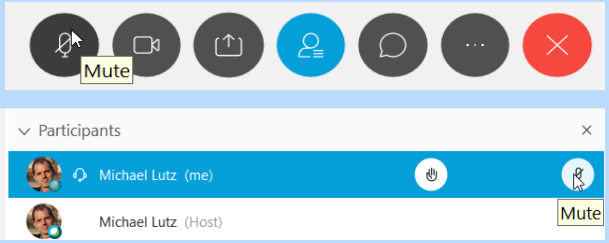
INSPIRE CONFERENCE 2020
DUBROVNIK - CROATIA
Goes virtual 3-12 June

Welcome and some hints for participants

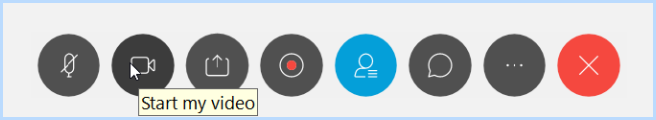
Mute your mic!

To mute and unmute, click the microphone icon next to your name or at the bottom of the screen.



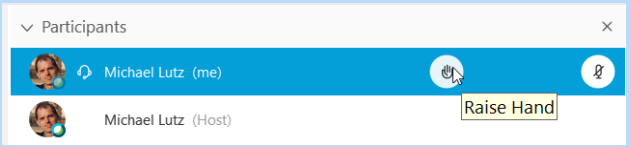
Turn off video

Share your webcam video **only** when you are talking. To do this, click video icon next to your name.



Ask a question

Use “raise hand” functionality to ask a question. Click the hand icon next to your name in the participant list. If this is not available write ‘hand’ in the chat.



SLI.DO

https://www.sli.do

Event Code: INSPIRE2020

Room name: INSPIRE Reference

Validator: status and future plans

European Commission

INSPIRE Reference Validator: status and future plans

European Commission

Webinar program

- Slido session 1
- Introduction to the INSPIRE Reference Validator, community space, current & future work – Marco Minghini, *European Commission, JRC*
- Slido session 2
- Hands-on session: deploying the INSPIRE Reference Validator and using the API – Carlos Palma Zurita, *Guadaltel*
- Slido session 3

