

INSPIRE as an effective tool for e-reporting: the EEA 'EU Registry on industrial emissions'

INSPIRE Conference, Strasbourg 06/09/2017



INSPIRE Helpdesk

We support all INSPIRE implementers



EU Registry on industrial emissions

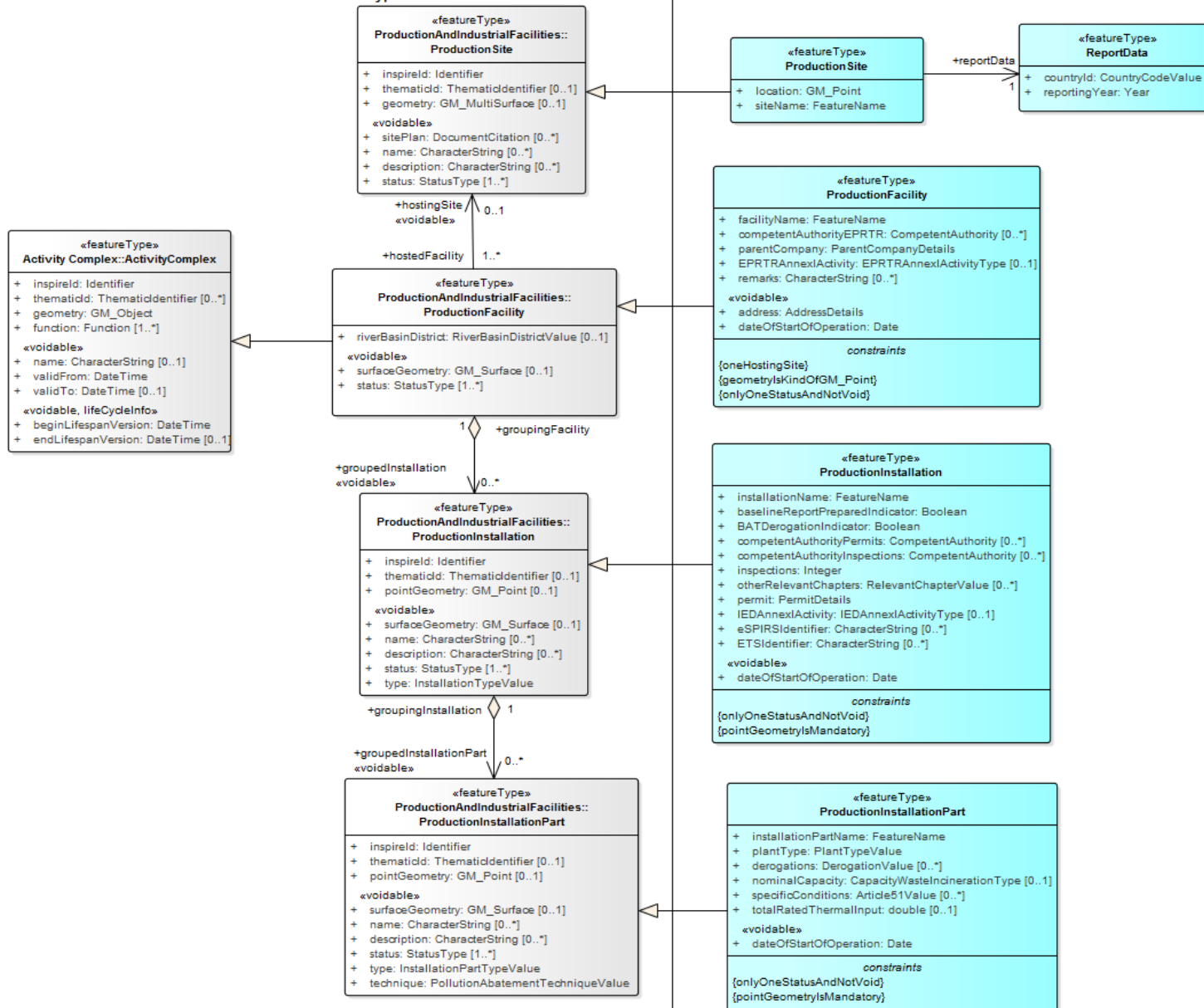
The EU Registry will collect identification and administrative data on European Pollutant Release and Transfer Register Regulation (**E-PRTR**) facilities, installations under the scope of the Industrial Emissions Directive (**IED**), large combustion plants (LCPs) and waste incineration and co-incineration plants (WI)



