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

Structure

1) Status of INSPIRE Good Practices
2) JRC Pool of experts on data-driven innovation
3) JRC Science for Policy report

Good practices

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English (en)

INSPIRE KNOWLEDGE BASE

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Infrastructure for spatial information in Europe

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- 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 compliant INSPIRE Coverage data and service implementation	OGC API – Features as an INSPIRE download service
	OGC SensorThings API as an INSPIRE download service

Good Practice Template

Download Template

Context

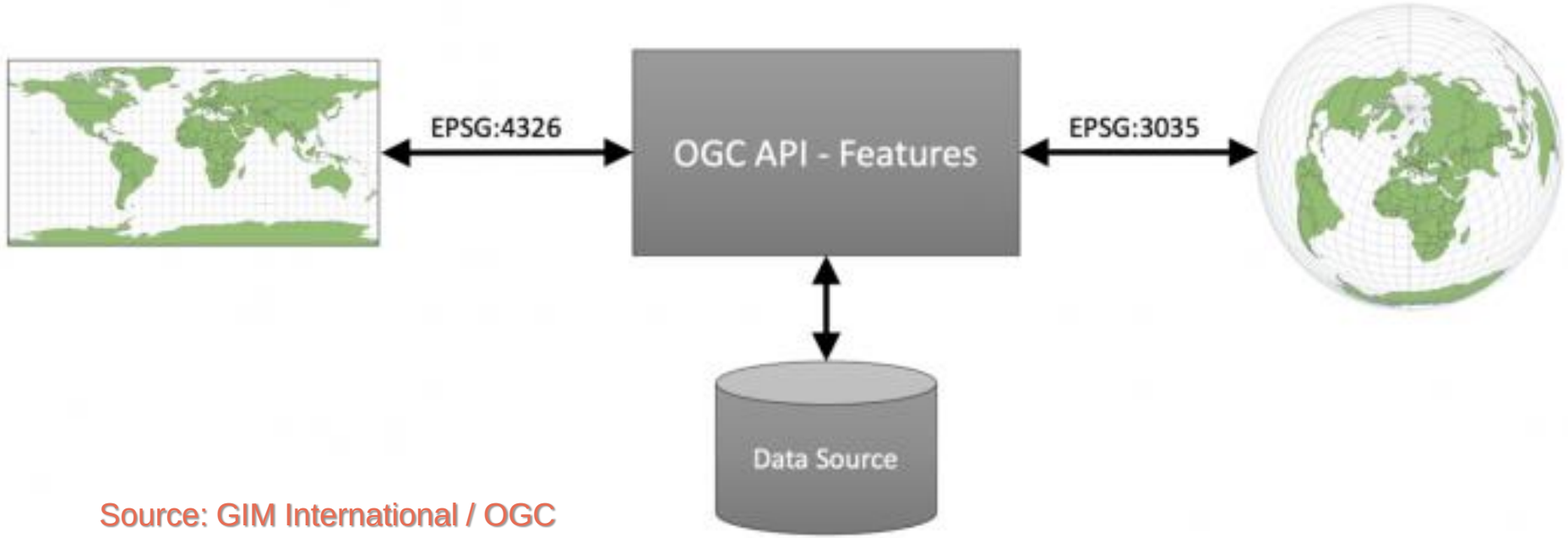
The development of INSPIRE foresaw the creation of an initial set of legally-binding Implementing Rules (IRs) and Technical Guidelines (TGs). As technology evolved since INSPIRE's creation and as experience is being gained through the implementation process, the need for new TGs emerged (e.g. for download 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.

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

OGC API-Features

- Endorsed by the 12th MIG meeting as an INSPIRE Good Practice
- Suggested amendments by the MIG:
  - Inclusion of options for CRS different from CRS84

