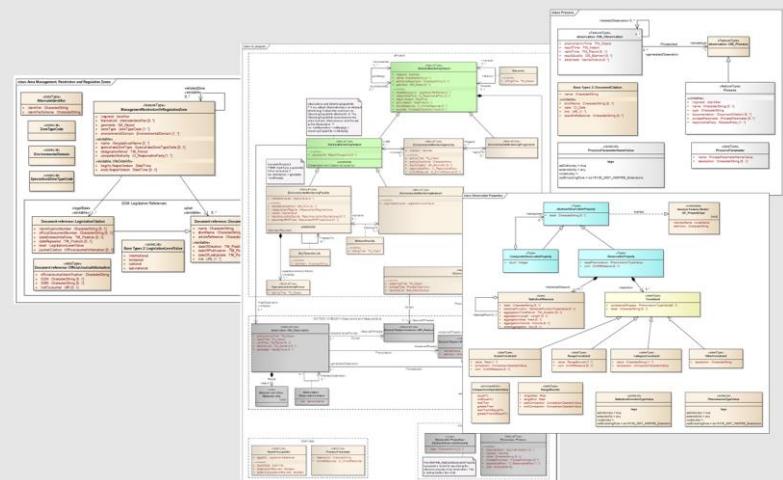


# Air Quality Reporting based on **INSPIRE**

11.6.2008	EN	Official Journal of the European Union				
L 375/86	[IS]	Official Journal of the European Union				
		17.12.2011				
		COMMISSION IMPLEMENTING DECISION of 12 December 2011 loring down rules for Directive 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality				
Directive	Reference	Element	Specification	Description	Requirement	Curiosity
(Act) adopted under the EC Directive 2008/50/EC of the European Parliament and of the Council on ambient air quality						
	2.1	The dataset describing <i>Fixed and Indicative Measurement</i> comprises meta-information on three hierarchical levels: • Measurement Configuration • Station • Network			M	J *
	2.1.1	Information concerning measurement configuration (or pollution sampling point), to be provided for each measurement configuration, which is to be used for the measurement of pollutants, for which the measurement configuration is a component or a specific station. For example, when one measurement configuration is a sample configuration in a station.			M	J *
1	D.0.1.1	Identifier Measurement configuration ID	Identifier The identifier should be the Existing ID. In case of new measurement configurations the ID has to be defined as data provider, comprising the identifier and the sampling point.	Identifier The identifier should be the Existing ID. In case of new measurement configurations the ID has to be defined as data provider, comprising the identifier and the sampling point.	M	1
2	D.0.1.1.1	European station ID	Link Value(s) may contain the station identifier for which metadata is provided. 2.0 or 2.1.2	Link Value(s) may contain the station identifier for which metadata is provided. 2.0 or 2.1.2	M	1
3	D.0.1.1.2	Segments	Link Link to D.0.1.1	Link Link to D.0.1.1	M	1
	D.0.1.1.3	Measurement station ID	Link Link to D.0.1.1	Link Link to D.0.1.1	M	1
	D.0.1.1.4	Measurement station ID (secondary)	Link Link to D.0.1.1	Link Link to D.0.1.1	M	1
	D.0.1.1.5	Measurement end date	Text Start of the measurement configuration (inception of a monitoring station)	Text Start of the measurement configuration (inception of a monitoring station)	M	1
	D.0.1.1.6	Measurement end date (secondary)	Text End of the measurement configuration (inception of a monitoring station)	Text End of the measurement configuration (inception of a monitoring station)	M	1
	D.0.1.1.7	Periodic validation of station	Text Periodic control of the observation station.	Text Periodic control of the observation station.	M	1
	D.0.1.1.8	Descriptive measure concerning the monitoring network for the specific pollution. This information is relevant for the interpretation of the measured data and the assessment of the representativeness of the measurements.			M	1
2a	D.0.1.1.9	Classification of source	Text A station to report the classification of the source for the measurement configuration relevant for the measurement configuration	Text Classification of source: represents "Type of origin in relation to dominant emission source" • industrial • non-industrial • industrial • residential	M	1
	D.0.1.1.10	Further guidance is provided in chapter 18.				
	D.0.1.1.11	Non ambient sources	Text The ambient air monitoring system must be able to detect the CEN ambient air sources.	Text The ambient air monitoring system must be able to detect the CEN ambient air sources. In addition to the CEN ambient categories, two new "source" types have been introduced which represent contributions originating from identifiable sources: "Unknown" and "Language".	M if available	0.1



**Katharina Schleidt**  
**Katharina.Schleidt@umweltbundesamt.at**

# Required Steps

1. Analyse reporting concepts from legal requirements
2. Identify relevant INSPIRE Themes
3. Identify relevant INSPIRE Feature Types
4. Map reporting concepts to INSPIRE Feature Types
  - a) Direct mapping to attributes
  - b) Direct mapping to associations
  - c) Additional attributes necessary → derive class from INSPIRE
  - d) If required, define additional classes
  - e) INSPIRE requires additional attributes → add to reporting guidelines
5. Provide Mapping from reporting concepts to (extended) INSPIRE classes

# Background - Air Quality Directive

11.6.2008

**EN**

Official Journal of the European Union

L 152/1

I

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

## DIRECTIVES

### DIRECTIVE 2008/50/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 21 May 2008

on ambient air quality and cleaner air for Europe

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee<sup>(1)</sup>,

Having regard to the opinion of the Committee of the Regions<sup>(2)</sup>,

- (2) In order to protect human health and the environment as a whole, it is particularly important to combat emissions of pollutants at source and to identify and implement the most effective emission reduction measures at local, national and Community level. Therefore, emissions of harmful air pollutants should be avoided, prevented or reduced and appropriate objectives set for ambient air quality taking into account relevant World Health Organisation standards, guidelines and programmes.

- (3) Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management<sup>(3)</sup>, Council Directive 1999/30/EC of 22 April 1999 relating to limit

# Background - Air Quality IPR

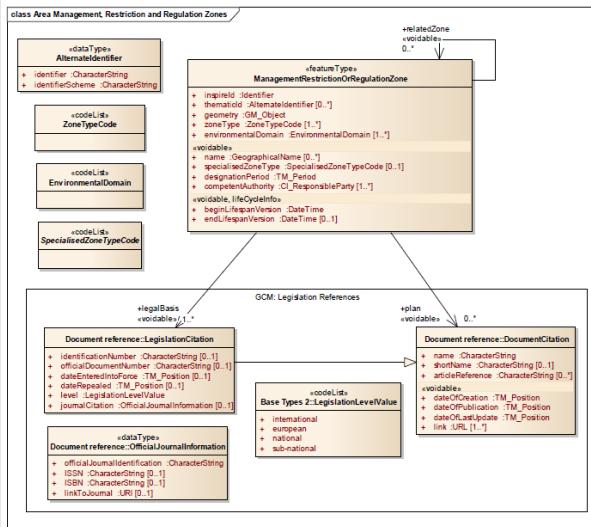
11.6.2008	<a href="#">EN</a>	Official Journal of the European Union
I		
(Acts adopted under the EC Treaty/Euratom Treaty whose public		
DIRECTIVES		
DIRECTIVE 2008/50/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 May 2008 on ambient air quality and cleaner air for Europe		
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,		
Having regard to the Treaty establishing the European Community, and in particular Article 175 thereof,		
Having regard to the proposal from the Commission,		
Having regard to the opinion of the European Economic and Social Committee (1),		
Having regard to the opinion of the Committee of the Regions (2),		

L 335/86	<a href="#">EN</a>	Official Journal of the European Union	17.12.2011
<b>COMMISSION IMPLEMENTING DECISION</b>			
of 12 December 2011			
laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality			
(notified under document C(2011) 9068) (2011/850/EU)			
THE EUROPEAN COMMISSION,			
Having regard to the Treaty on the Functioning of the European Union,			
Having regard to Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (1), and in particular Article 5(4) thereof,			
Having regard to Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (2), and in particular Article 28(2) thereof,			
Whereas:			
(1) Directive 2004/107/EC lays down target values to be met by a certain date, determines common methods and criteria for the assessment of the listed pollutants, lays down the information that needs to be transmitted to the			
(4) Directive 2008/50/EC provides that Decision 97/101/EC is to be repealed with effect from the end of the second calendar year following the entry into force of the implementing measures on transmission of information and reporting. Accordingly, the provisions of Decision 97/101/EC should be reflected in this Decision.			
(5) The scope of this Decision covers the annual reporting on ambient air quality assessment and the submission of information on plans and programmes in relation to limit values for certain pollutants in ambient air currently covered by Commission Decision 2004/224/EC of 20 February 2004 laying down arrangements for the submission of information on plans or programmes required under Council Directive 96/62/EC in relation to limit values for certain pollutants in ambient air (1) and Commission Decision 2004/461/EC of 29 April 2004 laying down a questionnaire to be used for annual reporting on ambient air quality assessment under Council Directives 96/62/EC and 1999/30/EC and under Directives 2000/69/EC and 2002/3/EC of the European Parliament and of the Council (1). Accordingly, in the interest of clarity and consistency of Union legislation, those Decisions should be repealed.			