An INSPIRE - extended schema

GML EU Registry data model

INSPIRE feature types



Legend

- INSPIRE
- EURegistry extension

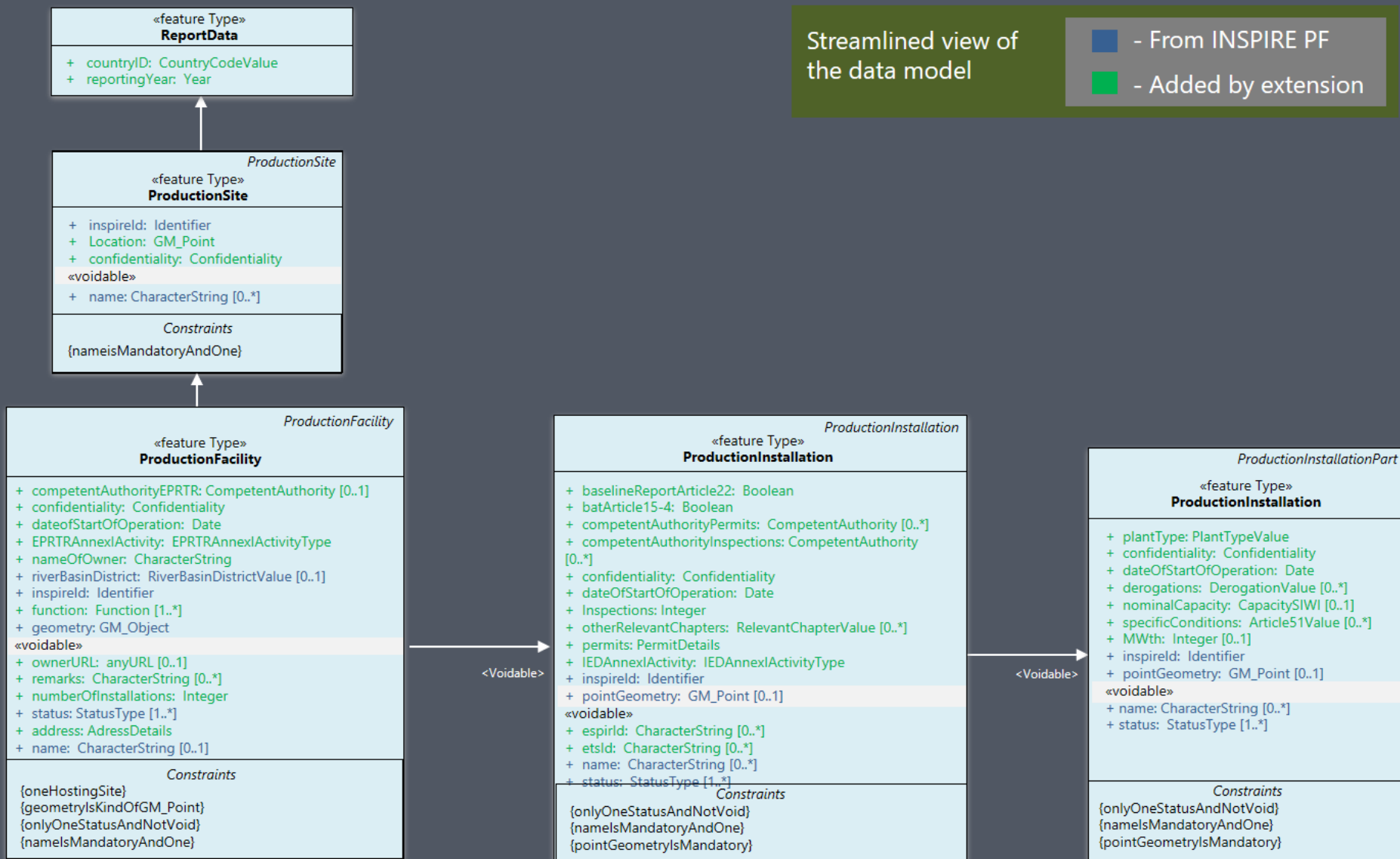
Fields for which no multiplicity is specified are supposed to be mandatory i.e. multiplicity = [1..1]