INSPIRE 2020 Online Conference – June 9, 2020

Slido session 1

INSPIRE 2020 Online Conference – June 9, 2020

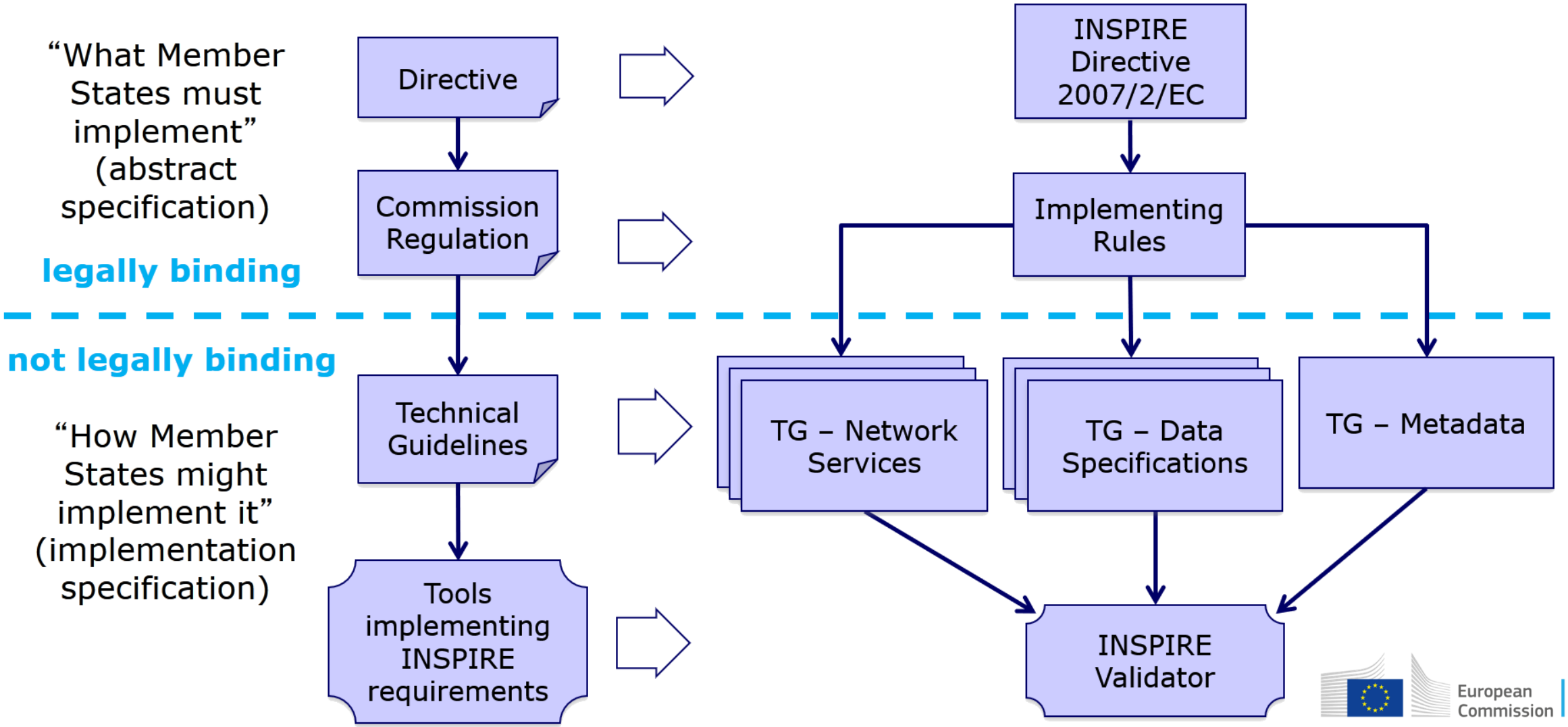
Joint
Research
Centre

Introduction to the INSPIRE Reference Validator, community space, current & future work

Marco Minghini, Fabio Vinci, Michael Lutz, Lorena Hernandez, Fabiano Spinelli, Daniele Francioli, Lukasz Ziemba

INSPIRE 2020 Online Conference – June 9, 2020

INSPIRE Directive, Implementing Rules (IR), Technical Guidelines (TG) & tools



European Commission

INSPIRE Reference Validator

- Reasons to develop a common validator:
  - help Member States data providers test resources (metadata, data sets and network services) against INSPIRE requirements
  - help INSPIRE coordinators (DG ENV, JRC & EEA) and national coordinators check INSPIRE implementation progress in Member States & across Europe
    - support Monitoring and Reporting
  - help solution providers check their software solutions against INSPIRE requirements
  - align existing validation services in JRC and some Member States
    - need for consistent results & exploit synergies
- Supported by ARE3NA & ELISE actions under ISA/ISA^2 programmes.

http://inspire.ec.europa.eu/validator/about

INSPIRE Reference Validator – Components

INSPIRE Reference Validator – Components

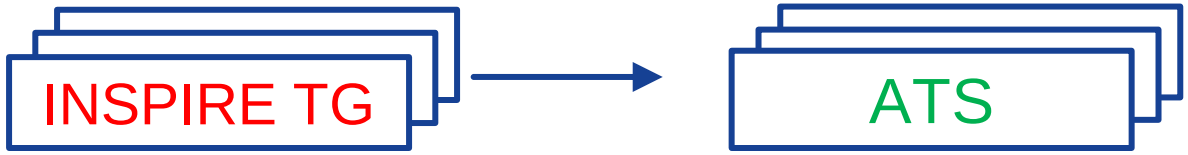
INSPIRE Technical Guidelines (TG)

