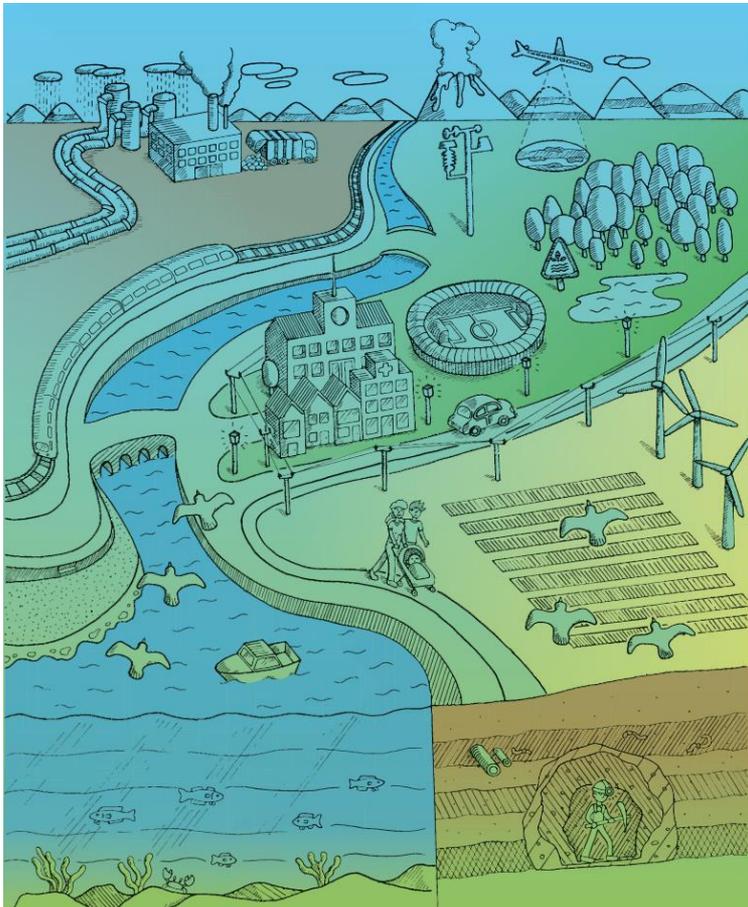




LOCATION POWERS



Linked INSPIRE data –
Feasibility and
benefits

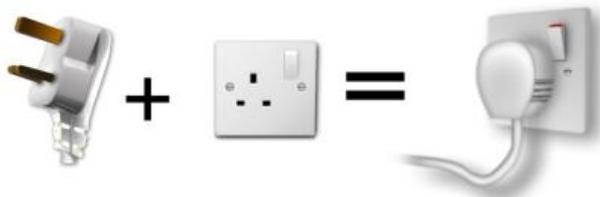
Michael Lutz

European Commission – Joint Research Centre



INSPIRE in a nutshell

- Comprehensive framework for spatial data interoperability
 - inventory (monitoring of implementation)
 - data & service sharing
 - data & service discovery (metadata)
 - services for data access and visualisation
 - **data interoperability**

