



In situ

INScope

How can INSPIRE contribute to the Copernicus in situ component?

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C o p e r n i c u s

- Copernicus is a European Union Programme aimed at developing European information services based on satellite Earth Observation and in situ (non-space) data.

- Six main thematic areas:

For INSCope → CLMS & CEMS

- In situ data (ground based data) are an essential and integrated part of Copernicus.
- to provide robust integrated information and to calibrate and validate the data from satellites.



Atmosphere
(CAMS)



Marine
(CMEMS)



Land
(CLMS)



Climate
(C3S)



Emergency
(EMS)



Security



In Situ





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Main objectives ...

The main objectives of this study are to:

- Identify currently published INSPIRE data sets that meet the Copernicus in situ data needs, based on the requirements for the Copernicus Land Monitoring Service (CLMS) and Copernicus Emergency Management Service (CEMS);
- Identify possible barriers and gaps that may limit Copernicus Services' application of INSPIRE;
- Assess if these barriers may be overcome alongside the continued implementation of INSPIRE;
- Propose possible measures for expanding and improving the Copernicus' use of INSPIRE capacities.



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General key facts ...

- INSPIRE and Copernicus share key requirements
- INSPIRE defines the infrastructure, but doesn't provide the data
- Copernicus is a data producer and user
- Implementing INSPIRE takes more the 10 years, expected to be ready for most of the data in 2020
- A key issue is alignment to achieve interoperability.