requirements for all INSPIRE resources

INSPIRE Reference Validator – Components

Abstract Test Suites (ATS)

high-level descriptions of test cases



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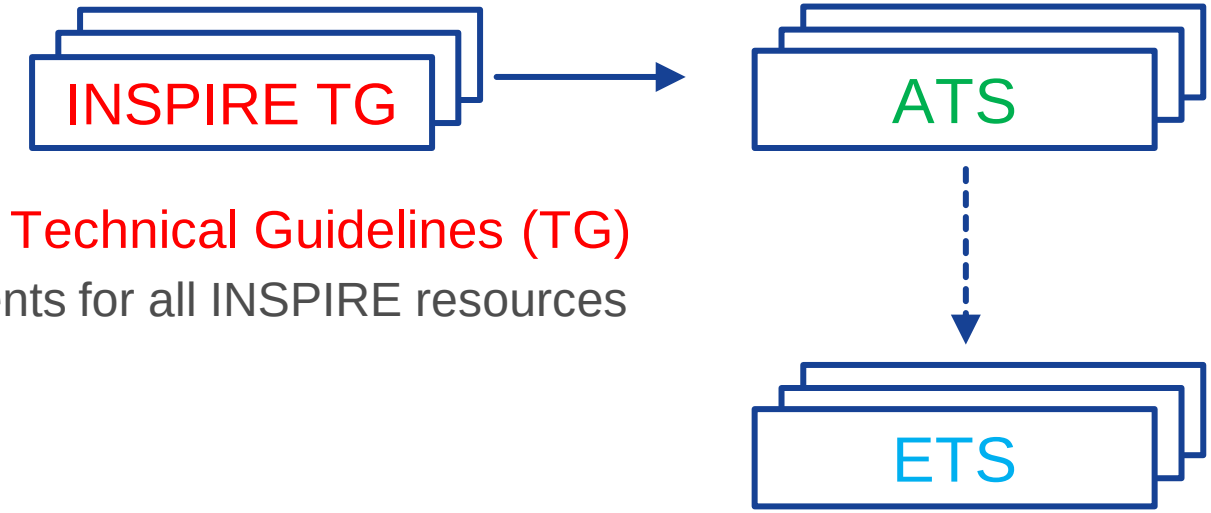

INSPIRE Technical Guidelines (TG)

requirements for all INSPIRE resources

Executable Test Suites (ETS)

lower-level descriptions of test cases

INSPIRE Reference Validator – Components

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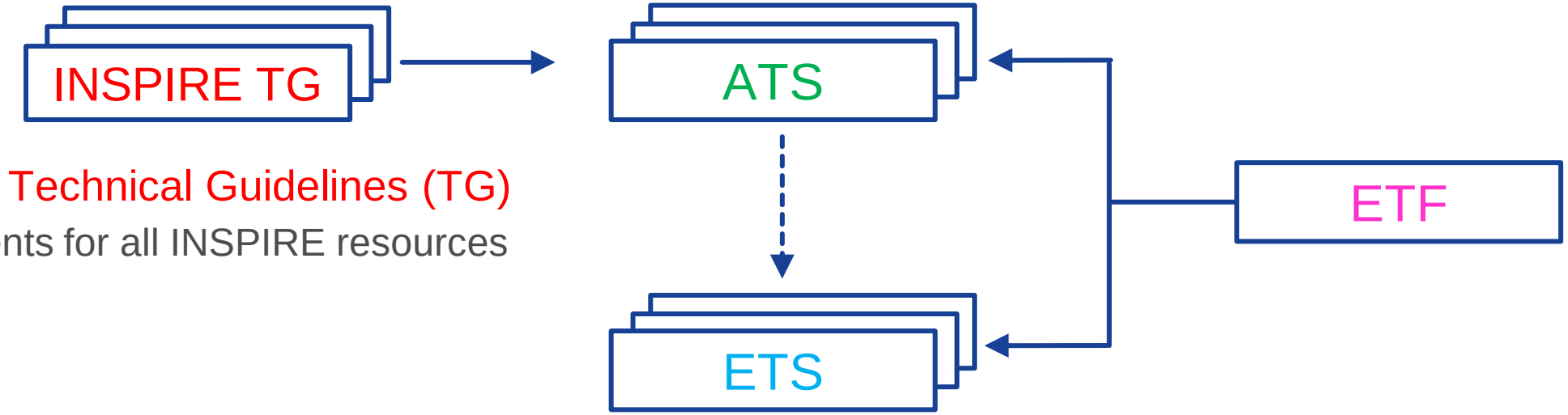
high-level descriptions of test cases