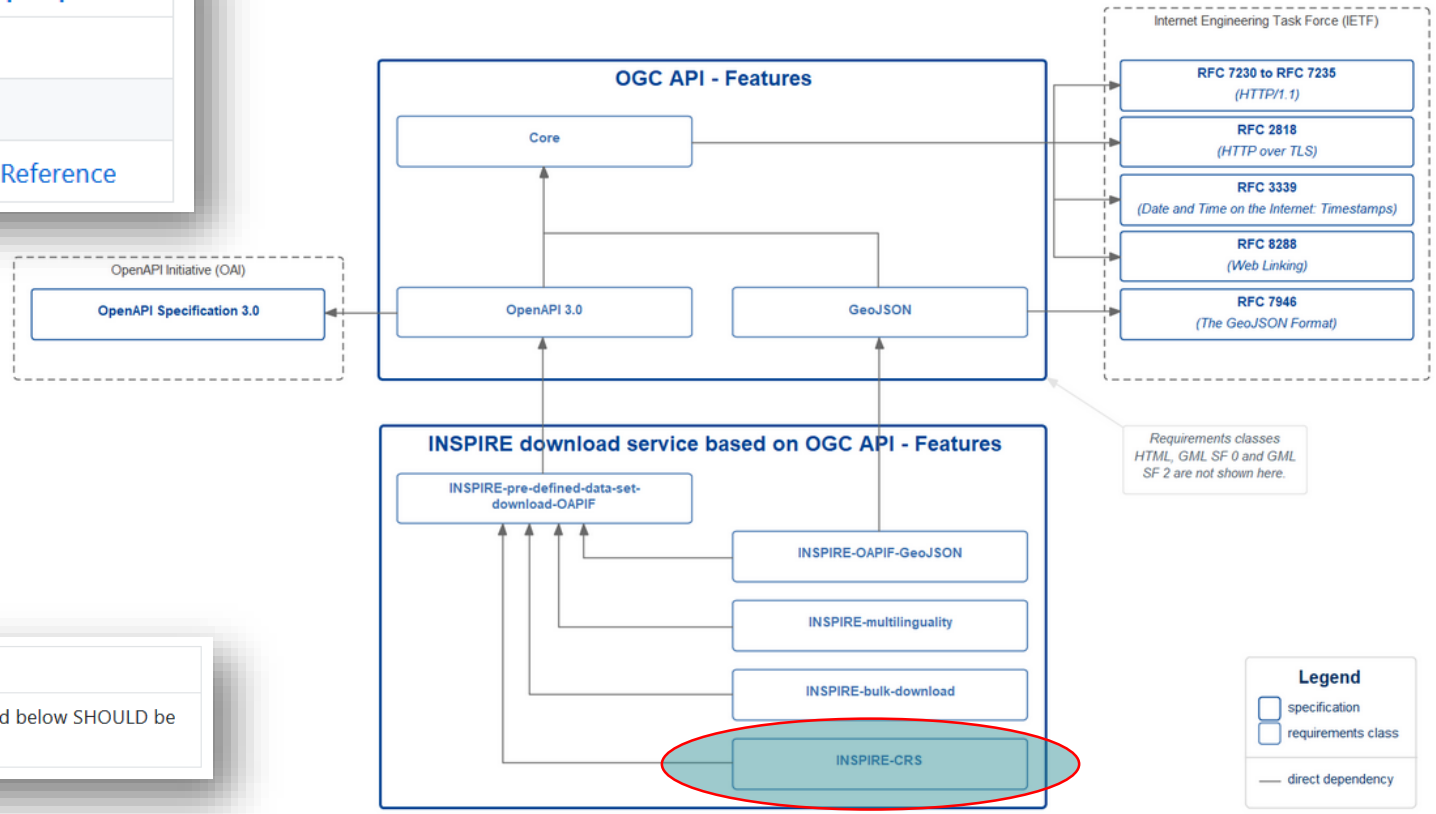


Source: GIM International / OGC

CRS for OGC API-Features in INSPIRE

- New requirements class: INSPIRE-CRS
- Validation in the reference validator (work in progress)

Requirements class	http://inspire.ec.europa.eu/id/spec/oapif-download/1.0/req/inspire-crs
Target type	Web API
Dependency	INSPIRE-pre-defined-data-set-download-OAPIF
Dependency	OAPIF requirements class Coordinate Reference Systems by Reference



Recommendation	/rec/inspire-crs/recognised-crs
A	For each feature collection in the API at least one of the coordinate reference systems (CRS) listed below SHOULD be included in the list of supported coordinate reference systems.

Good practices

1) INSPIRE Coverage data and service implementation

- Endorsed by the 12th MIG
- Legal scrutiny
- Validation
- Implementations

2) GeoPackage as INSPIRE data encoding

- Dedicated slot in today's agenda (17:00 - 17:30)

3) Proposed practices

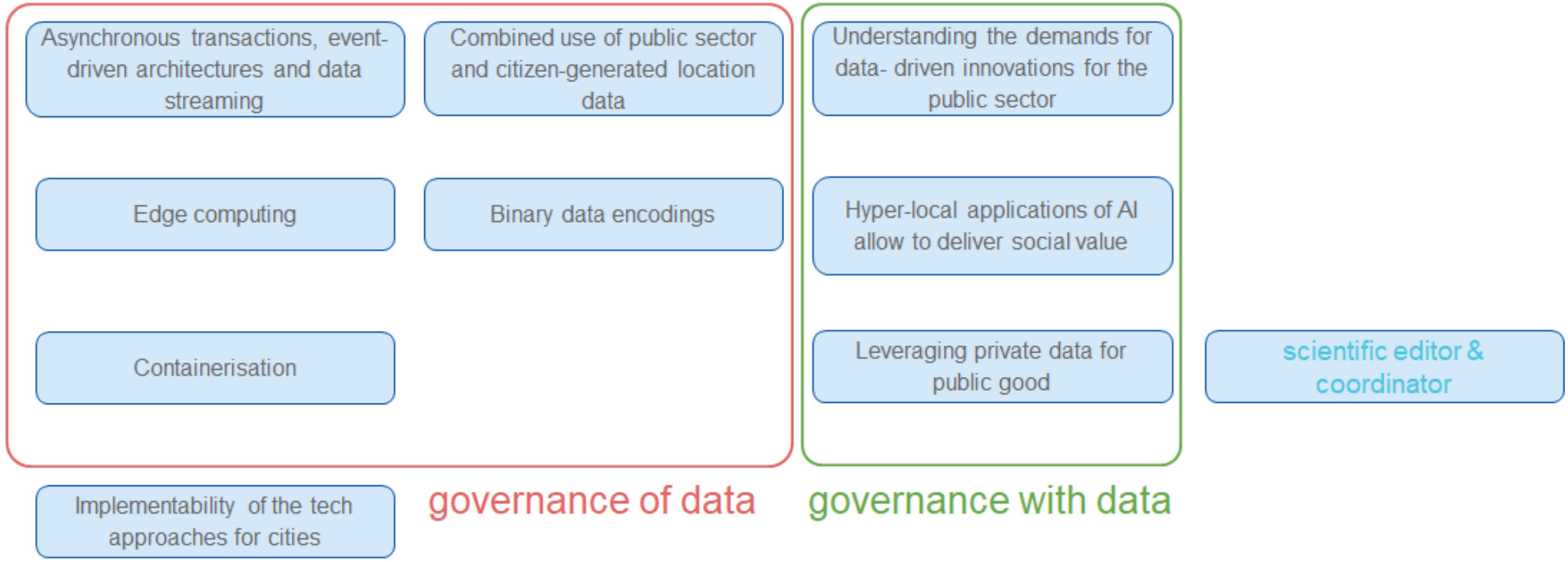
- Building one access point to dispersed data sources
- Making spatial data downloadable via WMS services

