

# EU Registry on Industrial Sites

## Manual for Reporters

Version 1.11 –14/07/2021



European Environment Agency



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## Acknowledgments

This Manual for Reporters was prepared by the [European Environment Agency](#) (EEA) in cooperation with the [European Topic Centre on Air pollution, Transport, Noise and Industrial Pollution](#) (ETC/ATNI).

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## Version control

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# 1 Introduction

## 1.1 Purpose of this document

This document aims to provide detailed guidance on the practicalities and processes for reporting to the European Union (EU) Registry on Industrial Sites (hereafter referred to as the EU Registry), a European-wide database maintained and published by the European Environment Agency (EEA) on behalf of the European Commission. 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 data to the EU Registry.

This Manual for Reporters is intended to support reporting countries in providing high quality reports in an efficient manner and to fully understand the EU Registry's data structure and the required processes before, during and following submission. Specifically, this document covers:

- the legal basis of the EU Registry and additional requirements,
- the fundamental structure of, and technical requirements for, a submission,
- the practicalities involved in reporting to the Central Data Repository (CDR) of EEA's Reportnet, and
- ongoing management of changes and ensuring coherent reporting over time.

A key goal of this document is to ensure a common understanding among EU-level organisations and data providers (i.e., operators and competent authorities). This document should further be of assistance to both thematic and IT experts.

This Manual for Reporters is intended to be a stand-alone document that contains all necessary information for reporting to the EU Registry. However, other documents may offer additional detail on certain aspects, namely the Data Model Documentation<sup>1</sup> and the Quality Assurance Logic for the EU Registry.

The Data Model Documentation more specifically addresses the development of the data structure for submissions in order to achieve INSPIRE<sup>2</sup> compliance, while the Quality Assurance Logic provides the basis for the complex quality checks that are undertaken during the submission process. These aspects are otherwise merely touched upon here.

## 1.2 Structure of the document

This Manual for Reporters is structured as follows:

- **Introduction to the EU Registry** – details the history behind the EU Registry, commenting on the intended purpose of the EU Registry, its scope and conceptual structure.
- **Understanding the EU Registry** – provides the necessary information on the scope, geographical structure, and temporal variation of the EU Registry.

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<sup>1</sup> Please refer to the EU Registry project website for all referenced documentation, found here: [http://cdrtest.eionet.europa.eu/help/ied\\_registry](http://cdrtest.eionet.europa.eu/help/ied_registry).

<sup>2</sup> INSPIRE: Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community, <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32007L0002>

- **Key concepts of the EU Registry** – addresses key aspects of the EU Registry and how these key aspects are intended to function.
- **Understanding the data model** – details systematically, attribute by attribute, the data model structure which forms the basis for a country's submission.
- **Preparing country reports: use of IT tools** – covers the submission procedure in the CDR, the different reporting routes available, and the quality assurance protocols.

This structure is designed to guide the user in terms of building an understanding of the EU Registry. This requires certain aspects, such as the key concepts and core data structure, to be explored before more temporal aspects or submission procedures can be fully understood.

### 1.3 Purpose of the EU Registry

Reporting on industrial emissions has proven to be an important tool for setting and measuring the effectiveness of environmental policies. Various pieces of EU law contain requirements for countries to monitor and report key parameters relevant for verifying the implementation progress of these legal obligations and the pressures on the environment generated by pollutants. In the field of industrial emissions, the following main pieces of legislation contain reporting obligations with a high level of interrelation: the Industrial Emission Directive (IED), the Large Combustion Plants (LCP) Directive and Waste Incineration (WI) Directive (both superseded via integration into the IED) and the European Pollutant Release and Transfer Register (E-PRTR) Regulation. But reporting on industrial emissions is also directly or indirectly linked to other pieces of EU law, in the water, waste, chemicals or climate domains, for example the EU Seveso Directive on the control of major-accident hazards involving dangerous substances or the EU scheme for greenhouse gas emission allowance trading (EU-ETS).

To date much of these data are reported electronically by the countries concerned, but not necessarily in a way that is fully fit for purpose. The various reporting data flows provide key implementation and environmental data although redundancies and uncertainties remain high due to the compartmentalised nature of the various flows.

The European Commission and the EEA have engaged in a limited streamlining process that comprises:

- The establishment of an INSPIRE-compliant reference dataset, which brings together the identification and administrative details of regulated industrial activities. This dataflow is the EU Registry (i.e. the main subject of this document).
- The integration of emissions reporting from facilities subject to the E-PRTR Regulation and from LCPs under the scope of Chapter III of the IED in a unified data flow will allow streamlining and offer immediate validation to ensure data are coherent and consistent (hereafter referred to as “integrated E-PRTR+LCP reporting”).

These streamlining initiatives aim to reduce administrative burden while enhancing the knowledge base of industrial pollution that can be used to better inform the public as well as business and decision makers. Better validation and checks of integrated and coherent data submissions will lead to better assessments of existing and proposed environmental policies. One of the key advantages of the resulting system (i.e. the EU Registry and integrated E-PRTR+LCP reporting), is that inconsistencies in the current reporting will be either tackled by data providers or identified by the QA/QC process in a much more robust way.

The EU Registry will provide the European Commission and EU Member States (many of which have regional and/or local authorities that are involved in collecting the necessary data) with key information on a whole range of regulated industrial sites in Europe (or in a particular Member State). The EU Registry reduces the need for multiple, separate formal requests to Member States duplicating reporting of administrative information on (industrial) sites.

The EU Registry will be the reference dataset for thematic reporting on entities identified in it. In a first stage, the integrated E-PRTR and LCP reporting<sup>3</sup> (i.e. of data on their releases, transfers, fuel consumption and so on) will refer to entities already reported within the EU Registry, thus enabling linkages between the administrative and thematic data. Other reporting obligations might also benefit from the reference data set in the future. The EU Registry will contain all relevant permit and geospatial information that will not be duplicated in the thematic data flow. Unique identifiers will be used to link the EU Registry with the emissions data for querying and publishing information. Cross-links and relationships between individual entities will then be clearly identifiable from the database (e.g. if an LCP is part of an E-PRTR facility) and so would their associated activity and emission data. Once in place, the new integrated E-PRTR and LCP reporting will supersede the existing separate E-PRTR<sup>4</sup> and LCP<sup>5</sup> reporting data flows.

A key goal of the streamlining process was to acknowledge and reap the benefits of INSPIRE. This is why the EU Registry is built upon the pre-existing INSPIRE data specification for 'Production and Industrial Facilities' (INSPIRE PF)<sup>6</sup>. This process is technically known as an extension to a data model. This implies important advantages:

1. Investments in implementing the EU Registry build on countries' ongoing efforts towards becoming (fully) INSPIRE compliant,
2. the system is flexible to future extensions or use as a reference dataset by additional thematic obligations, and
3. the resulting dataset can easily be reused by third parties.

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<sup>3</sup> <http://rod.eionet.europa.eu/obligations/720>

<sup>4</sup> <http://rod.eionet.europa.eu/obligations/538>

<sup>5</sup> <http://rod.eionet.europa.eu/obligations/756>

<sup>6</sup> <http://inspire.ec.europa.eu/Themes/121/2892>

**Figure 1 - Planned data flows for reporting and handling administrative and thematic data on industrial emissions.**

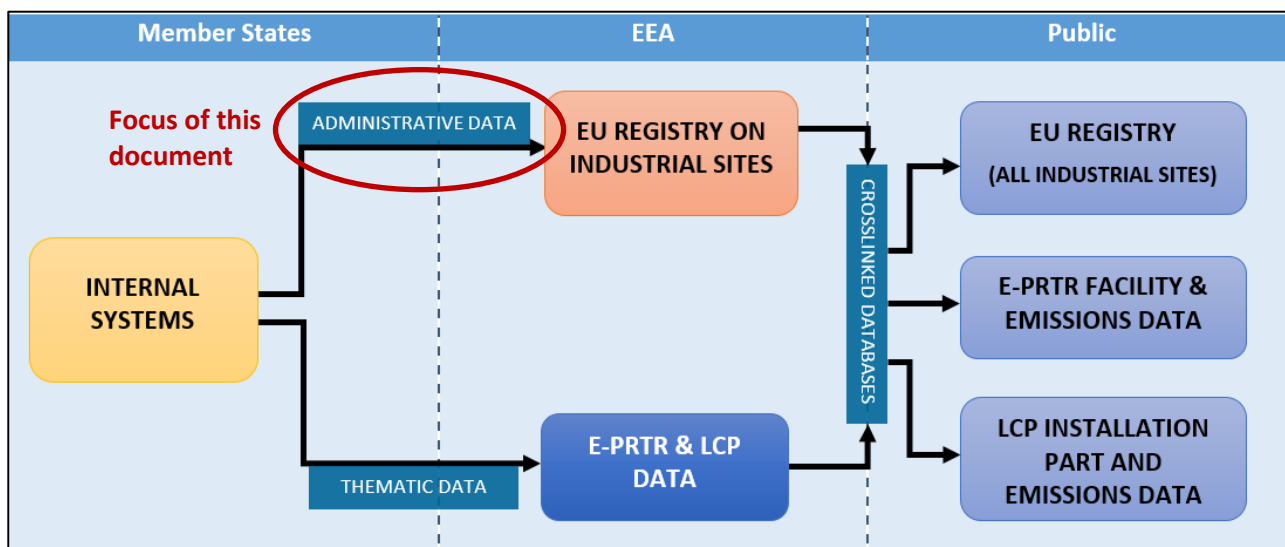


Figure 1 shows how the EU Registry is part of an overall effort to streamline the reporting of industrial emissions. This document is concerned only with making data submissions to the EU Registry, i.e. how to transmit administrative information about industrial emission entities from the reporting countries to the EEA. There is a separate reporting manual on how to submit thematic data (i.e. E-PRTR+LCP) and this is available on the E-PRTR and LCP Integrated Data Reporting project website<sup>7</sup>. Other aspects that will not be discussed here include the aggregation of administrative and thematic data by the EEA and dissemination to the public (for instance in XML data flows that can subsequently be viewed on a web interface; e.g. E-PRTR website, Google Maps/Open Street Map applications). The data handling, publication and reuse of data will be addressed in detail at a later stage.

A key goal of this project is improved transparency on the geographical relationships between the various entities that have been defined in the data structure:

- Production sites;
- Production facilities;
- Production installations;
- Production installation parts.

This includes better identification of those entities that are located on the same (industrial) site which may be subject to different EU legislation (that have different scopes) and therefore might currently be reported with different names, and/or which have similar processes with different or related owners.

The EU Registry will also address the changes industrial activities encounter over time. Countries and the European Commission can then use this knowledge to derive effective, integrated assessments of existing and proposed environmental policies. An improved validation of reported integrated geographic data and thematic data submissions will lead to better and more coherent environmental assessments and reports.

<sup>7</sup> [https://cdr.eionet.europa.eu/help/eptr\\_lcp](https://cdr.eionet.europa.eu/help/eptr_lcp)



The underlying legislative requirements (i.e., the specific thematic reporting requirements) will not be changed as part of this project. The data structure and guidance developed during this project has supported the development of the Commission Implementing Decision (EU) 2018/1135, hereafter referred to as the 'CID'. This CID provides legal clarity for reporting countries as they implement changes in their reporting systems.

## 1.4 The legal basis

The basis for the reporting of administrative and identification data captured within the EU Registry, originates in two fundamental legal instruments (a) the E-PRTR Regulation and (b) the IED. The legal basis for the type, format and frequency of information to be made available by Member States is set out in the CID. The CID came into force on the 10<sup>th</sup> August 2018. It establishes an obligation for Member States to report annually all information set out in Annex I of that document. The EU Registry Data Model acts as the technical annex to the CID, giving further details on the specific data fields to be reported. The designation of the EU Registry as the reference dataset for reporting on IED installations, reporting on E-PRTR facilities, and reporting on LCPs and waste incineration and co-incineration plants (WIs) under the IED is also made clear by the CID.

The EU Registry will be the reference administrative dataset for the integrated E-PRTR and LCP thematic reporting, which will refer to entities identified in it.

The legal basis for the E-PRTR and LCP Integrated data reporting is established by the European Commission Implementing Decision (EU) 2019/1741 of 23 September 2019, which provides a formal reference for both the E-PRTR Regulation and the IED. It establishes an obligation for Member States to report annually all information set out in the Annex, using the specified electronic format.

# 2 Understanding the EU Registry

## 2.1 Geographical levels: sites, facilities, installations and plants

The EU Registry aims to capture the situation of European industrial entities from a geographical perspective. It has four hierarchical levels:

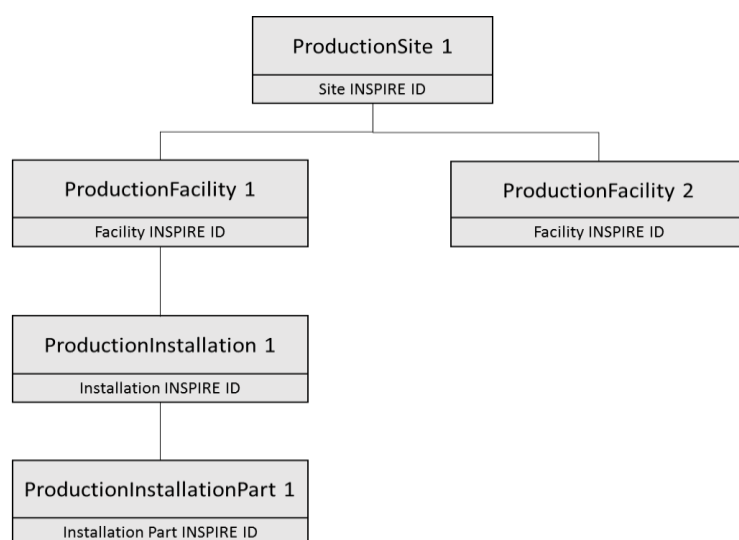
- Production sites;
- Production facilities;
- Production installations and
- Production installation parts.

These four geographical levels provide an increasing level of detail on a given industrial activity. The geographical hierarchy among the industrial entities in the EU Registry reflects this increasing detail on the industrial activities and the relations between the levels (i.e. lower levels are contained within the superior levels).

When giving shape to the EU Registry, a correlation between the geographical levels and the existing definitions in EU law had to be drawn. The EU Registry implies a certain correlation between the existing definitions in the EU law, summarised in Table

**Table 1 - Correlation of INSPIRE, E-PRTR and IED industrial entity terminology.**

EU Registry	INSPIRE	E-PRTR	IED
ProductionSite	Correlation	Correlation	No definition correlates
ProductionFacility	Correlation	Correlation	No definition correlates
ProductionInstallation	Correlation	Correlation	Correlation
ProductionInstallationPart	Correlation	No definition correlates	Correlation

**Figure 2 - Geographical hierarchy of the EU Registry.**

**ProductionSite:** represents the geographical location of the facility.

**ProductionFacility:** means one or more installations on the same site, operated by the same natural or legal person, where one or more of the activities listed in **Annex I of the E-PRTR regulations** are carried out.

**ProductionInstallation:** means a stationary technical unit, where one or more of the activities listed in **Annex I of the IED** are carried out, and any other directly associated activities on the same site which have a technical connection with the activities listed in those annexes and which could have an effect on emissions and pollution.

**ProductionInstallationPart:** represents a specific technical part of the installation and aligns with the respective definitions of a combustion plant, waste incineration plant and waste co-incineration plant, as described in **Chapters III and IV of the IED**.

Figure 2 displays the geographical hierarchy alongside the definitions for each classification of industrial entity that are based on definitions in the INSPIRE PF Data Specification, the E-PRTR Regulation and the IED. These definitions encompass the geographic and ownership attributes to define and correlate facilities and their associated sub-entities. The resulting reporting requirements of these definitions are that, as a minimum, a ProductionSite and ProductionFacility must be reported. Further down the hierarchy, ProductionInstallations and ProductionInstallationParts cannot be reported without reporting data at the parent level above them. For example, for a ProductionInstallationPart to exist, it must have a grouping ProductionInstallation, which in turn must have a grouping ProductionFacility, which finally must have a hosting ProductionSite. These relationships are defined through the INSPIRE PF Data Specification.

## 2.2 Scope definition

The EU Registry does not capture all industrial activities, as this would involve too high a reporting burden. The scope is therefore delimited by a set of thresholds as provided by the EU law on industrial emissions. In that way, the scope of the EU Registry covers:

- **Production sites** where industrial activities subject to reporting to the EU take place (i.e. within the scope of the IED and/or the E-PRTR Regulation);
- **Production facilities** above the capacity thresholds in E-PRTR Annex I, regardless of whether they exceed E-PRTR Annex II emissions or transfer thresholds in a particular reporting year;
- **Production installations** above the capacity thresholds in IED Annex I;
- **Production installation parts** as defined by Chapter III (large combustion plants) and Chapter IV (waste incineration and co-incineration plants).

Often, industrial sites, facilities, installations and plants perform several activities listed in the E-PRTR, IED chapters and annexes. Specific aggregation rules have been established by EU law to define how to read the capacity thresholds that result in being in the scope of the EU Registry. Sections 2.3, 2.4, 2.5 and 2.6 provide specific guidance on how this scope affects each hierarchical level.

## 2.3 Geographical delineation of Production Sites

As indicated in Section 2.1 and illustrated in Figure 2, the EU Registry is structured in 4 geographical levels:

- Production sites;
- Production facilities;
- Production installations and
- Production installation parts

A production site represents the highest level in the hierarchy and thus often encompasses a number of entities in the lower level. Sites are reported to the EU Registry as a pair of coordinates, allocated a unique identifier and assigned a name. This however requires the reporter to judge what three-dimensional space constitutes each production site (i.e. their boundaries and what they contain).

The guiding principles to make this judgement and establish the **limit of a site** are the following:

- 1) **Multiple entities:** a relevant site can encompass one or more facilities, installations and installation parts.
- 2) **Geographical proximity:** The entities need to be physically in the same location. However, a site does not become two sites merely because two parcels of land are separated by a physical barrier such as a road, a railway or a river.
- 3) **Related activities:** If more than one entity is to be included in the same site, all of them must either be joined by a technical connection or cooperate for a common purpose (e.g. a facility assembling cars and facilities in the car manufacturing supply chain on the same site).
- 4) **Disregard of ownership:** Ownership does not play a role and a site can include multiple entities with different owners.

- 5) **Beyond urban planning:** Multiple industrial sites can be located on a single coherent lot zoned for industrial activity according to urban planning. Where necessary, they must be distinguished by using the third criterion above.

It is expected that the EU Registry will include a significant proportion of sites which only encompass one production facility, which in turn only includes a single production installation. Production installations are however expected to be more likely to contain various production installation parts (i.e. plants).

Annex 1 – Pharmaceutical Complex Example provides an intentionally complex example where several production facilities, production installations and production installation parts are included by a single site. The example illustrates how these five criteria come into play.

## 2.4 Geographical delimitation of Production Facilities

Production facilities correlate with the so-called E-PRTR facilities, i.e. those under the scope of the E-PRTR Regulation. However, countries must report to the EU Registry all facilities that meet the capacity thresholds in E-PRTR Annex I, regardless of whether they exceed E-PRTR Annex II emissions or transfer thresholds in a particular reporting year.

The current E-PRTR Guidance Document<sup>8</sup> establishes aggregation rules to read the capacity thresholds. If an operator carries out several activities falling under the same E-PRTR Annex I activity of the same facility at the same site, the capacities of such activities (e.g. the treatment volume of vats) are added together. The production capacities of the individual activities should be aggregated at the E-PRTR Annex I activities level. The sum of the capacities is then compared with the capacity threshold for the specific activity as listed in Annex I of the E-PRTR Regulation.

