



INSPIRE Good practices

OGC API – Features

OGC SensorThings API



12th MIG Meeting, 26-27 November 2020

INSPIRE Good practices

- Fully community-driven approach
- Fast track to development and endorsement of new technical approaches
- Implementation evidence is needed
- Updated Good Practice library available
- Procedure for endorsement
 - *Step 1. Initiation*
 - *Step 2. Submission as good practice candidate*
 - *Step 3. Outreach*
 - *Step 4. Submission*
 - *Step 5. Feedback*

The screenshot displays the INSPIRE Knowledge Base website. At the top, there is a navigation bar with the European Commission logo, the text 'INSPIRE KNOWLEDGE BASE', and a search bar. Below this is a secondary navigation bar with links for 'Home', 'Learn', 'Implement', 'Participate', 'Use', and 'Toolkit'. A 'Quick search' sidebar is visible on the left, listing various categories like 'Data and Service Sharing', 'Data Specifications', 'Implement', 'INSPIRE', etc. The main content area is titled 'Good Practice Library' and features a table of 'Good Practice documents'. The table has two columns: 'Candidate' and 'Endorsed'. One document, 'SDMX for Human Health and Population Distribution', is listed as a candidate, while 'GeoDCAT-AP' is listed as endorsed. Below the table, there is a 'Good Practice Template' section with a 'Download Template' button. The 'Context' section provides detailed information about the development of INSPIRE, mentioning the creation of legally-binding Implementing Rules (IRs) and Technical Guidelines (TGs), and the role of the Maintenance and Implementation Work Programme. It also lists at least three types of good practice that can be observed: 1. Good practice related to INSPIRE implementation, 2. Good practice related to tools and techniques useful for INSPIRE implementation, and 3. Good practice related to technologies that build on top of INSPIRE.

Good practice candidates

- MIWP Action 2020.1
 - OGC API-Features as INSPIRE Download service
- Good practices candidates (pitched at the 63rd MIG-T meeting; 13-14 October 2020)
 - GP1. Building one access point to dispersed data sources
 - GP2. Making spatial data downloadable via WMS services
 - GP3. Coverage data and service implementation
 - GP4. SensorThings API as INSPIRE Download services



OGC API - Features

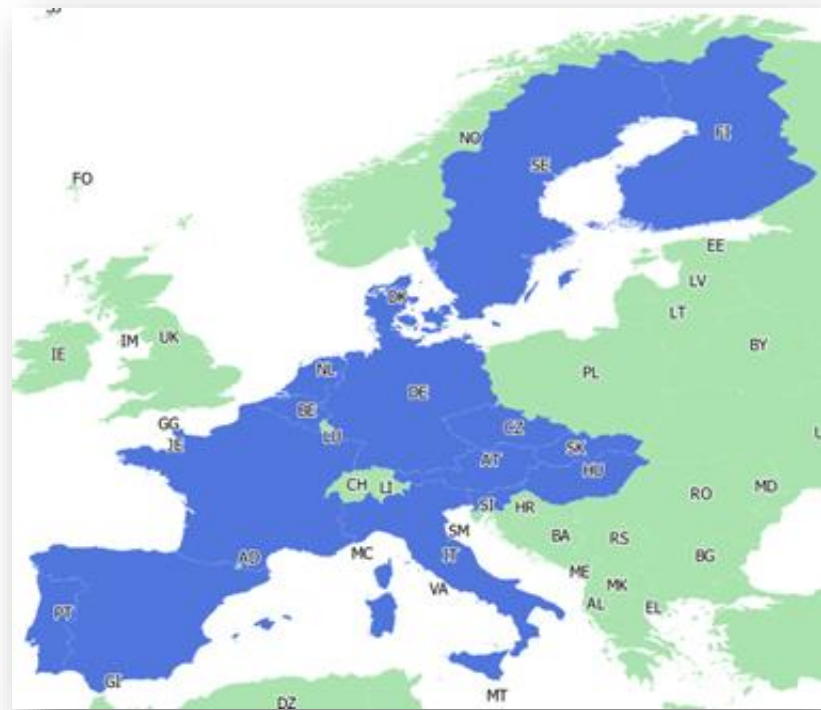


OGC API Features - Overview

- Fundamental **Web API building blocks** for interacting with features
- Meets expectations of **developers** today
- Leverages **mainstream IT** specifications and technologies including **OpenAPI**, easier to learn and use, faster to implement and deploy
- **Simplifies access** to geospatial data for those that are not experts
- Acknowledges the importance of **HTML**, APIs can be accessed in a **web browser**, no special client necessary to view the data
- Standard driven by validation through **early implementations**
- Development in an **open, inclusive process**