Pool of experts on data-driven innovation

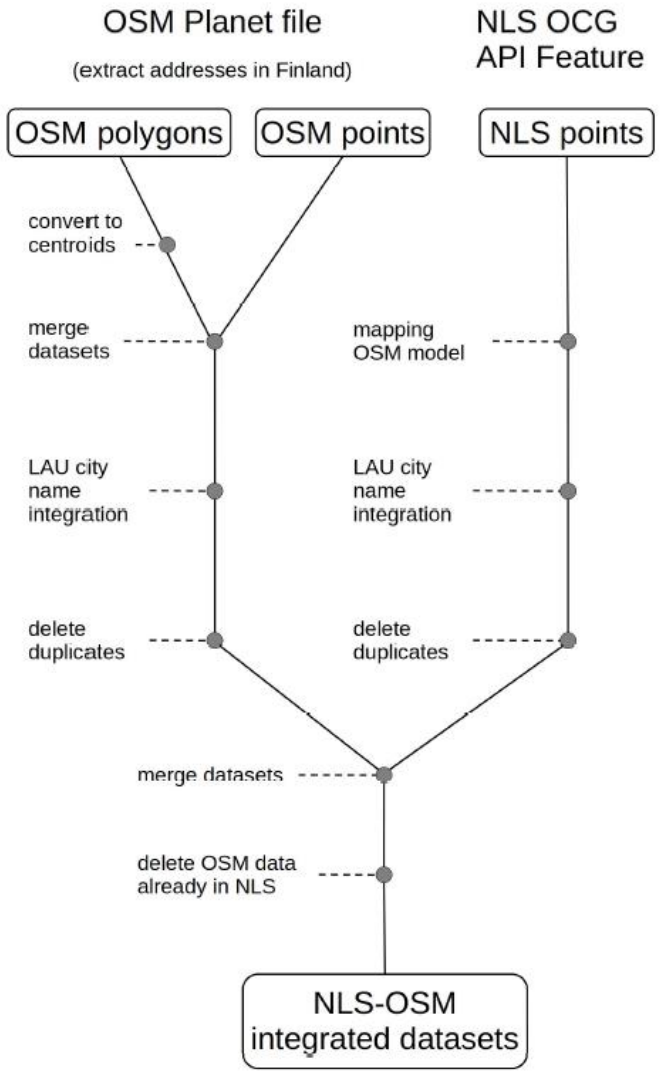
Pool of experts on data-driven innovation

- Context
  - Multiple emerging technological trends can help complement and/or substitute the ways in which we are sharing information in INSPIRE
  - Implemented within ELISE
- Topics
  - Governance of data
  - Governance with data
- Outputs
  - Based on experimentation and sandboxes
  - Summary of the experimentation in a structured manner (JRC Technical report)

Pool of experts on data-driven innovation



Integration between authoritative and OpenStreetMap datasets



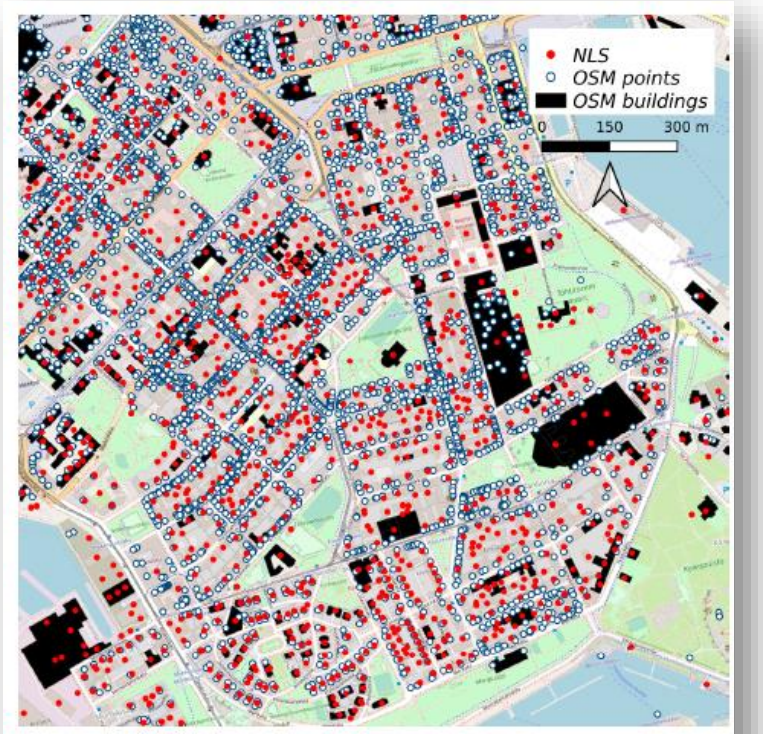
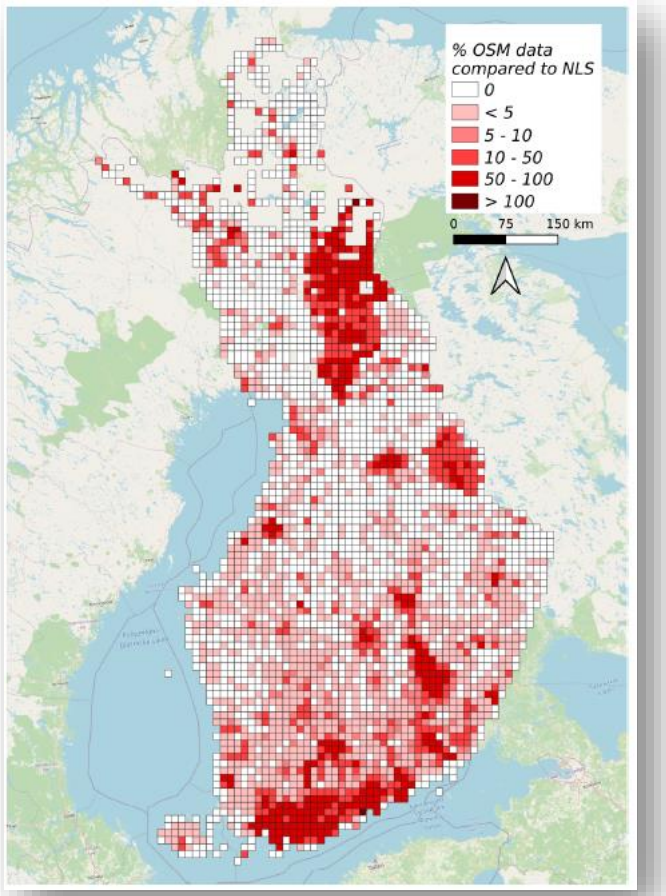


Figure 1: Example of distribution of address data in an area of Helsinki, Finland: OSM addresses associated to nodes (white points) and ways (black polygons); NLS addressed (red points). Background map: © OpenStreetMap contributors.