EU Registry - streamlined view

structure in which data are to be transmitted from MS to the EEA

Streamlined view of the data model

- - From INSPIRE PF
- - Added by extension



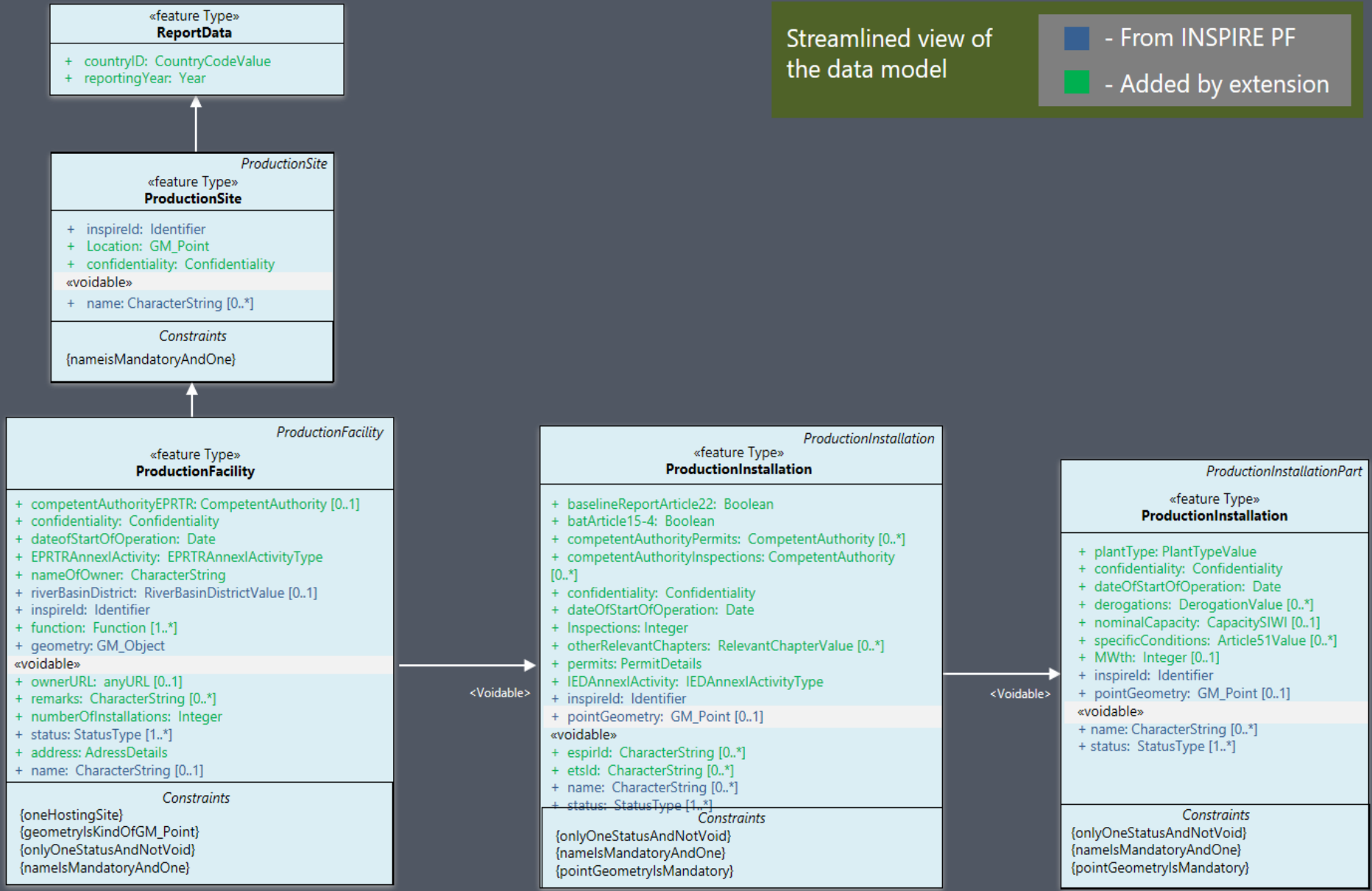
From an operational point of view

can EU Registry be considered a first example to demonstrate how development of e-reporting using the INSPIRE approach could lead to a significant efficiency and effectiveness gain over the coming years?

EURegistry - streamlined view

Streamlined view of the data model

- - From INSPIRE PF
- - Added by extension



From current DB tables and excels to EU Registry: the mapping table

Source Type	Source properties	Target type	Target properties	Relation name	Priority	Cell explanation
PF PF.PI.ID Status		ProductionFacility		Join	normal	Joins the types 'PF', 'PF.PI.ID', 'Status' based on the following conditions: 'PF'.PF.ID = 'PF.PI.ID'.ProductionFacilityID 'PF'.status = 'Status'.StatusID
PF	EPTRR.mainActivity	ProductionFacility	EPTRRAnnexIActivity .mainActivity .href	Rename	normal	For each value in 'EPTRR.mainActivity' adds the same value to the 'href' property. If necessary a conversion is applied.
PF	EPTRR.otherActivity	ProductionFacility	EPTRRAnnexIActivity .otherActivity .href	Rename	normal	For each value in 'EPTRR.otherActivity' adds the same value to the 'href' property. If necessary a conversion is applied.
PF	ProductionSiteID	ProductionFacility	hostingSite .href	Formatted string	normal	Populates the 'href' property with a string formatted according to this pattern: #PS_{ProductionSiteID} Source property names in curly braces are replaced by the corresponding property value, if the context condition/index matches, otherwise the value is not set.