2020.1 group - overview

- Endorsed by the INSPIRE MIG in spring 2020
 - Short term action (Date of Completion: end of 2020)
 - Regular monthly meeting of the group
 - Attendees from 15 MS
- **In scope**
 - Prepare and submit for approval by the MIG an **INSPIRE good practice** dedicated to the use of the OGC API - Features as an INSPIRE Download service
- **Out of scope**
 - ETS covered separately (foreseen within the evolution of the INSPIRE Reference Validator)



Good practice on OGC API – Features in INSPIRE - Principles

OGC API - Features

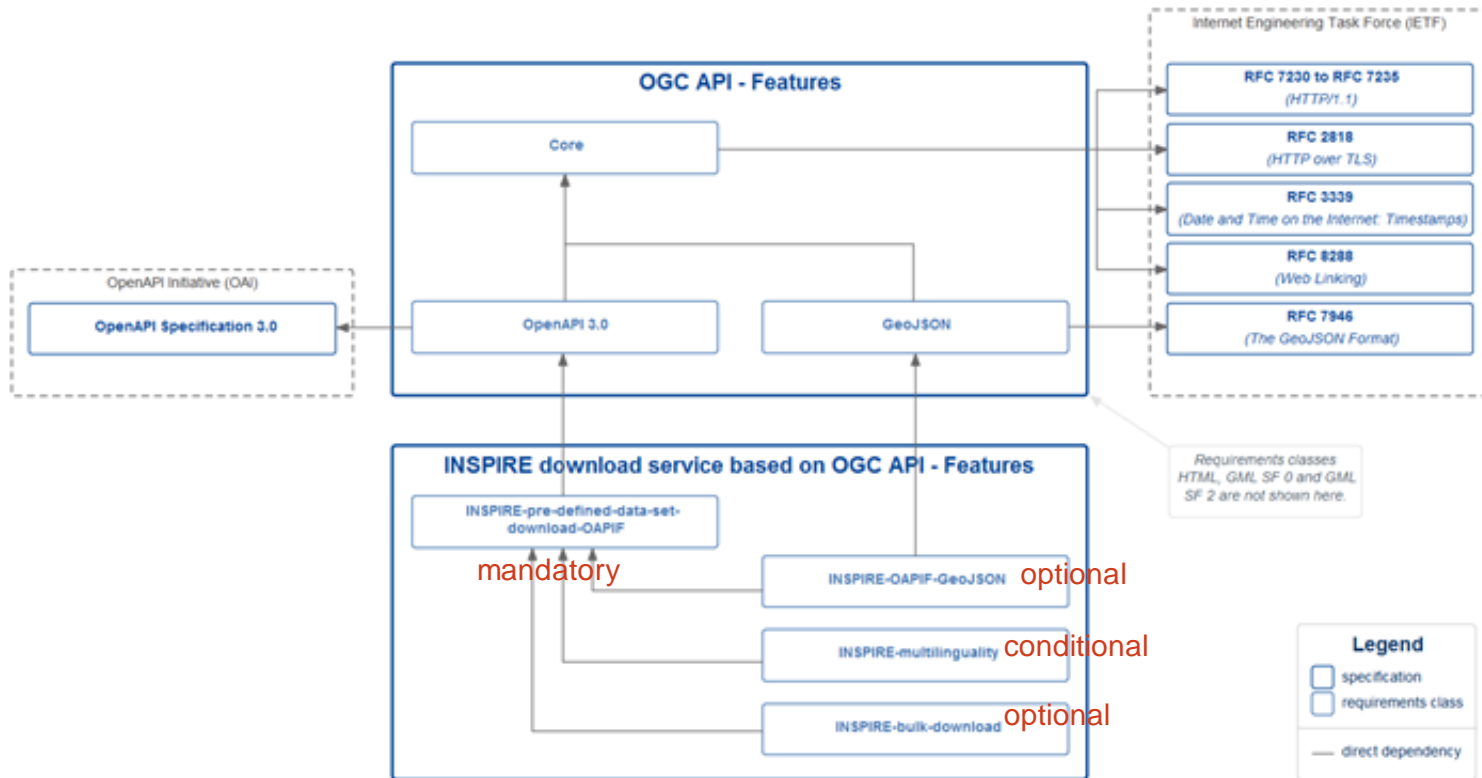
- A **Web API** provides data from one **data set**.
 - ! Data publishers often will need to provide more than one Web API
- A data set is structured into one or several **feature collections**.

INSPIRE

- No INSPIRE-specific extensions
- The composition of a data set is determined by the data publisher.
 - A data set can contain features belonging to different themes
- A feature collection contains features of only one feature type.

