionet.europa.eu/obligations/367>.

The reporting year is 2020.

### 4. Keyword

Keywords describe spatial data sets. They are provided as the keyword value and the originating controlled vocabulary, if the keyword is described in such vocabulary. In case the vocabulary exists, the citation of the originating controlled vocabulary shall be provided with a title and a reference date (date of publication, date of last revision or of creation).

**The detailed description of providing a keyword is in the INSPIRE Metadata technical guidelines, C.2.10 Keyword value and C.2.11 Originating controlled vocabulary.**

The next sections describe three types of keywords for describing the data sets of END noise sources:

- Keyword for INSPIRE spatial data theme, mandatory
- Keywords for INSPIRE priority data sets, conditional: mandatory if data set is included in the INSPIRE priority list of data sets for e-Reporting, therefore mandatory for END noise sources
- Keywords for thematic domain of noise, recommended.

#### **1. Keyword – INSPIRE spatial data theme**

For each spatial data set in the INSPIRE scope, a metadata must include at least the keyword for the INSPIRE spatial data theme. Noise sources for the END reporting purpose are related to the following INSPIRE spatial data themes:

- Agglomerations are related to the INSPIRE Area management / restriction / regulation zones and reporting units, and

- Major airports, major railways and major roads are related to the INSPIRE Transport networks spatial data theme.

**Recommendation for describing the reporting data sets of END noise sources:**

The spatial data sets of END noise sources are based on the INSPIRE data models of the following INSPIRE spatial data themes:

- Agglomerations are related to the INSPIRE Area management / restriction / regulation zones and reporting units, and
- Major airports, major railways and major roads are related to the INSPIRE Transport networks spatial data theme.

The recommended keywords for the INSPIRE spatial data themes are:

- “Area management/restriction/regulation zones and reporting units” for agglomerations, and
- “Transport networks” for major airports, major railways or major roads.

The keywords are from the [GEMET](#) vocabulary.

The keywords and vocabulary are provided for each END source below.

END noise source	Keyword	Originating vocabulary		
		Title and URL	Date	Date type
Agglomerations	Area management/restriction/regulation zones and reporting units <a href="http://inspire.ec.europa.eu/theme/am">http://inspire.ec.europa.eu/theme/am</a>	GEMET - INSPIRE themes, version 1.0 <a href="http://www.eionet.europa.eu/gemet/inspire_themes">http://www.eionet.europa.eu/gemet/inspire_themes</a>	01.06.2018	Publication
Major airports	Transport networks <a href="http://inspire.ec.europa.eu/theme/tn">http://inspire.ec.europa.eu/theme/tn</a>			
Major railways	Transport networks <a href="http://inspire.ec.europa.eu/theme/tn">http://inspire.ec.europa.eu/theme/tn</a>			
Major roads	Transport networks <a href="http://inspire.ec.europa.eu/theme/tn">http://inspire.ec.europa.eu/theme/tn</a>			

## II. Keyword – INSPIRE priority data sets

The spatial data sets of END noise sources are also included in the INSPIRE priority list of data sets for e-Reporting. **Therefore, metadata for data sets of END noise sources shall include also corresponding keywords for INSPIRE priority data sets.** The keywords are provided in the vocabulary [INSPIRE priority data set](#) code list, and details for implementation are provided in the INSPIRE priority data set implementation guidelines<sup>12</sup>.

This information will be also used to calculate the INSPIRE monitoring indicator to measure the number of spatial data sets that are already used by the Member State for reporting to the Commission under the environmental legislation.

<sup>12</sup> <https://github.com/INSPIRE-MIF/priority-datasets/blob/main/documents/Implementation-PDS-Tagging.pdf>

The INSPIRE priority data set code list is organised into a hierarchical structure from an originating legal act (e.g. directive or regulation) to a more detailed description of each data set. The keywords for describing the END noise sources are organised into three hierarchical levels, as shown in the following table.

*Table 2 Keywords – INSPIRE priority data sets and END noise sources*

Keyword – level 1	Keyword – level 2	Keyword – level 3
Directive 2002/49/EC	Agglomerations (Noise Directive)	Agglomerations - population (Noise Directive)
	Major roads, railways and air transport network (Noise Directive)	Major air transport (Noise Directive)
		Major railways (Noise Directive)
		Major roads (Noise Directive)

**Recommendation for describing the reporting data sets of END noise sources:**

Metadata for data sets of END noise sources should include also corresponding keywords for INSPIRE priority data sets. The vocabulary for the keywords is the [INSPIRE priority data set](#). The keywords from all levels can be included in metadata. Although the requirement is fulfilled by providing one keyword from any level, it is recommended to provide at least the following:

- the keyword referencing the legal instrument (level 1), and
- the keyword that describes a spatial data set in most details (level 3).