# Background - Air Quality Guidelines

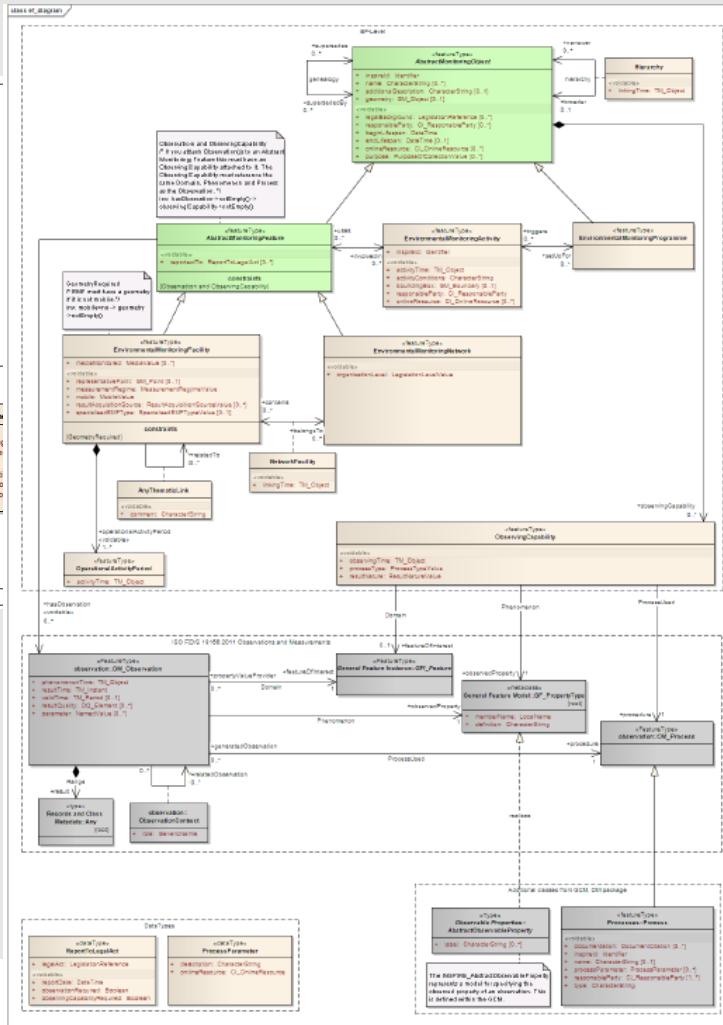
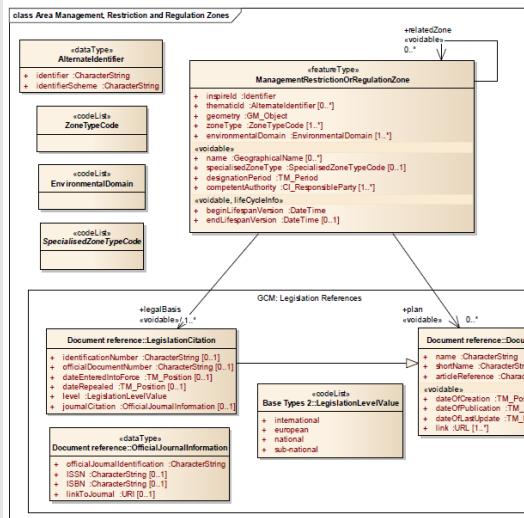
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(Acts adopted under the ECT)																																																																																																									
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For a pollutant, more than one Measurement Configuration at a single station can be in operation.</i></td><td></td><td></td> </tr> <tr> <td>1</td> <td>D.5.1.1</td> <td>Measurement configuration ID</td> <td>Identifier</td> <td>Unique identifier for this measurement configuration. In case of existing measurement configuration the localID should be the Existing code. In case of new measurement configuration the localID is to be defined by data provider, comprising station code, pollutant AirBase code and a number.</td> <td>M</td><td>1</td> </tr> <tr> <td>2</td> <td>D.5.1.2</td> <td>European station ID</td> <td>Link</td> <td>Selection only from existing codes that identify stations for which metadata is provided. <i>Link to D.5.2</i></td> <td>M</td><td>1</td> </tr> <tr> <td>3</td> <td>D.5.1.3</td> <td>Network ID</td> <td>Link</td> <td>Network which manages the sampling point. <i>Link to D.5.3</i></td> <td>M</td><td>1</td> </tr> <tr> <td></td> <td>D.5.1.4</td> <td colspan="5">Measurement time references</td></tr> <tr> <td>7</td> <td>D.5.1.4.1</td> <td>Measurement start date</td> <td>Timestamp</td> <td>Start of the measurement configuration (measurement of a pollutant at a monitoring station)</td> <td>M</td><td>1</td> </tr> <tr> <td>7</td> <td>D.5.1.4.2</td> <td>Measurement end date</td> <td>Timestamp</td> <td>End of the measurement configuration (measurement of a pollutant at a monitoring station)</td> <td>C</td><td>0..1 M if the measurement configuration is closed</td> </tr> <tr> <td></td> <td>D.5.1.5</td> <td colspan="5"><i>Emissions with predominant influence: For each measurement configuration, the type of source is to be given which is responsible for the largest (relative) contribution to the observed concentration.</i> <i>Describes emissions influencing the monitoring station for the specific pollutant. 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In addition to the CRF emission categories, two "source" types have been introduced which represent contributions not originating from <b>identifiable</b> sources: "Secondary" and "Long-range"</td> <td>C M if available</td><td>0..1</td> </tr> </tbody> </table>						IPR Nr.	Reference	Element	Specification	Description	Requirement	Cardinality		D.5	<i>The dataset describing Fixed and Indicative Measurements comprises meta-information on three hierarchical levels:</i>			M	1..*			<ul style="list-style-type: none"> <li>• Measurement Configuration</li> <li>• Station</li> <li>• Network</li> </ul>						D.5.1	<i>Information concerning measurement configuration by pollutant (sampling point), to be provided for each measurement configuration for which data is to be reported.</i>			M	1..*			<i>According to Art. 2 (3), a 'Measurement Configuration' means the technical facilities used for the measurement of one pollutant or one of its compounds at a specific station. For a pollutant, more than one Measurement Configuration at a single station can be in operation.</i>					1	D.5.1.1	Measurement configuration ID	Identifier	Unique identifier for this measurement configuration. In case of existing measurement configuration the localID should be the Existing code. In case of new measurement configuration the localID is to be defined by data provider, comprising station code, pollutant AirBase code and a number.	M	1	2	D.5.1.2	European station ID	Link	Selection only from existing codes that identify stations for which metadata is provided. <i>Link to D.5.2</i>	M	1	3	D.5.1.3	Network ID	Link	Network which manages the sampling point. <i>Link to D.5.3</i>	M	1		D.5.1.4	Measurement time references					7	D.5.1.4.1	Measurement start date	Timestamp	Start of the measurement configuration (measurement of a pollutant at a monitoring station)	M	1	7	D.5.1.4.2	Measurement end date	Timestamp	End of the measurement configuration (measurement of a pollutant at a monitoring station)	C	0..1 M if the measurement configuration is closed		D.5.1.5	<i>Emissions with predominant influence: For each measurement configuration, the type of source is to be given which is responsible for the largest (relative) contribution to the observed concentration.</i> <i>Describes emissions influencing the monitoring station for the specific pollutant. 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23	D.5.1.5.2	Main emission sources	Menu	See <b>codelist Main emission sources</b> The main emission source(s) (D.5.1.5.2) can be selected from the <b>Codelist Main Emission Sources</b> . In addition to the CRF emission categories, two "source" types have been introduced which represent contributions not originating from <b>identifiable</b> sources: "Secondary" and "Long-range"	C M if available	0..1																																																																																																			
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# Background – INSPIRE – AM