## 2.5 Geographical delimitation of Production Installations

Production installations correlate with the definition of ‘installation’ provided by the IED. In practice, this includes:

- Installations that perform the activities listed in Annex I to the IED when meeting the relevant capacity thresholds;
- Installations that, even not being listed in the Annex I, are under the scope of IED Chapter III (large combustion plants) or IV (waste incinerators)

Annex I of the IED establishes a similar aggregation rule to that used by E-PRTR facilities. The threshold values given in the Annex 1 generally refer to production capacities or outputs. Where several activities falling under the same activity description containing a threshold are operated in the same installation, the capacities of such activities are added together. For waste management activities, this calculation shall apply at the level of activities 5.1, 5.3(a) and 5.3(b).

## 2.6 Geographical delimitation of Production Installation Parts

Production installation parts correlate with:

- Large combustion plants (LCPs) as defined by Chapter III of the IED

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<sup>8</sup> E-PRTR Guidance Document, (2006), available at: <https://industry.eea.europa.eu/download>

- Waste incineration and co-incineration plants as defined by Chapter IV of the IED

In this case, aggregation rules, that must be adhered to, also apply. These are different for LCPs and waste incinerators.

- **For LCPs:** the rules are established in IED Article 29, which includes three elements:
  - The common stack principle
  - Competent authority judgment
  - The 15-MWth minimum threshold

**Art 29(1):** *Where the waste gases of two or more separate combustion plants are discharged through a common stack, the combination formed by such plants shall be considered as a single combustion plant and their capacities added for the purpose of calculating the total rated thermal input.*

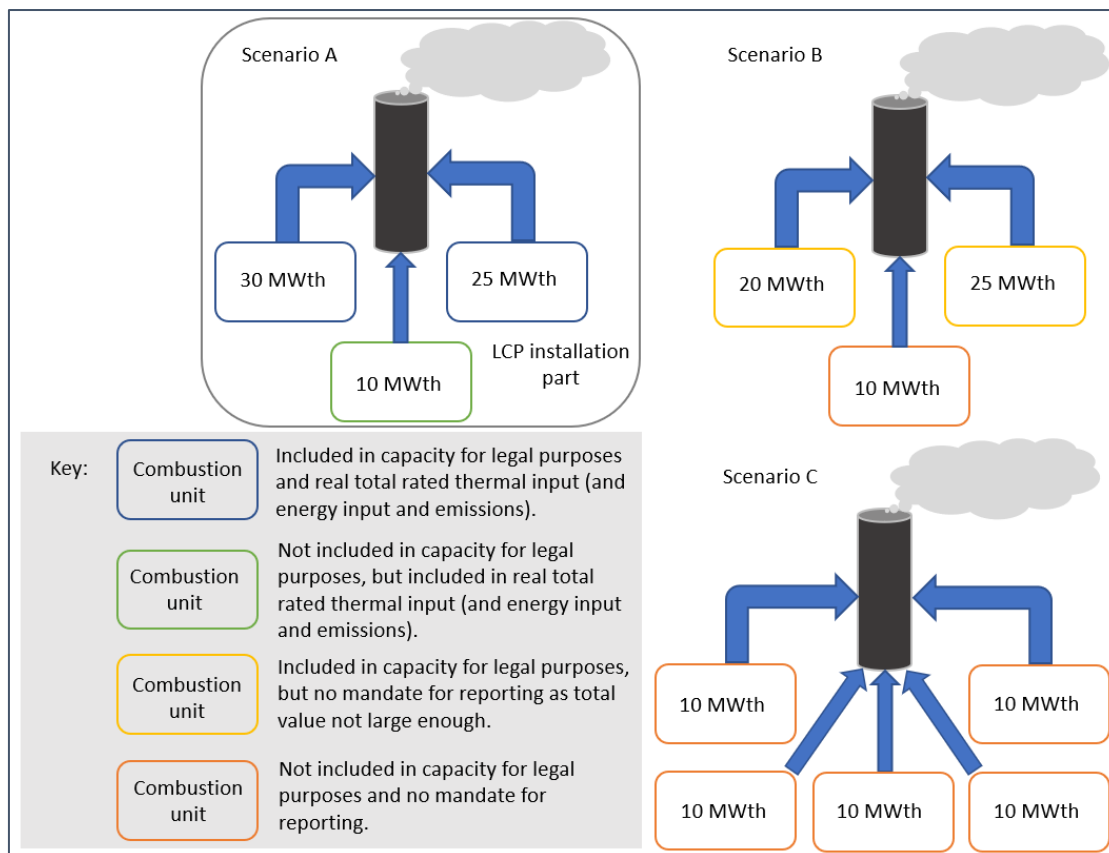
**Art 29(2):** *Where two or more separate combustion plants which have been granted a permit for the first time on or after 1 July 1987, or the operators of which have submitted a complete application for a permit on or after that date, are installed in such a way that, taking technical and economic factors into account, their waste gases could in the judgement of the competent authority, be discharged through a common stack, the combination formed by such plants shall be considered as a single combustion plant and their capacities added for the purpose of calculating the total rated thermal input.*

**Art 29(3):** *For the purpose of calculating the total rated thermal input of a combination of combustion plants referred to in paragraphs 1 and 2, individual combustion plants with a rated thermal input below 15 MW shall not be considered.*

There are two key principles for the aggregation of LCPs, the ‘real total rated thermal input’ and the ‘capacity for legal purposes’. Whilst the real thermal input takes into account all combustion units operating, including those below 15 MWth, the capacity for legal purposes only aggregates combustion units above 15 MWth, as mandated by Article 29 (3). If the capacity for legal purposes is equal to or greater than 50 MWth, then the aggregated units are considered a single LCP installation part which is within the scope of Article 72 of the IED. Once an LCP installation part is obliged to report under Article 72 of the IED, both the capacity and the emissions to be reported are those that correspond to the real-life situation, i.e. the real total rated thermal input, the real fuel input and the real emissions.

In summary, reporters must calculate whether a group of combustion units are required to be reported as an LCP installation part under the IED **using combustion units above 15MWth only**. However, if the aggregated combustion units qualify as an LCP installation part, **reporters must report the total rated thermal input, fuel input and emissions from all combustion units including those below 15MWth**. Figure 3 outlines several potential scenarios for reporting data under the common stack principle. Only scenario ‘A’ is considered an LCP installation part with a capacity for legal purposes of 55 MWth and a total rated thermal input of 65 MWth to be reported under the EU-Registry. Whilst two combustion units are to be included in the capacity for legal purposes, all combustion units should be included in the reporting of aggregated total rated thermal input, energy input and emissions. Neither scenario ‘B’ nor ‘C’ is defined as an LCP installation part by the IED because the aggregated capacity for legal purposes is below 50 MWth in both cases.

Figure 3 - Example scenarios for implementation of the common stack principle



- For **waste incineration and co-incineration plants**: no specific threshold or aggregation rule exists in the IED. However, in the context of the EU Registry, the Commission has provided the following scope interpretation:
  - All waste incineration and co-incineration plants, as defined in **Art 3(40) and (41)** of the IED, with a **nominal capacity greater than or equal to two tonnes per hour**, are to be reported as production installation parts.
  - Each individual waste incineration line/chamber, shall be reported as a separate production installation part.

## 2.7 Handling temporal changes

The EU Registry, besides the details on the reported entities, will also provide the information on the relationships between those entities (e.g. production installation parts contained in a production installation). This includes the entities that fall within the scope criteria and aggregation rules described in previous sections.

The EU Registry will track the situation of the industrial entities reported over time. Such changes include:

- New entrant:** Entities might not have existed or were not reported in the past but at some point start to be subject to reporting to the EU Registry. Reporting of such entities must commence from the calendar year during which they obtain a permit to operate under EU law.

- **Disuse:** Entities might cease their operations, temporarily or permanently, but are not decommissioned. Entities that have ceased activity but have the intention/infrastructure to resume activity at a later date should be reported as 'disused'. For example, a textile plant that closes due to unfavourable market conditions but intends to restart production at a later date would be reported as 'disused'. However, if such a plant was to cease production, remove its infrastructure from the site and sought to cease the IED permit, then this entity would be reported as 'decommissioned'. Entities whose operation is inevitably variable, such as an electricity generation plant that operates as a 'peaker' plant, would be reported as 'functional' unless subject to a period of inactivity outside the remit of scheduled maintenance and outages or fluctuations in electricity demand. This value can also be used to describe the status of an entity that has been permitted but is not yet active. This may apply to IED installations that have been provided a permit and are therefore subject to derogations, stricter permit conditions etc. but are not yet active due to an extended construction period for example.
- **Closure:** Entities might cease their industrial operation and be decommissioned. This would imply that the previously reported entity will not operate in the future and is no longer subject to reporting requirements (e.g. a power plant whose units are dismantled and not replaced by new units performing a similar activity).
- **Split:** Part of a site, a facility, an installation, or an installation part might be decommissioned or be converted to perform an unrelated activity while the remainder continues to operate in the scope of the original activity.
- **Merger:** Entities might have been reported on separately but are subsequently converted to perform an activity similar in nature to an entity in its immediate proximity.
- **Name change:** An entity may change name over the course of its lifetime, for example following a change of ownership.
- **Activity change:** An entity might abandon its previous activity and engage in another activity also covered by the EU Registry. This potentially covers a number of scenarios ranging from a partial change in the 'other' activity of an entity within an activity group (e.g. 1(a) to 1(b)) to a complete change of both 'main' and 'other' activities between activity groups (e.g. 1(a) to 3(a)). The extent by which an entity's activities have changed impacts the way it is tracked through time in the EU Registry.
- **Activity decrease:** An entity may undergo change as to reduce its activity below the relevant capacity thresholds of Annex I, in either the E-PRTR Regulation or the IED.

The EU Registry tracks the changes listed above with the combination of two attributes:

- The Inspire identifier(s) that reporters assign to the relevant entity(ies)
- The value that is set for the attribute 'Status' according to the relevant code list ( see Section Basic terminology 4.1)

Table 2 illustrates the expected logic to report to the EU Registry.

Table 2 -Possible changes and their associated interpretation and status in the EU Registry.

Event	Interpretation	Identifier	Status
<b>New entrant</b>	A single entity is to be reported and no predecessor entity exists	A new INSPIRE identifier is assigned	Functional
<b>Disuse</b>	The entity is to be reported to the Registry as it used to be specifying the 'disuse' in the field 'Status'	Retain existing INSPIRE identifier	Disused
<b>Closure</b>	The entity is reported a last time with reference to the calendar year where it is permanently closed. The entity then does not need reporting in the subsequent reporting year.	Retire the existing INSPIRE identifier and do not reuse	Decommissioned
<b>Split</b>	Two or more entities result from the split. The entity that is to be linked with the pre-existing entity is that one that retains the main activity. The rest are considered as a 'new entrant'.  If more than one, retain the main activity and are to be reported as separate the biggest resulting entity will be linked to the previous one.	Retain INSPIRE identifier for split entity that is to be linked to pre-existing entity  Assign new identifier(s) to those that are considered new entrant(s).	Functional in all cases
<b>Merger</b>	The merged entity is considered a continuation of the previous entity that matches the main activity of the entity into which it is merged.	Retain INSPIRE identifier of the pre-existing facility  Discontinue the use of the rest of identifier(s)	Functional for the merged entity;  The rest have no status as they are not reported in a submission
<b>Change of ownership</b>	The entity is reported with a new name and parent company, but continues to be associated with the activity carried out prior to the change in ownership	Retain the existing INSPIRE identifier	Functional
<b>Name change</b>	The entity is reported with a new name and continues to be associated with the activity carried out prior to the name change.	Retain the existing INSPIRE identifier.	Functional
<b>Activity change</b>	An entity reporting a change in activity is considered a new entity. This is only the case if both the main and other activity change and only if the change is between activity groups. Less significant	Assign a new INSPIRE identifier which was not previously used if both the main and other activity change and only if the change	Functional



Event	Interpretation	Identifier	Status
	changes to activity are not considered complete activity changes.	is between activity groups. If the change is less significant, retain the INSPIRE identifier.	
<b>Activity decrease</b>	The entity is reported a last time with reference to the year in which it has fallen below the capacity thresholds for its activity. The status 'Not Regulated' should be used in this case. The entity then does not need reporting in subsequent reporting years unless activity increases above capacity thresholds.	Retain the existing INSPIRE identifier.	Not Regulated

## 2.8 Deadlines for reporting

### *Required/Good practices*

Each XML submission to the EU Registry will need to contain all information for all applicable entities in a country for the relevant reporting year. It will not be possible to submit data for just one facility or a subset of facilities. Partial data files will not be accepted. This means that all entities subject to the EU Registry and relevant to the reporting year are reported within each submission, as opposed to a subset of these entities where attributes and the data reported may have changed (known as the 'management by change' approach). This decision to require all information to be reported each year was made for the following reasons:

- Simplicity with respect to harvesting data from MS yearly submissions to generate a multi-year, European-wide dataset.
- Continuity with existing practices at the EEA and within Member States.
- Resource implications in moving to a management-of-change approach where only the specific changes between years are tracked and updated.

This by no means restricts Member States to manage their own internal systems by a 'management by change approach', as the partitioning of administrative and thematic data enables Member States to consider solely administrative data, within one data flow, which is often subject to less year-on-year change and therefore suited to such an approach.

### *Deadlines*

The EEA will only harvest the data reported to the Central Data Repository (CDR)<sup>9</sup> and generate a new version of the EU Registry once a year after the legal delivery deadline. In practice, this means that both

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<sup>9</sup> Chapter 4.8 provides detail on the reporting tools to be used, namely CDR.

regular submission for a new year and resubmissions of pre-reported years will only influence the EU Registry once a new version is generated by the EEA.

The deadline for submitting data for the 2017 reporting year is 30<sup>th</sup> June 2019.

In subsequent years, reports must be submitted annually within 9 months of the end of the reporting year. It should be noted that this means reporters will need to submit 2018 data by 30<sup>th</sup> September 2019.

This means that reporting countries have three months between submitting their 2017 data and their 2018 data. This short time frame is a result of the extension of the deadline for the 2017 reporting year data, to allow for implementation of the changes due to the CID.

The reporting is open all year long so that countries can interact with the system, organise themselves according to their own timelines and iteratively improve the reported data before the generation of each version.

In exceptional circumstances, the EEA will generate additional versions (other than the one at the end of each year) in consultation with countries and the Commission.

### ***EEA review and generation of EU dataset***

The EEA will harvest countries' submissions and aggregate them into a European-wide, multi-year dataset of industrial sites that will be used for analysis, publication and support of environmental programs, via its integration into a series of public data products.

In case of quality issues in the reported data, countries could be required to resubmit their report on an *ad hoc* basis.

### ***Resubmissions***

Resubmissions of previously reported years will be allowed. However, changes in the dataset must be coherent with the data reported to the thematic data flows (e.g. the integrated E-PRTR and LCP reporting).

All resubmissions will be full submissions of all industrial entities within a reporting year, partial submissions correcting specific entities will not be accepted. All resubmissions require the technical approval of the EEA. In the case of resubmissions, this approval will be granted when they pass the mandatory validation and it can be ensured that the changes are not having an effect on previously reported thematic datasets for that same reporting year.

In practice, this means:

- Adding new entrants (in this context entities that were omitted by mistake in previous reports) is generally accepted. The condition is that these entities are actual new entrants and not duplicates of other entries.
- Removing pre-existing identifiers reported for a given year must be performed simultaneously in the EU Registry and the integrated E-PRTR and LCP reporting of thematic data. This is to avoid scenarios whereby thematic data becomes 'stranded', i.e. lacking administrative reference data. In duly justified cases, this will be accepted via bilateral contact between the data steward at the EEA and the relevant reporter.

- Changes in individual attributes of a pre-reported entity are generally accepted. However, some limitations apply, e.g. an entity previously indicated as 'disused' cannot be freely changed to 'decommissioned' as this has consequences in the thematic data flows, as discussed above. The quality assurance mechanism tracks those cases where changes in attributes are nonsensical and the data will be either rejected or put under review for the EEA data steward. Cases where thematic data becomes nonsensical as a result of a change to the associated administrative data reported to the EU Registry must be handled with care.
- Any resubmission of the EU registry will require a simultaneous resubmission of the thematic report for that year, if it has already been submitted. This allows the QA checks to rerun in order to ensure conformity between the two datasets.

The protocol of checks for a standard submission is addressed in detail in the EU Registry Quality assurance and quality control documentation. The logic of checks applies both to regular submissions and resubmissions because the logical issues that they may generate are typically similar.

## 3 Key concepts of the EU Registry

### 3.1 Introduction

Reports to the EU Registry are made via the transmission of an Extensible Mark-up Language (XML) file or a Microsoft Access data file (which in turn is converted to XML by EEA). For the generation of a successful report countries need to:

- Use the agreed **temporal reference** to populate the report, i.e. the status refers to the status of the entity at the end of the reporting year.
- Assign **identifiers** to the reported entities according to the scope rules explained in previous sections and according to a pre-defined format.
- Define **coordinates** for the relevant entities according to a set of rules.
- Distinguish **confidential and non-confidential** data.
- Populate the various **attributes** of the data structure according to the agreed requirements.

Section 3 tackles these aspects, providing reporters with guidance on how to interpret them when populating a country report.

### 3.2 Temporal reference

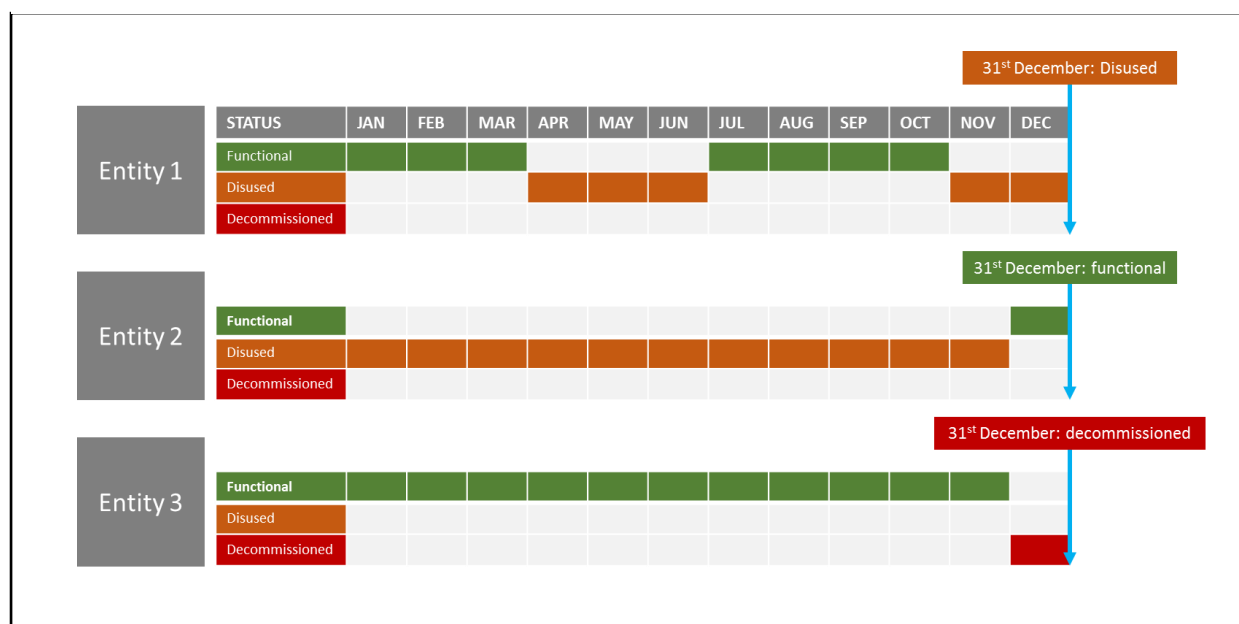
The reports to the EU Registry on Industrial Sites refer to the situation of the reported entities during the previous year, ending 31<sup>st</sup> December.