PF	PF.ID	ProductionFacility	id	Formatted string	normal	Populates the 'id' property with a string formatted according to this pattern: PF_{PF.ID} Source property names in curly braces are replaced by the corresponding property value, if the context condition/index matches, otherwise the value is not set.
PF	localId	ProductionFacility	inspireId .Identifier .localId	Rename	normal	For each value in 'localId' adds the same value to the 'localId' property. If necessary a conversion is applied.
PF	namespace	ProductionFacility	inspireId .Identifier .namespace	Rename	normal	For each value in 'namespace' adds the same value to the 'namespace' property. If necessary a conversion is applied.
PF	versionId	ProductionFacility	inspireId .Identifier .versionId	Rename	normal	For each value in 'versionId' adds the same value to the 'versionId' property. If necessary a conversion is applied.

9/29/2017

BENEFIT n° 1

Same mapping table can be used to map site/facilities/installation/installation parts both towards EuRegistry schema and INSPIRE PF schema

From current DB tables and excels to EU Registry: the transformation project

HUMBOLDT Alignment Editor 3.2.0 - EUReg - E:\EURegistry_HALE_27.06.17\EURegistry_HALE_27.06.17\EURegistry_HALE.halez

Transformation Edit Window Help



Schema Explorer



type filter text

- CompetentAuthority/Inspections
- CompetentAuthority/Permits
- PF
- PF_PI_ID
- PI
- PI_PIP_ID
- PIP
- PS
- RD
- Status