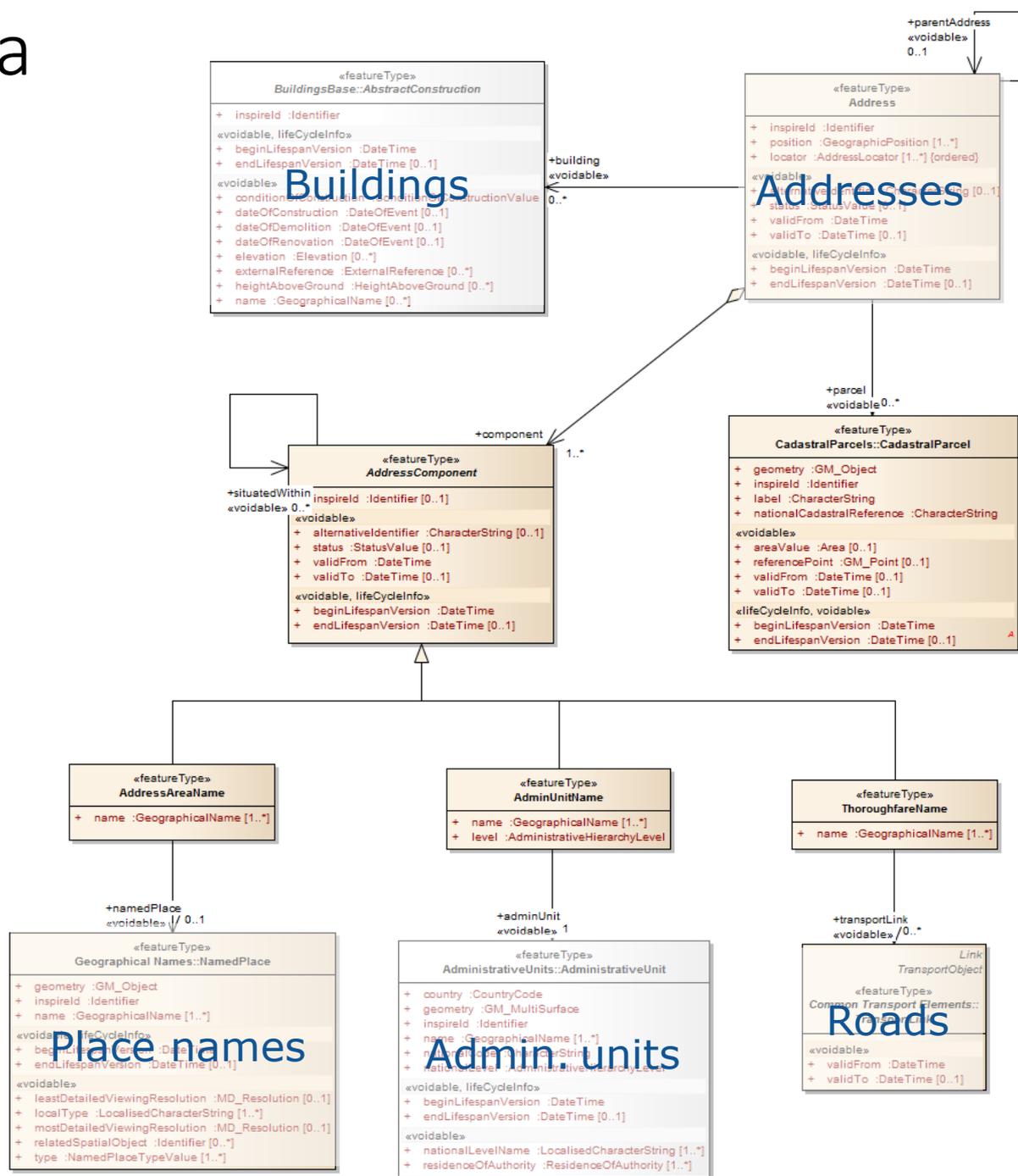




INSPIRE data models

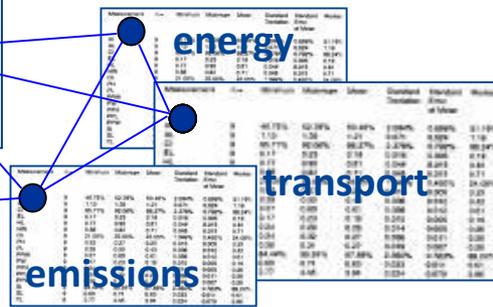
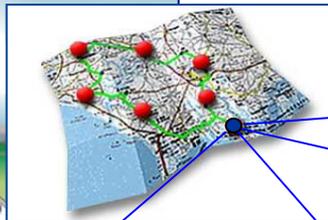
Conceptual data models

- spatial objects and their properties and relationships for 34 data themes
- cross-domain harmonization
- based on a common modelling framework
- managed in a common UML repository





Possible links to data from other sectors





Ok, great...

- we have semantics,
- we have identifiers,
- we have links,
- we have guidance on all these...

So what's the problem???





So what's the problem???

- Conventional SDI tools and communities (OGC) are often not ready to deal with/benefit from links and semantics
- Semantic Web tools and communities are*
- Benefits of linked (geospatial) data are often claimed, but real evidence of benefits (compared to conventional SDI approaches) is often lacking

WHEN YOU SEE A CLAIM THAT A COMMON DRUG OR VITAMIN "KILLS" CANCER CELLS IN A PETRI DISH,

KEEP IN MIND:



SO DOES A HANDGUN.

* not so clear for mainstream web developer community and tools

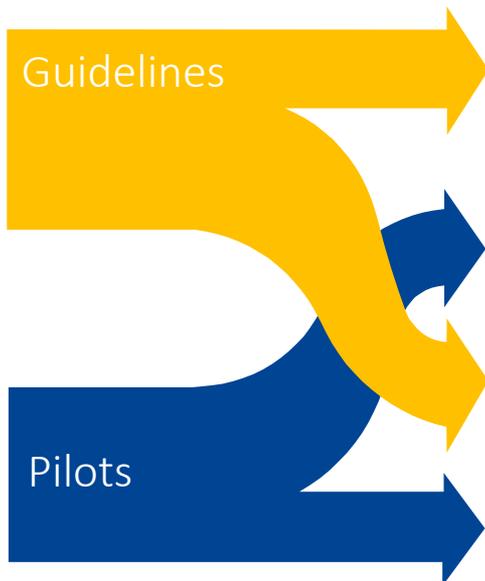


INSPIRE as Linked Data



Objectives

- Draft guidelines for publishing INSPIRE data in RDF
- Elaborate the value propositions of geospatial data as linked open data