Testing Framework (ETF)

software where ETS are run



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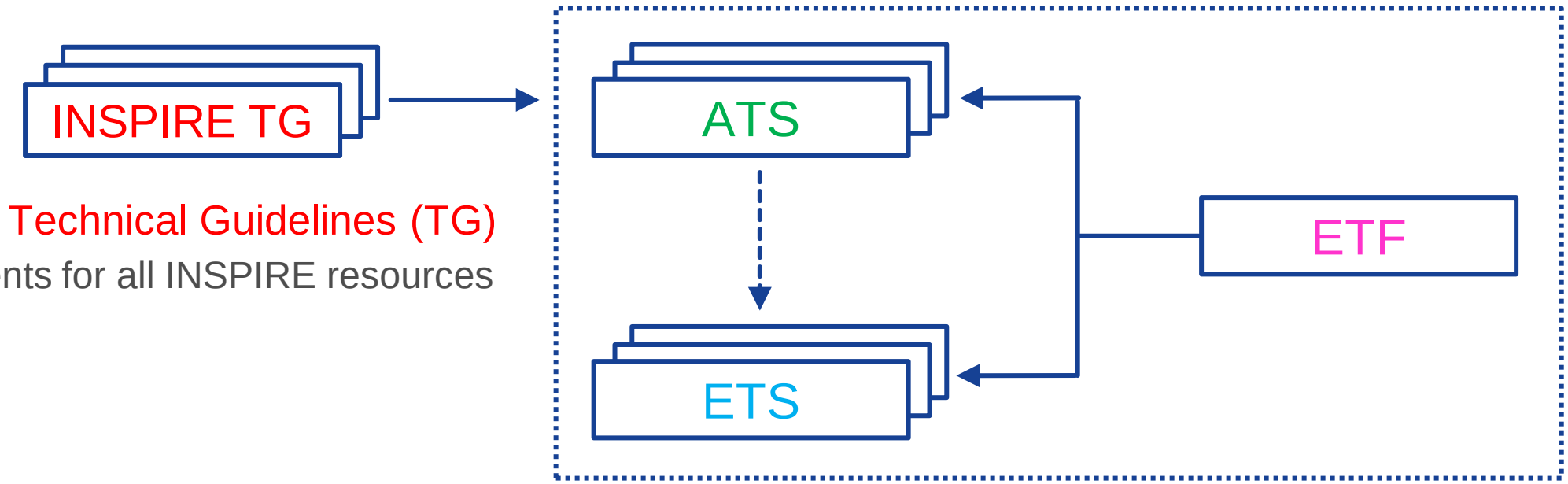


INSPIRE Technical Guidelines (TG)

