



MIWP Action 1.1 - Towards a digital ecosystem for the environment and sustainability



68th MIG-T meeting, 4 February 2022

Structure

- 1) INSPIRE Good Practices – status update
- 2) Emerging approaches for data sharing in Europe
- 3) JRC Science for Policy report
- 4) Conceptual integration of INSPIRE datasets and services with GAIA-X



European Commission

Good Practices

INSPIRE KNOWLEDGE BASE
Infrastructure for spatial information in Europe

English (en)

Search...

European Commission > INSPIRE > Toolkit > Good Practice Library

Home Learn Implement Participate Use Toolkit

Quick search

- Data and Service Sharing
- Data Specifications
- Implement
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- INSPIRE in your Country
- Learn
- Maintenance and Implementation
- Metadata
- MIG Work Programme
- Monitoring and Reporting
- Network Services
- Participate
- Spatial Data Services
- Use

Good Practice Library

Good Practice documents

Candidate	Endorsed
Building one access point to dispersed data sources	GeoDCAT-AP
Making spatial data downloadable via WMS services	SDMX for Human Health and Population Distribution
	OGC API - Features as an INSPIRE download service
	OGC SensorThings API as an INSPIRE download service
	OGC compliant INSPIRE Coverage data and service implementation

Good Practice Template

[Download Template](#)

Context

The development of INSPIRE foresaw the creation of an initial set of legally-binding Implementing Rules (IRs) and Technical Guidelines (TGs). As technology evolved since INSPIRE's creation and as experience is being gained through the implementation process, the need for new TGs emerged (e.g. for download services for observations and coverages), alongside a range of related tools that can maximise the benefits of the implementation process. These were developed in 2015 and 2016 under dedicated actions under the Maintenance and Implementation Work Programme.

At the same time, in the Thematic Clusters discussion forums, good practices for specific implementation issues (e.g. how to create persistent identifiers), opportunities offered by emerging technologies and standards (e.g. Vector Tiles, OGC SensorThings API) or extensions/profiles for specific application domains are being shared and discussed. Also, work in Member States, by solution providers or in research projects often yield interesting results that implementers in other Member States could benefit from.



Validation of OGC API-Features instances

European Commission | EN English | Search

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INSPIRE Reference Validator - Test selection

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

<https://inspire.ec.europa.eu/validator>

Configure your test

Select the INSPIRE resource you would like to test

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

Select the Download Service type

- Web Feature Service (WFS)
- Pre-defined Atom
- Sensor Observation Service (SOS)
- Web Coverage Service (WCS)
- OGC API - Features

Advanced options ^

Select the conformance classes to be assessed

- Conformance Class 'OGC API - Features' ([source](#))

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INSPIRE Validator - Test reports

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Test run on 08:53 - 02.02.2022 with test suite Conformance Class OGC API - Features

	Total Count	Skipped	Failed	Warnings	Manual
Status	Failed				
Started	02/02/2022 07:57:08 GMT				
Duration	4 s				
Test suites	1	0	1	0	0
Test modules	2	0	2	0	0
Test cases	31	19	2	0	0
Test steps	46	26	2	0	0
Assertions	0	0	0	0	0

Show: All Only failed Only manual | Level of detail: All details Less information Simplified

OGC API - Features Conformance Test Suite Failed: 2/2

This executable test suite (ETS) verifies that an OGC API - Features instance conforms to <http://docs.openeospatial.org/is/17-069/3/17-069/3.html> [OGC API - Features - Part 1: Core] (OGC 17-069/3), <http://docs.openeospatial.org/is/18-058/18-058.html> [OGC API - Features - Part 2: Coordinate Reference Systems by Reference] (OGC 18-058) and related standards. Conformance testing is a kind of "black box" testing that examines externally visible characteristics or behaviors of the SUT and is independent of any implementation details.

This Executable Test Suite is executed using a remote TEAM Engine instance hosted by OGC for their Compliance Program (CITE). The results are transformed into the ETF internal report format. Some information that is typically included in ETF test results is not included in the TEAM Engine reports and cannot be included in this test report.

Please report any issues or problems with the OGC CITE tests in the [OGC Compliance Forum](#).