The recommended keywords for the INSPIRE priority data sets for the END noise sources and information about the originating controlled vocabulary are provided below.

*DF1\_5 Agglomerations*

The selected keywords shall describe the content of the data set of END agglomerations including indication that population data are included in the data set. The recommended keywords are from levels 1 and 3 of the INSPIRE priority data set code list.

Keyword	Originating vocabulary		
	Title and URL	Date	Date type
Directive 2002/49/EC	INSPIRE priority data set	04.04.2018	Publication
Agglomerations - population (Noise Directive)	<a href="http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset">http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset</a>		

*DF1\_5 Major airports*

The selected keywords shall describe the content of the spatial data set of END major airports. The recommended keywords are from levels 1 and 3 of the INSPIRE priority data set code list.

Keyword	Originating vocabulary		
	Title and URL	Date	Date type
Directive 2002/49/EC	INSPIRE priority data set	04.04.2018	Publication
Major air transport (Noise Directive)	<a href="http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset">http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset</a>		



### DF1\_5 Major railways

The selected keywords shall describe the content of the spatial data set of END major railways. The recommended keywords are from levels 1 and 3 of the INSPIRE priority data set code list.

Keyword	Originating vocabulary		
	Title and URL	Date	Date type
Directive 2002/49/EC	INSPIRE priority data set	04.04.2018	Publication
Major railways (Noise Directive)	<a href="http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset">http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset</a>		

### DF1\_5 Major roads

The selected keywords shall describe the content of the spatial data set of END major roads. The recommended keywords are from levels 1 and 3 of the INSPIRE priority data set code list.

Keyword	Originating vocabulary		
	Title and URL	Date	Date type
Directive 2002/49/EC	INSPIRE priority data set	04.04.2018	Publication
Major roads (Noise Directive)	<a href="http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset">http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset</a>		

### III. Keyword – additional thematic keywords

In addition to the keywords for INSPIRE spatial data theme and INSPIRE priority data sets, other thematic keywords can be included to describe the content of a data set. If the controlled vocabulary exists, it is recommended to select keywords from that vocabulary. In other cases, a keyword can be provided as a free text.

#### **Recommendation for describing the reporting data sets of END noise sources:**

It is recommended to include the following thematic keywords into metadata for data sets of END noise sources, e.g. that are provided according to the pre-defined GeoPackage templates. The proposed keywords can be included as free text.

- **Population:** number of inhabitants in the END agglomeration; free text
- **Annual traffic flow:** annual traffic flow related to major airports or major railways or major roads; free text.

## 5. Lineage

Lineage is a statement on process history and/or overall quality of the spatial data set. Where appropriate it may include a statement whether the data set has been validated or quality assured, whether it is the official version (if multiple versions exist), and whether it has legal validity.

For the END reporting purpose, information that has been reported as metadata documents in previous END reporting cycles can be included in the metadata element lineage.

### **Recommendation for describing the reporting data sets of END noise sources:**

The data sets of END noise sources prepared on the basis of pre-defined GeoPackage templates will typically include spatial information (geometry) and END specific thematic data (e.g. number of inhabitants in agglomeration, annual traffic flow for major airport, railways or roads, identifiers, and other.). Among other relevant information, the lineage could include the following information for noise sources, such as:

- Source and methodology – including version of specification on which the compilation is based
- Constraints of the data being provided
- Temporal references of data used for creating noise sources and related data:
  - Census year when the population has been calculated
  - Year when the traffic flow has been determined.

## **6. Conformity**

According to the INSPIRE Metadata Regulation, a conformity of a spatial data set to the INSPIRE Implementing rules must be provided in metadata. Additionally, it is also possible to declare conformity to other specifications.

A conformity is described by providing specifications or user requirements against which data is being evaluated and by providing [a degree of conformity](#) as conformant, not conformant or not evaluated.

**The detailed description of providing conformity is in the INSPIRE Metadata technical guidelines, C.2.19 Specification and C.2.20 Degree.**

### ***I. Conformity – to the INSPIRE Implementing rules on interoperability***

According to the INSPIRE Metadata Regulation, it is **mandatory** to state the conformity of data to the COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services.

**The implementation details are provided in the INSPIRE Metadata technical guidelines C.2.19 Specification and C.2.20 Degree.**

**This information shall be included in the INSPIRE metadata for END noise sources.**

The technical validation of spatial data sets to the INSPIRE Regulation on interoperability (1089/2010) can be done with the [INSPIRE Reference Validator](#). Validation of spatial data sets is available for the file format GML. In case, the END reporting authority would want to perform this validation, the European Environment Agency can help by providing the END application schemas in XML/GML that can be used to develop the spatial data in GML and test it with this validator.