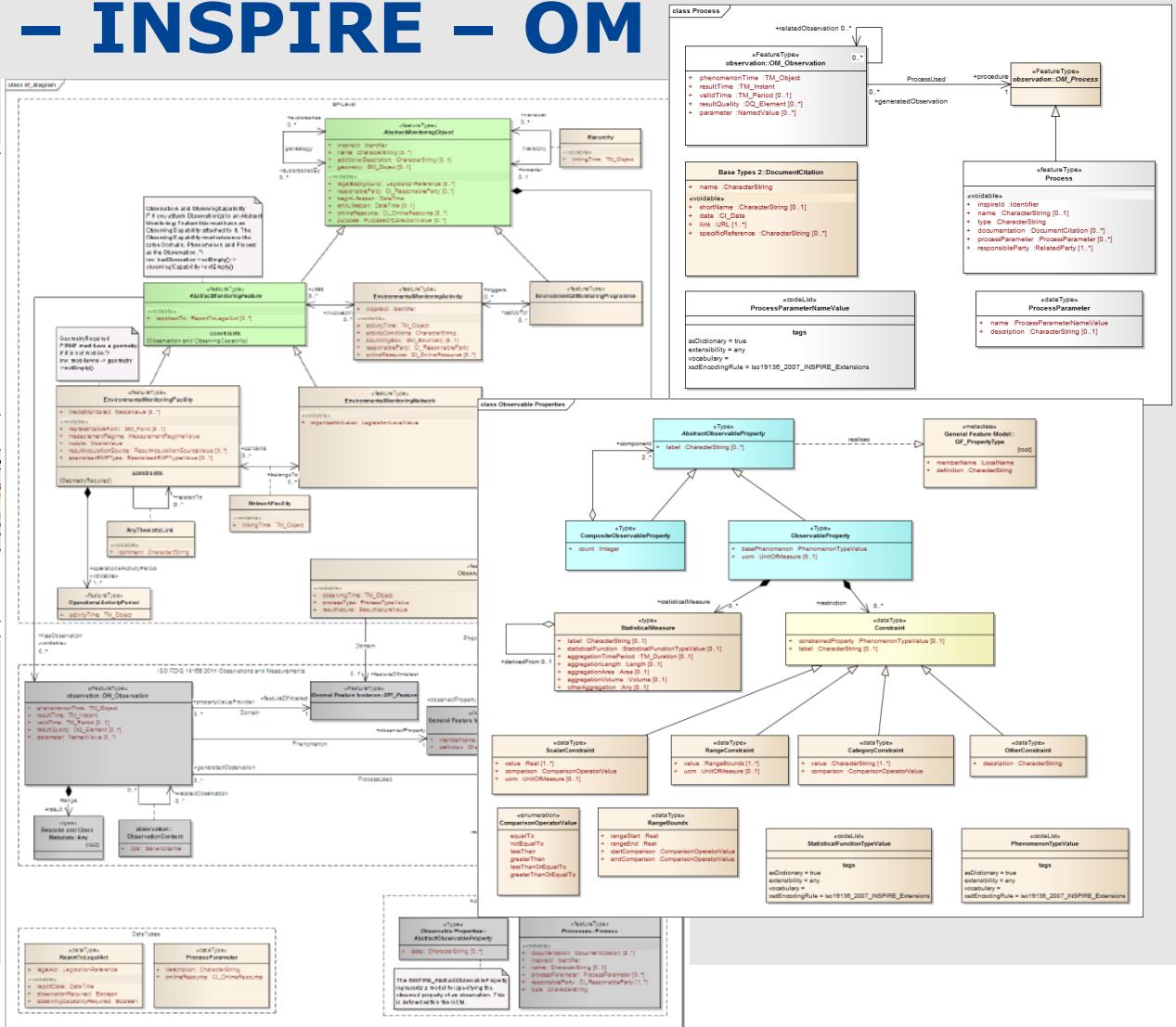
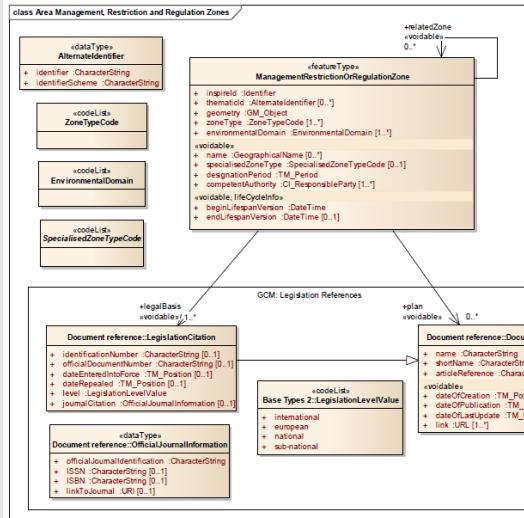


**AM: Annex III - 11.  
Area management/  
restriction/regulation zones  
and reporting units**

# Background – INSPIRE – EF

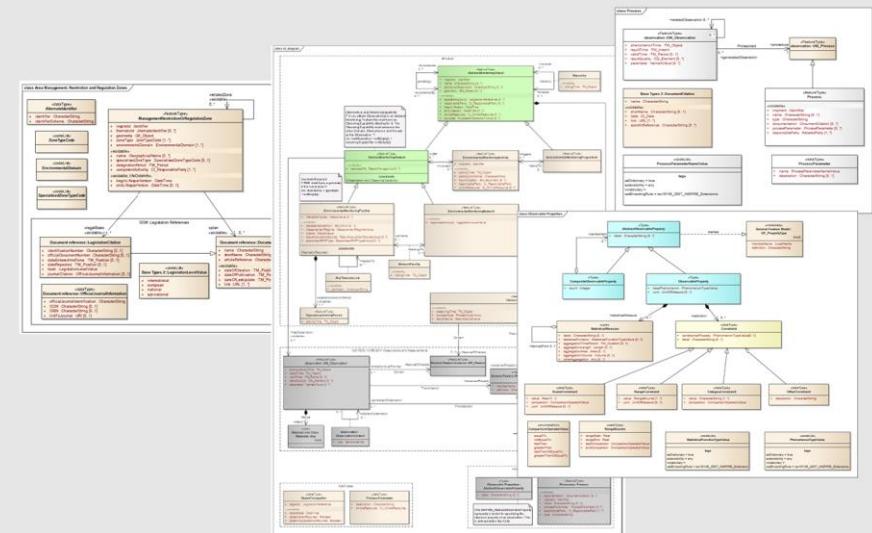


# Background – INSPIRE – OM



# Challenge: INSPIRE based Reporting

<p>11.6.2008</p> <p>(Act adopted under the EC Directive 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality</p> <p>on ambient air</p> <p>THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE PEAN UNION</p> <p>Having regard to the Treaty establishing the European Union, and in particular Article 173 thereof,</p> <p>Having regard to the proposal from the Commission,</p> <p>Having regard to the opinion of the European Economic and Social Committee (3),</p> <p>Having regard to the opinion of the Committee of the Regions (4),</p>	<p>L 335/86</p> <p>[EN]</p>	<p>Official Journal of the European Union</p> <p>Official Journal of the European Union</p> <p>COMMISSION IMPLEMENTING DECISION</p> <p>of 12 December 2011</p> <p>lating down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality</p>				
IDF No.	Reference	Element	Specification / Description	Requirement	Continuity	
0.5		The element describes Fixed and Inductive Measurement comprising meta-information on three hierarchical levels:	<ul style="list-style-type: none"> <li>- Measurement Configuration</li> <li>- Station</li> <li>- Network</li> </ul>	M	I, *	
0.5.1		Information concerning measurement configuration, pollution sampling point, to be provided for each measurement configuration for which data is to be transmitted to the receiving Member State.		M	I, *	
0.5.1.1		According to Art. 2(5) "Measurement Configuration" means the technical facilities used for the measurement of one or more pollutants at a specific location. For pollution, more than one Measurement Configuration at a single location can be in operation.		M	I, *	
1	0.5.1.1	Measurement configuration ID	Identification of the measurement configuration. The identifier should be the Emissions code of the location where the measurement configuration is located. In case of non-measurement configurations, the identifier should be defined by data provider, comprising name and address of the measurement configuration and a number.	M	I	
2	0.5.1.2	European station ID	Link	M	I	
3	0.5.1.3	Version ID	Link	M	I	
4	0.5.1.4	Instrument type reference	Link	M	I	
5	0.5.1.5	Measurement start date	Timestamp	Start of the measurement configuration (measurement of a pollutant at a monitoring station)	M	I
6	0.5.1.6	Measurement end date	Timestamp	End of the measurement configuration (cessation of a pollutant at a monitoring station)	M	I, *
7	0.5.1.7	Description of the measurement configuration	Text	For each measurement configuration, the type of source to be given which is responsible for the largest anthropogenic contribution to the observed concentration.	M	I
8	0.5.1.8	Descriptive measure reflecting the monitoring station for the specific pollutant	Text	Descriptive measure reflecting the monitoring station for the specific pollutant. This information is relevant for the interpretation of the measured concentrations.	M	I
9	0.5.1.9	Classification of sources in relation to major emissions	Text	Classification of sources in relation to major emissions	M	I
10	0.5.1.10	Classification of sources in relation to minor emissions	Text	Classification of sources in relation to minor emissions	M	I
11	0.5.1.11	Classification of sources in relation to other emissions	Text	Classification of sources in relation to other emissions	M	I
12	0.5.1.12	Classification of sources in relation to dominant emission source	Text	Classification of sources in relation to dominant emission source	M	I
13	0.5.1.13	Classification of sources in relation to change of information (e.g. EC, radio, ...)	Text	Classification of sources in relation to change of information (e.g. EC, radio, ...)	M	I
14	0.5.1.14	Further guidance	Text	Further guidance is provided in article 12.	M	I
15	0.5.1.15	Other emission sources	Text	The main emission source(s) (0.5.1.2) can be selected from the <a href="#">Codex Main Emission Sources</a> . In addition to the CEI main emission source, one "source" type can be included which represent combination not originating from <a href="#">CodexMainSource</a> source: "Domestic" and "Foreign".	M if available	Q, I