Source: Sarretta, Minghini 2021



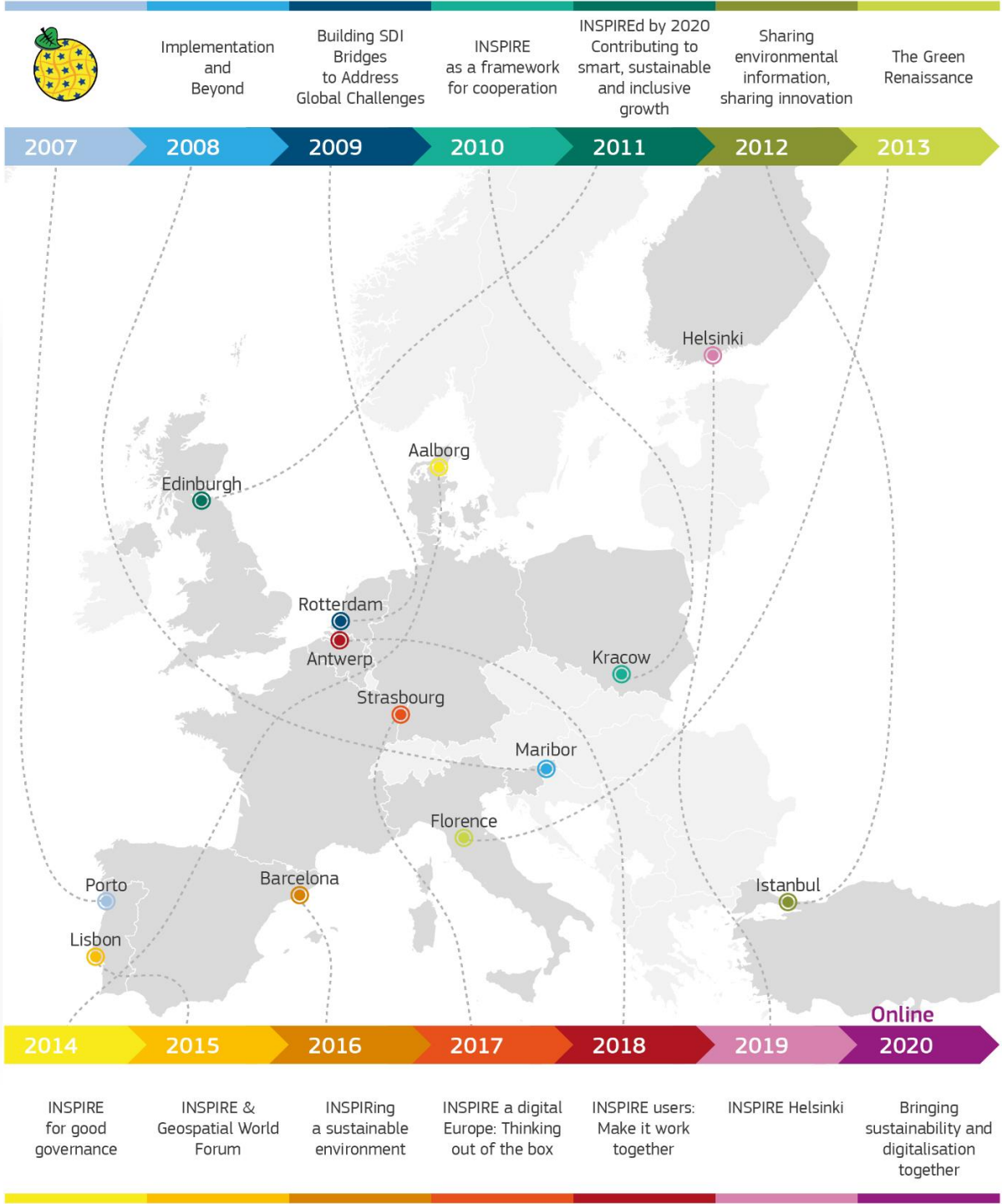
INSPIRE – The public contribution to the European Green Deal Data Space

JRC Science for Policy Report

Forthcoming JRC Science for Policy Report

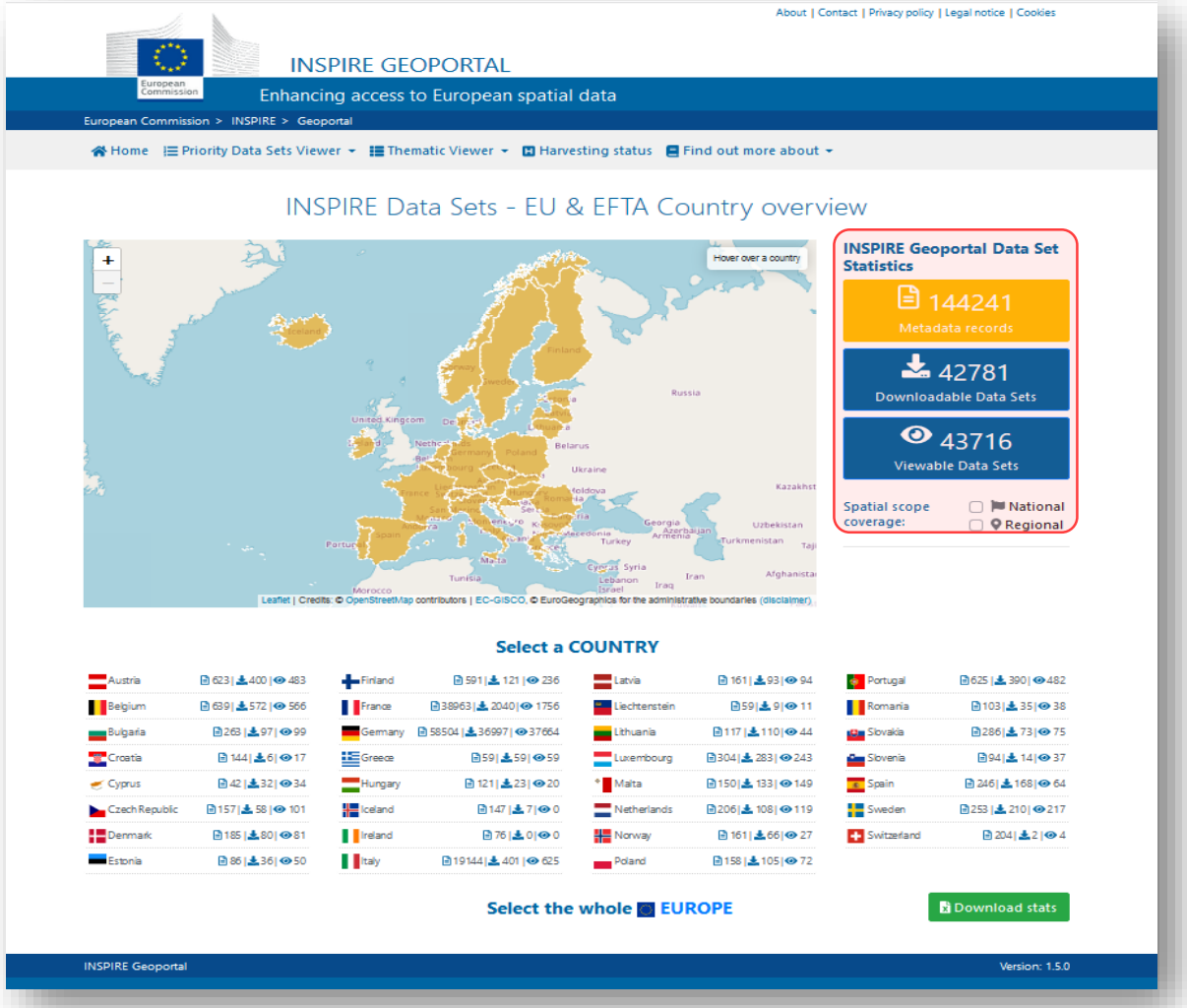
- With Geonovum and DG ENV
- Contents
  - State of play
  - Policy and technological context
  - Lessons learned from the implementation
  - Vision for the technological evolution
  - Prototype reference framework
  - Actions and roadmap