The industrial reality implies that the attributes that are to be reported may vary during the reporting year, even several times during a single calendar year. However, for simplicity, certain attributes in the report, such as status, must refer to the situation at the end of the reporting year. As such, reports will be populated capturing the situation at year end, as accurately is possible.

#### *Example of the implications of the temporal reference in the context of the attribute 'status'*

Only one status per year should be provided and the status provided must refer to the status of that entity at a time as close as possible to the end of the reporting year. In cases where the status of the entity is unknown at the end of year, reporters should refer to the last known status of the entity. Reported thematic data should be able to inform this process. This means a variety of scenarios can occur where the status may not necessarily align with the activity occurring throughout the preceding months, such as a scenario where the entity may be disused from January to November, but then functional in December time due to demand. This entity will therefore be classified as functional despite being dormant for the majority of the reporting year. Similar potential scenarios are graphically demonstrated in Figure 4 below. From a thematic perspective also, this means the emissions data obtained may not necessarily match the status for that entity in the EU Registry.

**Figure 4 - Timelines showing the variability and classification of status in regards to different entities.**



### 3.3 Identifiers

Entities reported to the EU Registry receive an identifier, assigned by the Competent Authority of the reporting country. Countries are free to set the identifier but, following the INSPIRE rules, this identifier has two mandatory elements: local ID and namespace (as defined in Annex 4 – Glossary of Terms).

Reporting countries can use their own system of existing national identifiers directly within the EU Registry, provided that these identifiers have the two said elements (i.e. local ID and namespace) and meet the 4 key requirements for INSPIRE compliance;

1. **Uniqueness:** The identifier has to be unique within all the industrial entities published at each respective level of the geographical hierarchy. The identifier should not be reused.
2. **Persistence:** The identifier has to remain unchanged during the lifetime of the entity.
3. **Traceability:** The identifier must supply sufficient information about the source of the industrial entity so that the download service can be determined.
4. **Feasibility:** The system has to be designed to allow that identifiers under existing national identifier systems can be mapped.

There will not be any specific requirements on the number or format of characters in an identifier, both the namespace and the local ID are 'character strings' as a field type. However, where a country has not already developed a system of national INSPIRE identifiers then the use of the approach in Annex 2 – INSPIRE Compliant Identifiers to this document is recommended for composing identifiers for the EU Registry.

In this approach a 9-digit chain of numbers is recommended for the first part of the `localId` but reporting countries might prefer to use some other character string that may be longer or include other characters such as dots or letters. Combined with the other aspects of the recommended INSPIRE identifiers (i.e. the namespace and the sub-index part of the `localId`), a reporting country's existing national identifier system could potentially be efficiently mapped for use in the EU Registry.

**Figure 5 - An example inspireId broken into its components.**



### 3.3.1 Thematic Identifier

There is a second type of identifier in the data model. This is the thematic identifier, which is an identifier internal to each reporting country's own national reporting system. This is a non-mandatory field which is an opportunity for the reporting country to provide an additional identifier. The thematic identifier is used in recognition that an entity may be known under different 'codes' depending on the thematic context or the reporting obligation. As such, the thematic identifier allows for the identification of entities between reporting obligations where IDs have already been assigned.

The thematic identifier is comprised of two parts, the identifier, used to provide an alternative thematic identifier for the entity (populates the *identifier* attribute), and the Thematic Identifier Scheme, used to provide a description of the thematic identifier provided (populates the *identifierScheme* attribute). Identifiers must be unique within each identifier scheme.

The key difference between the INSPIRE identifier and the thematic identifier is that the `inspireId` is crucial to the integrity of the EU Registry Data Model. It shall be a persistent, unique identifier that will be used to reference spatial objects in the EU Registry, Integrated E-PRTR and LCP Reporting and any future related data flows. Whereas, the thematic identifier can be used at the reporter's discretion. It can be used in a descriptive capacity and to identify spatial objects between existing reporting obligations where IDs have been assigned that are not INSPIRE compliant.

## 3.4 Coordinates

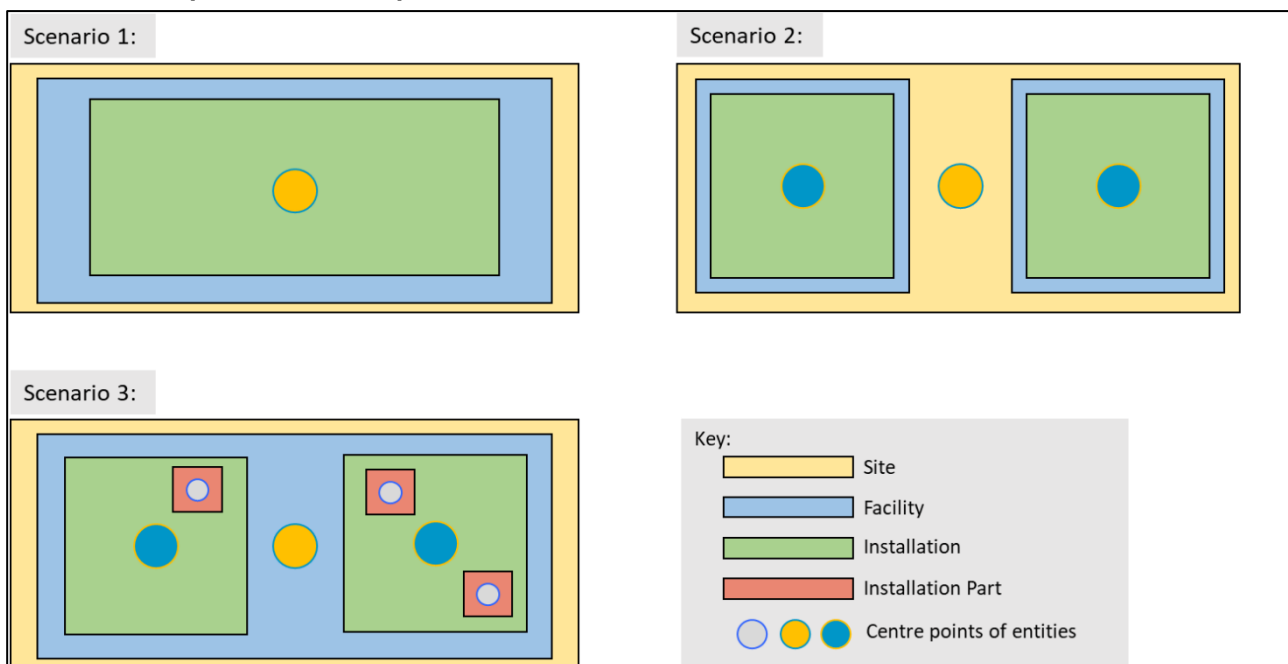
Single geographic points must be provided for all industrial entities in the EU Registry. Although point coordinates are the minimum level of geographic information, at this stage the reporting of a greater level of detail is not mandated by the relevant legislation. They will however be crucial for ensuring that all facilities

and associated sub-entities are located at the same site. This also complies with the INSPIRE PF data specifications for the minimum level of detail for the spatial representation of facilities, installations and installation parts.

Point coordinates will need to use the ETRS89 (2D)-EPSG:4258<sup>10</sup> coordinate reference, to five decimal places for latitude and longitude coordinates, for the approximate centre of a given entity. This level of accuracy is expected to be sufficient to spatially define and identify separate facilities, installations and installation parts, which is a key goal of the EU Registry.

It is expected that site coordinates are the same as facility coordinates where a site simply encompasses one facility, as depicted in scenario 1 of Figure 6. If a site were to include two facilities (i.e. two sets of installations under separate ownership) then the site coordinates would be expected to be different from the individual facility coordinates, as shown in scenario 2 of Figure 6. If a facility were to include two installations, each with one or more installation parts, then facility coordinates would be expected to be different from the individual installation coordinates as depicted in scenario 3 of Figure 6. In the latter scenario, the individual installation parts are represented as 'pointGeometry' and have separate coordinates from the grouping installations.

**Figure 6 - Defining coordinates for entities under different site, facility, installation and installation parts relationships.**



<sup>10</sup> Although the reporting under the E-PRTR previously allowed the use of either EPSG:4326 or EPSG:4258 coordinate reference systems, the latter is required for the EU Registry since the INSPIRE guidance recommends the usage of the ETRS89 (2D)-EPSG:4258 coordinate reference system.

### 3.5 Confidentiality

A minor part of the data contained by the EU Registry may be considered confidential. The reasons for data to be considered confidential are those recognised by EU law, namely Directive 2003/4/EC on public access to environmental information.

The European Commission, in consultation with countries, determined how confidentiality is to be applied in the context of the EU Registry. In the context of the EU Registry, confidentiality is managed in the following way:

- **Competent Authorities** in the Member States are responsible to **decide** whether a confidentiality claim is acceptable, on a case-by-case basis, and using the guiding criteria provided by Directive 2003/4/EC (article 4 on exceptions to access to environmental information);
- Confidentiality **applies only to certain attributes** of a given entity, the rest cannot be considered confidential;
- The **confidential data must to be transmitted** to the EEA. The EEA will put in place measures to ensure that these data are not disclose to the public;
- A **valid reason** as to why the data are confidential must be provided for each piece of data that must be considered confidential.

The tools for reporting to the EU Registry thus reflect these four guiding principles.

#### *Attributes that can be claimed as confidential*

The attributes that are potentially considered confidential, subject to **sound justification** on the basis of one of the criteria listed in **Article 4 of Directive 2003/4/EC**, are the following:

- details on the so-called parent company, which is the legal owner of a given entity.
- names of the entities.
- Addresses.

Please note that the current interpretation of the Commission is that names of parent companies or reported entities can only be confidential for data protection issues. This means that the name must be a natural name and there is no consent given by the individual to disclose this.

Another case that is recognise as possible accepted reasoning is when it is necessary to protect public security (for instance in case of a facility producing explosives, which could be a target for terrorism). By not disclosing names and addresses, it is understood that confidentiality is gained on the overall aspects that are not possible to claim as confidential according to the data model.

#### *Transmission of the data*

As indicated before, the EU Registry enables the selective designation of three data fields that reporting countries want to be keep confidential for a given entity. The mechanism for expressing a claim of confidentiality is facilitated by the [confidentialityReason attribute](#). When this attribute is populated with a reason from Directive 2003/4/EC in the applicable data type, then the relevant site/facility/installation/installation part name, address or parent company details will not be published by the EEA in public data products.



If reporting countries have confidential data in their files for submission, then they must choose the 'restricted from public view' tick box when uploading the file into the envelope, otherwise the XML file will be available for public viewing in the envelope. If this box is not ticked at the time of uploading then the file will have to be deleted and uploaded again in order to restrict from public view.

## 4 Understanding the data model

### 4.1 Basic terminology

Chapter 4 focuses on the data structure of the EU Registry. This requires a systematic look at all the attributes and components of the data model. The data model reflects the reporting requirements of EU law in a systematic manner and defines how reports from countries are to be populated. As reporting is based on an IT tool, specific data modelling terminology is used in this chapter.

The IT tool is defined as follows:

- A data structure is modelled in **Unified Modelling Language (UML)**
- The UML is then turned into a **Geography Markup Language Schema (GML Schema)**
- Reporters must prepare a file according to the UML either in Microsoft Access format or **Extensible Markup Language (XML)** format.

#### *Data modelling with UML*

The Unified Modelling Language (UML) is a general-purpose modelling language that is intended to provide a standard way to visualise the design of a system.

The data structure is designed in a structure diagram. The EEA only produced a so-called **class diagram**, one type of structure diagrams, which describes the objects that it contains and their relationships. The class diagram, together with a detailed explanation of each of the objects and attributes it contains, is presented in a **feature catalogue**. The objects are grouped in three main categories: Feature types, Data types and Code lists.

- **Feature type** – the generic terms used to describe a group of attributes within the UML. These are represented within the class diagram as boxes, which contain the phrase ‘«featureType»’. Feature types represent the highest level of aggregation in terms of the feature catalogue, and contain also other elements. The feature types therefore define the bounds of the core data structure.
- **Data types** – are similar to feature types, and contain a set of attributes to be populated, however they are intended to be more focused than that of feature types, with all attributes being used to detail a specific concept. These can generally be identified within the class diagrams via the phrase ‘type’ appended at the end of an attribute within a feature type or data type.
- **Code lists** – a defined set of values which can be used to populate an attribute. These can be identified within the class diagrams via the phrase ‘value’ appended at the end of an attribute within a data type or feature type. All code lists relevant to the EU Registry will be maintained in the EEA Data Dictionary<sup>11</sup> which will permit prompt and efficient updating of these lists as necessary. The requirement to use the specified code lists should greatly help improve data quality since this will be a key part of a valid XML submission. The attribute is populated with

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<sup>11</sup> The EU Registry on Industrial Sites Code list folder on the Eionet Data Dictionary:  
<http://dd.eionet.europa.eu/vocabularies?expand=true&expanded=&folderId=27#folder-27>

the complete Uniform Resource Identifier (URI) itself. For example, to select Austria from the CountryCodeValue list, the attribute countryId is populated with 'http://dd.eionet.europa.eu/vocabulary/euregistryonindustrialsites/CountryCodeValue/AT'.

### **Business rules**

The EU Registry business rules are mainly included in the Unified Modelling Language (UML) data model and the Geographical Markup Language Encoding Standard (GML) Schema (XSD) when it comes to basic requirements such as mandatory/non-mandatory, field type, relationships, and constraints. These business rules are in turn based upon key structural requirements for the EU Registry or requirements in the relevant legal instruments, such as whether provision of information is optional (e.g., text remarks providing additional information about a facility). Another related issue is that some countries that are not within the EU will therefore may not be formally subject to IED and/or the E-PRTR Regulation although these countries still choose to report relevant information. As such there is the option for some attributes not to be populated in these situations.

### **Multiplicity rules**

Multiplicity in UML allows specifying the number of times a given attribute must be reported or the logic of a relationship between two objects (i.e. number of times an object is related to another).

The multiplicity applicable to each attribute is provided in the brackets at the very end of the attribute, containing two numbers. The first number indicates the number of iterations of the attribute which must occur, and the second is the upper limit of these iterations. A zero (0) indicates the attribute may not need to occur and therefore can be left unpopulated. An asterisk (\*) indicates an unlimited upper bound, therefore allowing as many iterations of the attribute as necessary. The multiplicity (0..\*) therefore means the attribute may either be populated or not, and if it is populated, may occur as many times as necessary to align with national circumstances. Where multiplicity is not supplied at the end of the attribute, it should be assumed a (1..1) multiplicity applies. Applying the same rules, this means that the attribute must be populated and can only occur once. Table 3 illustrates some examples of multiplicity designations.

**Table 3 - Examples of multiplicity**

<b>Multiplicity</b>	<b>Meaning for an object</b>	<b>Meaning for a relationship</b>
<b>0..0</b>	The object must be empty	No relationship expected
<b>0..1</b>	The object can be empty or populated once.	The objects are either not related or there is a maximum of one object related.
<b>1..1</b>	The object has to be populated once and can only be populated once.	One object is precisely related to a single other object
<b>0..*</b>	The object can be empty, populated once or populated many times	One object can be either not related to another one, to a single one or to many other objects.
<b>1..*</b>	The object has to be populated at least once but could also be populated many times	One object can be either related to a single other object or to many others.
<b>5..5</b>	The object shall be populated exactly 5 times	Five objects must precise relate to five others.

## Voidability

A separate but related concept to multiplicity is voidability. If an attribute is voidable, this means that if data does not exist then it does not have to be provided. This allows for reporters to deal with **exceptional** circumstances in which there is no data for an attribute for a particular facility/installation/installation part despite that attribute being in general mandatory and thus having a [1..1] (or [1..X]) multiplicity. Under these circumstances, the attribute should be filled with dummy data. This means that the attribute should be populated in a manner consistent with the format requested but in a way that clearly indicates no genuine data is being provided. Several examples are given below.

Voidable does **not** mean optional. Voidability is used in the context of INSPIRE and defined as follows:

*The «voidable» stereotype is used to characterise those properties of a spatial object that may not be present in some spatial data sets, even though they may be present or applicable in the real world. This does not mean that it is optional to provide a value for those properties.*

If a field is mandatory but voidable, this indicates that the field is mandatory unless there are specific justifications for not providing it. For example, the 'address' element is voidable for production facilities but should only not be reported in cases where an address does not actually exist. In the case of a fish farm where the facility is at sea, reporters may use some discretion, but a reasonable approach would be to simply describe the address as "offshore", or to populate fields with "N/A". The dateOfStartOfOperation attribute is voidable for production facilities, installations and installation parts. This means that where the starting date information does not exist, it does not have to be provided. However, given the [1..1] multiplicity of this attribute a date must still be given. Where possible, an approximate date should be used but in the extreme case in which no reasonable estimate can be made, the dummy date of 01/01/1000 should be chosen. It must be reiterated that this dummy date is to be used only in the very rare circumstance in which absolutely no reasonable approximation can be made of a date of start.

## Relationships and class diagram

The class diagram shows all the feature types within the data model. The EU Registry is an extension of a pre-existing INSPIRE data model (the so-called INSPIRE PF). Therefore, it formally has two class diagrams:

- The **complete data model**: which reflects all pre-existing objects and attributes from the existing INSPIRE data model and the additional ones that are related to EU law on industrial pollution
- The **streamlined view**: which reflects those aspects that are to be reported to the EU Registry and ignores those which are irrelevant for this data flow.

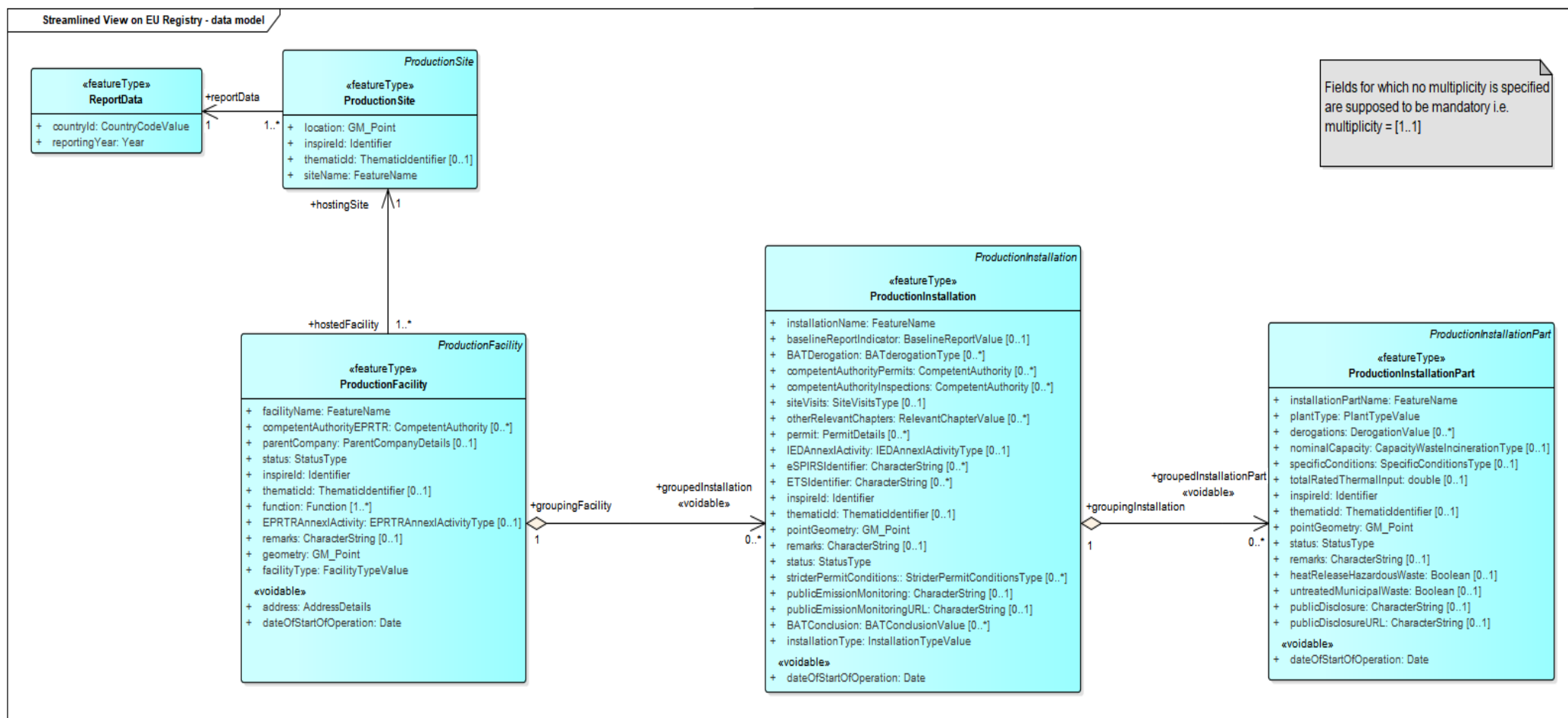
This document only refers to the class diagram of the streamlined view, as reports to the EU Registry only require these data and that structure.