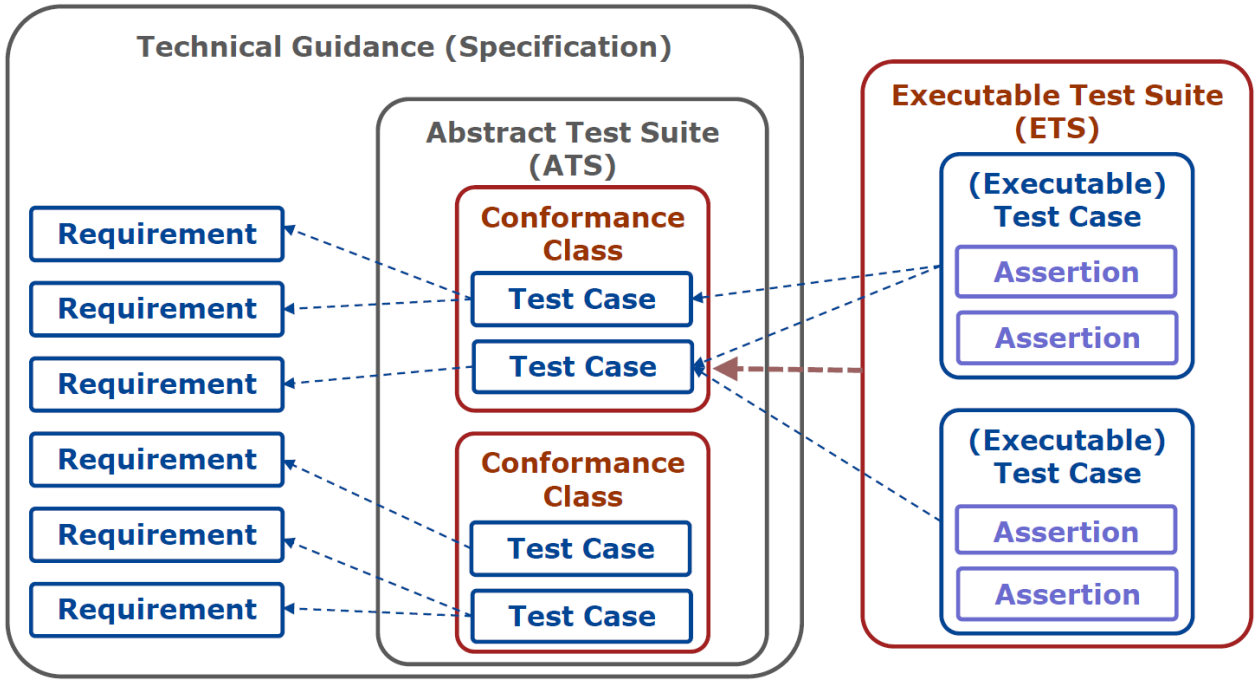
requirements for all INSPIRE resources

Executable Test Suites (ETS)