# = Reporting Schema

# Scope AQD e-Reporting

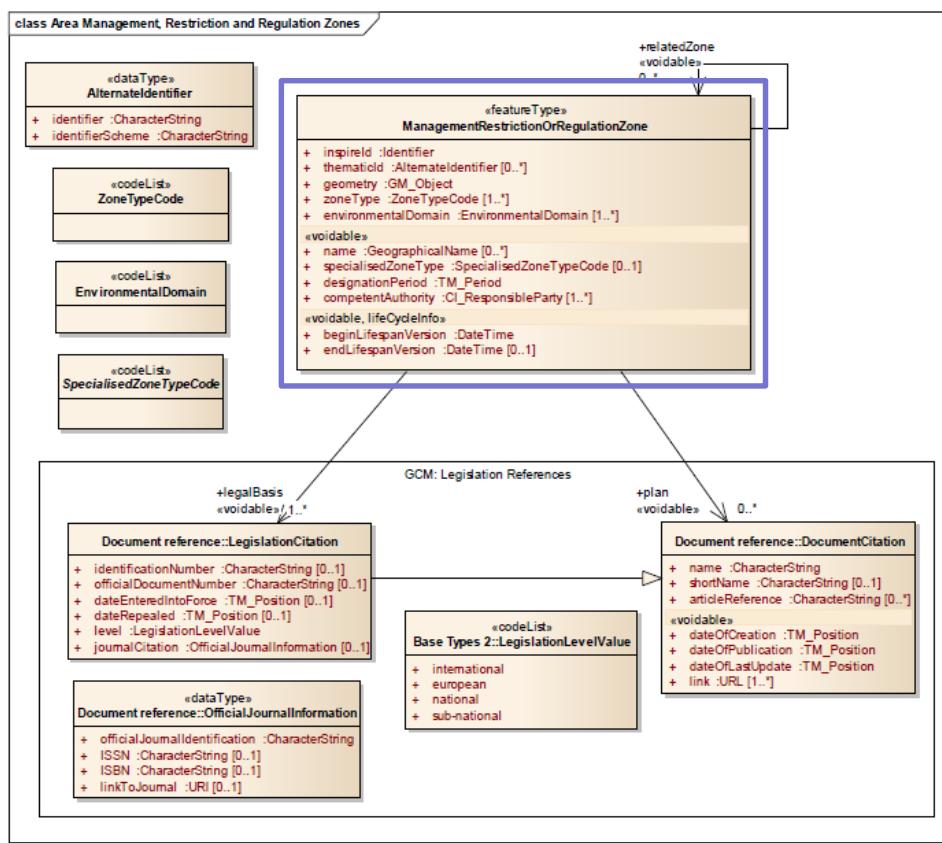
- (B) Dataset "Zones and Agglomerations"
- (C) Dataset "Assessment Regime"
- (D) Dataset "Information about Assessment Methods"
  - D.a: Dataset "General"
  - D.b: Dataset "Fixed measurement Information"
  - D.c: Dataset "Indicative Measurement Information"
  - D.d: Dataset "Modelling Information"
  - D.e: Dataset "Objective Estimation Information"
- (E) Dataset "Primary data"
- (F) Generated Dataset "Aggregated Data"
- (G) Dataset "Attainment of Environmental Objectives"

# Scope AQD e-Reporting

- (B) Dataset "Zones and Agglomerations"
- (C) Dataset "Assessment Regime"
- (D) Dataset "Information about Assessment Methods"
  - D.a: Dataset "General"
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- (G) Dataset "Attainment of Environmental Objectives"

# Scope AQD e-Reporting

## (B) Dataset "Zones and Agglomerations"



inent Methods"

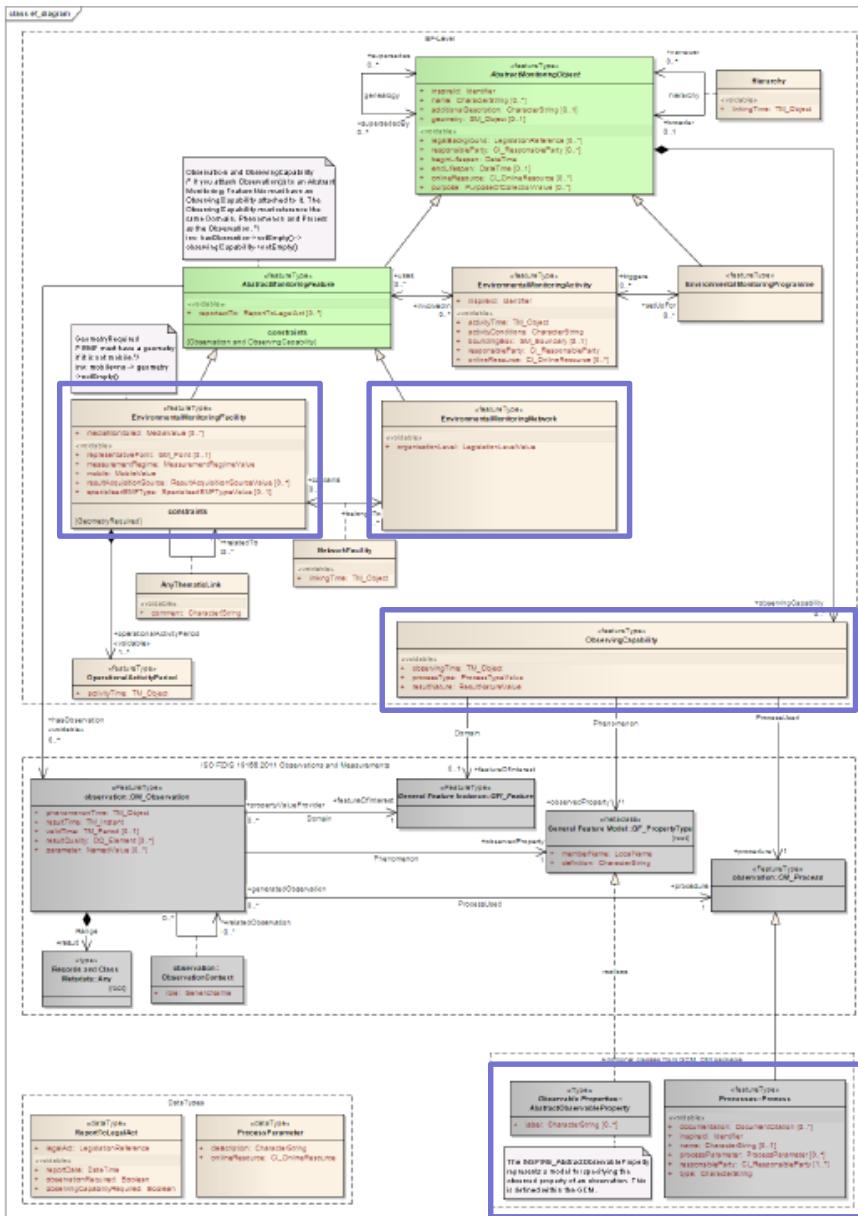
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**INSPIRE Themes:**  
• AM