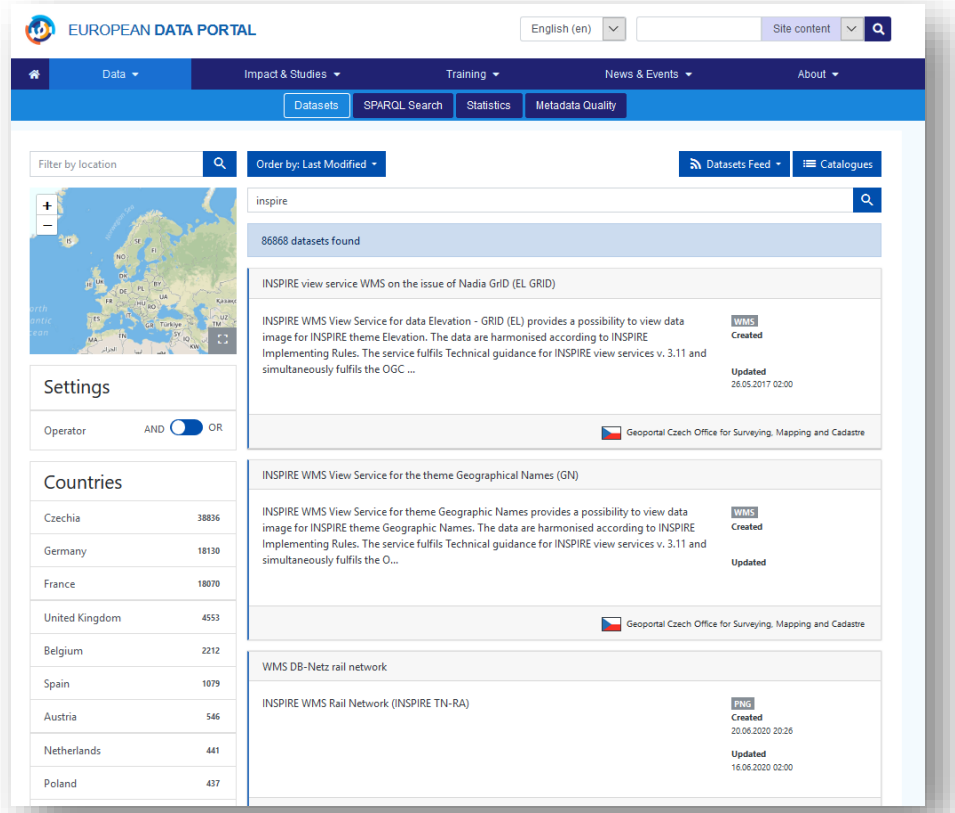
What works well
Community



What works well
Data availability

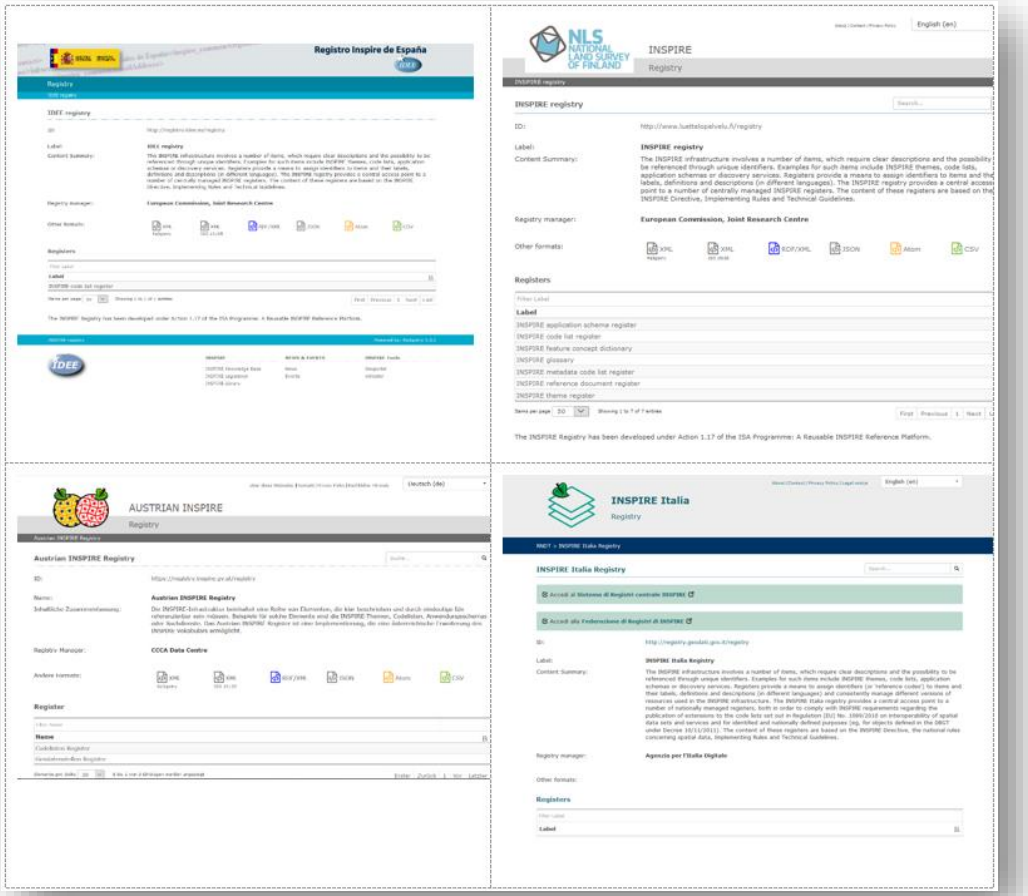
- Discoverability and accessibility are improving