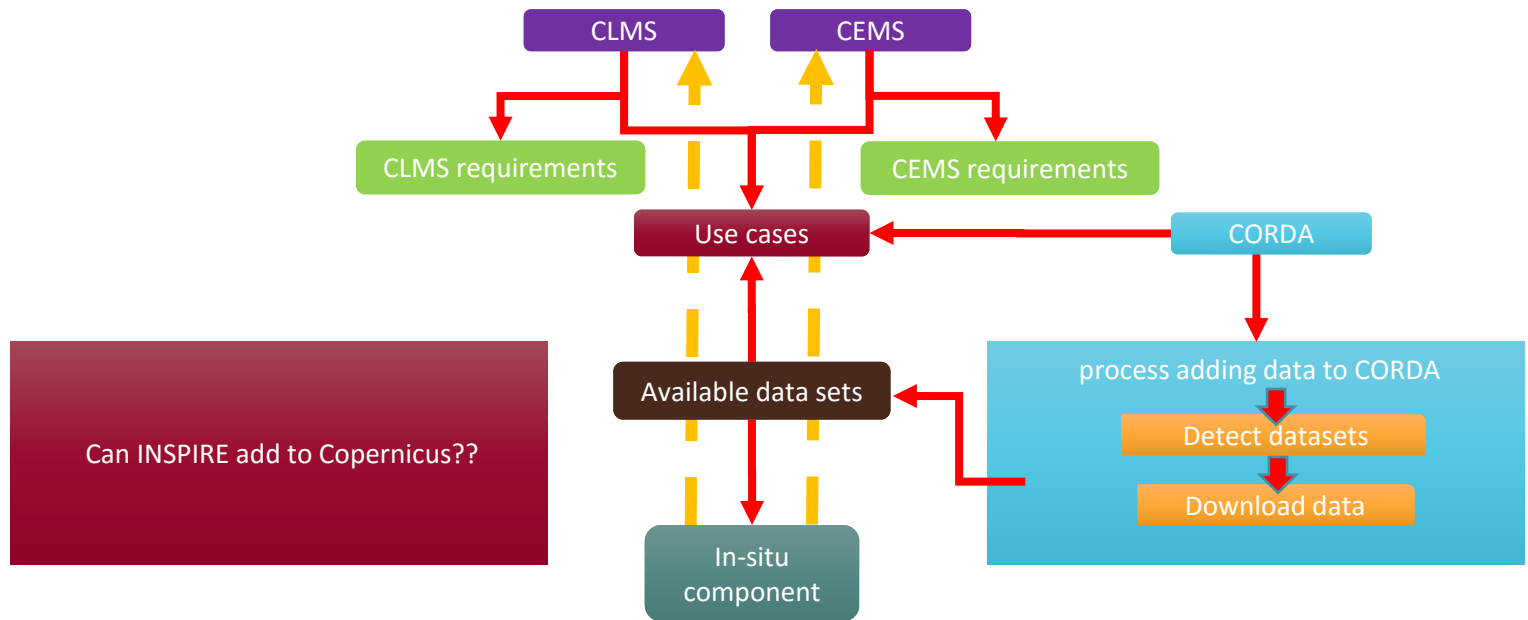
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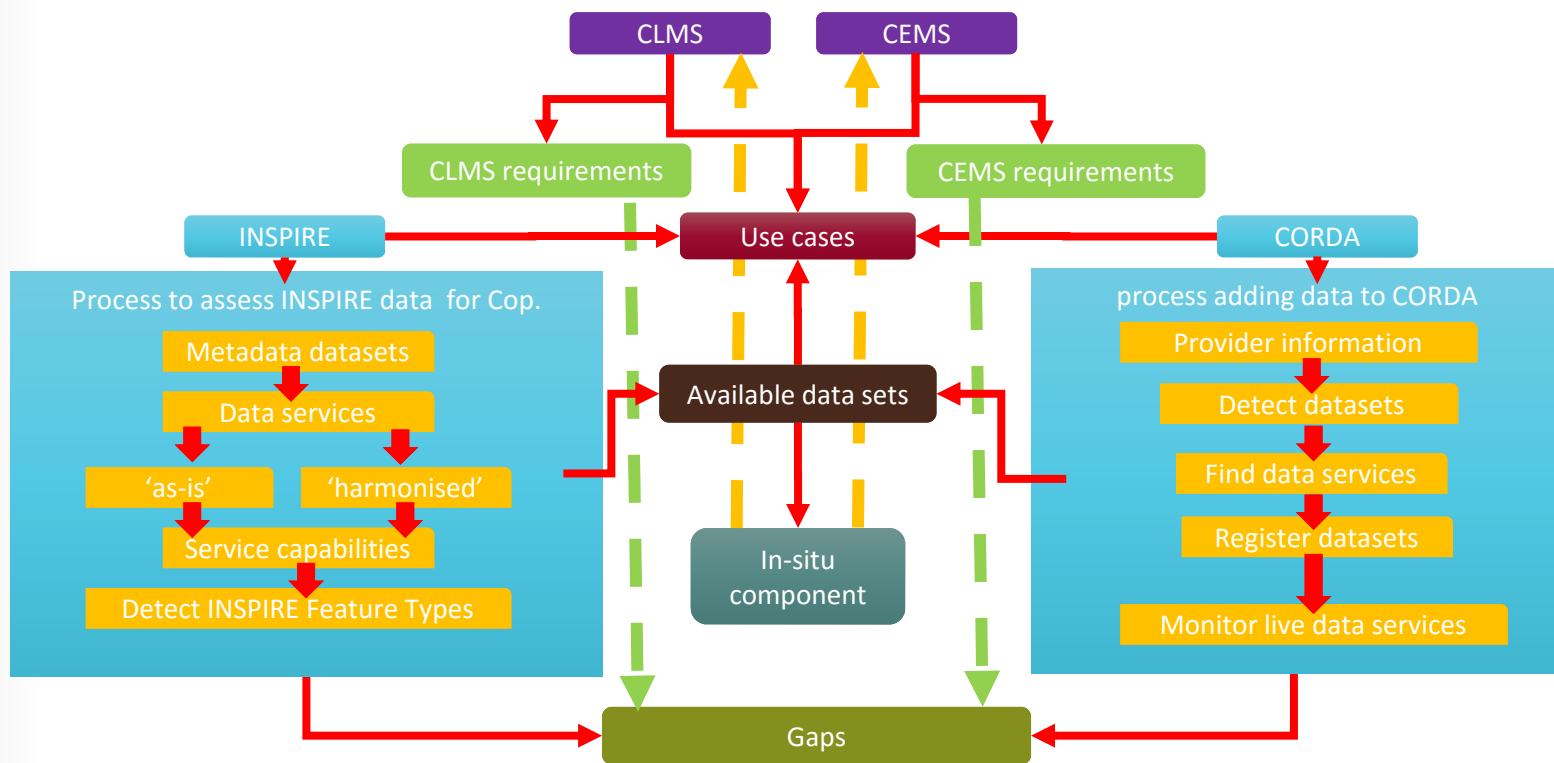
INScope methodology ...