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## ent Information'

n<sup>11</sup>

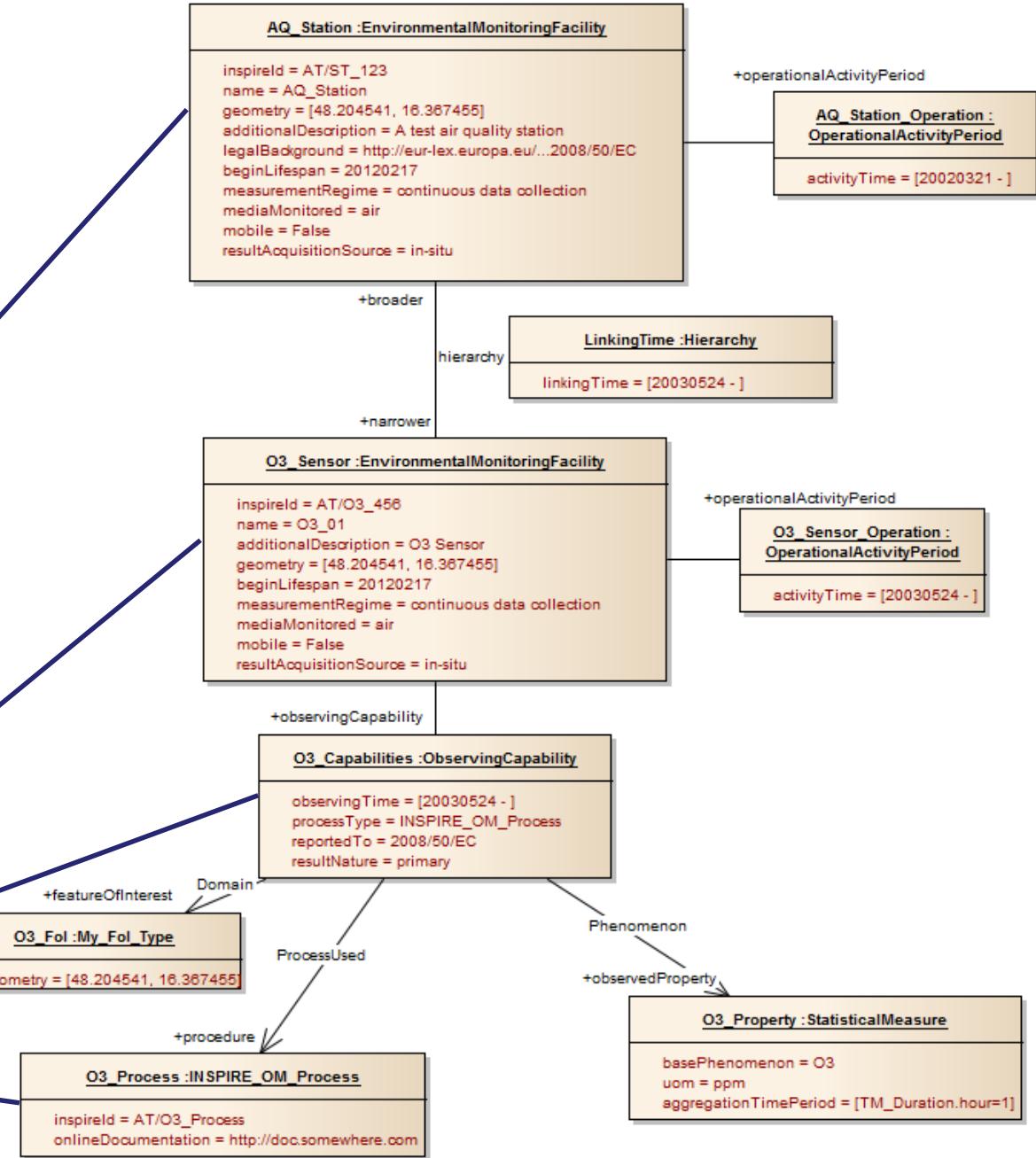
## Information'

## "Bad Data"

nmental Obj

## **INSPIRE Themes:**

- ER



# Scope AQD e-Reporting

- (B) Dataset "Zones and Agglomerations"
- (C) Dataset "Assessment Regime"
- (D) Dataset "Information about Assessment Methods"
  - D.a: Dataset "General"
  - D.b: Dataset "Fixed measurement Information"
  - D.c: Dataset "Indicative Measurement Information"**
  - D.d: Dataset "Modelling Information"
  - D.e: Dataset "Objective Estimation Information"
- (E) Dataset "Primary data"
- (F) Generated Dataset "Aggregated Data"
- (G) Dataset "Attainment of Environmental Obj

**INSPIRE Themes:**

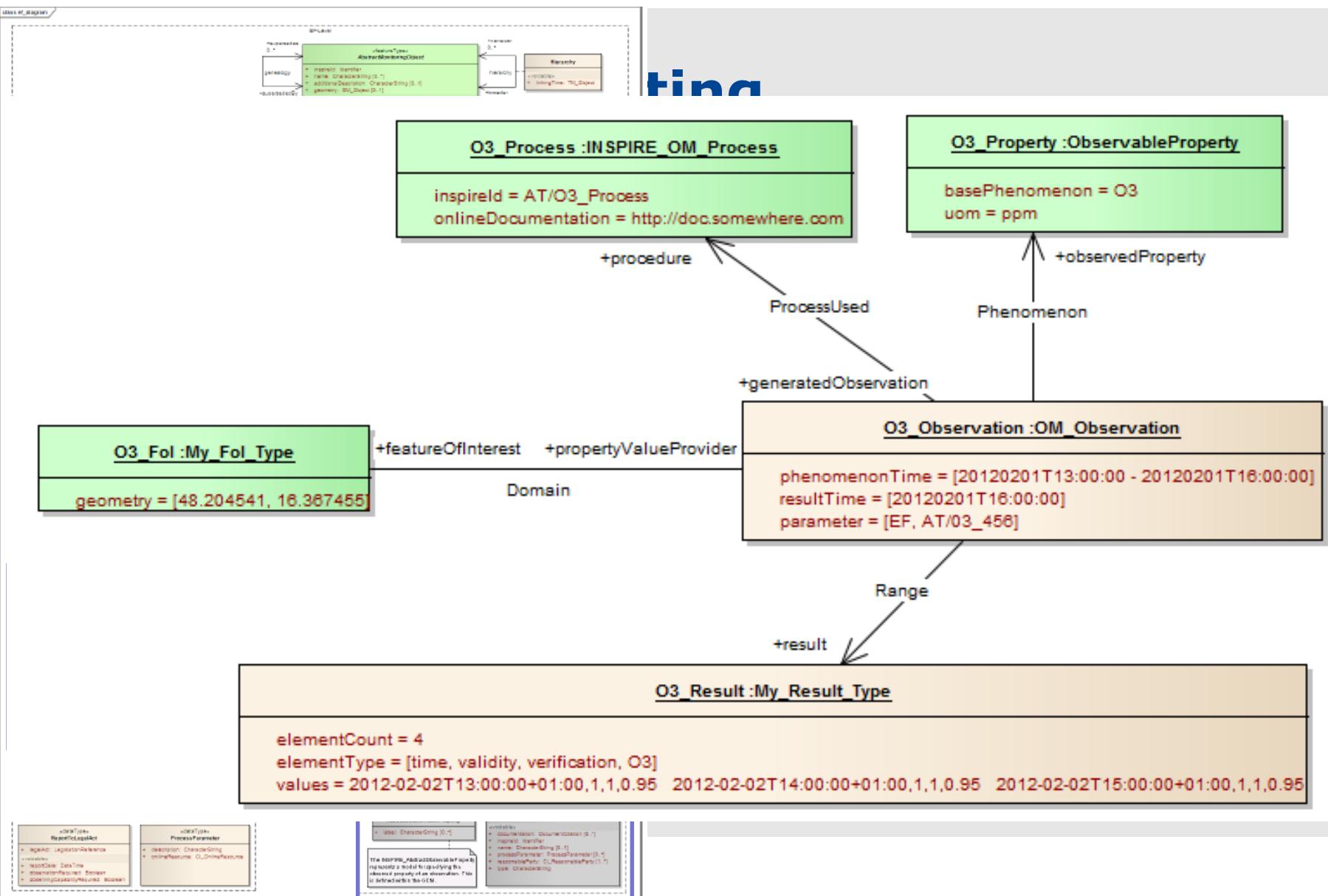
- EF

# Scope AQD e-Reporting

- (B) Dataset "Zones and Agglomerations"
- (C) Dataset "Assessment Regime"
- (D) Dataset "Information about Assessment Methods"
  - D.a: Dataset "General"
  - D.b: Dataset "Fixed measurement Information"
  - D.c: Dataset "Indicative Measurement Information"
  - D.d: Dataset "Modelling Information"**
    - D.e: Dataset "Objective Estimation Information"
- (E) Dataset "Primary data"
- (F) Generated Dataset "Aggregated Data"
- (G) Dataset "Attainment of Environmental Obj