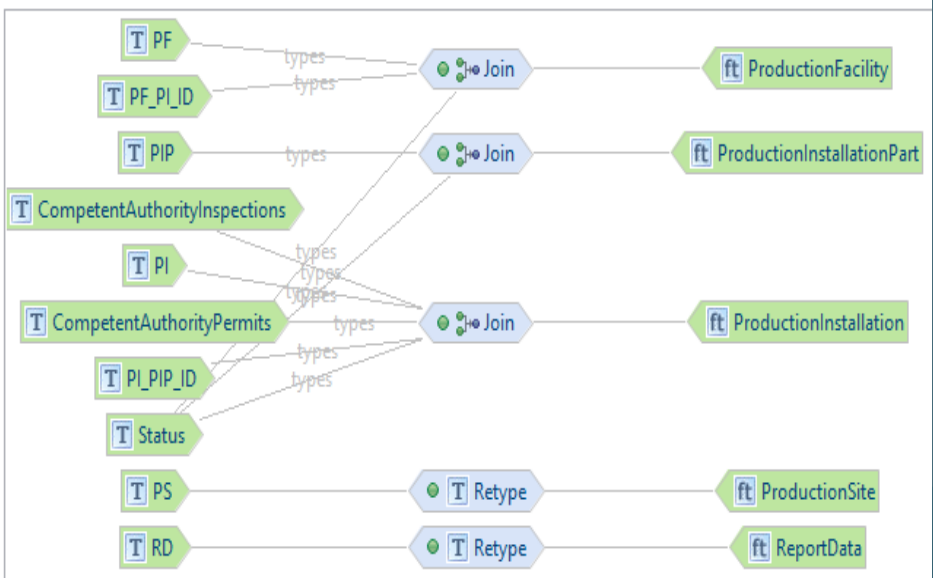
Target

type filter text

- ProductionFacility
 - location (0..1)
 - address x1
 - beginLifespanVersion
 - boundedBy (0..1)
 - competentAuthorityEPRTR (0..n) x1
 - dateOfStartOfOperation x1
 - description (0..1)
 - descriptionReference (0..1)
 - endLifespanVersion (0..1)
 - EPRTRAnnexActivity (0..1) x1
 - facilityName x1
 - function (1..n) x1
 - geometry x1
 - groupedBuilding (0..n)
 - groupedInstallation (0..n) x2 (1)
 - groupedPlot (0..n)
 - hostingSite (0..1) x1
 - id x1
 - identifier (0..1)
 - inspireId x1
 - Identifier x1
 - metaDataProperty (0..n)
 - name (0..n)

Alignment

<Click to select> Select cell <Click to select>



BENEFIT n° 2 - option 1

The transformation project used to obtain the Euregistry gml dataset needed for reporting obligation, can be re-used almost with no modification to get the INSPIRE PF gml dataset

BENEFIT n° 2 - option 2

You can use a simple XSLT transformation to transform the Euregistry gml dataset needed for reporting obligation into the INSPIRE PF gml dataset for the same information