## 4.2 EU Registry's data structure

The following sub-sections have been created to detail each main feature type, progressing through the geographical hierarchy depicted. Each Section contains a class diagram which has been adapted to display the feature type, alongside the linkages to data types and code lists. Via this, these diagrams aim to show all

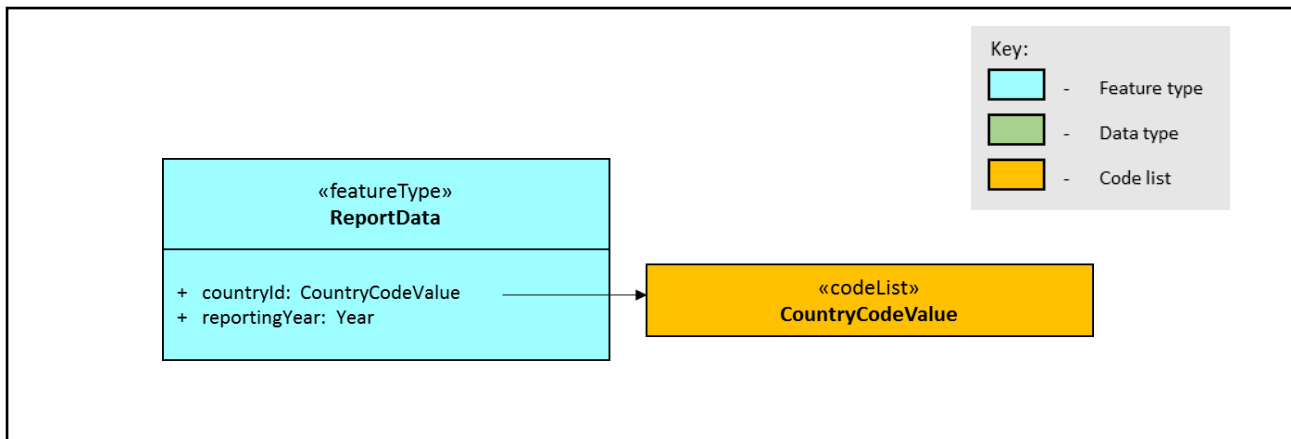
attributes that the user will be required to consider, across all levels of the feature catalogue. For each class diagram each individual attribute will be discussed progressing through the feature type and its linked elements systematically. In the following sections colour-coding is used to indicate whether an attribute is part of a **feature type** or a **data type** or the name of a **code list**. Guidance for each attribute is provided as they are introduced.

Figure 7- Class diagram of the EU Registry's 'Streamlined view'.



### 4.3 ReportData

Figure 8 - ReportData feature type, alongside connected code list.

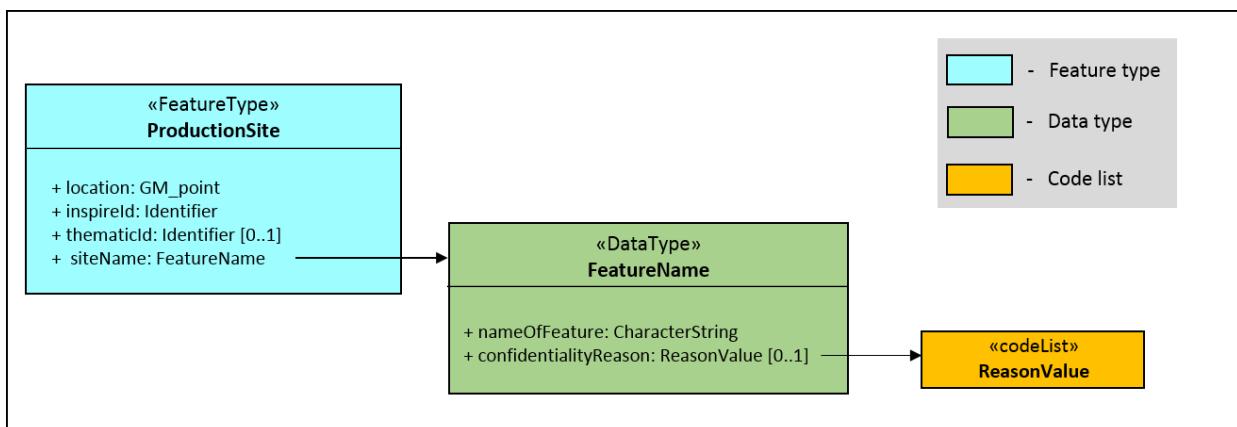


The *ReportData* feature type is to be reported only once for the whole XML submission from a country. It contains only two attributes that identify the source (country) and reporting year for a submission:

- **countryId** - is populated via a code list name the '**CountryCode**'. This consists of a list of two Character ISO-3166 codes of countries that will report to the EU Registry. Examples would be 'IT' for Italy or 'DE' for Germany.
- **reportingYear** – Defines the year that the submission covers. The internal data harvesting process within the EEA database will produce a full European-wide dataset covering multiple years.

### 4.4 ProductionSite

Figure 9 - ProductionSite feature type, alongside connected data types and code lists.



The *ProductionSite* feature type contains four attributes. All three attributes are aimed at detailing data used for identification.

- **location** – Point coordinates referring to the approximate centre point of the site. These coordinates should be supplied in the ETRS89 (2D)-EPSG:4258 coordinate reference system to 5 decimal places. A dedicated check, as described in the EU Registry QA/QC Logic document, is

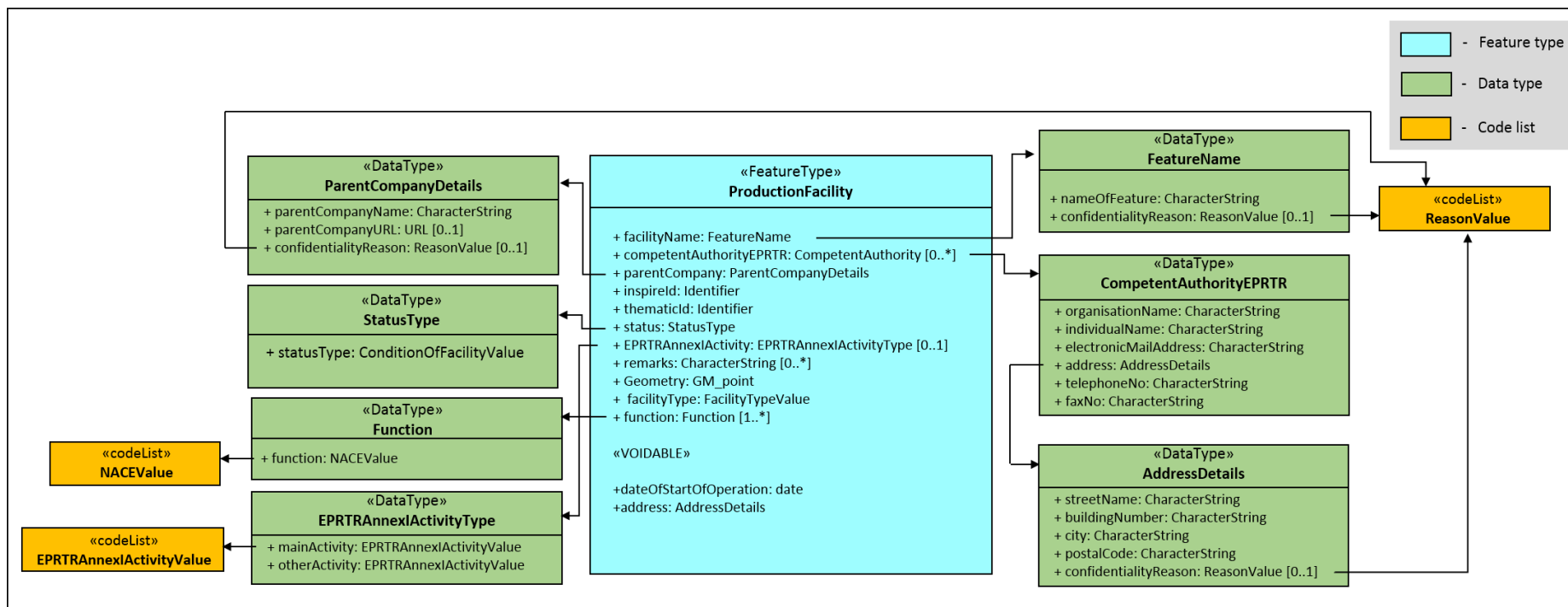
designed to ensure the coordinates supplied within this attribute are compliant with the anticipated number of decimal places.

- **inspireId** – This attribute should be populated using an identifier unique to the site reported. Member States may determine their own system of identifier as long as they fulfil the requirements detailed in Section 3.1. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is designed to ensure that each inspireId used is unique at the ProductionSite level of the geographical hierarchy.
- **thematicId** – This attribute links to the thematicIdentifier data type which is an INSPIRE PF data type used to provide an alternative identifier to the InspireId. It is a unique identifier, within each scheme, that may be internal to each reporting country's own national reporting system. It is subject to [0..1] multiplicity so populating it is not mandatory. The data type contains two attributes:
  - **identifier**: populated with a character string giving the identifier itself.
  - **identifierScheme**: populated with a character string giving a description of the scheme or system to which the identifier has relevance.
- **siteName** – This attribute links to the *FeatureName* data type, where in turn the name of the site is detailed. The user should consider how this name can be made specific to the site, to avoid the use of ambiguous terms or the repetition of the company name. For example, an electricity company; Mainline Energy Limited, owns and operates three sites across the reporting country. Instead of all three sites being reported as different variations of 'Mainline Energy', the user could include the geographic location and the nature of the entity to the name, e.g. 'Mainline Energy Northern Electricity Production Site'. This *FeatureName* data type in turn contains two attributes:
  - **nameOfFeature**: Populated with a simple character string detailing the name.
  - **confidentialityReason**: Populated using the **ReasonValue** code list. This is a list of multiple reasons for protecting sensitive information from release into the public domain and originates from the Directive 2003/4/EC on public access to environmental information. More detail on the use and consequences of using this attribute is detailed in Section 3.5. The multiplicity associated with this attribute results in the fact this attribute can be left unpopulated if not applicable. If this attribute is populated however, then the data inside of the data type will not be integrated into public data products. In this instance, this will be the Site's name.



## 4.5 ProductionFacility

Figure 10 - ProductionFacility feature type, alongside connected data types and code lists.



The *ProductionFacility* feature type contains the following thirteen attributes linking to a variety of different data types and code lists. Such complexity is necessary to capture all the required administrative information relating to E-PRTR facilities.

- **facilityName** - This attribute links to the *FeatureName* data type, where, similarly to the *SiteName* attribute explained in Section 4.4, the name of the respective entity is detailed. This should follow a similar principle to the site name, and the user should consider how the facility name can be made specific to the facility itself. Continuing the example described in Section 4.4, the facility within the site could be named as 'Mainline Energy Northern Electricity Production Facility' or more simply 'Northern Electricity Generating Station'. Facility names can be changed since annual reporting to the EU Registry allows for tracking names used in each year. Ideally the name should provide an indication towards the main activity occurring within the facility. The *FeatureName* data type in turn contains two attributes:
  - **nameOfFeature**: Populated with a simple *CharacterString* detailing the name
  - **confidentialityReason**: populated using the *ReasonValue* code list. This is a list of multiple reasons for protecting sensitive information from release into the public domain and originates from the Directive 2003/4/EC on public access to environmental information. More detail on the use and consequences of using this attribute is detailed in Section 3.5. The multiplicity associated with this attribute results in the fact this attribute can be left unpopulated if not applicable. If this attribute is populated however, then the data inside of the data type will not be integrated into public data products. In this instance, this will be the Facility's name.
- **competentAuthorityEPTR** – This attribute links to the *CompetentAuthority* data type and should refer to the authority, body or bodies responsible for regulating the facility and reporting the associated E-PRTR data, as designated by the reporting country. This in turn contains six attributes which collect identification and contact information about this authority:
  - **organisationName**: the name of the competent authority as designated by the reporting country.
  - **individualName**: name of the point of contact within the competent authority that is responsible for the particular facility. The EEA discourages reporting names of individuals to avoid data protection issues, it is however up to the countries to decide on this matter. Therefore, this attribute can be used in a more generic sense, i.e., it can be populated with a team or department's name, e.g. 'Industrial Pollution Team', instead of specific individuals.
  - **electronicMailAddress**: the email address should be operated by the name detailed in the *individualName* attribute. Again, the EEA encourages the use of functional mailboxes instead of individual's email accounts. Therefore, this too can be used in a generic sense and can refer to mailboxes for teams and department within the authority. The email address provided should adhere to the common format and therefore indicate a functioning mailbox.
  - **address**: This links to a further data type named *AddressDetails*, which contains all the necessary attributes to detail an address. These attributes will be addressed later in the section, when the address attribute within the *ProductionFacility* feature type is discussed. It should be noted, however, that the use of the *confidentialityReason* attribute is prohibited when the address refers to a competent authority. Such information cannot be withheld.
  - **telephoneNo**: the telephone number for the individual, team or department referenced in the *individualName* attribute. This should include all necessary area codes in order to be contacted from outside the reporting country.

- **faxNo**: The fax number for the individual, team or department referenced in the individualName attribute. This has a multiplicity of [0..\*] meaning this needn't be supplied if fax technology is not used within the authority.
- **parentCompany** – This attribute links to the *ParentCompanyDetails* data type, where the ownership of the facility is defined via the population of the following attributes:
  - **parentCompanyName**: the name of the natural or legal person that is responsible for operating the facility. Where there is a separate operator and owner of a facility, information on the former should be provided. In scenarios where the facility is operated by multiple companies, then the company with decisive economic powers over the technical functioning of the facility should be used. In practice, this means holding more than 50% of the company's share capital or a majority of voting rights of the shareholders or associates.
  - **parentCompanyURL**: the web address operated by the parent company referenced above. This attribute has a multiplicity of [0..1], and therefore it is not mandatory. This covers cases where neither the parent company nor the individual facility have a relevant web address. If such a web address exists, populating this fields is strongly encouraged. This web address should include all the necessary components to enable access from a standard web browser. This URL should be limited to 255 characters.
  - **confidentialityReason**: populated using the **ReasonValue** code list. This is a list of multiple reasons for protecting sensitive information from release into the public domain and originates from the Directive 2003/4/EC on public access to environmental information. More detail on the use and consequences of using this attribute is detailed in Section 3.5. The multiplicity associated with this attribute results in the fact this attribute can be left unpopulated if not applicable. If this attribute is populated however, then the data inside of the data type will not be integrated into public data products. In this instance, this will be the parent company's name and details.
- **inspireId** – Populated with an identifier unique to the facility being reported. Reporting countries may determine their own system of identifier as long as they fulfil the requirements detailed in Section 3.1. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is designed to ensure that each inspireId used is unique at the ProductionFacility level of the geographical hierarchy.
- **thematicId** – This attribute links to the thematicIdentifier data type which is an INSPIRE PF data type used to provide an alternative identifier to the InspireId. It is a unique identifier, within each scheme, that may be internal to each reporting country's own national reporting system. It is subject to [0..1] multiplicity so populating it is not mandatory. The data type contains two attributes:
  - **identifier**: populated with a character string giving the identifier itself.
  - **identifierScheme**: populated with a character string giving a description of the scheme or system to which the identifier has relevance.
- **function** – This attribution is linked to the Function data type via a multiplicity of [1..\*]. This results in the fact the attribute must be populated at least once for each respective facility, however multiple options can be chosen in order to account for the range of economic activities that can coincide within a facility. The Function data type contains the following attributes:
  - **activity**: populated using a value from the **NACEValue** code list. This in turn refers to a set of NACE codes. NACE codes refer to a classification of activities for statistical purposes

which has widely been used since its implementation in Regulation (EEC) No 3037/90 on the statistical classification of economic activities in the European Community. This attribute too functions according to [1..\*] multiplicity, and therefore allows multiple options to be chosen by the user.

- **EPTRAnnexIActivity** – This attribute links to a data type named the *EPTRAnnexIActivityType*. Within this data type the different activities, in accordance with those listed in Annex 1 of the E-PRTR regulation 2006, are detailed. The attribute has a multiplicity of [0..1], as there may be scenarios where the facility reported does not fall under the scope of the E-PRTR, and therefore no activity is required to be reported (e.g. a waste incineration plant reported to the EU Registry as a ProductionInstallationPart but operating below the capacity threshold of 3 tonnes of non-hazardous waste per hour, the limit established in Annex I of the E-PRTR Regulation, will require the population of the production facility feature type without needing an activity). It is important to note that voluntary reporters that are not EU members (e.g. Norway) will report E-PRTR Annex 1 activities. In this case, reporting the activities gives insights on what the given facility is doing which is useful information to give context to thematic reports on that entity. Reporting activities in the case of these countries is not a compliance or legal statement. The data type consists of two attributes, each populated using the same code list:
  - **mainActivity**: populated with an activity code from the *EPTRAnnexIActivityValue* code list. The code list is structured according to Annex I of E-PRTR Regulation, which contains a hierarchical system to link specific activities to larger sectors. This should refer to the main activity occurring within the facility, which can be determined either qualitatively by considering the primary purpose of the facility, or quantitatively via comparing the amounts of product generated from each activity or the economic value associated with each activity occurring. If only one activity occurs within the facility, that activity automatically becomes the main activity. The main activity must not match with any of the other activities reported for that facility. A check detailed in the EU Registry Quality Assurance Logic document is in place to ensure that this scenario is prevented.
  - **otherActivity**: populated using the activity code *EPTRAnnexIActivityValue* code list. This attribute has a multiplicity of [0..\*], meaning the attribute may be left unpopulated, or populated multiple times. This attribute should be populated with all other annex I activities that occur within the facility, except for the main activity.
- **remarks** – This attribute is populated with a simple *CharacterString*. This should contain any additional information about the facility that the reporting country considers may be pertinent to the European Commission.
- **geometry** – This attribute is populated in the *GM\_Object* INSPIRE format, due to the fact the facility feature type is a formal extension to the INSPIRE Activity Complex. The E-PRTR regulation mandates the use of point coordinates exclusively, which can only be fulfilled via the use of *GM\_point*, a type of *GM\_object*. This attribute therefore should be considered by users as analogous to *GM\_point* and therefore should be populated using coordinates representing the approximate centre point of the facility in ETRS89 (2D)-EPSG:4258 coordinate reference system to 5 decimal places. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is designed to ensure the coordinates supplied within this attribute are compliant with the anticipated number of decimal places.