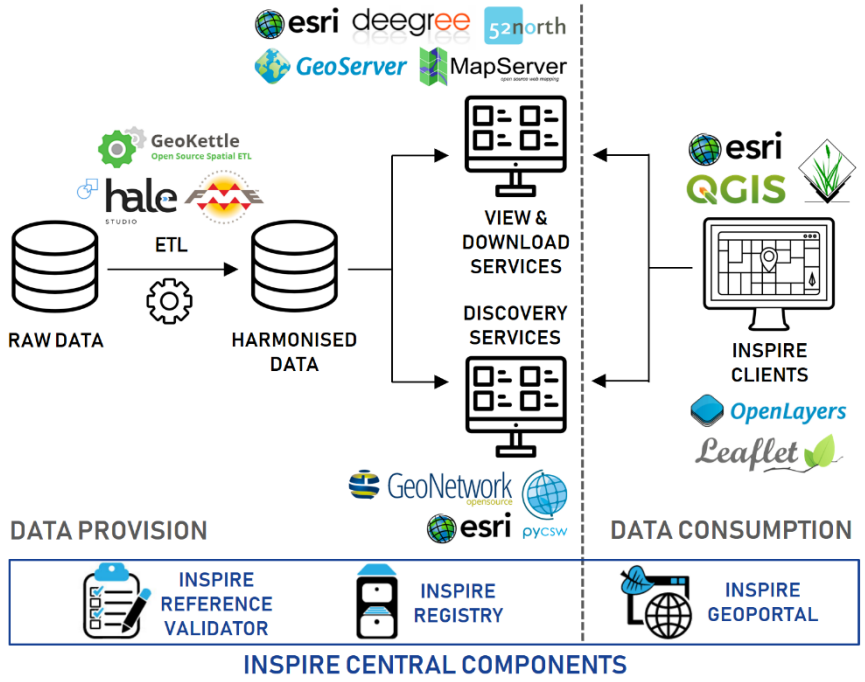


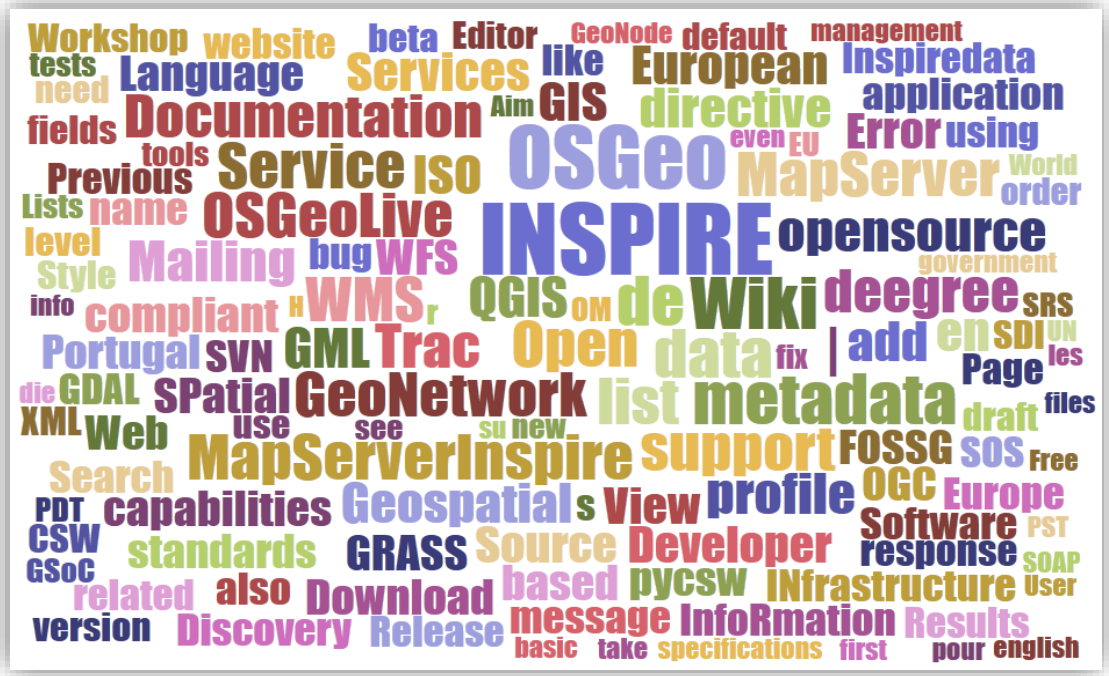


What works well

- Rich ecosystem of tools
  - Central INSPIRE components
  - Many client and server implementations

