



Validation of INSPIRE metadata, data and services

INSPIRE conference – 30 September 2016

Context

- Workshop about validation of INSPIRE technical components
 - Paris – 02-03 June 2016
 - Co-organised by
 - EuroGeographics (INSPIRE KEN)
 - EuroSDR
 - European Commission



*Presentations, videos, minutes
available on:*

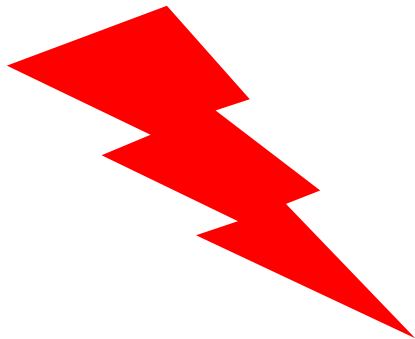
<http://www.eurogeographics.org/content/validation-workshop-organised-eurogeographics-jrc-and-eurosd>

Why?



Why validation?

- To check if the technical requirements are met
=> to ensure that the infrastructure will work
 - binary results
 - Passed or not
 - Not conform => not usable
 - for implementers



Validation does not guarantee easy use; still remaining issues (lack of client applications, only the structure is checked not the content, e.g. voidable attributes not filled)

Why validation?

- To measure the conformance to INSPIRE

=> to assess the progress

- Indicator
 - Percentage of success
 - Rate
- For deciders: encourage to do better

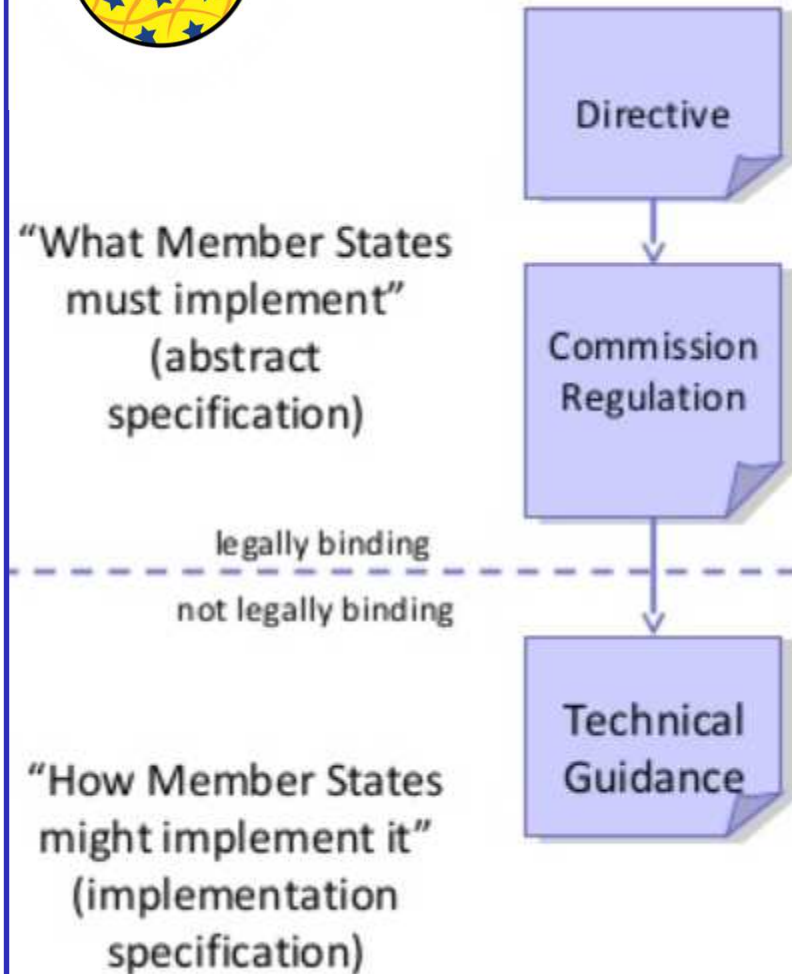
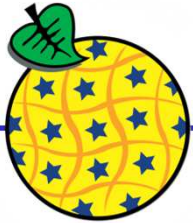


- Example: Commission metadata validator: from boolean (hardly no one conform) to indicator (significant progress)

Against what?



Against what?



Implementing rules Technical guidelines

Choice of MI-WP5


- logical: ensure technical interoperability
- feasible: to control only one implementation (and not all possible ones)

National profiles,
INSPIRE extensions

Who?



Who?



What is done
so far

- Data producers
 - To get confident in what they provide
 - To fill the “conformity” element of metadata
 - To have their metadata, data and services accepted by ...
- Brokers, integrators
 - European commission
 - Metadata validator (INSPIRE geoportal)
 - ELF project
 - Validation of data and services (ELF cascading services)

Who?

- Standardisation body
 - European Commission
 - Work under progress (MIWP-5)
 - Objective: to develop validation tools in agreement with MS
 - OGC
 - Services
- Users
 - No experience reported during workshop
 - Not yet the case?

