INSPIRE Good practices

OGC API – Features
OGC SensorThings API

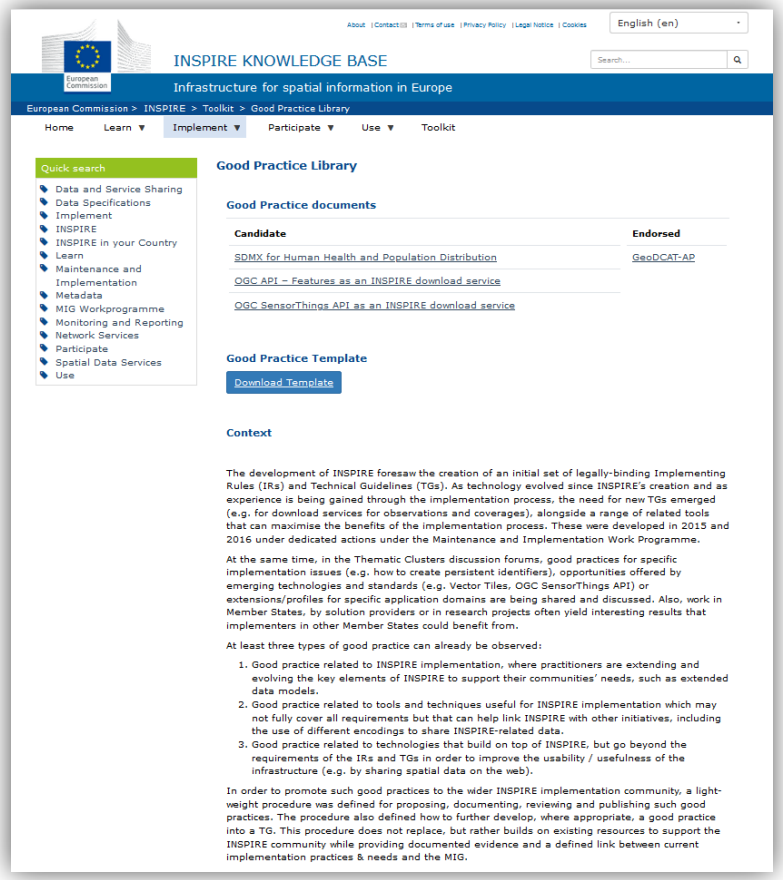
12th MIG Meeting, 26-27 November 2020

Joint Research Centre

https://inspire.ec.europa.eu/portfolio/good-practice-library

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
  - *Step1. Initiation*
  - *Step 2. Submission as good practice candidate*
  - *Step 3. Outreach*
  - *Step 4. Submission*
  - *Step 5. Feedback*



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**

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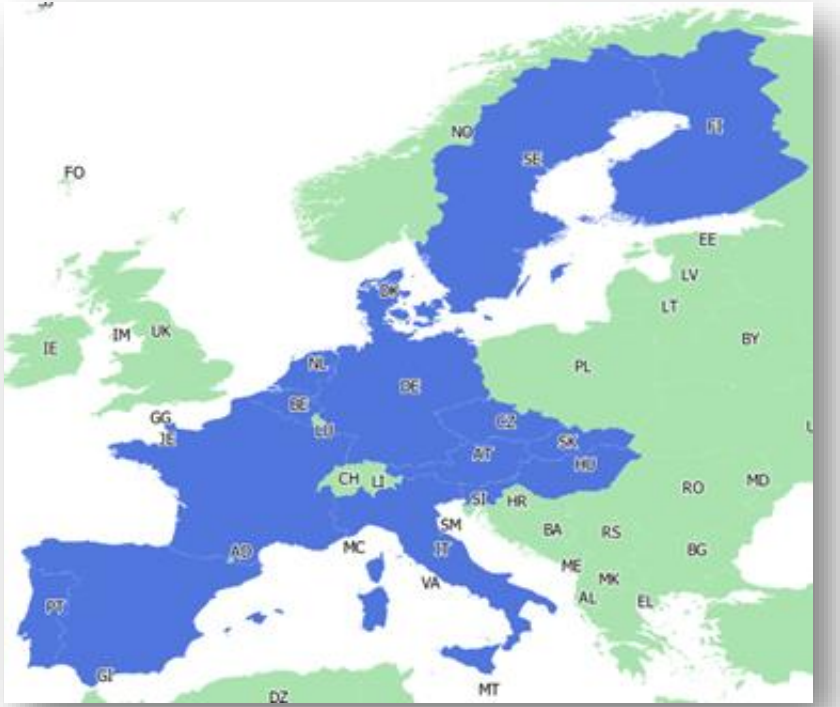
2020.1 group - overview