Status: Failed
Duration: 4 s
Version: 1.0.0

Core Failed: 1/12

Status: Failed
Duration: 4 s

- [+ org.opengis.cite.ogcapifeatures10.conformance.core.collections.FeatureLimit](#) 3
- [- org.opengis.cite.ogcapifeatures10.conformance.core.collections.FeatureCollections](#) 9
- [+ org.opengis.cite.ogcapifeatures10.conformance.core.collections.Features](#) 6

Initiated good practices

- 1) Building one access point to dispersed data sources
- 2) Making spatial data downloadable via WMS services

- **What is new?**

- Extensive documentation for reproducibility with different solutions released on GitHub
- **Webinar: Pushing WMS services to their limits - Smart solutions as candidate INSPIRE Good Practices**, Tuesday, February 8, 2022 - 14:00 to 15:30

<https://inspire.ec.europa.eu/events/webinar-pushing-wms-services-their-limits-smart-solutions-candidate-inspire-good-practices>

GeoPackage

For information (from the EEA END reporting activities):

GP proposal: GPKG alternative encoding of INSPIRE data

- By the end of February final draft of the **UML to GeoPackage encoding guidelines** will be shared in the [INSPIRE-MIF/gp-geopackage-encodings](https://github.com/INSPIRE-MIF/gp-geopackage-encodings) GitHub repository for discussion.
- Strategic Noise Maps (reporting due by 31/12/2022) will be delivered according to INSPIRE-based data model and in **END GeoPackage format**, following the guidelines developed for that purpose.

Documentation available at: <https://www.eionet.europa.eu/reportnet/docs/noise>

STAC in INSPIRE?

- Standardized way to expose collections of spatial temporal data
- Data are considered as assets, e.g.
 - Point clouds, data cubes, multispectral imagery, videos, etc.
- STAC facilitates indexing and discoverability
- Encoded as JSON



Multiple STAC implementations are available

STAC users

<https://stacspec.org>



STAC in INSPIRE?



- STAC in INSPIRE?

- A possible INSPIRE approach for implementing a predefined access download service

Activities:

- Mapping between the NS Regulation operations and the STAC Specifications
- Collection of use cases and implementations

- Let us know if you are interested in working on a GP!



Emerging Approaches for Data-driven Innovation in Europe

*Sandbox experiments on the
governance of data and
technologies*

Pool of experts



Results

- JRC Technical Report
- GitHub repositories with data and code

<https://publications.jrc.ec.europa.eu/repository/handle/JRC127730>





INSPIRE – A public contribution to the European Green Deal Data Space

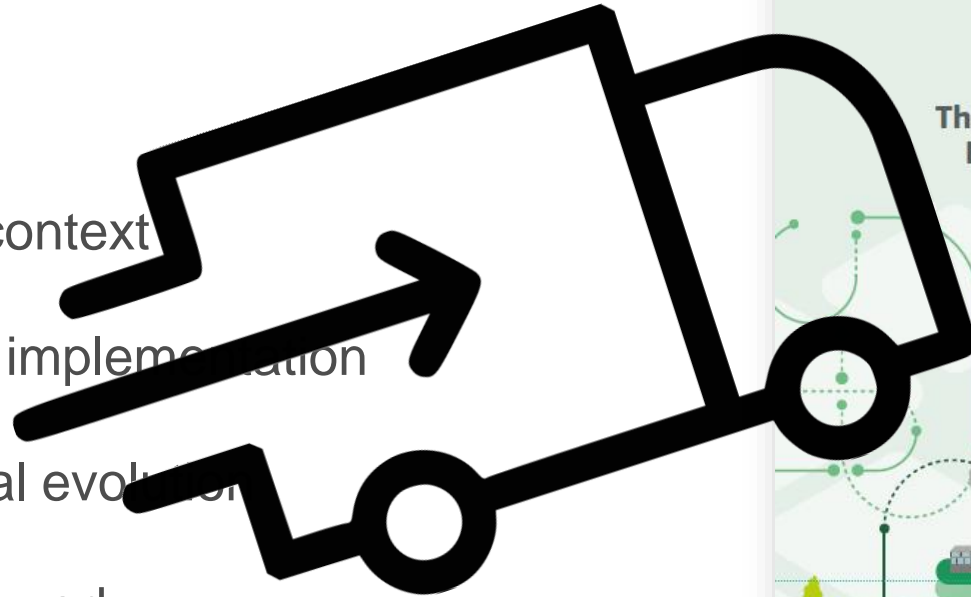
JRC Science for Policy Report



JRC Science for Policy Report

- Contents

- State of play
- Policy and technological context
- Lessons learned from the implementation
- Vision for the technological evolution
- Prototype reference framework
- Actions and roadmap