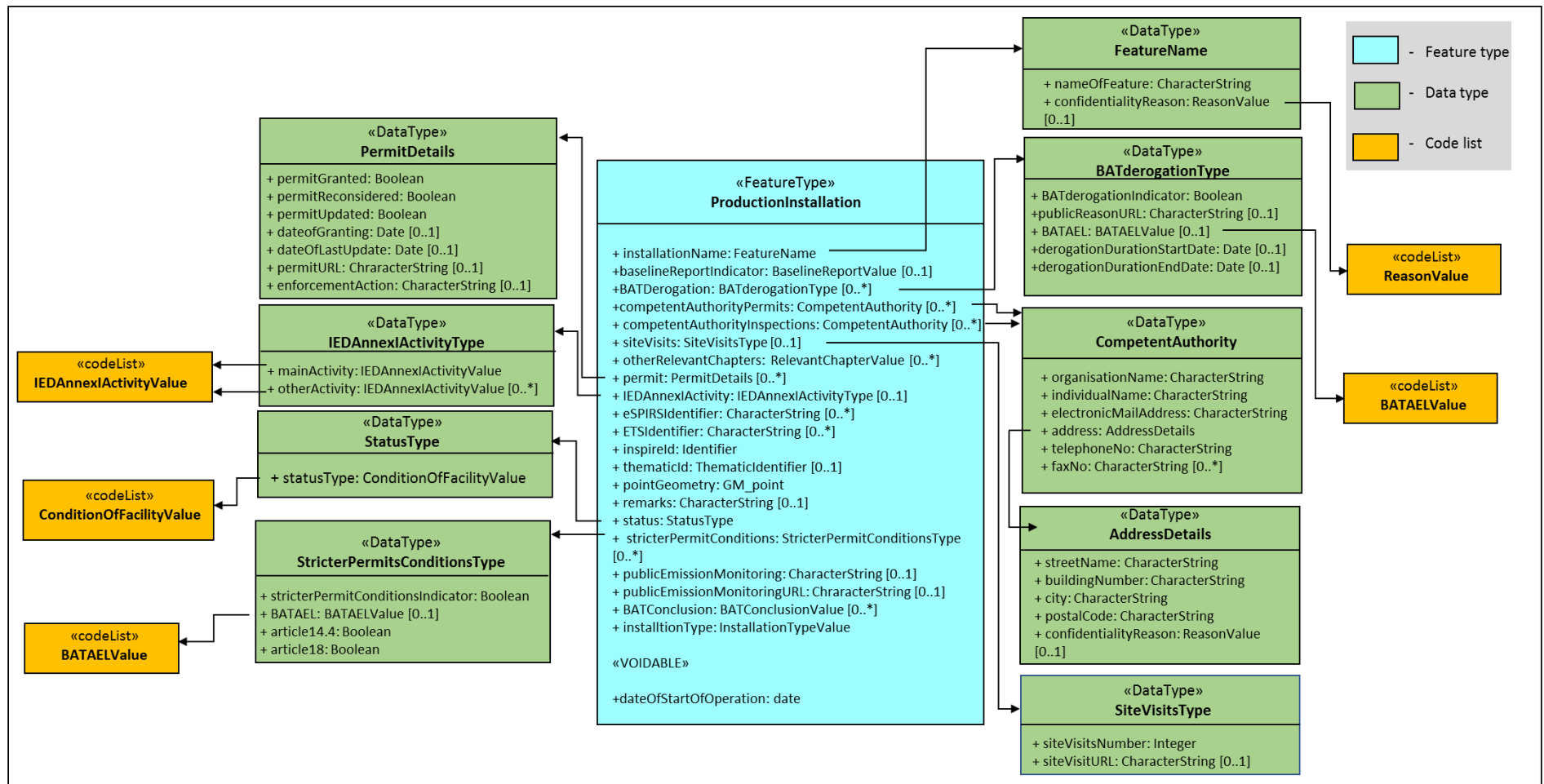
- **address** – This attribute links to the *AddressDetails* data type. This in turn contains all attributes necessary to form an address, as mandated by the E-PRTR regulation:
  - **streetName**: the name of the street or road where the facility is located.
  - **buildingNumber**: The number associated to the facility. This attribute can also be used to detail a building name, if this is more appropriate.
  - **city**: the city or region where the facility is located.
  - **postalCode**: the postal code registered for the facility.
  - **confidentialityReason**: populated using the **ReasonValue** code list. This is a list of multiple reasons for protecting sensitive information from release into the public domain and originates from the Directive 2003/4/EC on public access to environmental information. More detail on the use and consequences of using this attribute is detailed in Section 3.5. The multiplicity associated with this attribute results in the fact this attribute can be left unpopulated if not applicable. If this attribute is populated however, then the data inside of the data type will not be integrated into public data products. In this instance, this will be the address of the facility.
- **dateOfStartOfOperation** – This attribute is populated with a simple date which represents the operational start date of the facility. It should represent the first date where the activity, described by either Annex I of the E-PRTR Regulation or the IED, first began, regardless of specific activity thresholds. This can be approximated if the exact date is not known (e.g. in a case where available records for an entity indicate it started to operate on a date between 1956 and 1958, a valid date would be 31/12/1958). As the data field has a dd/mm/yyyy format, dates will need to be provided according to that format, but reasonable approximations are accepted. Since this information may not always be known, this field is voidable. If no reasonable approximation can be made then the date 01/01/1000 should be chosen. This is to allow dummy dates to be distinguished from genuine data, since the attribute must be populated in a date format.

It should be noted that the *dateOfStartOfOperation* is an attribute used across the geographical hierarchy and therefore should follow a logical order, with all *ProductionInstallations* and *ProductionInstallationParts* subject to operational start dates which occur later or at the same time as the hosting *ProductionFacility*.

- **Facility Type** – This attribute is populated with a URI from the **FacilityTypeValue** code list. This list contains options defining whether or not the *ProductionFacility* reported is within the scope of the E-PRTR Regulation.
- **status** – This attribute links to the *StatusType* data type. This, in turn, contains a single attribute:
  - **statusType**: links through to the **conditionOfFacilityValue** code list, which contains multiple options to describe the operational state of the facility. The use of these options and the implications they pose is detailed in Section 2.7.

## 4.6 ProductionInstallation

Figure 11 - ProductionInstallation feature type alongside connected data types and code lists.



- **installationName** - This attribute links to the *FeatureName* data type, where, similarly to the *facilityName* attribute explained in Section 4.5, the name of the respective entity is detailed. The user should consider how the installation name can be made specific to the installation itself, and it is anticipated that the installation name may well include aspects relating to the operator or the name of the associated facility. This data type in turn contains two attributes:
  - **nameOfFeature**: Populated with a simple character string detailing the name of the installation.
  - **confidentialityReason**: populated using the **ReasonValue** code list. This is a list of multiple reasons for protecting sensitive information from release into the public domain and originates from the Directive 2003/4/EC on public access to environmental information. More detail on the use and consequences of using this attribute is detailed in Section 3.5. The multiplicity associated with this attribute results in the fact this attribute can be left unpopulated if not applicable. If this attribute is populated however, then the data inside of the data type will not be integrated into public data products. In this instance, this will be the Installation's name.
  
- **baselineReportIndicator** – This attribute is populated using the code list **BaselineReportValue** and indicates whether a baseline report for the installation has been submitted to the relevant competent authority, either in the application for a permit, or the update of a permit. This attribute is mandatory for IED installations. This baseline report should include all the information regarding the state of soil and groundwater contamination as outlined by Article 22 of the IED. If a report has been submitted and fulfils the requirements of Article 22, the 'REPORT' value should be chosen from the relevant code list, and this attribute should be populated with the full URI representing this value. If no report has been submitted **and** one is required under the IED then the 'NOREPORT' value should be chosen. Not all IED installations are required to prepare a baseline report. Specifically, only those activities which involve “the use, production or release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination at the site of the installation” must do so. For installations which are not required to submit a report, the 'NOTREQUIRED' value should be chosen.
  
- **BATDerogation** - This attribute links to the *BATderogationType* data type. This data type in turn contains six attributes. If the installation is subject to a derogation, then from the reporting year 2018, populating the associated five attributes is mandatory. The attributes are as follows:
  - **BATDerogationIndicator**: This attribute indicates whether an installation is subject to derogation of the emission limit values under Article 15(4) of the IED. It should be set to 'true' only when an assessment has taken place and its results are documented within the permit conditions.
  - **publicReasonURL**: This attribute is populated with a *CharacterString* giving the URL at which the specific reasons for the derogation are made available. If using the Access template this URL should be limited to 255 characters.
  - **BATAEL**: This attribute is populated using the **BATAELValue** code list. The appropriate value is chosen from this list to indicate the BAT-AEL from which the derogation was granted.
  - **derogationDurationStartDate**: This attribute is populated with the date of the start of the duration of the derogation, where applicable.
  - **derogationDurationEndDate**: This attribute is populated with the date of the end of the duration of the derogation, where applicable.
  
- **competentAuthorityPermits** – This attribute links to the *CompetentAuthority* data type, which is described in detail in Section 4.5. This data type should be populated with the authority, body or



bodies responsible for the granting, renewal, review and management of permits which are related to the requirements of the IED.

- **competentAuthorityInspections** - This attribute links to the *CompetentAuthority* data type, which is described in detail in Section 4.5. This data type should be populated with the authority or body responsible for conducting inspections to enforce permit requirements. If inspections are carried out by a third party delegated by the competent authority, the data type should be populated with the information of this third party. This attribute has a multiplicity of [0..\*]; it may be left unpopulated in the case that the installation is not subject to the IED.
- **siteVisits** – This attribute links to the *siteVisitsType* data type. This data type in turn contains two attributes:
  - **siteVisitNumber** is populated with an integer giving the number of site visits by the relevant competent authority or the delegated third party in a given reporting year. Its purpose is to capture the annual number of site inspections year on year. It should be noted that if this attribute is populated with an integer greater than 0, the *CompetentAuthorityInspections* attribute is also anticipated to be populated.
  - **siteVisitURL** is populated with a Character String giving the URL at which any website information containing the outcomes and reporting from these inspections is found. This attribute is required from the reporting year 2018. If using the Access template this URL should be limited to 255 characters.
- **otherRelevantChapters** – This attribute is populated using the code list **otherRelevantChapterValue**, which contains all chapters except Chapters I & II of the IED. This should be populated with the relevant chapter if the contents of this chapter has implications towards the Installation being reported. This only applies to installations that incorporate combustion, the incineration of waste, use of organic solvents and the production of titanium dioxide.
- **permit** – This attribute links through to the *PermitDetails* data type. Within this data type several attributes work together to detail the permit actions associated with the installation. Where certain permit actions have not occurred, simply leaving the relevant date field as null could be ambiguous. Therefore, to ensure such actions have not occurred, reporters need to confirm this by using the Boolean indicators within each of the ‘permit’ attributes. This in turn will simplify the QA/QC of the permit information. The dates in both date attributes for this data type should follow a logical order, with the date supplied in the *dateOfGranting* attribute preceding the date for the *dateOfLastUpdate* attribute. The *PermitDetails* data type contains the following attributes:
  - **permitGranted**: This Boolean attribute should be set to ‘true’ when an IED compliant permit has been granted. This should only refer to permits granted by the competent authority responsible for permitting.
  - **permitReconsidered**: This Boolean attribute should be set to ‘true’ when, if in the given reporting year, an IED compliant permit has been reconsidered, which may refer to a formal review process conducted by competent authority, or a renewal of an existing permit under the same conditions as prior to the review.
  - **permitUpdated**: This Boolean attribute should be set to ‘true’ if an IED compliant permit has been updated in the given reporting year. A permit is said to have been



updated if the permit conditions have been changed or altered by the competent authority. If set to 'true', a date should be provided for the `dateOfLastUpdate` attribute.

- **dateOfGranting**: This is the date on which a permit was first granted in line with the requirements of the IED. This may have occurred before the IED was published in 2010 (OJEU 17 December 2010). This date can therefore refer to any year in which an IED compliant permit was granted. This date should not change from year to year. In Member States where permits may only be partially updated and it is not immediately obvious how to determine a `dateOfGranting`, the first update after the adoption of the law transposing the IED in the given country should be considered `dateOfGranting` and remain static. The only exception for this is if the competent authority considers that the permit is not compliant with the IED and that this still needs to happen.
- **dateOfLastUpdate**: This attribute is populated in the format of a date and should refer to the date within the given reporting year, if applicable, that the competent authority last updated the permit. The dates in both date attributes for this data type should follow a logical order, with the date supplied in the `dateOfGranting` attribute preceding the date for the `dateOfLastUpdate` attribute. For Member States with a regime in which permits may be partially updated several times a year and where various updates may be valid simultaneously, the latest update should be reported as `dateOfLastUpdate`.
- **permitURL**: This attribute is populated with a URL and allows reporters to specify an online location for the active permit(s). This URL could link to a host site that contains all relevant permits, or could link to a specific permit – this is left up to the discretion of the reporting country. If using the Access template this URL should be limited to 255 characters.
- **enforcementAction**: If no permit has been granted, this attribute should be populated with a character string giving a description of what enforcement action has been taken. This is a requirement as of reporting year 2018.
- **IEDAnnexIActivity**: This attribute links through to the *IEDAnnexIActivityType* data type. This, similarly to the *EPTRAnnexIActivityType*, detailed in Section 4.5, contains two attributes:
  - **mainActivity**: populated with an activity code from the **IEDAnnexIActivityValue** code list. This code list is formulated using the activities listed in annex I of the IED. This attribute should refer to the main activity occurring within the Installation, which can be determined either qualitatively by considering the primary purpose of the installation, or quantitatively via comparing the amounts of product generated from each activity or the economic value associated with each activity occurring. If only one activity occurs within the installation, that activity automatically becomes the main activity. The main activity must not match with any of the other activities reported for that installation. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is in place to ensure that this scenario is prevented.
  - **otherActivity**: populated using the activity code **IEDAnnexIActivityValue** code list. This attribute has a multiplicity of [0..\*], meaning the attribute may be left unpopulated, or populated multiple times. This attribute should be populated with all other Annex I activities that occur within the facility, except for the main activity.
- **eSPIRSId** and **ETSId**: These two attributes are used to link data reported under the streamlined E-PRTR and LCP database with data reported under the Seveso Plant Information Retrieval

System (SPIRS)<sup>12</sup> and the EU Emissions Trading System (ETS)<sup>13</sup>. The ETSId attribute should be populated with the unique installation identifier for each installation found in the ETS database. The identifier must be provided in a specific format: the identifier should start with the two-letter ISO country code followed by 15 digits (of which the last digits represent the EUTL code also referred to as the installation identifier) e.g. Austria with an ETS installation with an INSTALLATION\_IDENTIFIER being '123' should be reported as: AT0000000000000123. The eSPIRSId attribute should be populated with the relevant Establishment Code for the parent establishment under which multiple installations may be attributed. Checks in the EU Registry Quality Assurance Logic document, are in place to ensure the identifiers supplied are provided in the correct format and correspond to a known identifier provided to the EU-ETS.

- **inspireId** – Populated with an identifier unique to the installation being reported. Reporting countries may determine their own system of identifier as long as they fulfil the requirements detailed in Section 3.1. A dedicated check, as described in the EU Registry QA/QC Logic document, is designed to ensure that each inspireId used is unique at the ProductionInstallation level of the geographical hierarchy.
- **thematicId** – This attribute links to the thematicIdentifier data type which is an INSPIRE PF data type used to provide an alternative identifier to the InspireId. It is a unique identifier that may be internal to each reporting country's own national reporting system. It is subject to [0..1] multiplicity so populating it is not mandatory. The data type contains two attributes:
  - **identifier**: populated with a character string giving the identifier itself.
  - **identifierScheme**: populated with a character string giving a description of the scheme or system to which the identifier has relevance.
- **pointGeometry**: This attribute is populated in the format of GM\_Point and should refer to point coordinates referring to the approximate centre point of the installation. These coordinates should be supplied in the ETRS89 (2D)-EPSG:4258 coordinate reference system to 5 decimal places. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is designed to ensure the coordinates supplied within this attribute are compliant with the anticipated number of decimal places.
- **remarks**: This optional attribute is populated using a simple character string to give any additional information about the production installation.
- **status** – This attribute links to the *StatusType* data type. This, in turn, contains a single attribute:
  - **statusType**: links through to the **conditionOfFacilityValue** code list, which contains multiple options to describe the operational state of the installation. The use of these options and the implications they pose is detailed in Section 2.7.
- **stricterPermitConditions**: This attribute links to the *StricterPermitConditionsType* data type, which in turn links to four attributes. Of these, *stricterPermitConditionsIndicator*, *article14.4* and *article18* are mandatory from the reporting year 2018 and, when stricter permit conditions do apply, *BATConclusion* and *BATAEL* are also mandatory from the reporting year 2018:

<sup>12</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012L0018>

<sup>13</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003L0087>

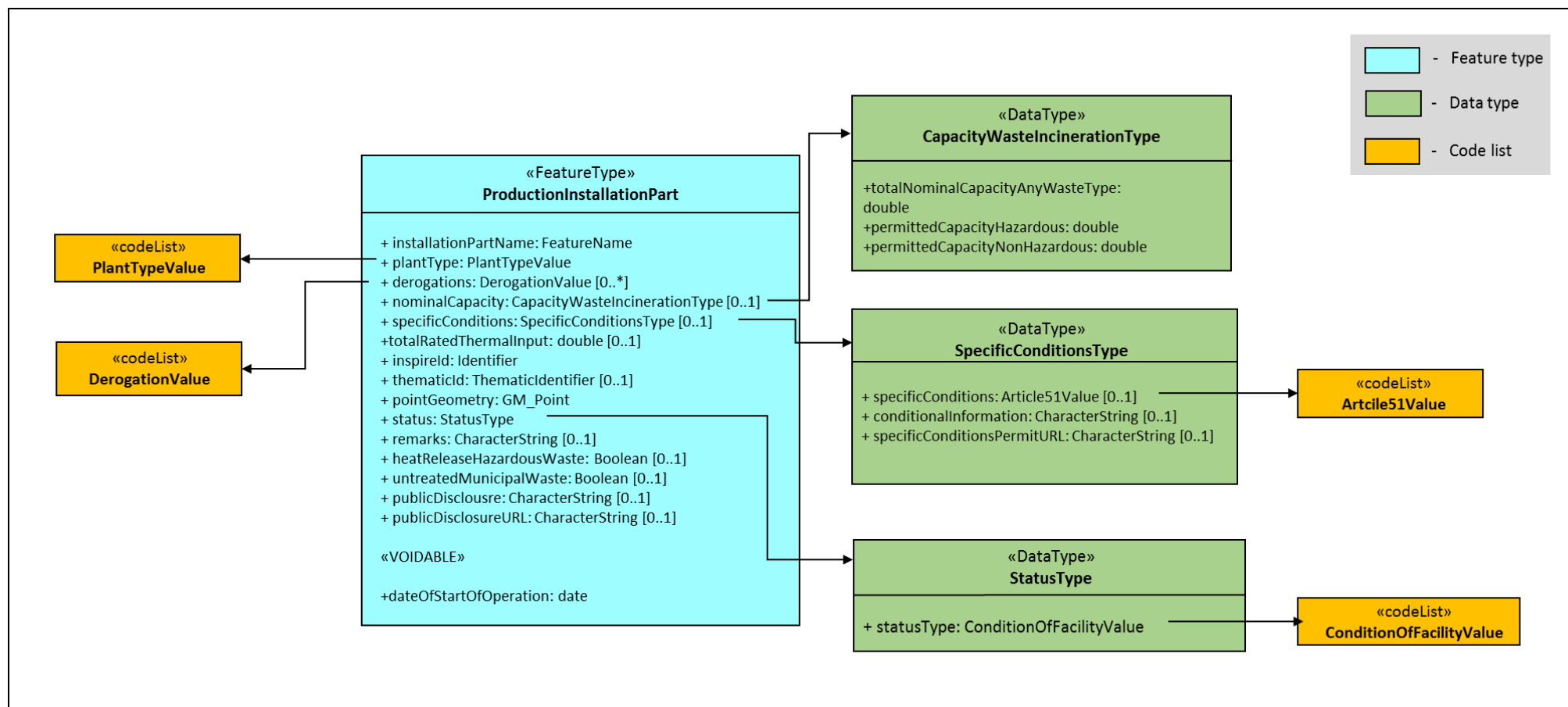
- **stricterPermitConditionsIndicator**: This Boolean attribute should be marked TRUE if the permit conditions have been reconsidered in accordance with Article 21(3), and the permit sets stricter emission limit values than the lower value of the BAT-AEL range.
- **BATAEL**: This attribute is populated using the **BATAELValue** code list as described above.
- **article14.4**: This Boolean attribute should be marked TRUE if *stricterPermitConditionsIndicator* has been marked TRUE **and** those stricter emission limit values have been set pursuant to article 14(4) of the IED.
- **article18**: This Boolean attribute should be marked TRUE if *stricterPermitConditionsIndicator* has been marked TRUE **and** those stricter emission limit values have been set pursuant to article 18 of the IED. Note that in some cases both *article14.4* and *article18* might be marked TRUE.
- **publicEmissionMonitoring**: This attribute is populated using a simple character string, which details how the results of emission monitoring have been made available to the public under Article 24(3)(b). If emission monitoring is yet to have taken place, the reporter should describe where monitoring results will be found. The attribute may be left unpopulated if the installation reported is not within the scope of the IED.
- **publicEmissionMonitoringURL**: This attribute is populated with the URL at which the results of emission monitoring are made available to the public under Article 24(3)(b), if a website has been created for this purpose. It may be left unpopulated if the installation reported is not within the scope of the IED. If using the Access template this URL should be limited to 255 characters.
- **BATConclusion**: This attribute is populated using the **BATConclusionValue** code list. This list should be used to indicate from which CID on BAT conclusions the derogation was granted. Where the BAT conclusion is still under development the BATCNOTYETADOPTED code value should be used.  
In the cases where there is not a relevant BAT conclusion and no plans for a one in the future the BATCNOTAPPLICABLE code should be used. This however will be rare.
- **installationType**: This attribute is populated using the **InstallationTypeValue**<sup>14</sup> code list in the EEA Data Dictionary. This is a binary code list which describes whether or not the installation reported is within the scope of the IED.
- **dateOfStartOfOperation** – This attribute is populated with a simple date which represents the operational start date of the installation. This should refer to the date that any of the IED Annex I activities first occurred. This can be approximated if the exact date is not known. The attribute is also voidable. If no reasonable approximation can be made then the date 01/01/1000 should be chosen. This is to allow dummy dates to be distinguished from genuine data, since the attribute must be populated in a date format.

