Context

• RDF: frequently used in e-government and open data communities

• What are the benefits (if any) of providing INSPIRE data in RDF?
• How can this support e-government services?

• RDF as an optional encoding!
  ▪ Does not supersede or replace encoding requirements in INSPIRE Data Specifications

• Two pilot projects were executed to gain practical experience
  ▪ More on these on Friday at 09:15 in the session “INSPIRE and linked data”
What do we need to specify in INSPIRE to support this?
(1) RDF vocabularies for INSPIRE themes

• Need to be consistent with the INSPIRE application schemas that are the basis for the Implementing Rule (regulation 1089/2010) and the INSPIRE Data Specifications → Derive them using well-defined rules

• Iterative process
  ▪ Start with a selection of themes (used by the pilots) to test and learn
  ▪ Extend to additional themes in the future as needed

... 
<http://inspire.ec.europa.eu/ont/au>
a owl:Ontology ;
owl:imports <https://www.w3.org/ns/locn.ttl> , ... ;
owl:versionInfo "4.0" .

au:AdministrativeUnit
a owl:Class ;
rdfs:isDefinedBy <http://inspire.ec.europa.eu/featureconcept/AdministrativeUnit> ;
rdfs:label "administrative unit"@en ;
rdfs:subClassOf gsp:Feature ;
skos:definition "Unit of administration where a Member State has and/or exercises jurisdictional rights, for local, regional and national governance."@en ;
iso19150-2:constraint "CondominiumsAtCountryLevel: Association role condominium applies only for administrative units which nationalLevel='1st order' (country level)." , ... .
...
(2) This requires guidelines

- Article 7 of regulation 1089/2010 requires the specification of an ISO 19118 encoding rule that specifies how the spatial objects and their properties are represented in RDF → the guidelines

- A draft, ready for stakeholder review
Key chapters in the guidelines

**Schema conversion rules**
Documents the rules for converting INSPIRE application schemas to an RDF vocabulary (an OWL ontology)

Topics:
- Application schemas
- Types
- Properties
- Association classes
- Constraints

**Instance conversion rules**
Describe how datasets and spatial objects are converted to RDF resources

Topics:
- Resource identifiers
- Spatial objects vs real-world entities
- Encoding geometry
- Encoding metadata
- Value collections
Process, results and outlook

- Open development on GitHub
- Feedback from the community and the pilots
- Drafts of the guidelines and INSPIRE RDF vocabularies
  - https://github.com/inspire-eu-rdf/inspire-rdf-vocabularies

- More experience and wider review is needed
- Raise, discuss and resolve questions and open issues
  - https://github.com/inspire-eu-rdf/inspire-rdf-guidelines/issues
Questions

• Is this valuable? If yes, where do you see the value?

• Do you see RDF/linked data as "one of the ways to go" for INSPIRE? Or are other formats more relevant to work on, if work on alternative encodings would start?

• Do you have experience with data from INSPIRE (or other spatial data) in RDF that can be shared?

• What challenges do you see?

• If you have looked at the guidelines or the vocabularies: Any comments?