- Confirmed support by tools (client and server)

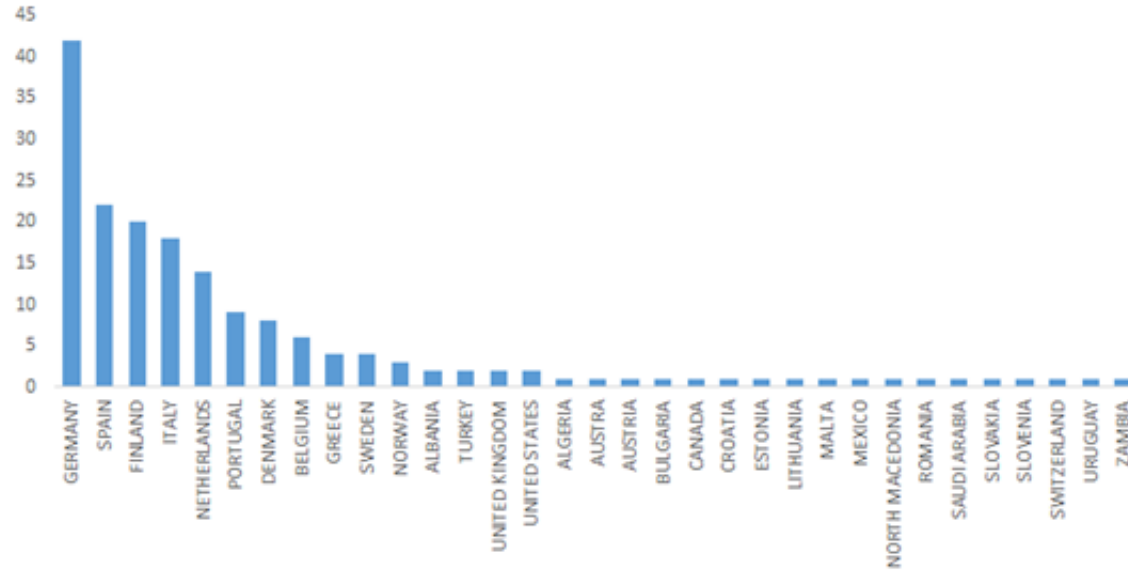
Requirements classes & dependencies



Outreach

<https://inspire.ec.europa.eu/events/webinar-ogc-api-features-inspire-download-service>

- Held on 6 November
- 185 Registered attendees
- Public sector bodies, academia and students, software companies
- 33 countries
 - Member States
 - ENPI and Candidate Countries
 - USA, Mexico, Saudi Arabia, Uruguay, Zambia, Canada



Deployments

- Weather observations from approximately 400 weather stations in Finland (FMI)
- Surface and groundwater (BRGM (Geological Survey) & OFB (Office for Biodiversity), France)
- Landing page for all OpenData-classified WFS-interfaces of the SDI Rhineland-Palatinate
- Geographic Names, Addresses, Buildings (NLS Finland)
- Protected sites (ISPRA Italy)
- Multiple data themes (NRW)