- 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)



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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)

https://github.com/INSPIRE-MIF/gp-ogc-api-features

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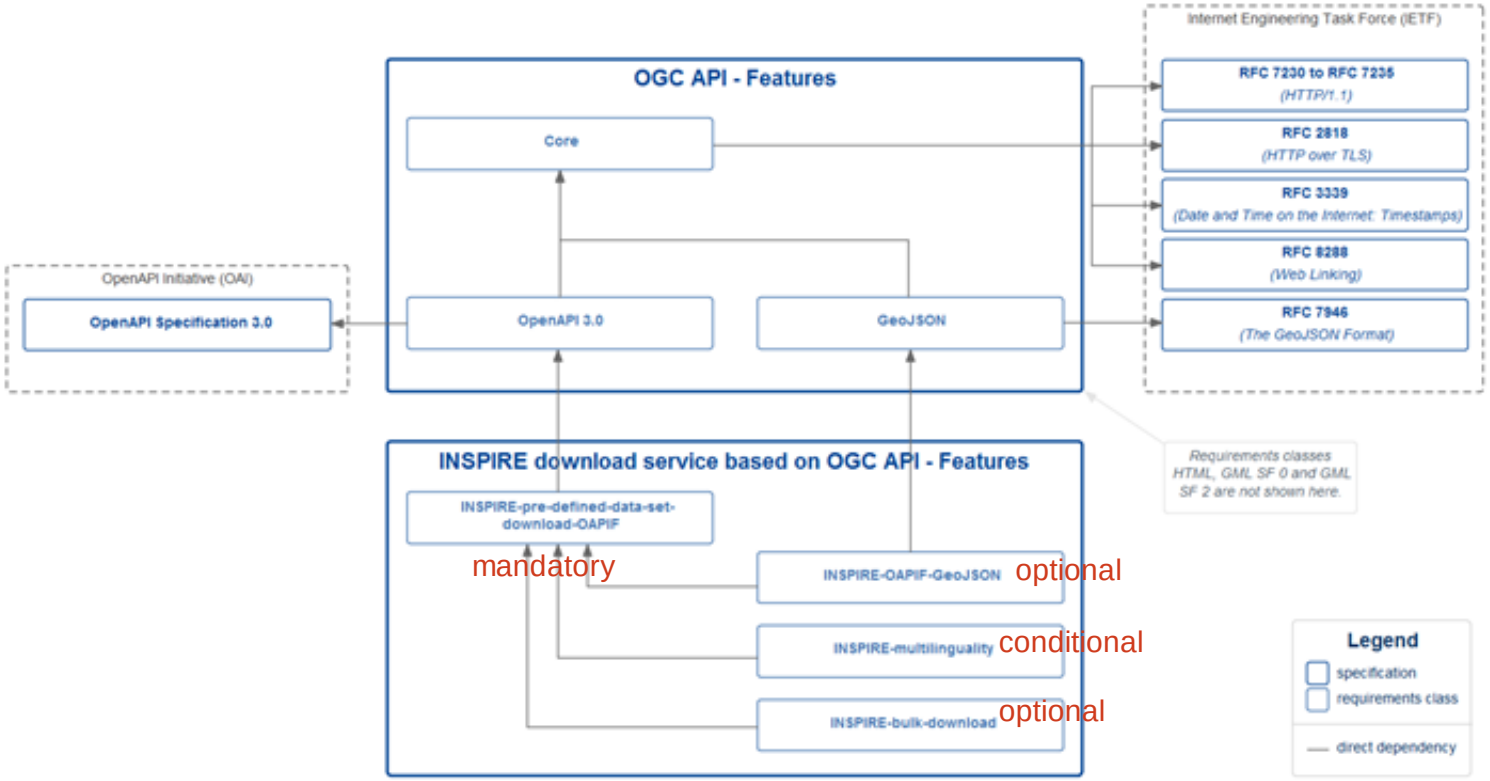
Requirements classes & dependencies