lower-level descriptions of test cases

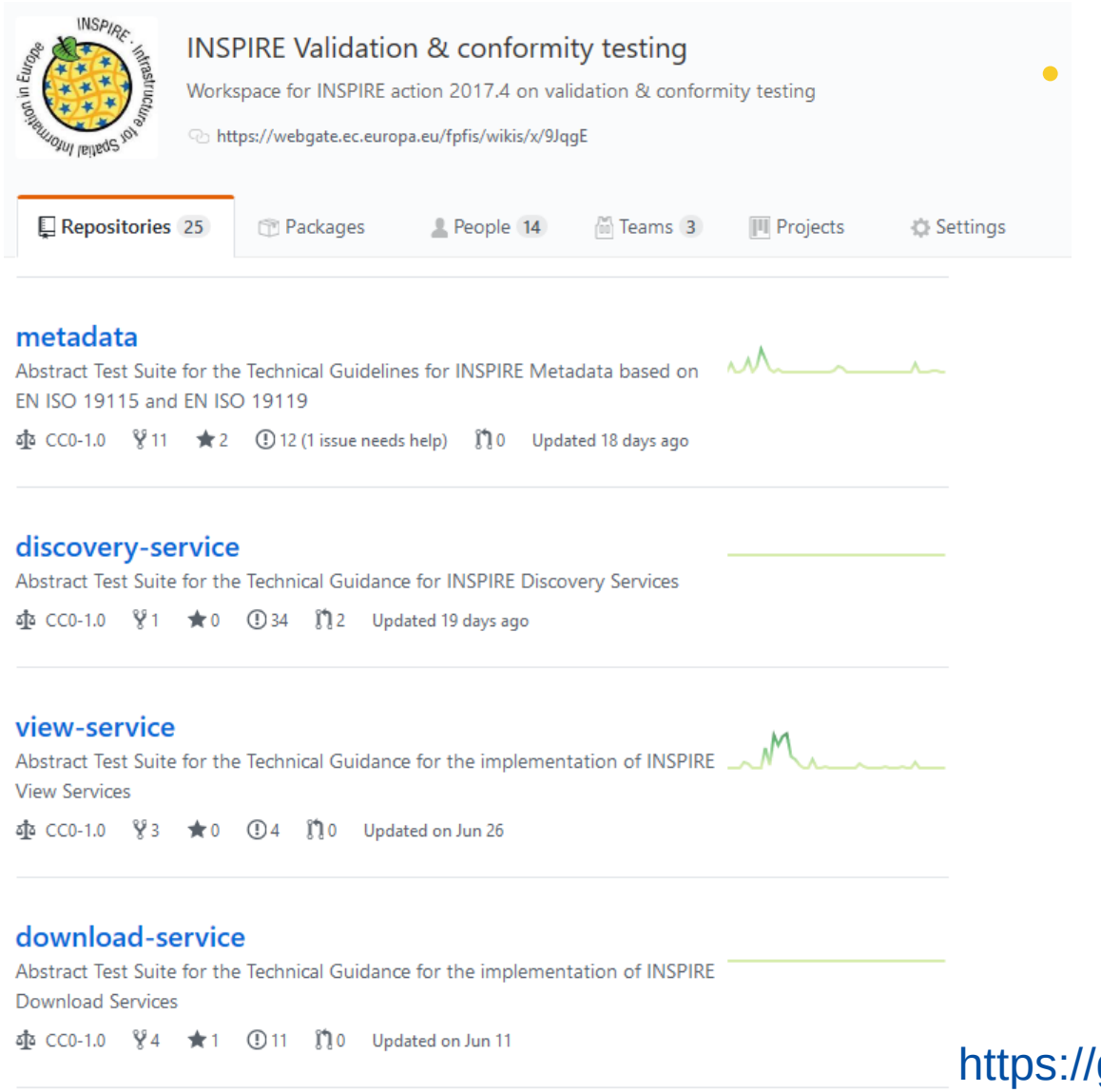
Abstract & Executable Test Suites (ATS, ETS)

- Test cases covering all requirements of INSPIRE TG are organized in ATS:
  - grouped in Conformance Classes
- Executable tests implemented for the agreed ATS:
  - testing all assertions included in each test case
- Agreed by the MIG-T through sub-group 2017.4 on validation and conformity testing



https://github.com/inspire-eu-validation

Abstract Test Suites (ATS)



- All the ATS are maintained on GitHub, licensed under CC0:
  - Metadata (TG 1.3, TG 2.0)
  - Discovery Services (CSW)
  - View Services (WMS, WMTS)
  - Download Services (WFS, Atom, WCS, SOS)
  - Data specifications
  - Data encoding
  - Annex I data specifications
  - Annex II/III data specifications ONGOING

https://github.com/inspire-eu-validation

European Commission

Abstract Test Suites (ATS)

3.1.2.3 Spatial resolution

Spatial resolution refers to the level of detail of the data set. It shall be expressed as a set of zero to many resolution distances (typically for gridded data and imagery-derived products) or equivalent scales (typically for maps or map-derived products).

INSPIRE TG

6.2. Spatial resolution

Spatial resolution refers to the level of detail of the data set. It shall be expressed as a set of zero to many resolution distances (typically for gridded data and imagery-derived products) or equivalent scales (typically for maps or map-derived products).

An equivalent scale is generally expressed as an integer value expressing the scale denominator.

A resolution distance shall be expressed as a numerical value associated with a unit of length.

The [Regulation 1205/2008], Part B, 6.2 describes an element intended for describing this information: The multiplicity of this element as defined in [Regulation 1205/2008], Part C, Table 1 is zero or more, and it is "mandatory for data sets and data set series if an equivalent scale or a resolution distance can be specified."