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<sup>14</sup> Note: This field should not be confused with the 'type:InstallationTypeValue' attribute which is part of the INSPIRE Production and Industrial Facilities data model.

## 4.7 ProductionInstallationPart

Figure 12 - ProductionInstallationPart feature type, alongside connected data types and code lists.



- **installationPartName** - This attribute links to the *FeatureName* data type, where, similarly to the *InstallationName* attribute explained in Section 4.6, the name of the respective entity is detailed. In this case this is the name of the production installation part. The user should consider how the name can be made specific to the production installation part reported. The *FeatureName* data type in turn contains two attributes:
  - **nameOfFeature**: Populated with a simple *CharacterString* detailing the name
  - **confidentialityReason**: populated using the *ReasonValue* code list. This is a list of multiple reasons for protecting sensitive information from release into the public domain and originates from the Directive 2003/4/EC on public access to environmental information. More detail on the use and consequences of using this attribute is detailed in Section 3.5. The multiplicity associated with this attribute results in the fact this attribute can be left unpopulated if not applicable. If this attribute is populated however, then the data inside of the data type will not be integrated into public data products. In this instance, this will be the installation part's name.
- **plantType** – This attribute is populated via the code list, *PlantTypeValue*. This code list in turn consists of the following three variables 1. waste incinerator, 2. waste co-incinerator and 3. combustion plant. This is used to indicate whether the production installation part is a large combustion plant or a waste incinerator (in this case it can be co-incinerator or a regular incinerator).
- **derogations** – This attribute is populated according to the *DerogationValue* code list. This code list contains all the derogations foreseen for LCPs and the articles of the IED which describe them. Several of the potential derogations detailed in the IED are time dependent, and may expire after the valid period for their use has elapsed. Checks are in place in the EU Registry Quality Assurance Logic document, to ensure the reporting of derogations outside of their valid period is prevented.
- **nominalCapacity** – This attribute links to the *CapacityWasteincinerationType* data type, which collects information regarding the nominal and permitted capacity of waste incinerators or co-incinerators. The nominal capacity, as defined by the IED, *'means the sum of the incineration capacities of the furnaces of which a waste incineration plant or a waste co-incineration plant is composed, as specified by the constructor and confirmed by the operator, with due account being taken of the calorific value of the waste, expressed as the quantity of waste incinerated per hour'*. As this attribute exclusively applies to waste incinerators or co-incinerators, the multiplicity applied is [0..1], and therefore the attribute can be left unpopulated under circumstances where the *ProductionInstallationPart* feature type is populated according to an LCP. Three attributes are used to detail this concept:
  - **totalNominalWasteCapacityAnyWasteType**: This attribute is populated with a positive real number in a double-precision floating-point format. It should represent the total nominal capacity as described in the IED above, with no differentiation to the type of waste. The value supplied should be equal or greater than the value supplied in the *permittedCapacityHazardous* attribute and equal to or greater than the value supplied in the *permittedCapacityNonHazardous* attribute. Figures should be given in units of tonnes per hour.
  - **permittedCapacityHazardous**: This attribute is populated with a positive real number in a double-precision floating-point format, but is differentiated from the *totalNominalWasteCapacityAnyWasteType* attribute because it should be populated with a value that represents the permitted capacity of the waste incinerator or co-incinerator in terms of hazardous waste only. The attribute must be reported, however a value of zero should be reported in circumstances when the incinerator or co-

incinerator detailed does not receive hazardous waste. Again, units of tonnes per hour should be used.

- **permittedCapacityNonHazardous**: This attribute is also populated with a positive real number in a double-precision floating-point format. The value provided should represent the permitted non-hazardous capacity of the waste incinerator or co-incinerator, in units of tonnes per hour. If non-hazardous waste is not accepted (i.e. only hazardous waste), then a value of zero should be reported.
- **specificConditions** This attribute links to the *SpecificConditionsType* data type. In turn, this data type contains three attributes:
  - **specificConditions**: This attribute is populated using the *Article51Value* code list. This relates to the provisions under Article 51 of the IED which allows Member States to set permit conditions which are different to those laid down in Article 50(1), 50(2) and 50(3) of the IED. The code list contains 3 options, one of which should be selected if the permit for the WI plant allows for a derogation from the requirements of article 50.
    - **Code List Value – Article 50(1)**: This value should be selected if the derogation relates to Article 50(1) which requires that the total organic carbon content of slag and bottom ashes is less than 3 % or their loss on ignition is less than 5 % of the dry weight of the material;
    - **Code List Value – Article 50(2)**: This value should be selected if the derogation relates to Article 50(2) which specifies the minimum requirement residence time and temperature of the waste gases from the combustion process;
    - **Code List Value – Article 50(3)**: This value should be selected if the derogation relates to Article 50(3) which requires each combustion chamber to be equipped with at least one auxiliary burner.
  - **conditionsInformation**: This attribute is populated with a simple character string, which should give further information on the nature of the authorised change to the operating conditions, where applicable.
  - **specificConditionsPermitURL**: This attribute should be populated with a URL for the permit which sets out the operating conditions. A requirement from the reporting year 2018, where applicable. If using the Access template this URL should be limited to 255 characters.
- **totalRatedThermalInput** - This attribute is specific to large combustion plants and is populated with a positive real number in a double-precision floating-point format. The attribute represents the thermal input of the LCP, which can be defined as the rate at which fuel can be burned at the maximum continuous rating of the combustion plant multiplied by the calorific value of the fuel and expressed in terms of megawatts thermal (MWTh).
- **inspireId** – Populated with an identifier unique to the installation part being reported. Reporting countries may determine their own system of identifier as long as they fulfil the requirements detailed in Section 3.1. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is designed to ensure that each inspireId used is unique at the ProductionInstallationPart level of the geographical hierarchy.
- **thematicId** – This attribute links to the thematicIdentifier data type which is an INSPIRE PF data type used to provide an alternative identifier to the InspireId. It is a unique identifier that may

be internal to each reporting country's own national reporting system. It is subject to [0..1] multiplicity so populating it is not mandatory. The data type contains two attributes:

- **identifier:** populated with a character string giving the identifier itself.
  - **identifierScheme:** populated with a character string giving a description of the scheme or system to which the identifier has relevance.
- 
- **pointGeometry:** This attribute is populated in the format of GM\_Point and should refer to point coordinates referring to the approximate centre point of the installation part. These coordinates should be supplied in the ETRS89 (2D)-EPSG:4258 coordinate reference system to 5 decimal places. A dedicated check, as described in the EU Registry Quality Assurance Logic document, is designed to ensure the coordinates supplied within this attribute are compliant with the anticipated number of decimal places.
  - **status:** This attribute links to the *StatusType* data type. This, in turn, contains one main attribute: **statusType:** is populated using the **conditionOfFacilityValue** code list, which contains multiple options to describe the operational state of the installation part. The use of these options and the implications they pose is detailed in Section 2.7.
  - **remarks:** This optional attribute is populated using a simple character string to give any additional information about the production installation.
  - **heatReleaseHazardousWaste:** This Boolean attribute is marked TRUE if the installation part is a waste incinerator in which more than 40% of the heat release resulting from incineration comes from hazardous waste (in reference to article 46(2) of the IED). Marking the attribute FALSE indicates one of two things:
    - the installation part is a waste incinerator in which less than 40% of the heat release is from hazardous waste
    - the installation part is not a waste incinerator
  - **untreatedMunicipalWaste:** This Boolean attribute is marked TRUE when the installation part is a waste incinerator in which untreated municipal waste is co-incinerated (in reference to article 46(2) of the IED). Again, this may be left unpopulated if the installation part is not a waste incinerator.
  - **publicDisclosure:** This attribute is populated with a simple character string and describes how the information referred to in article 55(2) of the IED has been made available to the public. If reporting using the Access template this field is limited to 255 characters. If reporting direct to GML this field is limited to 600 characters.
  - **publicDisclosureURL:** This attribute is populated using a character string to provide the URL at which the information referred to in article 55(2) of the IED has been made available to the public. This URL should be limited to 255 characters.
  - **dateOfStartOfOperation** – This attribute is populated with a simple date which represents the operational start date of the installation part. This should refer to the date that any of the IED

Annex I activities first occurred. This can be approximated if the exact date is not known. The attribute is also voidable. If no reasonable approximation can be made then the date 01/01/1000 should be chosen. This is to allow dummy dates to be distinguished from genuine data, since the attribute must be populated in a date format.



## 4.8 Changes to the data model due to implementation of the CID

As a result of the CID, the following attributes, which are not mandatory for the reporting year 2017, must be reported from the reporting year 2018 onwards **in the case of an IED installation**:

ProductionInstallation feature type:

- publicEmissionMonitoring
- publicEmissionMonitoringURL (if available)
- BATConclusion

SiteVisitsType data type referenced in the siteVisit attribute of the ProductionInstallation feature type:

- SiteVisitURL

BATDerogationType referenced in the BATDerogation attribute of the ProductionInstallation feature type (only if subject to BAT Derogation under Article 15[4] of the IED):

- publicReasonURL
- BATAEL
- derogationDurationStartDate
- derogationDurationEndDate

StricterPermitConditionsType data type referenced in the stricterPermitConditions attribute of the ProductionInstallation feature type:

- StricterPermitConditionsIndicator
- Article14(4)
- Article 18
- BATAEL (only if the 'StricterPermitConditionsIndicator' is 'True')

It is important to note that the multiplicity of these attributes within the data model will not change between reporting years 2017 and 2018. The enforcement of these changes will take place through dedicated QA/QC checks.

## 5 Preparing country reports: use of the IT tools

### 5.1 Reporting data to the CDR: overall workflow

Reportnet is the European Environment Information and Observation Network's (Eionet) infrastructure for supporting data and information flows. The existing systems available within Reportnet will be utilised for the EU Registry and integrated E-PRTR and LCP thematic data reporting. This includes the Central Data Repository (CDR) of Reportnet, which contains built-in modules for automated data conversion, aggregation and QA/QC checks.

Figure 13 illustrates the proposed workflow for the EU Registry reporting process. This schematic has been adapted from the existing Reportnet architecture documentation<sup>15</sup>. Further guidance for interacting with the CDR is provided by Eionet<sup>16</sup> and, in addition, the Eionet Helpdesk is available<sup>17</sup>.

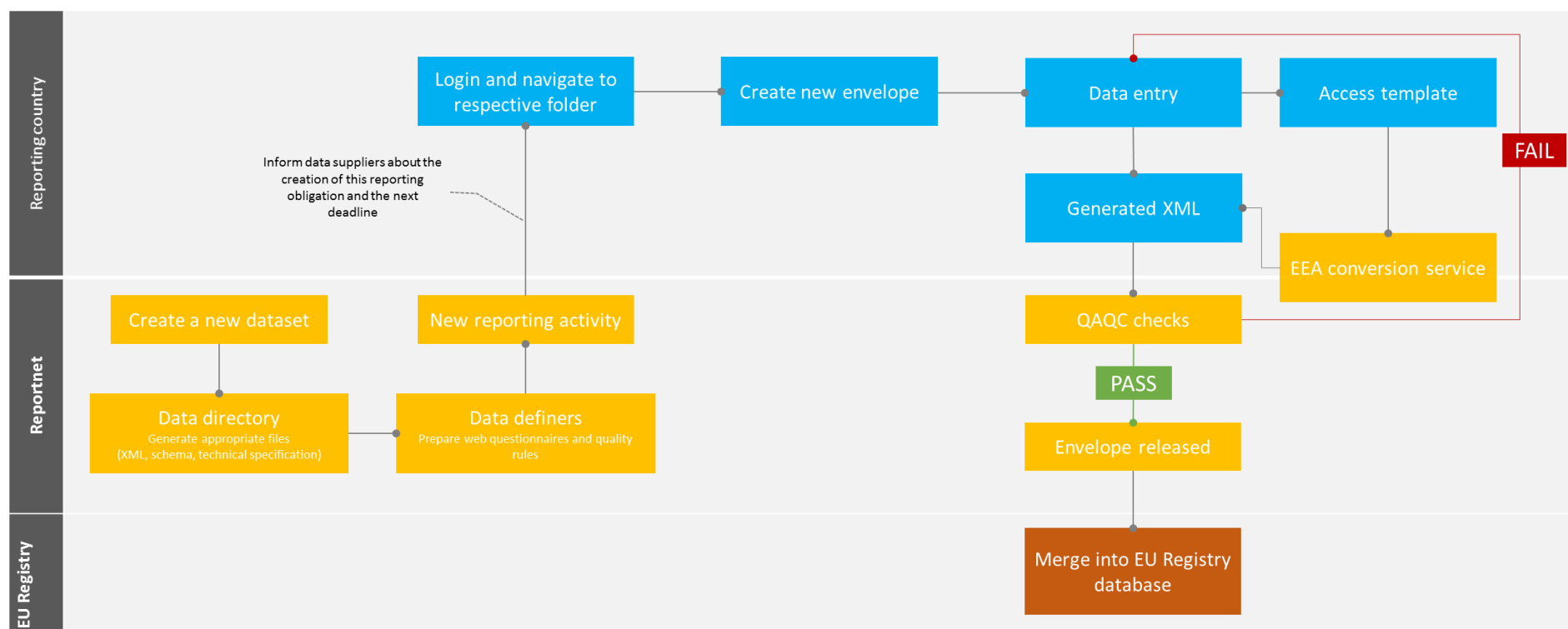
---

<sup>15</sup> Reportnet architecture An introduction, June 2006, Version 2.0:  
<http://www.eionet.europa.eu/reportnet/Reportnet%20architecture.pdf>.

<sup>16</sup> Eionet CRD General Help: <http://cdr.eionet.europa.eu/help>.

<sup>17</sup> Send email enquiries to: [helpdesk@eionet.europa.eu](mailto:helpdesk@eionet.europa.eu).

**Figure 13 - Schematic of the workflow for EU Registry reporting categorised into the roles of the Member State (MS) Reporter and Reportnet and the delivery of administrative data.**



## 5.2 User accounts and permissions

Reporting to the EU Registry requires:

- An **Eionet account** with user name and password is required as well as permission to upload the national delivery.
- Having specific **permissions to report**, on behalf of your country, to the relevant obligation. The EU Registry is recorded at the Reporting Obligation Database as obligation 721 (<http://rod.eionet.europa.eu/obligations/721>)

Please liaise with Eionet Helpdesk ([helpdesk@eionet.europa.eu](mailto:helpdesk@eionet.europa.eu)) if you do not have an account or your permissions are not set for the relevant obligation.

Permissions for this dataflow are managed in a so-called **Extranet list**. The list of representatives that currently have permissions to report for a given country can be seen online at [http://www.eionet.europa.eu/ldap-roles/?role\\_id=extranet-euregistry-reporter](http://www.eionet.europa.eu/ldap-roles/?role_id=extranet-euregistry-reporter). Please contact the Eionet helpdesk in case the list appears to be outdated for your country.

## 5.3 Populating a report

As illustrated in Figure 12, countries can opt to either create an XML file with their own means (referred to as “the XML file route”) or populate a Microsoft Access template that then is converted into an XML file (referred to as the “Microsoft Access route”).

### 5.3.1 Microsoft Access route

Countries that choose to report by converting an Access database need to take into account that:

- The Microsoft Access template cannot be changed (i.e. no extra tables or attributes can be added)
- For attributes dependent on code lists, proper use must be made of the Uniform Resource Identifiers (URIs) of the codes as stored in the EEA's data dictionary Vocabulary sub-folder '[euregistryonindustrialsites](#)'

The conversion service uses a web-interface where the populated Access files are to be uploaded. The Access to GML web-interface is 'Access to GML - EU Registry conversion tool'<sup>18</sup>. Further guidance on how to populate the Access template is provided at the conversion service website and also in the document 'EU Registry on Industrial Sites - Access template'.

### 5.3.2 XML file route

Countries that choose to report by uploading a self-generated XML file need to take into account:

- The syntax requirements and attribute's requirements set out in the XML Schema. XML schemas for this dataflow are stored at the EEA's data dictionary, Schema subfolder '[euregistryonindustrialsites](#)'.
- The semantic requirements that are required according to INSPIRE and the XML schemas referred to in the EU Registry XML Schema. Further guidance on this can be found on the [Inspire helpdesk](#).
- For attributes dependent on code lists, properly use the Uniform Resource Identifiers (URIs) of the codes as stored in the in EEA's data dictionary, Vocabulary sub-folder '[euregistryonindustrialsites](#)'.