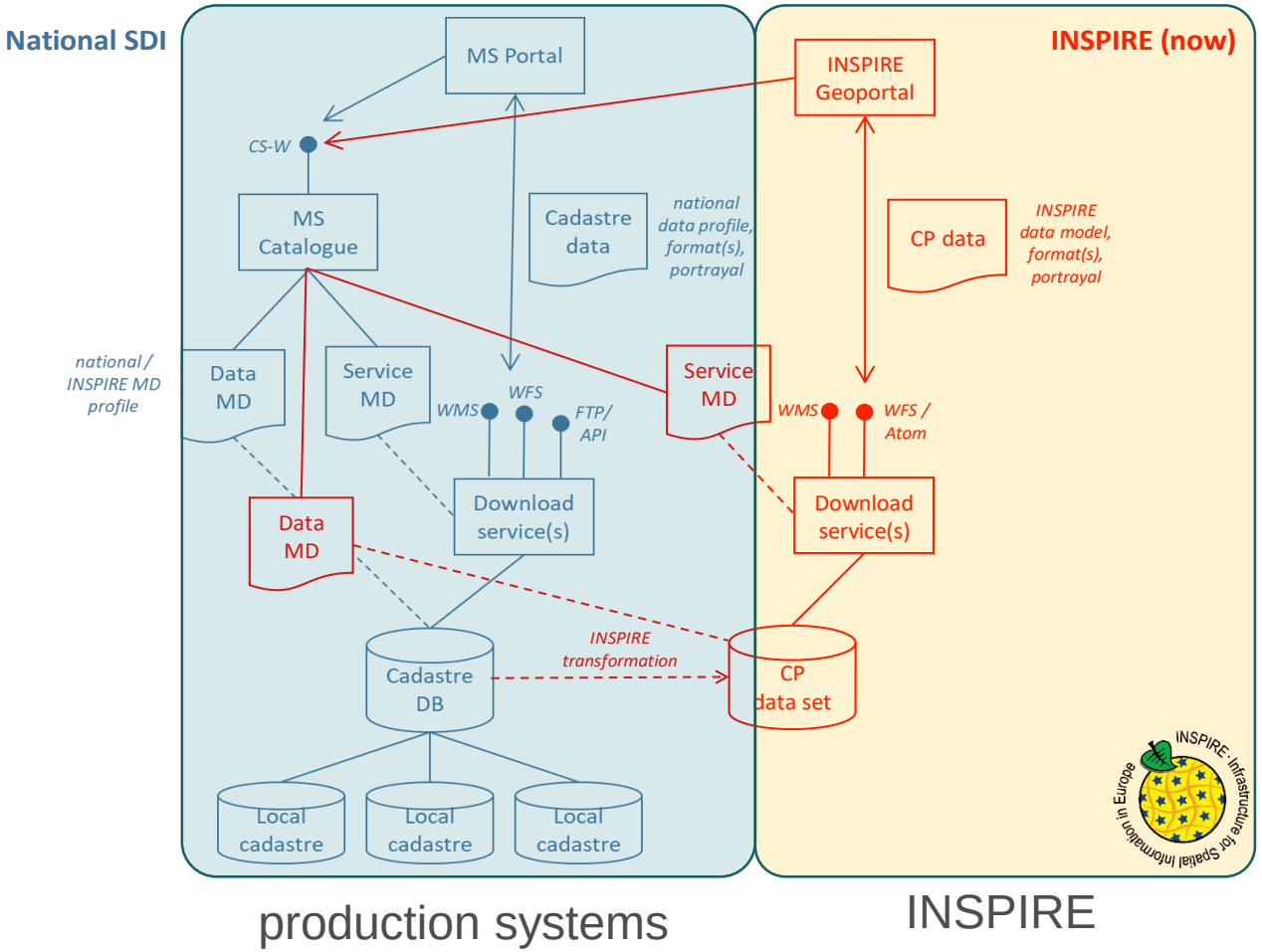






What does not work so well

- Parallel implementations
- Duplication of effort
- INSPIRE sometimes implemented to only check a box



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What does not work so well

- Custom extensions and narrow use of standards
  - Strictly following standards, or extending standards is problematic
  - Extended capabilities
  - GML attributes
  - Nested structures

What does not work so well

- Complex encoding

```
<gn:NamedPlace gml:id="MIG20172_example_NamedPlace">
	<gn:beginLifespanVersion xsi:nil="true"/>
	<gn:geometry>
		<gml:Point gml:id="_d7180a8f-a590-44da-8b45-41d96d5cba5e" srsName="http://www.opengis.net/def
		<gml:pos>471979.2568 5564594.2444</gml:pos>
		</gml:Point>
	</gn:geometry>
	<gn:inspireId>
		<base:Identifier>
			<base:localId>NamedPlace_Example</base:localId>
			<base:namespace>https://www.examples.eu/</base:namespace>
		</base:Identifier>
	</gn:inspireId>
	<gn:localType xsi:nil="true"/>
	<gn:name>
		<gn:GeographicalName>
			<gn:language>deu</gn:language>
			<gn:nativeness xsi:nil="true"/>
			<gn:nameStatus xsi:nil="true"/>
			<gn:sourceOfName xsi:nil="true"/>
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			<gn:spelling>
				<gn:SpellingOfName>
				<gn:text>München</gn:text>
				<gn:script xsi:nil="true"/>
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			</gn:spelling>
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</gn:NamedPlace>
```