<https://publications.jrc.ec.europa.eu/repository/handle/JRC126319>



Conceptual integration of INSPIRE datasets and services with GAIA-X



GAIA-X and INSPIRE

Implemented with Fraunhofer IOSB

Objective: Hands-on evaluation of the GAIA-X architecture in the context of a relevant INSPIRE use case

Tasks:

- 1) Shortlist and prioritise INSPIRE use cases, incl. the necessary datasets and services
- 2) Mandatory and optional steps for implementing the selected use case
- 3) Conceptual implementation, incl. the necessary artefacts
- 4) Summary of the activities and steps towards a prototypical implementation
- 5) Webinar

Identified use cases

- API4INSPIRE project
 - Cross-border (FR, DE) and cross-domain datasets in the Rhine watershed
 - Smart Transport in the city of Hamburg
- GeoE3 CEF project
 - Optimising the heating and cooling system of a buildings
 - Analysing the efficiency of expansion of urban land
 - Co-operative Intelligent Transport Systems

Possible benefits for INSPIRE

- **Identity and trust → Authenticity of INSPIRE Data**

- Is the publisher valid and the self-description (SD) truthful?
- Is the SD published by the publisher?

- **Federated Catalogue**

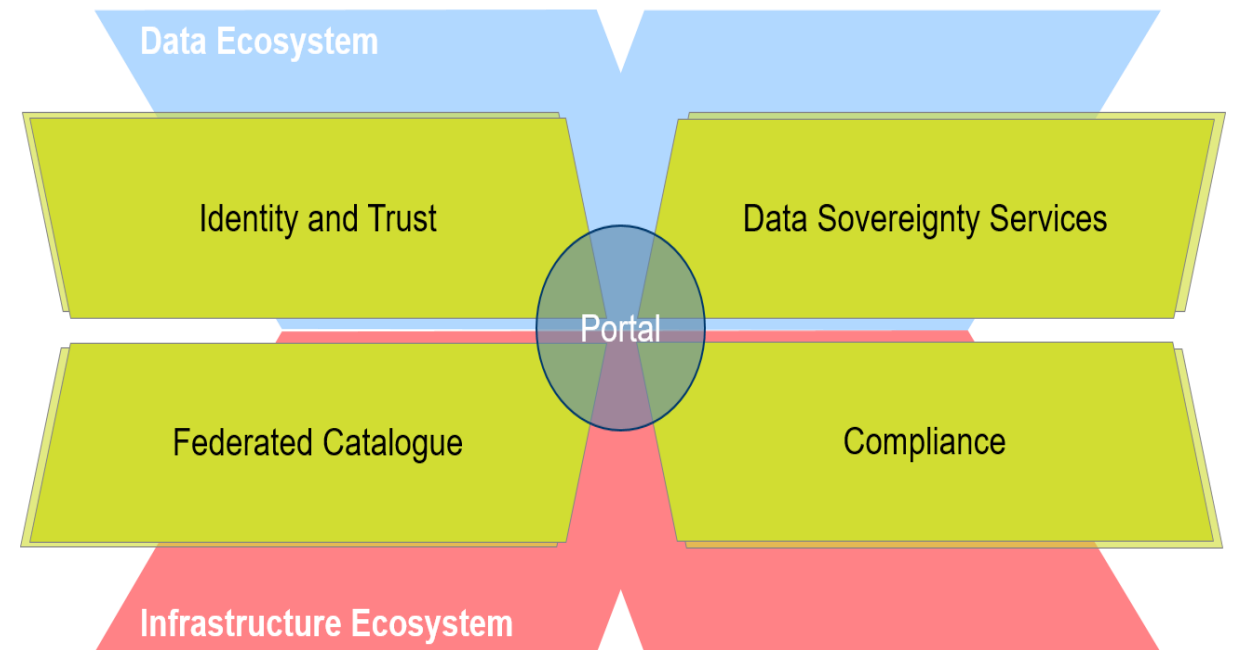
- Offer INSPIRE data within GAIA-X
- Finding data & publishers

- **Compliance**

- Gaia-X rules
- Is the self-description valid
- Is the self-description correct

- **Data Sovereignty**

- Is data used according to the license
- Compute-to-Data



Thank you



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