### ***II. Conformity – to the END Implementing decision and END data model***

The [END conceptual data model](#) corresponds to the Commission Implementing Decision (EU) 2021/1967 of 11 November 2021 setting up a mandatory data repository and a mandatory digital

information exchange mechanism in accordance with Directive 2002/49/EC of the European Parliament and of the Council (Text with EEA relevance)<sup>13</sup>.

Based on the END conceptual data model, the data templates in GeoPackage are developed according to the [END encoding guidelines for GeoPackage](#) ensuring also the compatibility with the INSPIRE default encoding in GML. This establishes the line of compatibility among the END Implementing Decision, the END conceptual data model and the encoding format GeoPackage.

**Recommendation for describing the reporting data sets of END noise sources:**

The data set of END noise sources prepared on the basis of pre-defined Geopackage templates should include information on conformity to two specifications:

- the END Implementing Decision 2021/1967, and
- the END data model documentation.

The conformity criteria and rules could be further developed in cooperation with the countries, however without increasing any additional burden for preparation of data. The validation of the reporting data sets is performed during the reporting process in the Reportnet platform with aim to validate data against the END reporting requirements. The degree of conformity to the END Implementing Decision 2021/1967 and the END data model documentation should be related to the validation status of reporting data. It is recommended to provide data according to the latest [END data model documentation](#).

The conformity information can be provided as following:

*Commission Implementing Decision (EU) 2021/1967*

- **Specification – citation:**
  - Title: Commission Implementing Decision (EU) 2021/1967 of 11 November 2021 setting up a mandatory data repository and a mandatory digital information exchange mechanism in accordance with Directive 2002/49/EC of the European Parliament and of the Council
  - Reference date: 12.11.2021
  - Date type: publication
- **Degree of conformity:**
  - true if conformant
  - false if not conformant
  - null (with nilReason = “unknown”) if not evaluated.

*END data model documentation*

- **Specification – citation:**
  - Title: Environmental Noise Directive Data model documentation version 4.2, July 2022
  - Reference date: 08.07.2022
  - Date type: publication
- **Degree of conformity:**
  - true if conformant
  - false if not conformant
  - null (with nilReason = “unknown”) if not evaluated.

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<sup>13</sup> [http://data.europa.eu/eli/dec\\_impl/2021/1967/oj](http://data.europa.eu/eli/dec_impl/2021/1967/oj)

## 7. Good practices

### *I. INSPIRE Geoportal*

The [INSPIRE Geoportal](#) is the central European access point to the data provided by EU Member States and several EFTA countries under the INSPIRE Directive. It harvests national metadata catalogues and provides different search mechanisms.

The [metadata describing spatial data sets under the Environmental Noise Directive](#) are already available in the INSPIRE Geoportal.

After the establishment of the new END mandatory digital information exchange mechanism, it is expected that data sets and metadata will be prepared according to the END reporting guidelines and available in the INSPIRE infrastructure. Thus, the metadata for the END noise sources will be included in the national metadata catalogues and also discoverable through the INSPIRE Geoportal.

### *II. EEA Spatial Data Infrastructure Metadata Catalogue*

Another example that can serve as a guidance and motivation to prepare INSPIRE metadata for the data sets of END noise sources is the [European Environment Agency Spatial Data Infrastructure \(EEA SDI\) Metadata Catalogue](#). For example: It includes INSPIRE compliant metadata for spatial data sets of European wide geographic area, e.g. [Noise exposure data reported under Environmental Noise Directive \(END\) 2017, version 2019, Oct. 2019](#)<sup>14</sup>.

In addition to metadata description, the EEA-SDI metadata guidance are available at [https://taskman.eionet.europa.eu/projects/public-docs/wiki/Cataloguemetadata\\_guidelines](https://taskman.eionet.europa.eu/projects/public-docs/wiki/Cataloguemetadata_guidelines). It includes references to the INSPIRE Metadata technical guidelines, XML encoding examples, additional information and the EEA SDI specific requirements.

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<sup>14</sup> The data used cover noise sources specified in the END, such as major roads with more than 3 000 000 vehicle passages a year, major railways with more than 30 000 train passages per year and airports with more than 50 000 movements per year, as well as all roads, railways, airports and industries in urban agglomerations of more than 100 000 inhabitants.