**INSPIRE Themes:**

- EF



# Scope AQD e-Reporting

(B) Dataset "Zones and Agglomerations"

(C) Dataset "Assessment Regime"

(D) Dataset "Information about Assessment Methods"

D.a: Dataset "General"

D.b: Dataset "Fixed measurement Information"

D.c: Dataset "Indicative Measurement Information"

D.d: Dataset "Modelling Information"

D.e: Dataset "Objective Estimation Information"

(E) Dataset "Primary data"

**(F) Generated Dataset "Aggregated Data" INSPIRE Themes:**

(G) Dataset "Attainment of Environmental Obj

- EF
- OM

# INSPIRE Mapping to AQD Requirements

<i>AbstractMonitoringFeature</i>
«featureType»
<b>EnvironmentalMonitoringFacilities::</b>
<b>EnvironmentalMonitoringFacility</b>
<i>:AbstractMonitoringObject</i>
+ geometry: GM_Object [0..1]
+ inspireId: Identifier
+ mediaMonitored: MediaValue [1..*]
«voidable»
+ measurementRegime: MeasurementRegimeValue
+ mobile: Boolean
+ representativePoint: GM_Point [0..1]
+ resultAcquisitionSource: ResultAcquisitionSourceValue [0..*]
+ specialisedEMFType: SpecialisedEMFTypeValue [0..1]
<i>:AbstractMonitoringFeature</i>
+ reportedTo: ReportToLegalAct [0..*]
<i>:AbstractMonitoringObject</i>
+ additionalDescription: CharacterString [0..1]
+ legalBackground: LegislationCitation [0..*]
+ name: CharacterString [0..*]
+ onlineResource: CI_OnlineResource [0..*]
+ purpose: PurposeOfCollectionValue [0..*]
+ responsibleParty: CI_ResponsibleParty [0..*]

D.5.2	Monitoring station
D.5.2.1	Station Identifier
D.5.2.2	National station code
D.5.2.3	Name of the monitoring station
D.5.2.4	Name of the municipality
D.5.2.5	European station code
D.5.2.6	Station time references
D.5.2.6.1	Station start date
D.5.2.6.2	Station end date
D.5.2.7	Geographical coordinates (geographical longitude and latitude)
D.5.2.7.1	Geographical longitude
D.5.2.7.2	Geographical latitude
D.5.2.7.3	Geodetic altitude
D.5.2.7.4	Reference geodetic coordinate system
D.5.2.8	Meteorological parameters measured
D.5.2.9	Documentation of station information, including Maps and photographs

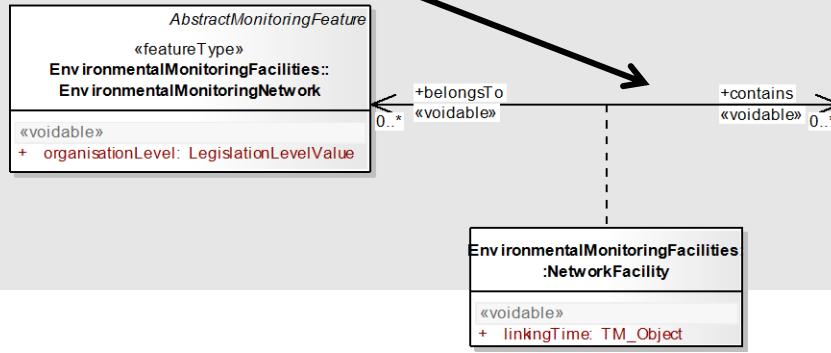
# INSPIRE Mapping to AQD Requirements

<i>AbstractMonitoringFeature</i>	
«featureType»	
<b>EnvironmentalMonitoringFacilities:: EnvironmentalMonitoringFacility</b>	
<code>::AbstractMonitoringObject</code>	
+ geometry: GM_Object [0..1]	
+ inspireId: Identifier	
+ mediaMonitored: MediaValue [1..*]	
«voidable»	
+ measurementRegime: MeasurementRegimeValue	
+ mobile: Boolean	
+ representativePoint: GM_Point [0..1]	
+ resultAcquisitionSource: ResultAcquisitionSourceValue [0..*]	
+ specialisedEMFType: SpecialisedEMFTypeValue [0..1]	
<code>::AbstractMonitoringFeature</code>	
+ reportedTo: ReportToLegalAct [0..*]	
<code>::AbstractMonitoringObject</code>	
+ additionalDescription: CharacterString [0..1]	
+ legalBackground: LegislationCitation [0..*]	
+ name: CharacterString [0..*]	
+ onlineResource: CI_OnlineResource [0..*]	
+ purpose: PurposeOfCollectionValue [0..*]	
+ responsibleParty: CI_ResponsibleParty [0..*]	

D.5.2	Monitoring station
<b>D.5.2.1</b>	<b>Station Identifier</b>
D.5.2.2	National station code
<b>D.5.2.3</b>	<b>Name of the monitoring station</b>
D.5.2.4	Name of the municipality
D.5.2.5	European station code
D.5.2.6	Station time references
D.5.2.6.1	Station start date
D.5.2.6.2	Station end date
<b>D.5.2.7</b>	<b>Geographical coordinates (geographical longitude and latitude)</b>
<b>D.5.2.7.1</b>	<b>Geographical longitude</b>
<b>D.5.2.7.2</b>	<b>Geographical latitude</b>
D.5.2.7.3	Geodetic altitude
<b>D.5.2.7.4</b>	<b>Reference geodetic coordinate system</b>
D.5.2.8	Meteorological parameters measured
D.5.2.9	Documentation of station information, including Maps and photographs

# INSPIRE Mapping to AQD Requirements

D.5.2.1	Station Identifier
D.5.2.2	National station code
D.5.2.3	Name of the monitoring station
D.5.2.4	Name of the municipality
D.5.2.5	European station code
D.5.2.6	Station time references
D.5.2.7	Geographical coordinates (geographical longitude and latitude)
D.5.2.8	Meteorological parameters measured
D.5.2.9	Documentation of station information, including Maps and photographs
...	...
<b>D.5.2.15 Network</b>	



```

classDiagram
    class AbstractMonitoringFeature {
        <<featureType>>
        EnvironmentalMonitoringFacilities::EnvironmentalMonitoringFacility
    }
    class EnvironmentalMonitoringFacilities::EnvironmentalMonitoringFacility {
        <<AbstractMonitoringObject>>
        +geometry: GM_Object [0..1]
        +inspireId: Identifier
        +mediaMonitored: MediaValue [1..1]
        <<voidable>>
        +measurementRegime: MeasurementRegimeValue
        +mobile: Boolean
        +representativePoint: GM_Point [0..1]
        +resultAcquisitionSource: ResultAcquisitionSourceValue [0..1]
        +specialisedEMFType: SpecialisedEMFTypeValue [0..1]
        <<AbstractMonitoringFeature>>
        +reportedTo: ReportToLegalAct [0..1]
        <<AbstractMonitoringObject>>
        +additionalDescription: CharacterString [0..1]
        +legalBackground: LegislationCitation [0..1]
        +name: CharacterString [0..1]
        +onlineResource: CI_OnlineResource [0..*]
        +purpose: PurposeOfCollectionValue [0..*]
        +responsibleParty: CI_ResponsibleParty [0..*]
    }
  