---

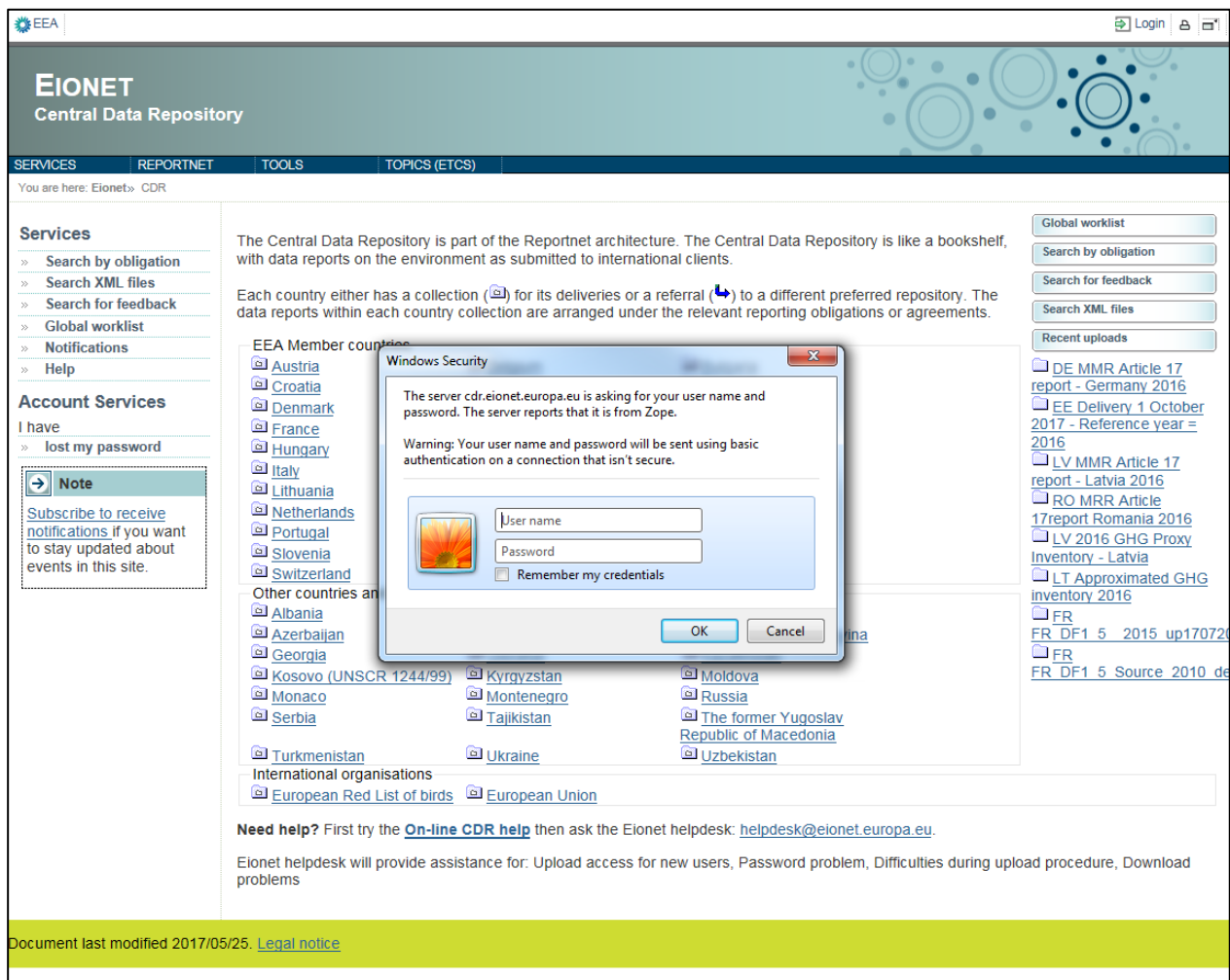
<sup>18</sup> Please refer to the EU Registry project website for the conversion tool, found here: [http://cdrtest.eionet.europa.eu/help/ied\\_registry](http://cdrtest.eionet.europa.eu/help/ied_registry).

Once the XML file is uploaded at the CDR, a GML validation will ensure the file complies with the first two bullet points. A dedicated check also validates the use of accepted codes from the given code lists. These two validations need to be passed without errors for the workflow to continue.

## 5.4 Login, creation of envelopes and upload of reports

Eionet users with permissions for the dataflow must log in the Central Data Repository at <http://cdr.eionet.europa.eu/>. The login button is located at the top right part of the screen.

Figure 14 - A screenshot of the Eionet CDR login process.



Each country has a folder for the EU Registry's obligation where reports must be uploaded. The relevant folder can be accessed through the following routine:

1. Click in your country's name
2. Click in European Union (EU) obligations
3. Click in EU Registry on Industrial Sites

Reports are to be uploaded in envelopes, according to CDR's terminology. For each reporting year a new envelope has to be created. For each resubmission for a previously reported year a separate envelope must be created. Only a single XML file can be uploaded to each envelope. The button to create a new envelope appears in the top right of the screen.

**Figure 15 - A screenshot depicting the CDR reporting obligation the Registry and the opening of a new envelope.**

The screenshot shows the 'EU Registry on Industrial Sites' interface. At the top, there are tabs for 'Overview', 'Task list', and 'Edit properties'. Below the tabs, the title 'EU Registry on Industrial Sites' is displayed. Underneath, it says 'Obligation(s) [EU Registry on industrial sites](#)'. A red box highlights a 'New envelope' button in the top right corner. Below this, there is a section titled 'Envelopes and subcollections' with buttons for 'Cut', 'Copy', and 'Delete'.

When creating an envelope, certain metadata have to be filled in in the following screen:

**Figure 16 - A screenshot depicting the metadata required when creating a new envelope.**

The screenshot shows a form for creating a new envelope. At the top, it says: 'Fill out the fields in this report profile and click Add. This will create an *envelope* into which you make the delivery.' The form has four main sections: 'Title' with a text input field; 'Description' with a larger text area; 'Relating to which year' with a dropdown menu showing '2017', a 'Not applicable' button, and a 'to' field; and 'Coverage' with a dropdown menu showing 'Austria' and a 'Coverage note' text area. An 'Add' button is at the bottom right.

In the context of the EU Registry, please follow the following guidelines:

- **Title:** include reporting year and the version. Version 1 for the first time a relevant year is submitted and subsequent numbers thereafter. Example: 2017\_version 1
- **Description:** non mandatory, covers any additional information you would like to document
- **Relating to which year:** Set the year (e.g. 2017) and, in the second field, the option 'Not applicable'. Keep the third field empty.

- **Coverage:** automatically filled in by the system
- **Coverage note:** non mandatory, covers any additional information you would like to document

Once the envelope is created, the user must enter into it (by clicking in its name) and the following screen appears:

**Figure 17 - A screenshot depicting the CDR once a new envelope has been created.**

The screenshot shows the 'Test envelope' screen with the following elements:

- Navigation tabs:** Overview (selected), Edit properties, History.
- Buttons:** Zip envelope, Activate task.
- Description:** This is a test envelope.
- Obligations:** [EU Registry on industrial sites](#).
- Period:** 2017 - Not applicable.
- Coverage:** Austria.
- Status:** Task(s) waiting to be assigned: [Activate task: Draft](#) (Draft delivery).
- Note:** If you want to stay updated about events in this envelope [Subscribe to receive notifications](#) for this country and the current dataflow(s).
- Files in this envelope:** (Empty list).
- Remember to release the envelope when you have uploaded all files**
- Feedback for this envelope:** No feedback posted in this envelope.

In this screen, the task has to be activated in the option 'Activate task: Draft'.

To upload the XML submission, select the 'Draft delivery' tab followed by the 'Add file' option in the top right of the screen:

**Figure 18 – A screenshot depicting the page on which XML submissions are stored.**

The screenshot shows the 'Draft delivery' screen with the following elements:

- Navigation tabs:** Overview, **Draft delivery** (selected), Edit properties, History.
- Buttons:** Add file, Add hyperlink, Upload zipfile, Deactivate task.
- Instructions:**
  - 1) Your first step is to [upload](#) one or more files into this envelope. You can always interrupt your work and continue your contribution at a later time without losing data.
  - 2) Once you are satisfied with the contribution, you choose *Release envelope* (a left-side button will appear when you will have uploaded at least one document) and your delivery will be released to the public.
- Files in this envelope:** No files uploaded.
- Feedback for this envelope:** No feedback posted in this envelope.

When adding an XML submission, certain data have to be filled in in the following screen:

Figure 19 – A screenshot depicting the data required when submitting a new XML report.

**Add Document**

**Warning:**  
If the filename already exists in the envelope, the existing file will be overwritten.

**Title**

**File**  No file chosen

**Id**  (optional)

**Restricted from public view** ☐

When submitting the report, the following information is required:

- **Title** - Similar to the envelope title, this should include reporting year and version. This is a separate title to the original file name.
- **File** – This file should be .gml or .xml file format.
- **Id** – An optional field used to rename the original file name of the submission.
- **Restricted from public view** – A tick box to allow for reports to be restricted from public view. This MUST be clicked where the submission includes confidential data, as otherwise the submission will be publicly accessible.

## 5.5 Quality Assurance: validating your report

### 5.5.1 Scope and logic of the automated quality assurance

When a report (XML file) is uploaded to CDR, the system runs a series of checks to ensure:

- Its semantic and syntactic coherence with the XML Schema and the INSPIRE requirements
- The use of valid code values according to code lists
- The consistency of the data with previous submissions and a set of logical rules

A stand-alone document establishes the logic of the quality assurance mechanism and is documented in 'Quality Assurance Logic - Document for users'. All checks run in CDR are developed according to its logic.

### 5.5.2 Validation feedback provided at CDR

The automated quality assurance checks are divided into three groups: XML Schema validation is run under QA #1 and the main QA script is run under QA #2, and an additional GML validation occurs in QA#3. The results of each can be viewed separately:



**Figure 20 – A screenshot depicting the options for viewing the results of the QA checks.**

The screenshot shows the 'Draft delivery' tab selected. It includes instructions for uploading files and releasing the envelope. A file named 'EU\_Registry\_converted.gml' is listed with its date and size. To the right of the file name, three buttons labeled 'Run QA #1', 'Run QA #2', and 'Run QA #3' are highlighted with a red rectangle. Other buttons on the right include 'Add file', 'Add hyperlink', 'Upload zipfile', 'Run Automatic QA', 'Release envelope', and 'Deactivate task'. At the bottom, there is a feedback section for the envelope.

The semantic and syntactic coherence with the XML Schema and the INSPIRE requirements can be seen by running QA #1. Errors with compliance in the file are highlighted individually:

**Figure 21 – A screenshot depicting the results of QA #1 validation for the example submission.**

The screenshot displays the 'QA result for file ExampleID.xml' page. It includes a 'Go back to envelope' button. The 'XML Schema validation' section shows an error message: 'The file does not conform to the data model defined in the XML Schema. The XML Schema data model specifies the element names, document structure and data types.' Below this, it states the file was validated against a specific URL. A table lists the contradictions in document structure, elements using wrong data types or missing mandatory values. A yellow tip box on the right advises saving the page.

**Tip:** This page is only temporary. The page URL address can not be used as a reference to the result. Please use the "File >> Save As" option within your browser to save the validation results.

Type	Position	Error message
ERROR	Line: 325, Col: 38	cvc-complex-type.2.4.a: Invalid content was found starting with element 'base:versionId'. One of '{ "http://inspire.ec.europa.eu/schemas/base/3.3":localId }' is expected.
ERROR	Line: 329, Col: 20	cvc-complex-type.2.4.a: Invalid content was found starting with element 'EUReg:location'. One of '{ "http://inspire.ec.europa.eu/schemas/pfi/4.0":status, "http://dd.eionet.europa.eu/euregistryonindustrialsites":siteName }' is expected.

The consistency of the report with regards to accepted code list values, previous submissions and a set of logical rules can be seen by running QA #2. Errors in the submission are grouped by check and the IDs for the entities that have flagged the check are listed:

**Figure 22 – A screenshot depicting an extract of the results of QA #2 validation for the example submission.**

**QA result for file ExampleID.xml** [Go back to envelope](#)

1. CODE LIST CHECKS

**Tip:** This page is only temporary. The page URL address can not be used as a reference to the result.

Please use the "File >> Save As" option within your browser to save the validation results.

<b>C1.1</b>	EPTRAnnexIActivity mainActivity consistency	1 errors0 warnings	<a href="#">More...</a>
<p>The EPTRAnnexIActivity specified in the mainActivity field for the following ProductionFacilities is not recognised. Please use an activity listed in the EPTRAnnexIActivityValue code list</p>			
Feature	GML ID	Path	EPTRAnnexIActivityValue
ProductionFacility	_000000002.FACILITY	ProductionFacility/EPTRAnnexIActivity/EPTRAnnexIActivityType/mainActivity	1(g)
<b>C1.2</b>	EPTRAnnexIActivity otherActivity consistency	0 errors0 warnings	
<b>C1.3</b>	IEDAnnexIActivity mainActivity consistency	0 errors0 warnings	
<b>C1.4</b>	IEDAnnexIActivity otherActivity consistency	0 errors0 warnings	
<b>C1.5</b>	CountryId consistency	0 errors0 warnings	
<b>C1.6</b>	reasonValue consistency	0 errors0 warnings	

The variable results the checks are colour coded, the criteria for these have been outlined in the '[Quality Assurance Logic - Document for users](#)':

- **Red** – Blocking error, this will prevent the release of the envelope.
- **Orange** – Warning error.
- **Blue** – Information message.
- **Green** – No errors.

## 5.6 Official submission of the report

Submitting a report corresponds, in CDR, to the option 'Release envelope'. The user must do that from the envelope main screen as illustrated in Figure 23.

Figure 23 - A screenshot depicting the release of the CDR envelope.

**Draft delivery**

1) Your first step is to [upload](#) one or more files into this envelope. You can always interrupt your work and continue your contribution at a later time without losing data.

2) Once you are satisfied with the contribution, you choose [Release envelope](#) and your delivery will be released to the public.

Files in this envelope

<input type="checkbox"/>		<a href="#">ExampleID.xml</a>	Example Report	18 Dec 2017	16.1 KB	<a href="#">Run QA #1</a>	<a href="#">Run QA #2</a>
--------------------------	--	-------------------------------	----------------	-------------	---------	---------------------------	---------------------------

[Rename](#) [Cut](#) [Copy](#) [Delete](#)

Feedback for this envelope

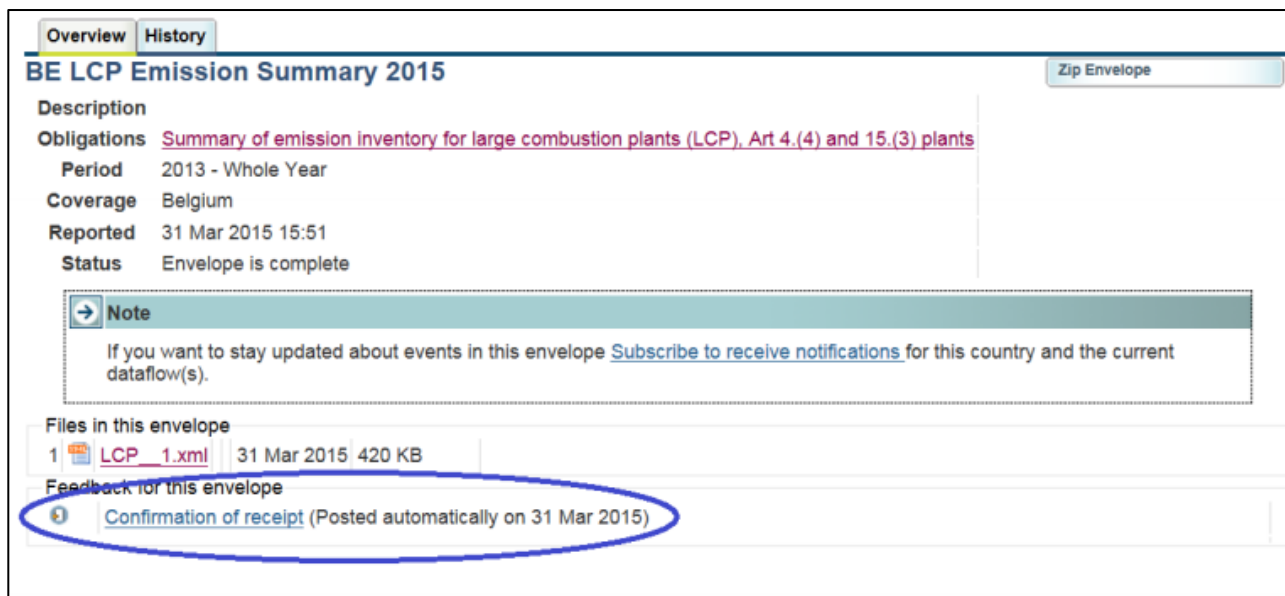
No feedback posted in this envelope

Buttons on the right: [Add file](#), [Add hyperlink](#), [Upload zipfile](#), [Release envelope](#), [Deactivate task](#)

Aspects to take into account when releasing envelopes:

- When the user clicks in the option “Release envelope”, the system runs all QA/QC rules. If the mandatory aspects **do not incur in the so-called “blocking errors”** the system will allow the effective release of the envelope, otherwise, the workflow will **go back to draft** and the user will have to correct the blocking errors before releasing the envelope.
- In case of absence of blocking errors, the report is submitted and received by the EU. The EU Registry dataflow, **by default, makes the envelopes available to the public**. If your report contains **any confidential information**, please ensure you restrict the envelope from the public view. There’s a dedicated **tick box, “Restricted from public view”**.
- Once the user clicks ‘Release envelope’, after a few minutes, a **confirmation of receipt message** and automatic feedback is stored automatically in the envelope's feedback area. You may review the confirmation of receipt by clicking the corresponding link on the envelope and double check your envelope is in the status ‘complete’.

Figure 24 - A screenshot depicting confirmation of the CDR envelope.



A confirmation of receipt in the envelope means that your report is successfully submitted to the EEA but does not judge in full the quality of the content. Therefore, the EEA or the European Commission may contact the reporter at a later stage to clarify the content or re-submit the report if need be.

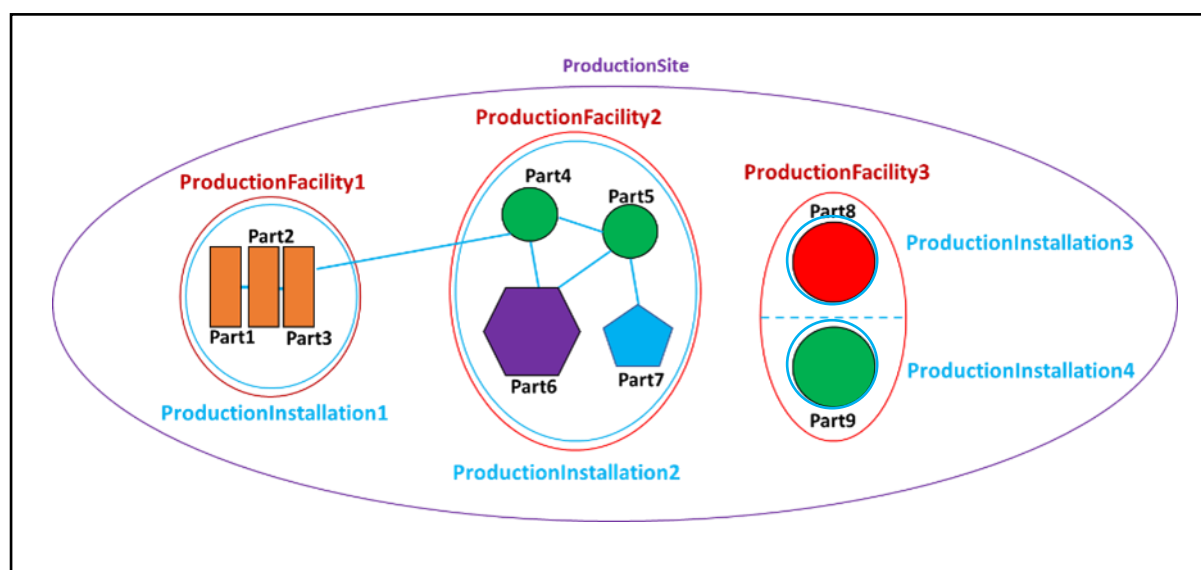
## 5.7 Processes that take place after the submission

The EEA runs a series of quality assurance processes on the data once the EU dataset is generated. The issues identified during this process are communicated bilaterally to the country reporters to obtain further feedback or corrections where needed.