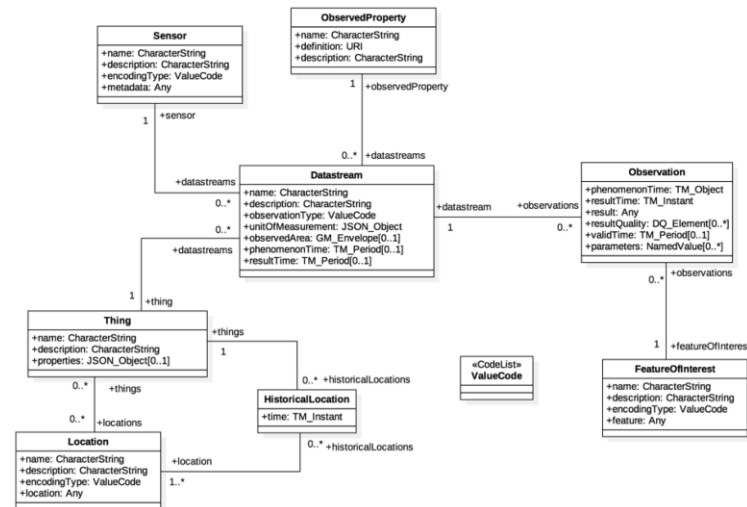


SensorThings API



SensorThings API

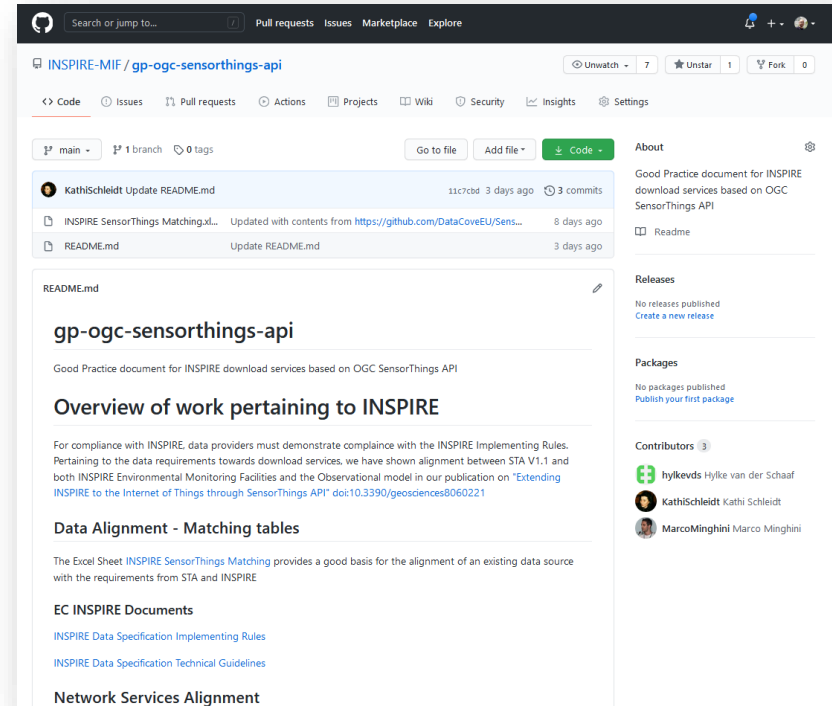
- OGC Standard since 2015, V1.1 update 2019
- Provides a powerful and simple means for exposing spatio-temporal data
- Can be used with sensor data (and beyond)
- Fit for multiple IoT use cases
- Synchronous and asynchronous transactions
- Very good client support
- Based on O&M Data model (ISO 19156)
- RESTful API following Oasis Odata V4.0
 - Allows powerful queries



Good practice on SensorThings API in INSPIRE

Mappings available for:

- STA specifications and the operations defined by the NS Regulation
- STA and both INSPIRE Environmental Monitoring Facilities and the Observational model
 - Unitizing the opportunities for extension defined in STA V1.1
- Implementation evidence

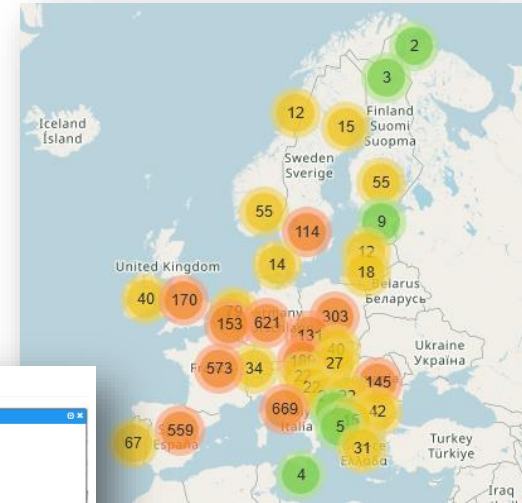
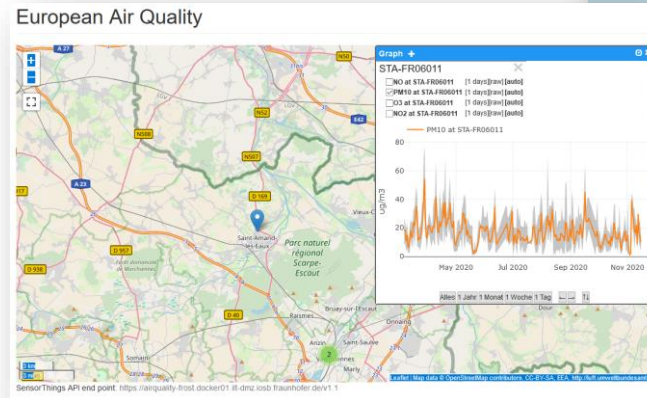


<https://github.com/INSPIRE-MIF/gp-ogc-sensorthings-api>

Outreach

- SensorThings API brings Dynamic Data to INSPIRE
- 80 registered attendees
- Two parts
 - Overview of STA in INSPIRE
 - Hands-on session
 - Deploying and interacting with the API

<https://joinup.ec.europa.eu/collection/elise-european-location-interoperability-solutions-e-government/document/presentation-sensorthings-api-brings-dynamic-data-inspire>



<https://datacoveeu.github.io/API4INSPIRE/>

Deployments

- Air Transport information complemented by meteorological data in Austria
- Urban Data Platform Hamburg:
 - Smart City Sensors together with road transport networks
- Franco-Germanic Flow: Cross-border water: surface & ground, quality & quantity, flood zones
- Covid ad-hoc:
 - Realtime air quality
 - Covid-19 case data
 - Background demography layer

Next steps

If the good practices are endorsed:

1. Validation of OGC API – Features & SensorThings API instances
 - Creation of ETS for the INSPIRE Reference validator
2. Uptake by data providers
3. Gradual evolution of the specification
 - Based on community demand
 - Entirely on GitHub

Thank you



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