```

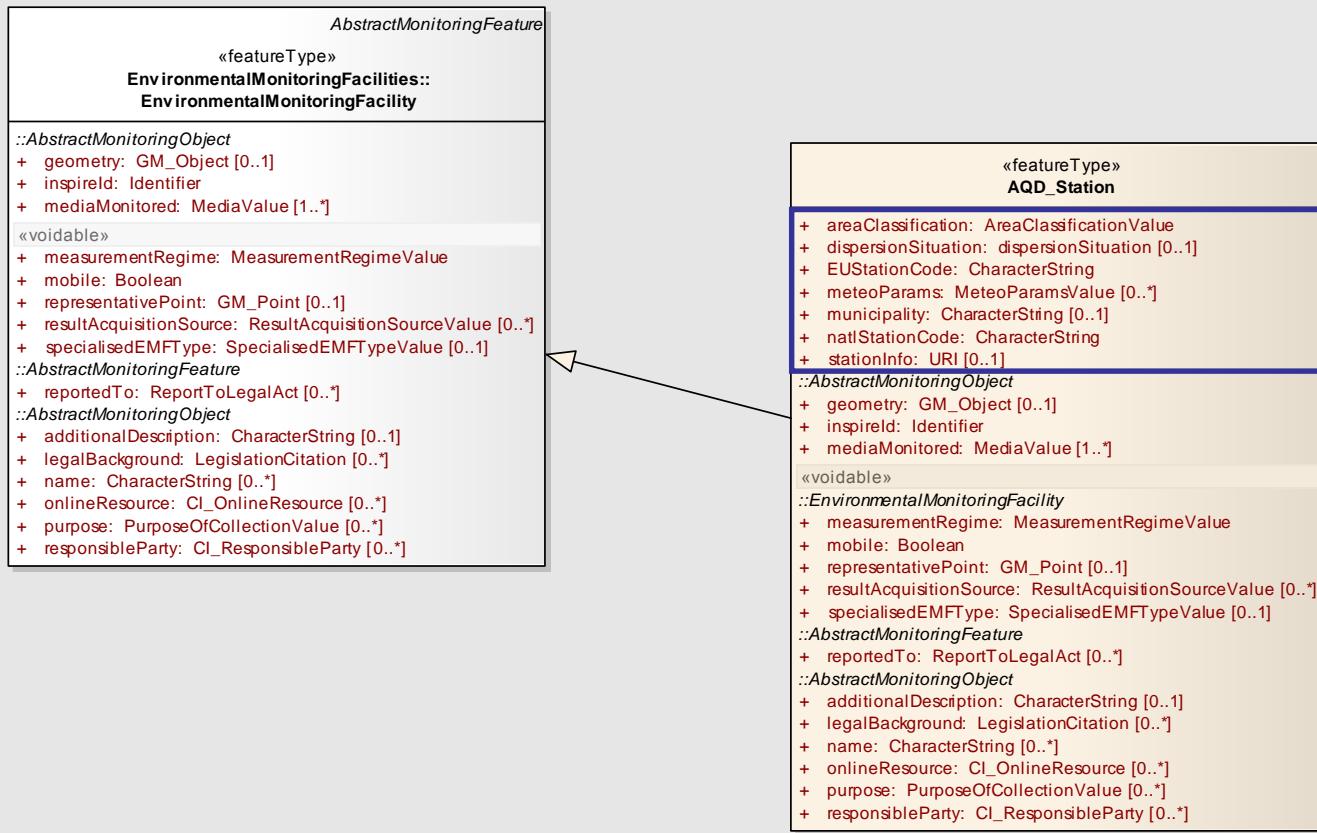
This block contains the detailed UML class definition for `EnvironmentalMonitoringFacilities::EnvironmentalMonitoringFacility`. It includes slots for geometry, inspireId, mediaMonitored, measurementRegime, mobile, representativePoint, resultAcquisitionSource, specialisedEMFType, reportedTo, additionalDescription, legalBackground, name, onlineResource, purpose, and responsibleParty.

# INSPIRE Extension to AQD Requirements

<i>AbstractMonitoringFeature</i>	
«featureType»	
<b>EnvironmentalMonitoringFacilities::</b>	
<b>EnvironmentalMonitoringFacility</b>	
<i>::AbstractMonitoringObject</i>	
+ geometry: GM_Object [0..1]	
+ inspireId: Identifier	
+ mediaMonitored: MediaValue [1..*]	
«voidable»	
+ measurementRegime: MeasurementRegimeValue	
+ mobile: Boolean	
+ representativePoint: GM_Point [0..1]	
+ resultAcquisitionSource: ResultAcquisitionSourceValue [0..*]	
+ specialisedEMFType: SpecialisedEMFTypeValue [0..1]	
<i>::AbstractMonitoringFeature</i>	
+ reportedTo: ReportToLegalAct [0..*]	
<i>::AbstractMonitoringObject</i>	
+ additionalDescription: CharacterString [0..1]	
+ legalBackground: LegislationCitation [0..*]	
+ name: CharacterString [0..*]	
+ onlineResource: CI_OnlineResource [0..*]	
+ purpose: PurposeOfCollectionValue [0..*]	
+ responsibleParty: CI_ResponsibleParty [0..*]	
<b>+ National station code</b>	
<b>+ Name of the municipality</b>	
<b>+ European station code</b>	

D.5.2	Monitoring station
D.5.2.1	Station Identifier
<b>D.5.2.2</b>	<b>National station code</b>
D.5.2.3	Name of the monitoring station
<b>D.5.2.4</b>	<b>Name of the municipality</b>
<b>D.5.2.5</b>	<b>European station code</b>
D.5.2.6	Station time references
D.5.2.6.1	Station start date
D.5.2.6.2	Station end date
D.5.2.7	Geographical coordinates (geographical longitude and latitude)
D.5.2.7.1	Geographical longitude
D.5.2.7.2	Geographical latitude
D.5.2.7.3	Geodetic altitude
D.5.2.7.4	Reference geodetic coordinate system
D.5.2.8	Meteorological parameters measured
D.5.2.9	Documentation of station information, including Maps and photographs

# INSPIRE Extension to AQD Requirements



# INSPIRE Extension to AQD Requirements

<i>AbstractMonitoringFeature</i>
«featureType»
<b>EnvironmentalMonitoringFacilities::</b>
<b>EnvironmentalMonitoringFacility</b>
<i>::AbstractMonitoringObject</i>
+ geometry: GM_Object [0..1]
+ inspireId: Identifier
+ mediaMonitored: MediaValue [1..*]
«voidable»
+ measurementRegime: MeasurementRegimeValue
+ mobile: Boolean
+ representativePoint: GM_Point [0..1]
+ resultAcquisitionSource: ResultAcquisitionSourceValue [0..*]
+ specialisedEMFType: SpecialisedEMFTypValue [0..1]
<i>::AbstractMonitoringFeature</i>
+ reportedTo: ReportToLegalAct [0..*]
<i>::AbstractMonitoringObject</i>
+ additionalDescription: CharacterString [0..1]
+ legalBackground: LegislationCitation [0..*]
+ name: CharacterString [0..*]
+ onlineResource: CI_OnlineResource [0..*]
+ purpose: PurposeOfCollectionValue [0..*]
+ responsibleParty: CI_ResponsibleParty [0..*]

D.5.2.1	Station Identifier
D.5.2.2	National station code
D.5.2.3	Name of the monitoring station
D.5.2.4	Name of the municipality
D.5.2.5	European station code
D.5.2.6	Station time references
D.5.2.7	Geographical coordinates (geographical longitude and latitude)
D.5.2.8	Meteorological parameters measured
D.5.2.9	Documentation of station information, including Maps and photographs
D.5.2.10	Classification of the area
D.5.2.11	Dispersion situation
<b>D.5.2.12</b>	<b>Media Monitored</b>

# INSPIRE Extension to AQD Requirements

IPR Nr.	Reference	Element	Specification	Description	Requirement	Cardinality
33	D.5.2.11.6	Street canyon - width of street	Number	In metres	C M if "Type of station in relation to major emission sources" = "traffic" for at least one measurement configuration and "Local dispersion situation" = "Street canyon" if available	0..1
34	D.5.2.11.7	Street canyon - mean height of building facades	Number	In metres	C M if "Type of station in relation to major emission sources" = "Traffic" for at least one measurement configuration and "Local dispersion situation" = "Street canyon" if available	0..1
	D.5.2.11.8	Regional dispersion situation	Menu	Describes the topographic situation on a scale of several kilometres. See <a href="#">codelist Dispersion Regional</a>	V	0..1
	<b>D.5.2.12</b>	<b>Media Monitored</b>	Menu		M	<b>1</b>
	D.5.2.13	Measurement Regime	Menu		M	1
	D.5.2.14	Mobile	Boolean		M	1
	D.5.2.15	Network	Link	Link to D.5.3	M	1
	D.5.3	<i>Information concerning networks (include for each network that has been identified by the Sampling point or monitoring station) Monitoring networks represent the organizational structure of monitoring stations, responsible for station maintenance and QA/QC.</i>			M	1
3	D.5.3.1	Network ID	Identifier	The official, commonly used and unambiguous name of the network should be put in the <a href="#">localID</a> . Ideally it is expected to remain consistent in the future.	M	1
35	D.5.3.2	Network name	Text		M	1