## Annex 2. Tables supporting data harvesting through INSPIRE download services

Geospatial data can be also imported from an existing INSPIRE download service. This alternative method includes a harvesting process that is included in the dataset schemas of noise sources - in agglomerations, major airports, major railways and major roads. The harvesting process is supported by the following two tables:

- **HarvestSource:** This table contains the URLs from which to harvest the geospatial features needed for the reporting. In the serviceType field, the reporter indicates if the given URL points directly to a file to download, or to a WFS 2.0 INSPIRE service. For direct file download, the URLs point directly to the dataset file to download (e.g. no Atom feed). For WFS, the URL must provide the full WFS GetFeature request. For END reporting, only 'Direct file' in gpkg format is supported.
- **WorkflowLog:** This table contains log messages from the harvesting process. Messages can contain information about the harvested resources (e.g. number of features) but also information about errors occurred during harvesting.

In the reporting data flow of Noise sources (DF1\_5), the supported file format is GeoPackage with the expected table structure defined in the [pre-defined GeoPackage templates](#). These thematic GeoPackage files could be provided through a download service (e.g. INSPIRE download service) that could be declared and used for harvesting in the reporting process.

### Table HarvestSource

For this purpose, the table HarvestSource must include service(s) information. The table HarvestSource has the following structure:

#### HarvestSource table overview

Mandatory/ optional	Name	Reportnet 3 Type	Code list
M	serviceType	Single select	
M	serviceUrl	URL	
M	operation	Single select	

The following tables includes detailed information of each field, i.e. description, type, format, use of code lists (where applicable), additional information of expected data or guidelines to prepare data, and data samples.

#### Field serviceType

Requirement	Mandatory
Description	The service type indicates whether the given service URL points to a direct file download or to a WFS service providing the INSPIRE features. For END reporting only 'Direct file' is supported.
Reportnet 3 type	Single select
Code list	Applicable code list values: - Direct file
Example	Direct file

## Field serviceURL

Requirement	Mandatory
Description	In case of serviceType 'Direct file', serviceURL points directly to the dataset file to download. For END reporting, only GeoPackage (gpkg) is supported. A zip file containing the gpkg file is allowed.
Reportnet 3 type	URL
Format	Maximum of 10000 characters
Example	<a href="https://projects.sadl.kuleuven.be/downloadfolder/eea_testdata/df1_5-1/MajorRoadSource_samples.gpkg">https://projects.sadl.kuleuven.be/downloadfolder/eea_testdata/df1_5-1/MajorRoadSource_samples.gpkg</a>

## Field operation

Requirement	Mandatory
Description	This field is used to indicate the type of operation – how to use the service: a) service will add data to the table, b) service will replace data in the table or c) service will not import data (Do not import) – service is omitted. Keep in mind that the thematic table(s) will be deleted <b>in its entirety</b> if one of the operations assigned to a service is "Delete all table data before import".
Reportnet 3 type	Single select
Code list	Applicable code list values: <ul style="list-style-type: none"><li>- Append to table data</li><li>- Delete all table data before import</li><li>- Do not import</li></ul>
Example	Append to table data

## Table WorkflowLog

The table WorkflowLog has the following information:

### *WorkflowLog table overview*

Mandatory/optional	Name	Reportnet 3 Type	Code list
O	logTime	DateTime	
O	logType	Text	
O	logMessage	Text	
O	harvestSource	Text	

## Field logTime

Requirement	Optional
Description	The date and time the system added the log message to the table during or after processing services. The logTime is given in local time, therefore it can differ from the time used in the harvestSource field.
Reportnet 3 type	DateTime
Format	ISO DateTime format YYYY-MM-DDThh:mm:ss
Example	2022-06-10T15:11:26

### Field logType

Requirement	Optional
Description	The type of log message. This gives an indication on the importance of the message. LogType can be Info, Warning and Error
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Example	Info

### Field logMessage

Requirement	Optional
Description	The detailed log message. This can contain general information (e.g. number of features) but also details about an error that occurred.
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Example	At the beginning of the process, 2022-06-10T14:12:32Z, there are 4 records inside HarvestSource table

### Field harvestSource

Requirement	Optional
Description	The harvest source (web service) where this log message refers to. harvestSource is a composition of the utc time of the start of the process and the url of the service. Be aware this is the utc time, which can differ from the local time given in the field logTime
Reportnet 3 type	Text
Format	Maximum of 10000 characters
Example	2022-06-10T14:12:32Z <a href="https://projects.sadl.kuleuven.be/downloadfolder/eea_testdata/df1_5-1/MajorRoadSource_samples.gpkg">https://projects.sadl.kuleuven.be/downloadfolder/eea_testdata/df1_5-1/MajorRoadSource_samples.gpkg</a>

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