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INScope methodology ...



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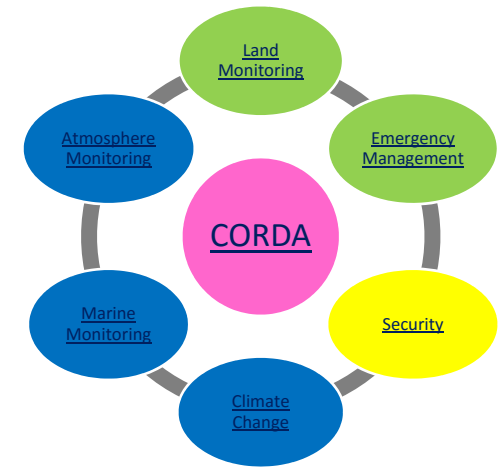




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The purpose of CORDA

- Copernicus Reference Data Access (a data catalogue):
 - Single entry point node.
 - National and regional geospatial data digitally available across Europe.
 - Index of URLs to the relevant reference data for Copernicus services.
 - Restricted to access by Copernicus services providers.
 - High accessibility
 - High reliability, efficiency and sustainability through centralization
 - Simplicity of use



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The purpose of CORDA

Concepts of work

Provider



National
Geographic
Institute

Dataset



Topographic Map
Scale 1:25.000

Resources



WMS

WMTS

SHAPE



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The purpose of CORDA

CORDA approach: Data location

Working



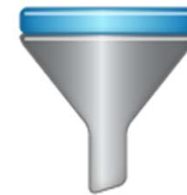
CORDA provide the (url) link to SDS, checking that they are online and working, avoiding broken and old links.

Latest additions



The system also informs us of the latest additions to the universe of data.

Filter



It eases the location of data by filtering



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European
Commission



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What can INSPIRE add?



- We did an analysis on the current state of INSPIRE





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The current state: INSPIRE Analysis

- Objective: Perform an end-to-end data usability assessment for selected Use Cases from LMS and EMS
 - Discovery
 - Compliance
 - Coverage
 - Quality
- Methodology (strict):
 - Discovery via the central INSPIRE catalogue
 - Analysis of metadata
 - Analysis of service capabilities
 - Analysis of download content and coverage



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Requirements - Details

Protected Sites (I)

Relatively simple

- Completeness
- Geometry
- Scale 1:25.000

Land Cover (II)

Many implementation options

- Completeness
- Geometry
- Scale 1:50.000

Buildings (III)

Moderate Complexity

- Completeness
- Geometry
- Scale 1:10.000



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Detailed Methodology

- Get all Metadata entries from INSPIRE Geoportal CSW
 - Select metadata entries for a specific INSPIRE Theme
 - Select by hierarchy level
 - Select data sets that declare conformity to INSPIRE Data Specification
 - » Filter for service-metadata that operates on dataset metadata
 - Filter service metadata for download services
 - Select download services that declare conformity to Network Services Specification
 - GetCapabilities of download service (WFS Capabilities/Atom Feed)
 - Detect INSPIRE Feature Types
 - Count Features, calculate spatial coverage
 - Analyse schema and validator compliance