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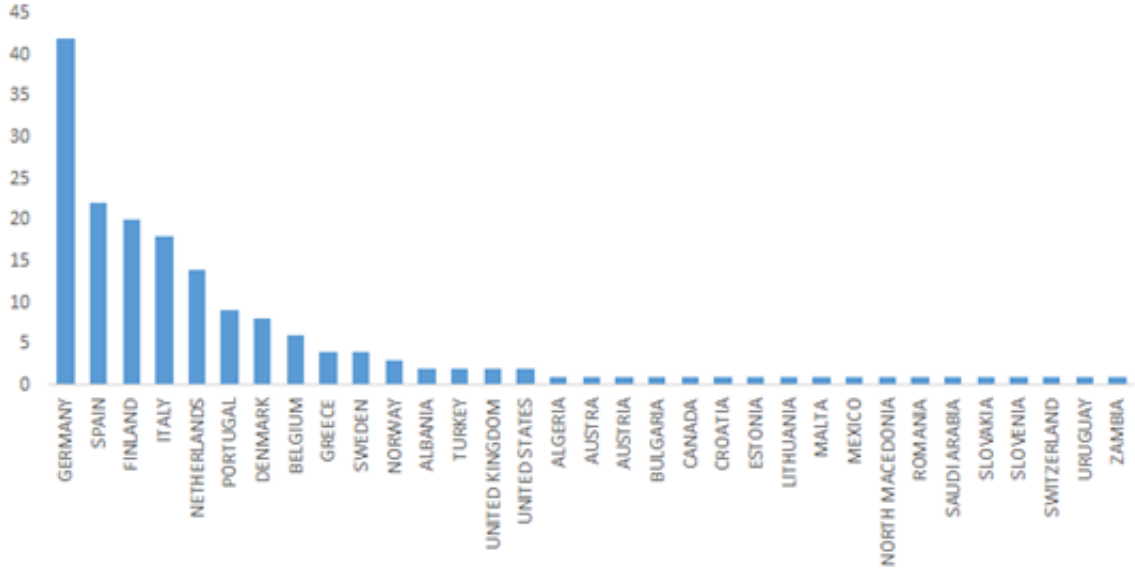
Outreach

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



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Deployments

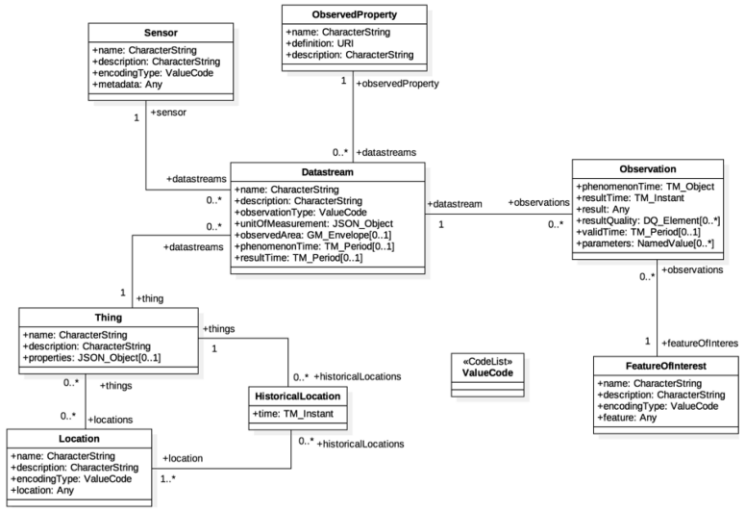
- Weather observations from approximately 400 weather stations in Finland (FMI)
- Surface and groundwater (BRGM (Geological Survey) & OFB (Office for Biodiversity), France)
- Landing page for all OpenData-classified WFS-interfaces of the SDI Rhineland-Palatinate
- Geographic Names, Addresses, Buildings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