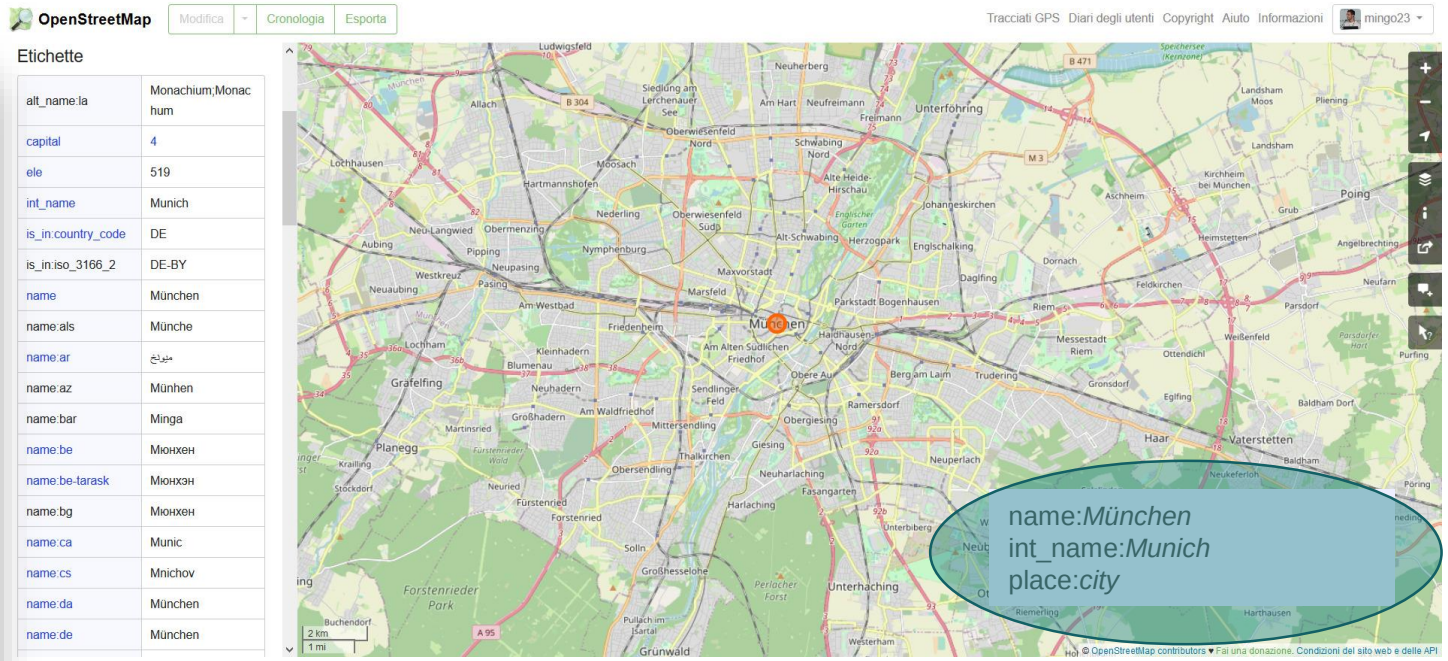

https://www.openstreetmap.org/node/1700534808#map=12/48.1332/11.6462

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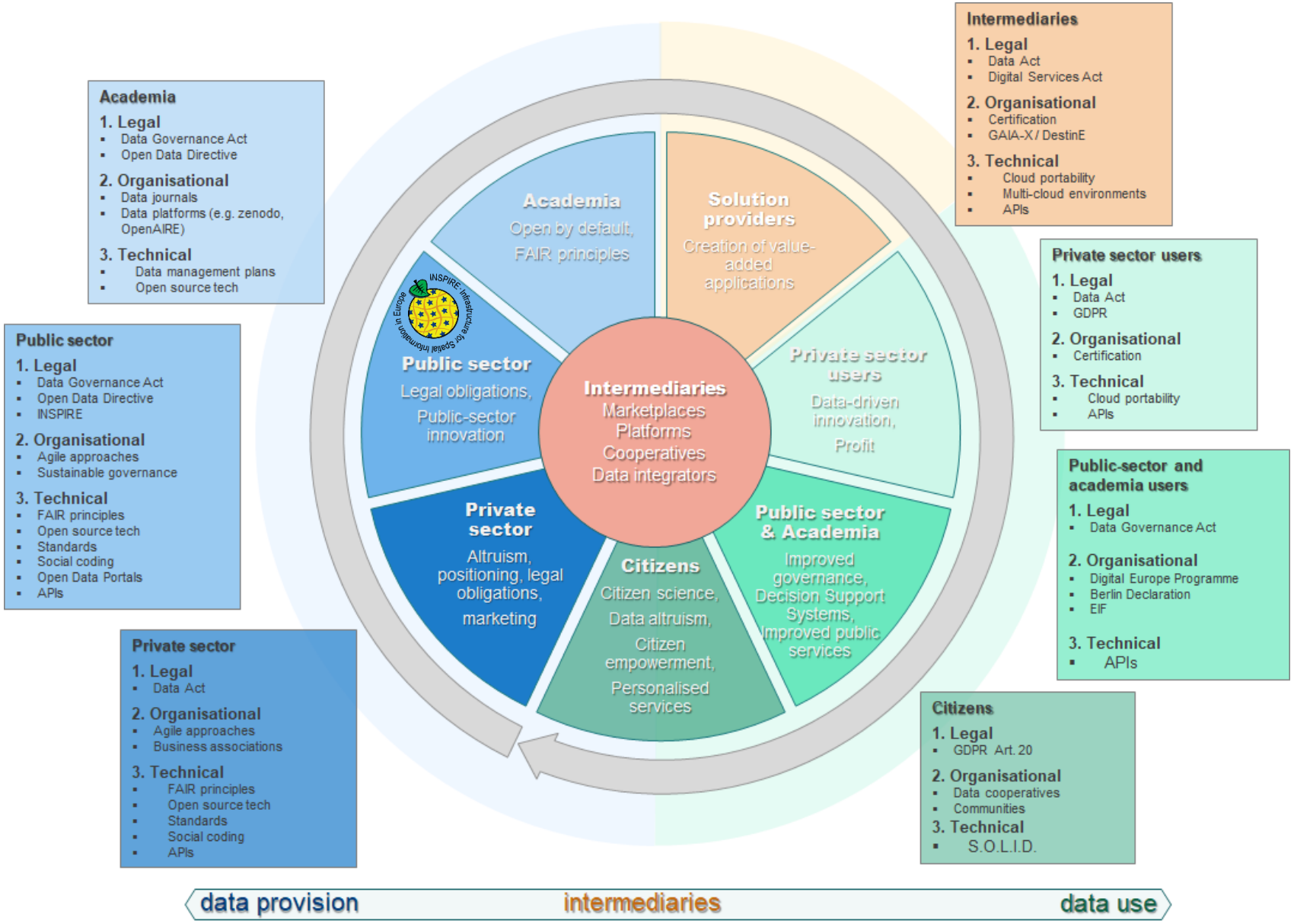
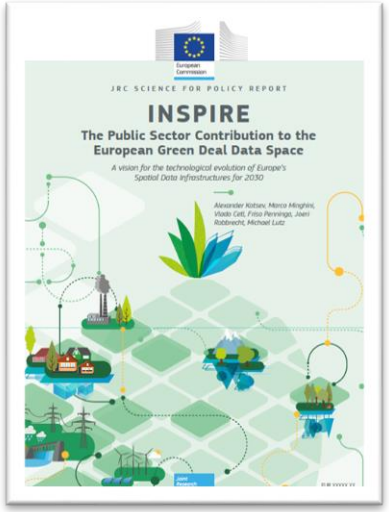
INSPIRE in a broader data ecosystem

- From linear approach to a data ecosystem
  - Follow the value creation
  - Sustainable governance model is needed



Vision (work in progress)



- INSPIRE should '**blend in' with the broader ecosystem** of spatial and non-spatial data, infrastructures, technologies and policies.
- This will mean **opening up to a broader community** of implementers and users and to a wider range of applications and use cases.
- Making the INSPIRE framework more **flexible and agile** will significantly lower the entry level to the sharing and utilisation of data.
- Technical **approaches need to be simplified** by reusing well-adopted standards and technologies.

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Thank you

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