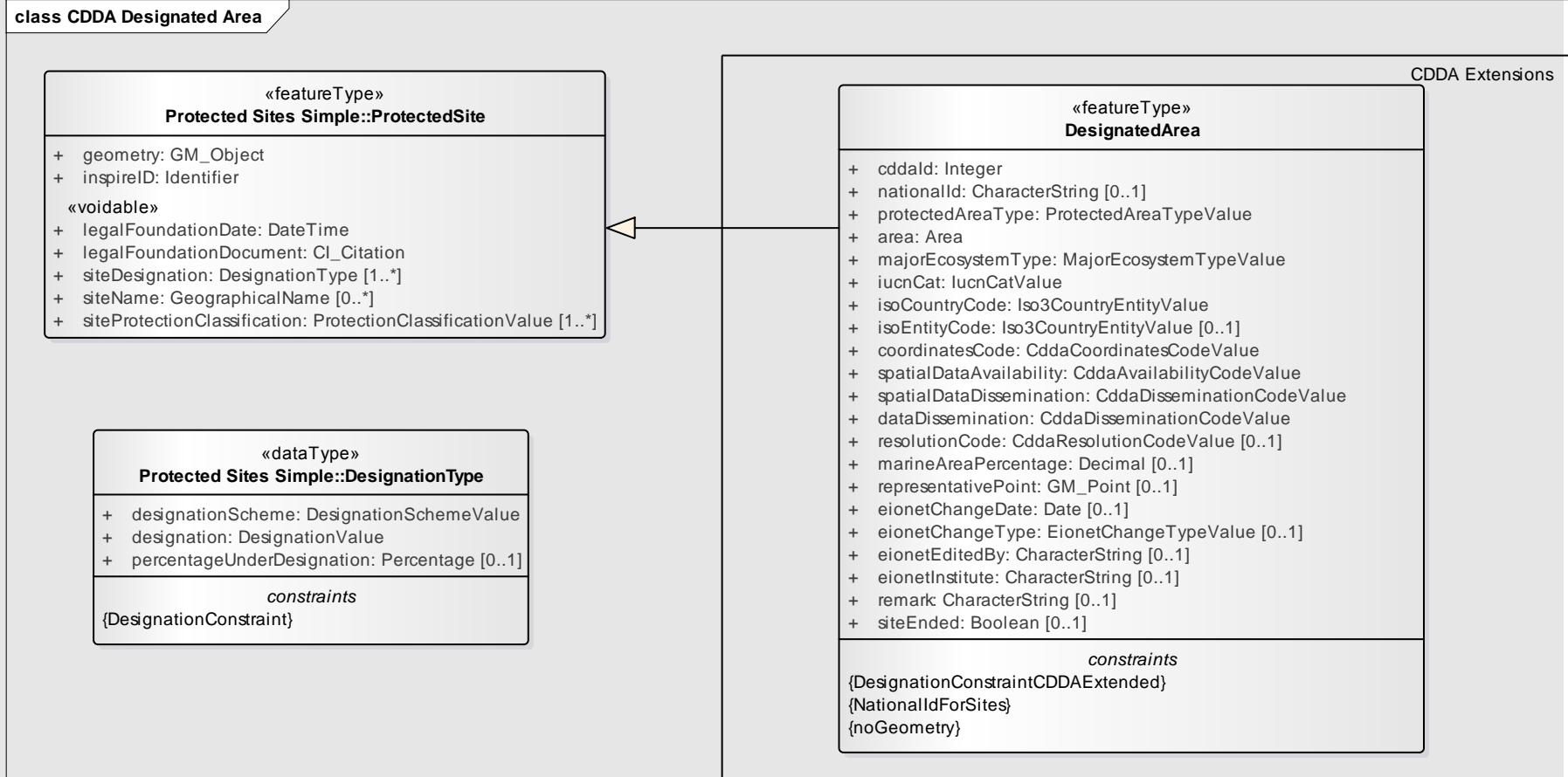
# Mapping

<b>IPR #</b>	<b>IPR Name</b>	<b>Class</b>	<b>XPATH</b>
D.5.1	Monitoring Station	AQD_Station	/aqd:AQD_SamplingPoint/ef:broader/@xlink:href Linked to /aqd:AQD_Station
D.5.2.1	Station Identifier	AQD_Station	/aqd:AQD_Station/ef:inspireId/base:Identifier/
D.5.2.2	National station code	AQD_Station	/aqd:AQD_Station/aqd:natlStationCode
D.5.2.3	Name of the monitoring station	AQD_Station	/aqd:AQD_Station/ef:name
D.5.2.4	Name of the municipality	AQD_Station	aqd:AQD_Station/aqd:municipality
D.5.2.5	European station code	AQD_Station	/aqd:AQD_Station/aqd:EUStationCode
D.5.2.1	Station Identifier	AQD_Station	/aqd:AQD_Station/ef:inspireId/base:Identifier/
D.5.2.6	Station time references	AQD_Station	/aqd:AQD_Station/ef:operationalActivityPeriod/ef:OperationalActivityPeriod
D.5.2.6.1	Station start date	AQD_Station	/aqd:AQD_Station/ef:operationalActivityPeriod/ef:OperationalActivityPeriod
D.5.2.6.2	Station end date	AQD_Station	/aqd:AQD_Station/ef:operationalActivityPeriod/ef:OperationalActivityPeriod
D.5.2.7	Geographical coordinates (geographical longitude and latitude)	AQD_Station	/aqd:AQD_Station/ef:geometry/gml:Point/gml:pos/text()

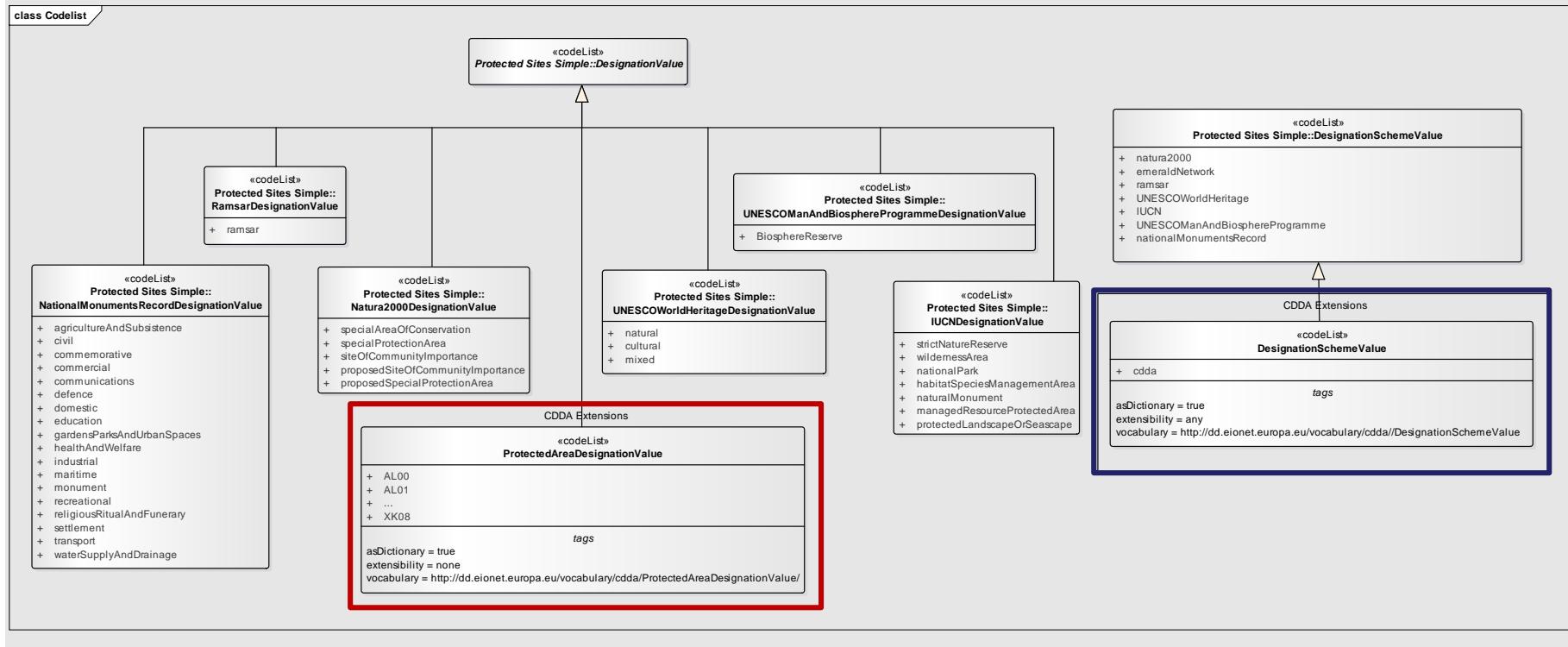
# Conclusions

- INSPIRE Themes provide the basic building blocks required by reporting for the AQD
- Feature types provided by INSPIRE will often need to be extended to cover the full breadth of reporting requirements
- Reporting requirements guidelines will also often need to be extended to cover all INSPIRE requirements
- Advantage is that by covering the thematic reporting requirements, basic INSPIRE requirements are also covered

# CDDA Extension of PS



# CDDA Extension of Codelists



# CDDA Codelist Info Upload