EURegistry example file

```
PF_from_EURegistry.GML x EURegistry_Example.GML x
13  xmlns:tn="http://inspire.ec.europa.eu/schemas/tn/4.0"
14  xmlns:base="http://inspire.ec.europa.eu/schemas/base/3.3"
15  xmlns:gn="http://inspire.ec.europa.eu/schemas/gn/4.0"
16  xmlns:EUReg="http://dd.eionet.europa.eu/euregistryonindustrialsites"
17  xmlns:gmd="http://www.isotc211.org/2005/gmd"
18  xmlns:bu-base="http://inspire.ec.europa.eu/schemas/bu-base/4.0"
19  xmlns:gsr="http://www.isotc211.org/2005/gsr" xmlns:gts="http://www.isotc211.org/2005/gts"
20  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gss="http://www.isotc211.org/2005/gss"
21  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
22  gml:id="_8c837975-5230-45e7-8524-0802cf252f70"
23  xsi:schemaLocation="http://dd.eionet.europa.eu/schemas/euregistryonindustrialsites http://dd.eionet.europa.eu/schemas/euregistryonindustrialsites/EUReg.xsd"
24  <gml:boundedBy>
25    <gml:Envelope srsName="urn:ogc:def:crs:EPSG::4326" srsDimension="2">
26      <gml:lowerCorner>2.104327 41.991925</gml:lowerCorner>
27      <gml:upperCorner>2.104334 41.991932</gml:upperCorner>
28    </gml:Envelope>
29  </gml:boundedBy>
30  <gml:featureMember>
31    <EUReg:ProductionSite gml:id="PS_1">
32      <pf:inspireId>
33        <base:Identifier>
34          <base:localId>123456789.SITE</base:localId>
35          <base:namespace>ES.CAED</base:namespace>
36        </base:Identifier>
37      </pf:inspireId>
38      <pf:status xsi:nil="true"/>
39      <EUReg:siteName>
40        <EUReg:FeatureName>
41          <EUReg:nameOfFeature>EXAMPLE SITE 1</EUReg:nameOfFeature>
42        </EUReg:FeatureName>
43      </EUReg:siteName>
44      <EUReg:location>
45        <gml:Point gml:id="_d22b638f-2084-4c46-8351-42778a308b87" srsDimension="2">
46          <gml:pos>41.991925 2.104334</gml:pos>
47        </gml:Point>
```

INSPIRE PF for the same example file

PF_from_EURRegistry.GML

```
16  xmlns:EUReg="http://dd.eionet.europa.eu/euregistryonindustrialsites"
17  xmlns:gmd="http://www.isotc211.org/2005/gmd"
18  xmlns:bu-base="http://inspire.ec.europa.eu/schemas/bu-base/4.0"
19  xmlns:gsr="http://www.isotc211.org/2005/gsr"  xmlns:gts="http://www.isotc211.org/2005/gts"
20  xmlns:xlink="http://www.w3.org/1999/xlink"  xmlns:gss="http://www.isotc211.org/2005/gss"
21  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
22  gml:id="_8c837975-5230-45e7-8524-0802cf252f70"
23  xsi:schemaLocation="http://inspire.ec.europa.eu/schemas/pf/4.0 http://inspire.ec.europa.eu/schemas/pf/4.0/ProductionAndIndustrialFacilities.xsd"
24  <gml:boundedBy>
25    <gml:Envelope srsName="urn:ogc:def:crs:EPSG::4326" srsDimension="2">
26      <gml:lowerCorner>2.104327 41.991925</gml:lowerCorner>
27      <gml:upperCorner>2.104334 41.991932</gml:upperCorner>
28    </gml:Envelope>
29  </gml:boundedBy>
30  <gml:featureMember>
31    <pf:ProductionSite gml:id="PS_1">
32      <pf:inspireId>
33        <base:Identifier>
34          <base:localId>123456789.SITE</base:localId>
35          <base:namespace>ES.CAED</base:namespace>
36        </base:Identifier>
37      </pf:inspireId>
38      <pf:status xsi:nil="true"/>
39    </pf:ProductionSite>
40  </gml:featureMember>
41  <gml:featureMember>
42    <pf:ProductionFacility gml:id="PF_1">
43      <act-core:inspireId>
44        <base:Identifier>
45          <base:localId>000000002.FACILITY</base:localId>
46          <base:namespace>ES.CAED</base:namespace>
47        </base:Identifier>
48      </act-core:inspireId>
49      <act-core:geometry>
```



Be aware that

The PF dataset obtained following the illustrated methodology, lacks most of the optional fields foreseen in the PF data model. Therefore, though being a valid INSPIRE PF dataset, for a true usability of the dataset, consider adding few steps to the transformation project to take into account those optional fields as well.



It's a deal!

Providing industrial emission reporting according to an INSPIRE extended schema empowers the Member States to streamline their efforts to fulfil both INSPIRE and e-reporting obligations, since investments in implementing the EU Registry are building on their INSPIRE compliance.

Thank you !

Questions ?

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