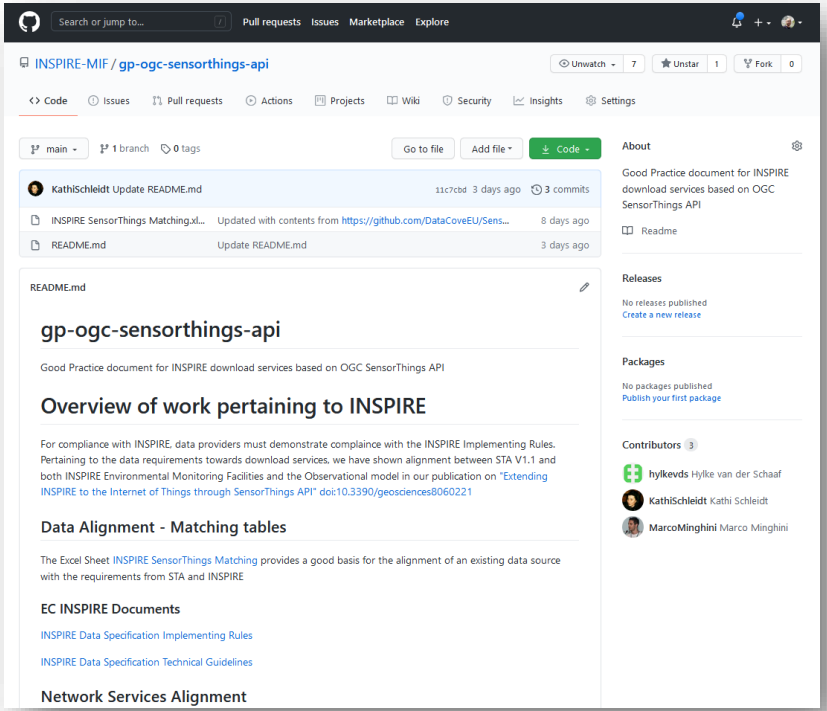
  Very good client support
- Based on O&M Data model (ISO 19156)
- RESTful API following Oasis Odata V4.0
  - Allows powerful queries



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

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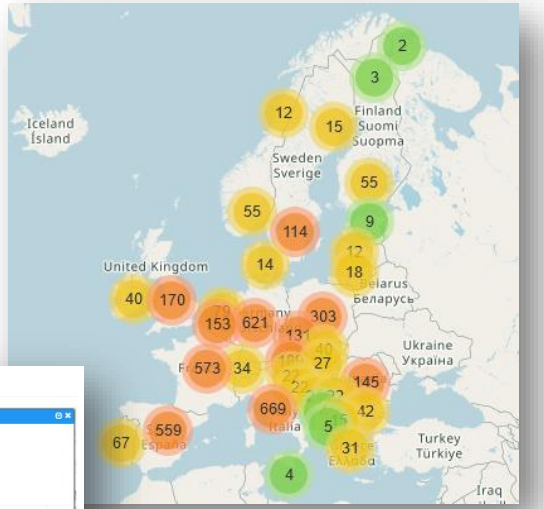
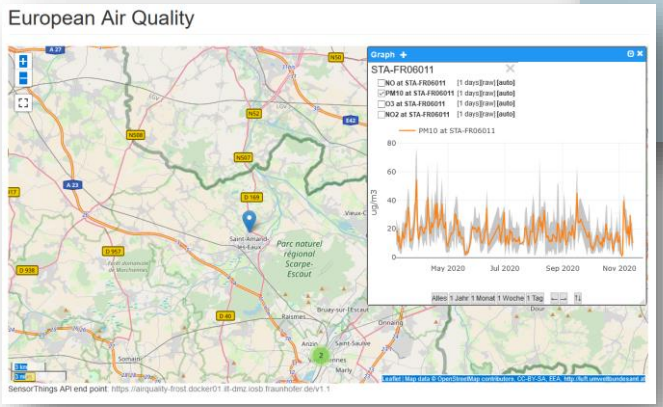
Outreach

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

- 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://datacoveeu.github.io/API4INSPIRE/

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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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