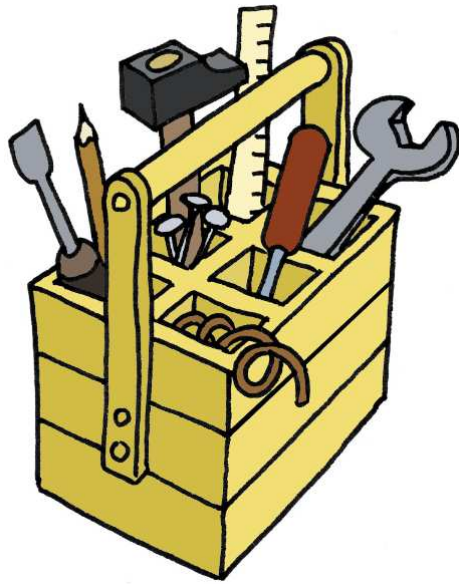
When?



When?

- As soon as possible, integrate validation in the production process:
 - Metadata editor
 - Data transformation
 - Snowflake
 - HALE (integrate the Web validation of eENV+ project)
- At the end of the process
 - Validation tool to be independent from the production ones

How?




How?

- General method
 - Automatically (tools)
 - Manually (inspections, ...)



There are controls that can't be done automatically; it does not mean they are not executable

How?



What is done
so far

- Wide variety of tools
 - Metadata
 - European / national validators
 - Data
 - XML validators (XML Spy, FME, ...)
 - Other (Schematron for rules, CRS validator, ...)
 - Services
 - OGC CITE
 - ETF (from ELF project)
 - Spatineo (performances)

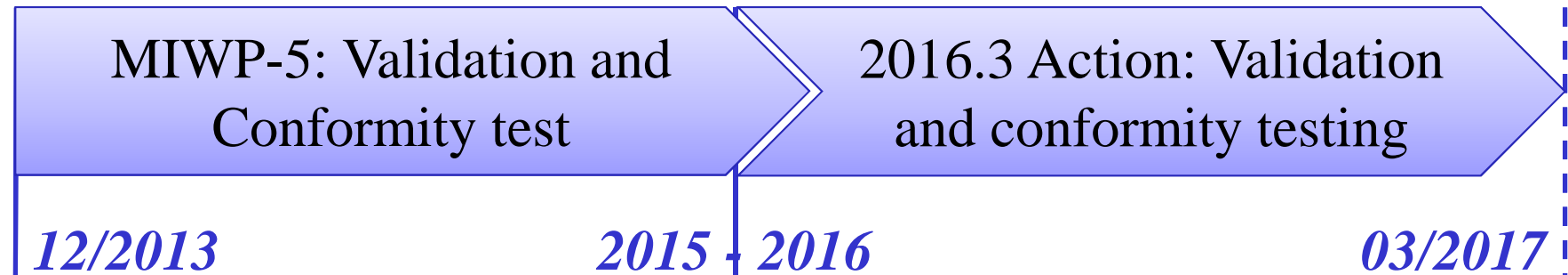


**Duplications,
inconsistencies**

How?