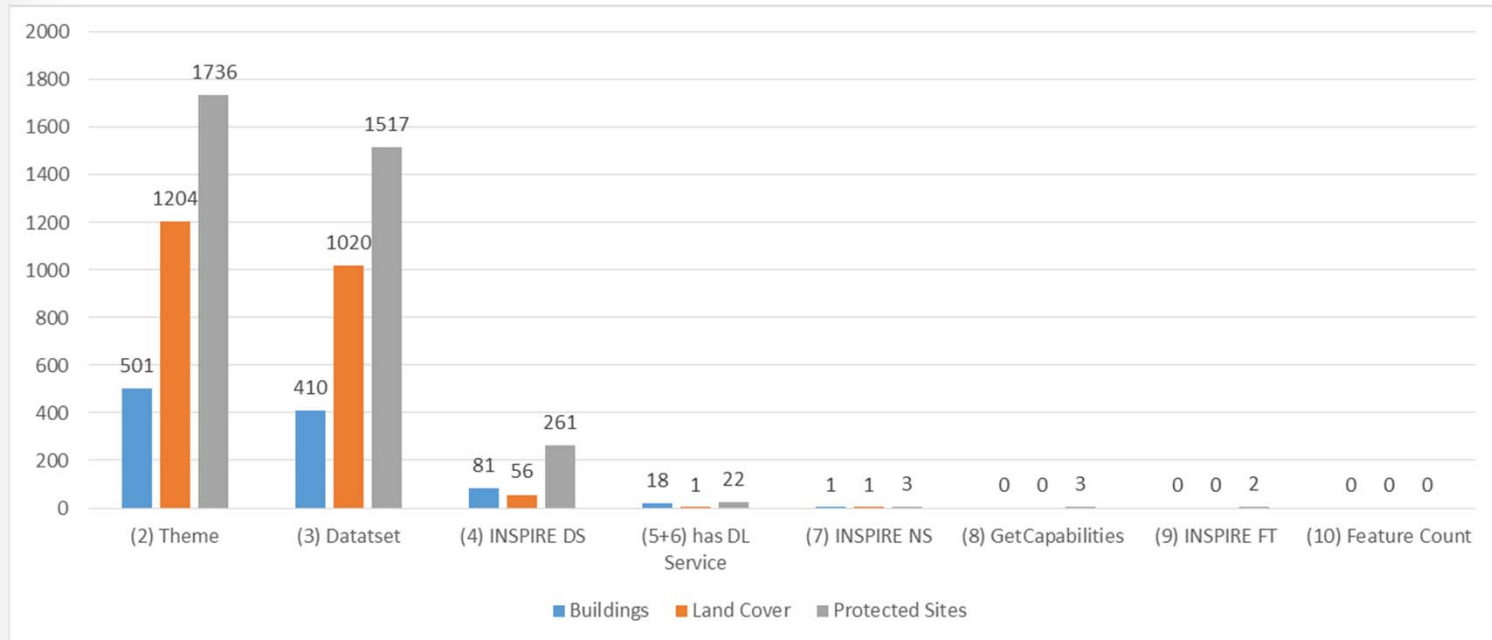
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Results: Overview



Number of data sets passing each analysis phase (*strict*)





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Conclusions

1. In a strict analysis, there are 0 fully compliant DS/NS combinations for the three analysed themes.
2. Discovery process is relatively long and brittle
 1. Use technical identifiers for compliance keywords
 2. Metadata Resources are non-navigable
3. Only few data sets / services declare compliance to DS and NS
4. Only a part of the metadata reflect currently available resources



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Feedback in the workshop

- More specific requirements are needed, show examples
 - Fit for purpose: 'the right quality for the intended use!'
- Harmonisation is
 - Technical → standards and technical specs
 - Semantical → Data specs (structured/modelled) and used classifications
 - Geometric → aligned and Coordinate reference systems
- More collaboration on harmonised classifications
 - It is an organisational a challenge beyond INSPIRE (ELS-like initiatives are needed for this)
- OSM compared to mapping authorities
 - Release of data from mapping authorities is not easy ('it is not ready yet')



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Feedback in the workshop

- Improve and align metadata (content wise)
 - Avoid textual inconsistencies
 - Use common names (controlled vocabularies)
- More 'custom' search is needed (new INSPIRE 'viewer' in development)
- Improve availability and performance → Use cloud technology and parties dedicated 'to the job'
- Copernicus is a major user of INSPIRE
- Will INSPIRE improve the use of Copernicus in-situ?
 - Yes, but we are not there yet!!



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Question for you:
Are these 'add-ons' for use of INSPIRE?

Do you have questions for us?