Draft methodology and vocabularies for refinement of the guidelines

Feasibility and **benefits** of representing INSPIRE in RDF

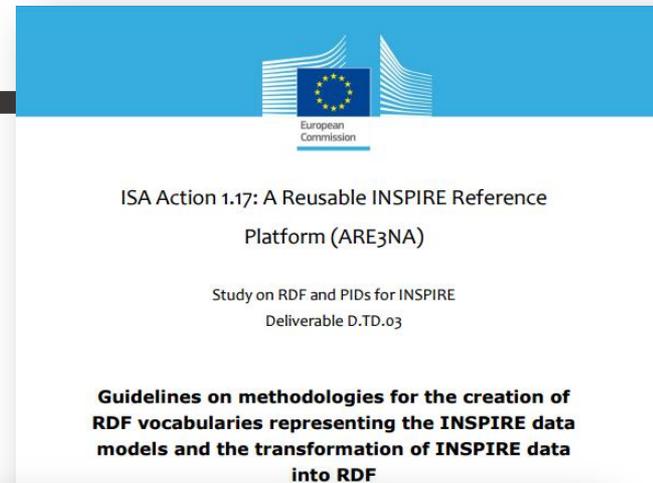
Document issues related to methodology and vocabularies

Update guidelines following results of the pilots



RDF encoding guidelines

- Initial work in 2014
- Current work focuses on open issues and new input
- Goal is a draft for a new encoding rule for INSPIRE data, ready for stakeholder review



INSPIRE
Infrastructure for Spatial Information in Europe

 WORK IN PROGRESS

Guidelines for the RDF encoding of spatial data

Title	Guidelines for the RDF encoding of spatial data
Status	Draft (work in progress)
Creator	ARE3NA project "INSPIRE Re3ference Platform Phase 2"
Date	2017-01-31
Subject	INSPIRE encoding rules for representing spatial data as RDF
Publisher	ARE3NA project "INSPIRE Re3ference Platform Phase 2"
Type	Text
Description	This document specifies an experimental encoding rule for representing spatial data sets in INSPIRE as RDF. The use of

<http://inspire-eu-rdf.github.io/inspire-rdf-guidelines/>



Feedback on open issues on GitHub

- GitHub repository for discussing and resolving open issues
- Starting point: known open issues incl. a proposal for resolution
- Comments and ideas from stakeholders and experts working on related activities welcome!
- Also the emerging guidelines and proposed INSPIRE RDF vocabularies will be documented in the repository

The screenshot shows the GitHub repository page for 'INSPIRE data in RDF'. The repository is on the 'master' branch, has 3 commits, 1 branch, 0 releases, and 1 contributor. The latest commit is by 'cportele' updating the README.md file. The README content is as follows:

INSPIRE data in RDF

The [INSPIRE initiative](#) aims at improving the sharing of spatial data and services between public authorities in Europe and in particular between the Member States and the European Institutions. INSPIRE addresses the interoperability of geospatial data sets and services for the exchange of data related to one of the 34 spatial data themes defined in the INSPIRE Directive. It does so through the creation of [application schemas \(using UML\)](#) and [geospatial encodings mechanisms \(using GML, GeoTIFF and other formats\)](#).

At the same time, e-Government applications and tools start to use the Linked Data paradigm, based on Semantic Web languages and technologies, such as the Resource Description Framework (RDF). If INSPIRE data was available as Linked Data, these e-Government applications and tools could easily link to it. INSPIRE Linked Data has the potential to unlock new applications and services, not only for e-Government. The information contained in data stacks that were previously separate could easily be combined to acquire new, useful information.

However: while the methodology to publish INSPIRE data as GML together with according schemas is well-defined, a methodology for the publication of INSPIRE data as Linked Data still needs to be defined. The methodology needs to cover:

- the creation of RDF vocabularies representing the INSPIRE data models and
- the transformation of INSPIRE data into RDF

The [ARESNA](#) activity of the [European Commission Joint Research Center](#) has performed a [study](#) that identified a number of issues that have to be resolved in order to specify a common methodology. The next step is to develop guidelines and recommendations to solve these issues. In order to ensure that these developments are based on broad consensus these issues are documented and discussed in this GitHub repository. This repository will also be used to document the guidelines emerging from the discussions.

We actively encourage participation by the Linked Data community. If you are an expert in the field of Linked Data or the Web and are interested in INSPIRE, we would highly appreciate your input! All identified issues are documented in the [issue tracker](#). The issue tracker provides an environment where we can discuss each issue and solve it together. If you are interested, please review the issues and provide feedback or create a new issue. To create or comment on an issue you will need a GitHub account.

<https://github.com/inspire-eu-rdf/inspire-rdf-guidelines>



Stay in touch



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<https://joinup.ec.europa.eu/community/are3na/description>



@INSPIRE_EU



<https://www.linkedin.com/groups/1066897>



<http://inspire.ec.europa.eu/>

This work is carried out under the ISA action ARE3NA and the [ISA²](#) action ELISE. More about ELISE and ARE3NA at https://ec.europa.eu/isa2/actions/improving-cross-border-exchange-location-information_en

ISA² is a EUR 131 million programme of the European Commission which develops digital solutions that enable interoperable cross-border and cross-sector public services for the benefit of public administrations, businesses and citizens across the EU.

ISA² supports a large range of [actions](#) and [solutions](#). The ISA² solutions can be used free of charge and are open source when related to IT.

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