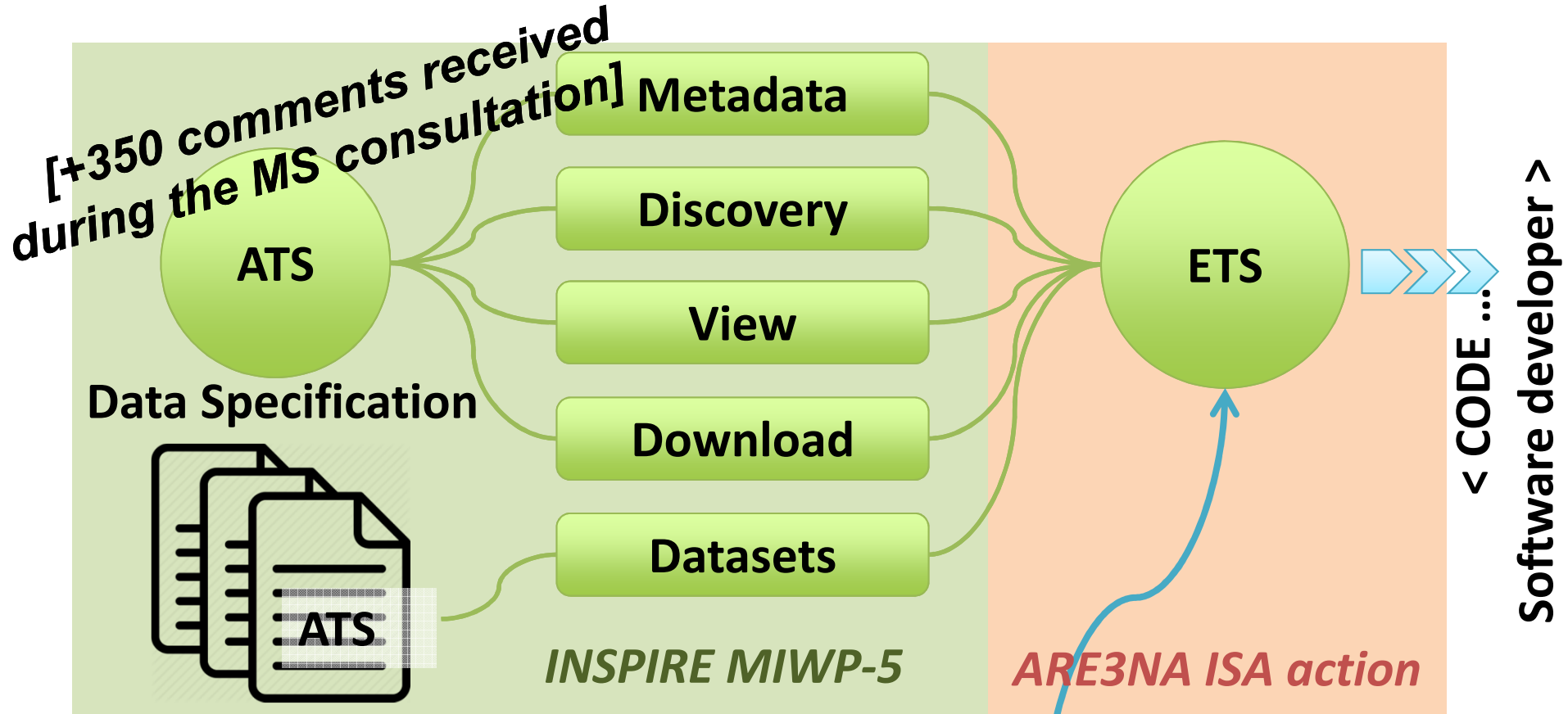
INSPIRE

Maintenance Implementation Group



- ◆ Develop a commonly agreed European validator for data, metadata and network services (incl. performance testing) - the validation rules should be made explicit so that data providers in Members States know what is validated upon exactly and how is validated;
- ◆ Establish rule that all new TG need to ATS and executable tests;
- ◆ Discuss the possibilities for setting up a compliance certification facility and process similar to the OGC;

How?



Existing validation tools and solutions








Which main difficulties?



Main difficulties

- Some tools are not mature enough
- Lack of knowledge
 - We are pioneers in validating big SDI as INSPIRE

Service category	Status indicator	Experiences, remarks
ELF Cascading View services(WMS and WMTS)		Tools ok, simple service complexity. Only 2 services!
ELF Cascaded Direct download services(WFS2.0-, GML3.2.1)	 	Only 2 services(will be only 1 when Inspire v3 expires). Problems inherited from National services.
ELF National Direct download services(WFS 2.0, GML3.2.1)		Validation and test tools premature, Complex services, WFS service software issues , lack of skills
National view services(WMS 1.3)		Tools ok, easy/moderate service complexity

**Main issues on
download services
(ELF project)**

Main difficulties

- Analysis of errors
 - Takes time to analyse a new type of error
 - Reports not informative enough, error messages useful only for nerds
 - Difficult to find source of error (ETF)
 - However, once identified, errors may be easy to correct

Main difficulties

- And also
 - Different options when interpreting Technical Guidelines
 - Ensure conformity over time (if update in Technical Guidelines)
 - Ex: European Commission metadata validator
 - Nice policy for validator
 - But editor is not working on same version
 - Assess what is reasonable level of conformity
 - Need for cross-component validation
 - Issue with protected services (authentication, security)

What to be improved?



Research Conclusions

- INSPIRE Test Framework – Stage of Construction
-> Challenging + Impressive what has been achieved so far
- Abstract Test Suite - Comprehensive topic
Alignment with technological developments + **User requirements matching**
- Executive Test Suite – **More straightforward topic - Still lots to do**
Alignment with ATS, Re-use existing test suites, Development new suites
- Metadata Validation – Advancement stage / Stage of refinement
Automated metadata changes, multilingual issues, statistics tools
- Services Validation – **Rather in an infancy stage**
Immature tools (functionalities, error reporting), authentication, certification
- Data validation – Full attention / Already lots has been achieved
Schema validity, 'incorrect' files tests, usability, transformation workflow
- Most research issues are operational oriented and less conceptual

Potential improvements

- Data providers
 - Many errors due to broken links => resource can't be found
 - Most of these links (between services and data) in metadata
 - **Keep metadata updated**
- Software providers
 - More user friendly tools
 - Ex: messages written by domain experts

Potential improvements

- **From formal compliance to data usability**
 - Check content (not only conformity to schema)
 - “voidable” issue => provide statistics about what is filled
- Better knowledge exchange in whole INSPIRE community
 - FAQ , frequent errors
 - Registry for testing, monitoring

Not valid?