## Annex 1 – Pharmaceutical Complex Example

In the following example, an industrial site is described making reference to the various entities it contains and how they are seen from the perspective of the EU Registry. Subsequently, the entities which are in fact to be reported according to the scope as defined by the thematic EU law on industrial emissions are described. The example aims at describing a complex setting to provide guidance for a multitude of reporting situations and is unlikely to represent a reporting commonly-occurring case.

**Figure A1. 1 - The pharmaceutical site and its components.**



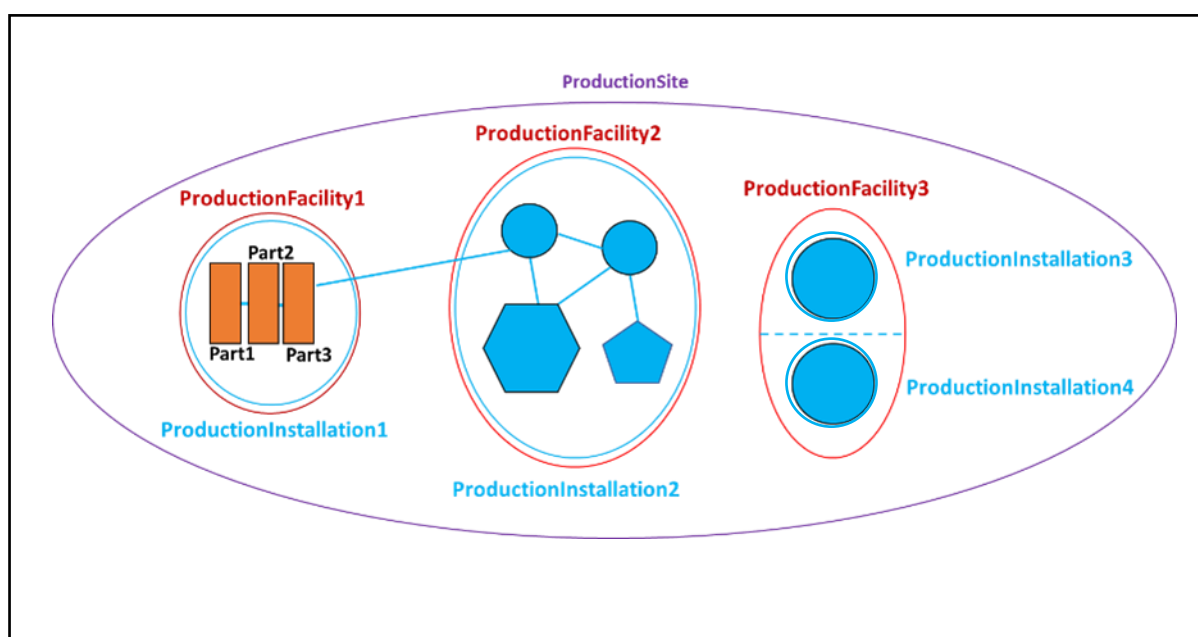
From a geographical perspective, the *ProductionSite* is a pharmaceutical complex, and its geographical extent is delimited by the violet line in Figure A1.1 above. All entities within the site are performing activities which contribute to the production of pharmaceutical products. This represents the main activity of the pharmaceutical complex.

- *ProductionFacility 1* performs a combustion process to generate heat and electricity. The heat is provided to the reactors of *ProductionFacility 2*. The whole of *ProductionFacility 1* is owned by 'Energy ltd.'
- *ProductionFacility 1* has a single *ProductionInstallation 1* as all its parts have a technical connection.
  - There are three *ProductionInstallationParts* (1, 2 and 3) since each of them are independent boilers with independent stacks and are deemed separate by the competent authority as outlined in Article 29(2) in the IED.
- *ProductionFacility 2* is a purely pharmaceutical facility owned by 'Pharma Ltd'.
  - This facility has different sub-entities which are all technically connected and are essential to the functioning of the whole facility. Therefore, they all constitute a single *ProductionInstallation 2* which has four parts.
  - *ProductionInstallationPart 4* and *ProductionInstallationPart 5* are the reactors producing the pharmaceutical product.

- *ProductionInstallationPart 6* is a waste water treatment plant which is functionally connected to the reactors
- *ProductionInstallationPart 7* is a storage of raw materials
- *ProductionFacility 3*, owned by 'Supply Ltd.', performs a chemical activity producing biochemical and organic solvents. These are used in *ProductionFacility 2* but also by other companies outside the site. This facility has two independent installations which do not have a technical connection and which use entirely different chemical processes:
  - *ProductionInstallation 3*: is a biochemical reactor which produces a biochemical solvent
  - There is a single *ProductionInstallationPart 8* belonging to this installation
  - *ProductionInstallation 4*: is a chemical reactor which refines an organic solvent
  - There is a single *ProductionInstallationPart 9* belonging to this installation

Transitioning from a geographical to a legislative perspective, the example below describes the same entities but in terms of those subject to reporting under the EU Registry according to the IED and the E-PRTR Regulation. It illustrates that the EU Registry captures only the subset of reality that is defined by the EU law on industrial emissions.

**Figure A1. 2 - The pharmaceutical site and the entities reported to the EU Registry.**



This is defined by the data model which follows the INSPIRE PF data specifications. However, the scope of entities to be reported to the EU Registry is defined by the various pieces of legislation that provide the reporting obligations behind the EU Registry.

In our example, the only entities to be reported to the Registry would be:

- The entire *ProductionSite* (i.e. including Energy Ltd, Pharma Ltd and Supply Ltd, three companies performing activities with a common purpose and related in nature)
- The three *ProductionFacilities* (i.e. Energy Ltd, Pharma Ltd and Supply Ltd, as they are legally independent bodies with separate ownership)
- The four *ProductionInstallations* 1, 2, 3 and 4. While *ProductionInstallation* 1 and 2 are coincidental with their mother *ProductionFacilities*, the other two (*ProductionInstallation* 3 and 4) belong both of them to the same mother *ProductionFacility* 3
- *ProductionInstallationPart* 1, *ProductionInstallationPart* 2 and *ProductionInstallationPart* 3 (i.e. the three parts of the installation operated by Energy Ltd)

The *ProductionSite* has to be reported as this is an inherent requirement of the EU Registry for all reported entities. The underlying idea is that ‘sites’ are entities that embrace industrial entities which are in the same location and share a common purpose or nature. In this example, the production of ‘pharmaceuticals’.

The three *ProductionFacilities* (marked in red in Figure A1.2) - namely Energy Ltd, Pharma Ltd and Supply Ltd - are in the scope of the Annex 1 to the E-PRTR Regulation. The EU Registry only requires an industrial facility to be listed in Annex 1 to the E-PRTR Regulation for the facility to be within the scope of the dataflow. The EU Registry does not take into account whether the releases and/or off-site transfers of such an industrial facility are above the thresholds of Article 5 and Annex 2 to the E-PRTR Regulation. This is only relevant for the thematic reporting to the E-PRTR. In the example, this means that all three *ProductionFacilities* have to be reported without any consideration on their releases/off-site transfers.

The four *ProductionInstallations* (marked in blue) are within the scope of the EU Registry, as they all fall under Annex 1 to the IED. *ProductionInstallation* 1 and *ProductionInstallation* 2, although having a technical connection, are owned by two different legal entities (Energy Ltd and Pharma Ltd). The EU Registry implements the rule that different ownership implies separate feature types for all levels including *ProductionFacility*. This is referred to as ‘**ownership criterion**’.

Despite both belonging to Supply Ltd, *ProductionInstallation* 3 and *ProductionInstallation* 4 are however to be reported on separately because they do not have a technical connection. This follows the provisions on technical connection of Article 2(3) of the E-PRTR Regulation and Article 3(3) of the IED.

*ProductionInstallationPart* 1, *ProductionInstallationPart* 2 and *ProductionInstallationPart* 3 (all operated by ENERGY LTD) have to be reported. This is the case because they are all combustion plants as defined by Chapter III of the IED and therefore need to be reported according to Article 72 of the same directive. (Note that the rest of the *ProductionInstallationParts* (4, 5, 6, 7, 8 and 9) would not be under the specific scope of the EU Registry since they do not need to be reported separately according to any piece of EU law on industrial pollution.

The governing principles of this data model are the hierarchical logic of the INSPIRE PF data specification and the definition of facility therein as well as in the E-PRTR Regulation. In both documents a facility is defined as one or more installation(s) on the same site operated by the same natural or legal person (again: ‘ownership criterion’).

Unfortunately, the IED does not provide a definition of facility or address the concept of ownership in particular. In the example above, *ProductionInstallation* 1 and *ProductionInstallation* 2 could constitute a complete single installation under the IED since they have a technical connection. However, in this data

model these *ProductionInstallations* need to be reported separately under different *ProductionFacilities* because of their separate ownership, as explained above.

The focus on ownership is in line with the permitting approach that is followed by many reporting countries. Provided that changes in ownership of facilities are effectively tracked this also creates an understanding and clear identification of the entities that need to be reported to the Registry.



## Annex 2 – INSPIRE Compliant Identifiers

Countries can use their own system of existing national identifiers directly within the EU Registry, provided that these are INSPIRE compliant: the identifiers should contain the two elements; (i) local ID and (ii) namespace, and they meet with the four key requirements as defined in Section 3.3:

- (1) Uniqueness: The identifier must be unique within all the industrial entities published at each respective level of the geographical hierarchy. The identifier should not be reused.
- (2) Persistence: The identifier must remain unchanged during the lifetime of the entity.
- (3) Traceability: The identifier must supply sufficient information about the source of the industrial entity so that the download service can be determined.
- (4) Feasibility: The system must allow for identifiers under existing national identifier systems to be mapped.

Where a country has not already developed a system of INSPIRE identifiers then use of the following approach for the EU Registry will satisfy the above requirements. In that case, existing national identifiers may need to be mapped to new identifiers for use in the EU Registry.

The identifiers of each feature type in the model consist of two elements.

- The first part, called 'namespace', identifies the data source. This namespace is, for the sake of the EU Registry the ISO2 code of the relevant country according to the EU Registry code list (<http://dd.eionet.europa.eu/vocabulary/euregistryonindustrialsites/CountryCodeValue>) + a dot (.) + the acronym CAED (Competent Authority for Environment Data).  
(example namespace for Italy: IT.CAED)
- The second part, called 'local identifier (localID)', is assigned by the data provider. The local identifier is unique with the 'namespace' i.e. no other spatial object produced by that data provider can have the same identifier. Although it is to be assigned by the data provider it should follow the following rules:
  - First a 9-digit chain of numbers
  - Then a dot (.)
  - Then a sub-index which refers to the relevant feature type:
    - ProductionSite = SITE
    - ProductionFacility = FACILITY
    - ProductionInstallation = INSTALLATION
    - ProductionInstallationPart = PART
 (example: 123456789.Facility)
- The resulting identifier in this example would be, in the XML file, as follows:

<pf:inspireId>

```

    <base:Identifier>
      <base:localId>123456789.Facility </base:localId>
      <base:namespace>IT.CAED </base:namespace>
    </base:Identifier>
  </pf:inspireId>

```

- For a simple situation with one installation part it is possible to have the same numeric part of the localId for the identifier for each feature type. For example:
  - 100010001.SITE
  - 100010001.FACILITY
  - 100010001.INSTALLATION
  - 100010001.PART
- If this example site contained a further facility which had two installations, then the identifiers might appear as:
  - 100010001.SITE
  - 100010001.FACILITY
  - 100010001.INSTALLATION
  - 100010001.PART
  - 100020001.FACILITY
  - 100020001.INSTALLATION
  - 100020011.PART
  - 100020002.INSTALLATION
  - 100020022.PART

The key issue is that the localId's must be unique to each feature type within a country's submission.

- A 9-digit chain of numbers is recommended for the first part of the localId, however a country's non-INSPIRE compliant national identifier system could potentially be efficiently mapped for use in the EU Registry, when it is just combined with the aspects of the recommended INSPIRE identifiers described above (i.e. the namespace and the sub-index part of the localId).

### **Thematic Identifier**

The thematic identifier is envisaged as a means by which reporters can provide a secondary identifier for an entity. This identifier has intentionally been left broad in scope so as to allow for national circumstances. The thematic ID is comprised of two parts, the identifier, used to provide an alternative thematic identifier for the entity, and the Thematic Identifier Scheme, used to provide a description of the thematic identifier provided. Identifiers must be unique within each identifier scheme. Some examples of how the thematic identifier may be used are:

- An entity's assigned national ID is not INSPIRE compliant and the structure does not lend itself to format suggested for the localId. In this case the thematic ID could be used to map the inspireId to the national ID historically used. An example set of identifiers could look like this:
  - localId: 100010001.FACILITY
  - namespace: IT.CAED
  - thematicId: AX\_FB-10253
  - thematicIdScheme: National Identifier

- Alternatively, the thematic identifier may be used as a descriptive attribute, to represent another aspect associated with the entity, unique within the chosen scheme.

## Annex 3 – Synergies with previous LCP and E-PRTR reporting formats

Both the E-PRTR and the LCP data flows have reporting formats that were previously established to collect the necessary data from reporting countries. This annex is focused on attempting to map the various aspects of the previous reporting formats to the streamlined view of the EU Registry data model presented in this document. The table below contains all the main attributes/fields in the EU Registry data model listed alongside the relevant aspect, field or element of the previous reporting format. Note that many attributes in the EU Registry data model are new: they did not exist in the previous reporting formats since they are new data requirements in Module 2 of Annex II of the IED Implementing Decision (2012/795/EU).

**Table A3 1 - Synergies between the EU Registry attributes and the previous reporting formats.**

Feature type	Attribute	Previous LCP reporting format	Previous E-PRTR reporting format
<b>ReportData</b>	CountryId	Replaces the 'Member State' field.	Replaces the 'CountryID' element.
	reportingYear	Replaces the 'Reference Year' field.	Replaces the 'Reporting Year' element.
<b>ProductionSite</b>	location	N/A	N/A
	inspireId	N/A	N/A
	siteName	N/A	N/A
<b>ProductionFacility</b>	facilityName	Replaces 'Facility Name' field	Replaces the 'FacilityName' element
	competentAuthorityEPRTR	N/A	Replaces the 'CompetentAuthorityParty' elements
	parentCompany	N/A	Replaces the 'ParentCompanyName' element
	inspireId	N/A	Replaces the 'NationalID' and 'PreviousNationalID' elements
	Function	N/A	Replaces the 'NACEMainEconomicActivityCode' and the

Feature type	Attribute	Previous LCP reporting format	Previous E-PRTR reporting format
			'MainEconomicActivityName' elements
	EPTRAnnexIActivity	N/A	Replaces the 'Activity' elements
	Remarks	N/A	Replaces the 'RemarkText' elements
	Geometry	N/A	Replaces the 'GeographicalCoordinate' elements
	Address	Replaces the 'Address 1' fields	Replaces the 'Address' elements
	dateOfStartOfOperation	N/A	N/A
	status	N/A	N/A
	facilityType	N/A	N/A
	thematicId	N/A	N/A
ProductionInstallation	installationName	N/A	N/A
	baselineReportPreparedIndicator	N/A	N/A
	BATDerogationIndicator	N/A	N/A
	competentAuthorityPermits	Replaces the 'organization' fields	N/A
	competentAuthorityInspections		N/A
	siteVisits	N/A	N/A
	otherRelevantChapters	N/A	N/A
	permit	N/A	N/A
	IEDAnnexIActivity	N/A	N/A
	eSPIRSIdentifier	N/A	N/A
	ETSIdentifier	N/A	N/A

Feature type	Attribute	Previous LCP reporting format	Previous E-PRTR reporting format
	inspireId	N/A	N/A
	thematicId	N/A	N/A
	PointGeometry	N/A	N/A
	Remarks	N/A	N/A
	Status	N/A	N/A
	stricterPermitConditions	N/A	N/A
	publicEmissionMonitoring	N/A	N/A
	publicEmissionMonitoringURL	N/A	N/A
	BATConclusion	N/A	N/A
	InstallationType	N/A	N/A
	dateOfStartOfOperation	N/A	N/A
<b>ProductionInstallationPart</b>	installationPartName	Replaces the 'plant name' field	N/A
	plantType	N/A	N/A
	derogations	N/A	N/A
	nominalCapacity	N/A	N/A
	specificConditions	N/A	N/A
	totalRatedThermalInput	Replaces the 'MWth' field	N/A
	inspireId	Replaces the 'PlantID' field and the 'EPRTR national ID' field	N/A
	thematicId	N/A	N/A
	pointGeometry	Replaces the 'Longitude' and 'Latitude' fields	N/A
	Remarks	N/A	N/A

Feature type	Attribute	Previous LCP reporting format	Previous E-PRTR reporting format
	HeatReleaseHazardousWaste	N/A	N/A
	untreatedMunicipalWaste	N/A	N/A
	publicDisclosure	N/A	N/A
	publicDisclosureURL	N/A	N/A
	dateOfStartOfOperation	Replaces the 'Date of start of operation' field	N/A
	Status	Replaces the 'Status of the plant' field	N/A

## Annex 4 – Glossary of Terms

This Section contains explanations of the key terms used in this document.

**Activity Complex** – A single unit under the management control of a legal entity (operator), covering activities listed in the Eurostat NACE classification. The Activity Complex represents the whole area managed by the same operator including infrastructure, equipment and materials.

**Boolean attribute** – These attributes are evaluated as either true or false.

**Class Diagram** – A type of structure diagram, which describes the objects that it contains and their relationships.

**Code list** - a defined set of values which can be used to populate an attribute.

**Constraints** – These define properties that certain data elements must comply with, for example, not null or must be unique.

**Conversion service** – A process that facilitates the conversion of data from one format to another.

**Data types** – A data model element which defines characteristics of data and which operations can be performed on the data.

**Enumeration** – An enumeration is a complete, ordered list of all items in a collection. Enumerated data has a finite set of values.

**Extensions** – INSPIRE provides a large number of data models that cover core use cases. However, extensions offer a means to expand these data models to serve specific organisational needs.

**Feature catalogue** - Contains definitions and descriptions of the object types, their attributes and associated components occurring in a data model.

**Feature type** – Represents a class of data together with relevant attributes.

**Geospatial information** – Data about a physical object that can be represented by numeric values in a geographic coordinate system.

**INSPIRE** – Infrastructure for Spatial Information in the European Community. The INSPIRE Directive (2007/2/EC) aims to establish an infrastructure for the sharing of environmental spatial data within the European Union. This will enable sharing among public sector organisations, facilitate public access to spatial data across Europe, and will aid in cross-boundary policy making.

**LocalId** – Second component of the INSPIRE identifier, containing a digit-based identifier referring to the entity reported.

**Multiplicity** – A definition of cardinality - i.e. the permitted number of elements - of some collection of elements.

**Namespace** – 1<sup>st</sup> component of the INSPIRE identifier. This normally contains a reference to the country submitting the data as well as the authority responsible for the submission.

**Parent/daughter data structure** – Also known as a tree structure, it consists of a root value with subtrees of children with a parent node, represented by a set of linked nodes.

**Production site** – Represents the geographical location of the facility or a piece of land where the facility was, is, or is intended to be located.

**Production facility** – One or more installations on the same site that are operated by the same natural or legal person. A production facility is a special kind of Activity Complex.

**Production installation** – Represents something installed, such as machinery, an apparatus, a device, a system, or a piece of equipment placed in position or connected for use.

**Production installation part** – Represents a specific technical part of the installation, developing a representative functionality that should be registered under the legislation.

**Schema** – This describes the structure and content of XML data.

**UML** – Unified Modelling Language, a modelling language intended to provide a standard way to visualise the design of a system.

**URI** – A Uniform Resource Identifier is a string that refers to a resource. In the context of the registry, they refer to character strings with which to populate attributes which use code lists.

**Voidable** – In data modelling, voidable means that whenever information does not exist then it does not have to be provided.

**XML** – Extensible Markup Language is a markup language that defines a set of rules for encoding documents. This format is readable by both humans and machines.