TG Requirement 1.5: metadata/2.0/req/datasets-and-series/spatial-resolution

Spatial resolution for data set or data set series shall be given using either equivalent scale or a resolution distance, provided that these have been specified for the described data sets. If both ways have been specified, only one of the ways shall be used.

The spatial resolution as equivalent scale shall be encoded using *gmd:spatialResolution/gmd:MD_Resolution/gmd:equivalentScale/gmd:MD_RepresentativeFraction/gmd:denominator/gco:Integer* element.

The spatial resolution as resolution distance shall be encoded using *gmd:spatialResolution/gmd:MD_Resolution/gmd:distance/gco:Distance* element.

The multiplicity of this element is 0..n.

Spatial Resolution

Purpose: Test that the spatial resolution is defined using either an scale or a distance resolution.

Prerequisites

Test method

ATS

- For every Spatial Resolution,
  - Check that Equivalent Scale or Distance element exists.
- Check that all the Spatial Resolution children are either Equivalent Scale or Distance but not both.
- If any of the checks fails, the test fails.

Reference(s)

- TG MD 3.1.2.3, Req 1.5

Test type: Automated

Notes

The multiplicity of this element is zero or more.

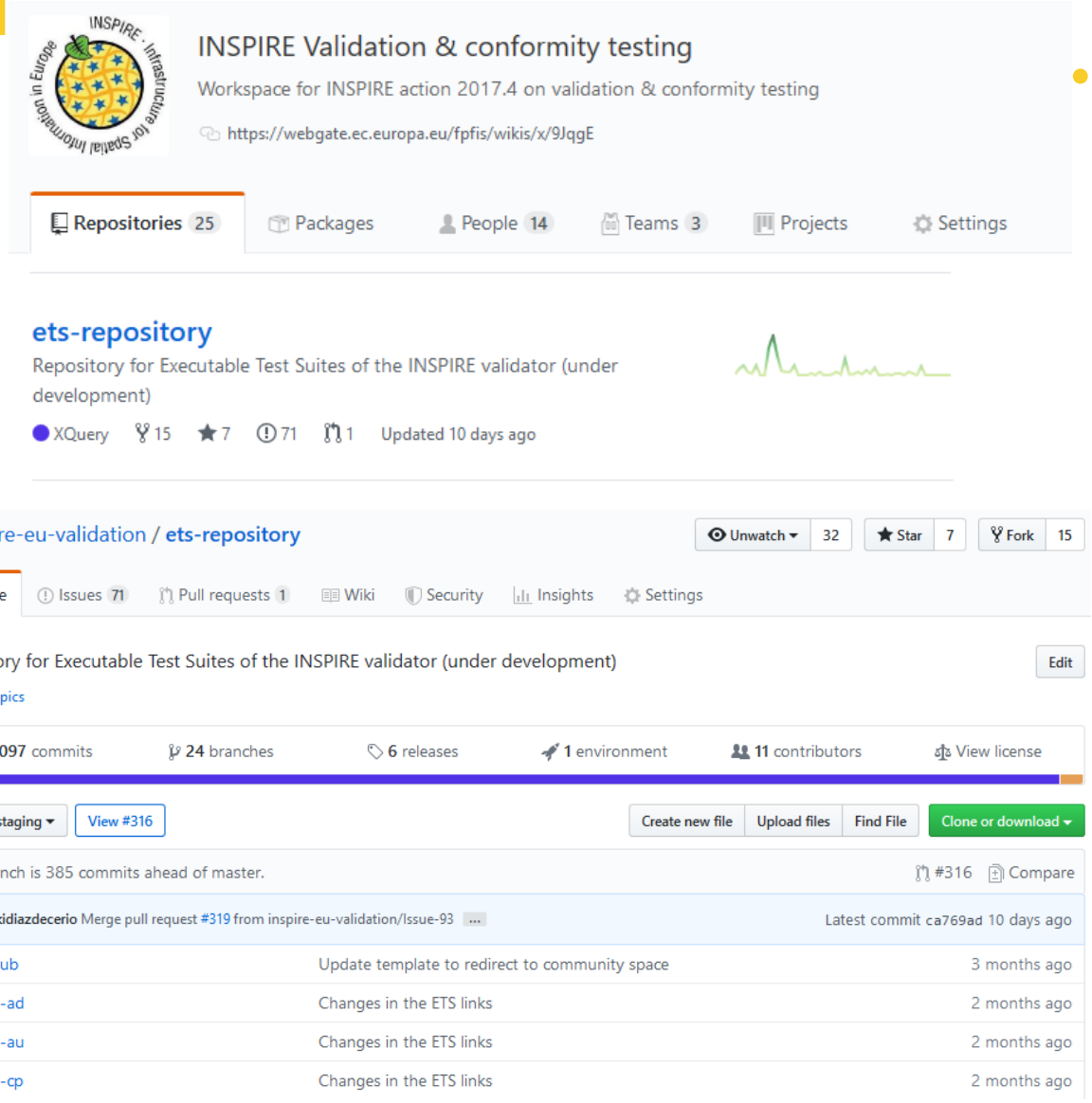
Contextual XPath references

The namespace prefixes used as described in README.md.

Abbreviation	XPath expression (relative to /gmd:MD_Metadata/gmd:identificationInfo /gmd:MD_DataIdentification/gmd:spatialResolution)
Spatial Resolution	/gmd:MD_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:spatialResolution
Equivalent Scale	gmd:MD_Resolution/gmd:equivalentScale
Distance	gmd:MD_Resolution/gmd:distance

https://github.com/inspire-eu-validation/metadata/blob/2.0/datasets-and-series/spatial-resolution.md

Executable Test Suites (ETS)



- All the ETS are maintained on GitHub, licensed under EUPL v1.2:
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  - Data specifications
  - Data encoding
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  - Annex II/III data specifications ONGOING

https://github.com/inspire-eu-validation/ets-repository

European Commission

Executable Test Suites (ETS)

ATS

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Equivalent Scale	gmd:MD_Resolution/gmd:equivalentScale
Distance	gmd:MD_Resolution/gmd:distance

ETS

```
<TestAssertion id="EID82a0442f-0185-4d6a-9b4e-0b7356613de7">
        <label>md datasets-and-series 1.5: Spatial Resolution</label>
        <description><![CDATA[<p>Test that the spatial resolution is defined using either an scale
        <p>More information: <a href="http://inspire.ec.europa.eu/id/ats/metadata/2.0/datasets-and-
        <parent ref="EIDc0a43a9d-c2bc-4ea7-a8bb-8e966700f141"/>
        <expectedResult>NOT_APPLICABLE</expectedResult>
        <expression>
let $regex_integer := '(^\d{1,40}$)'
let $regex_float := '^-?\d+\.\d{2,}'
let $messages :=
    (for $record in $records
        let $countResolutions := count($record/gmd:identificationInfo[1]/*/gmd:spatialResolution)
        let $countScale := count($record/gmd:identificationInfo[1]/*/gmd:spatialResolution/gmd:MD_Resolutio
        let $countDistance := count($record/gmd:identificationInfo[1]/*/gmd:spatialResolution/gmd:MD_Resolu
        let $invalidScale :=
            for $x in $record/gmd:identificationInfo[1]/*/gmd:spatialResolution/gmd:MD_Resolution/gmd:e
            return
            if(matches($x/text(), $regex_integer)) then ()
            else $x
        let $invalidDistance :=
            for $x in $record/gmd:identificationInfo[1]/*/gmd:spatialResolution/gmd:MD_Resolution/gmd:d
            return
            if(matches($x/text(), $regex_float)) then ()
            else $x
        let $rid := $record/gmd:fileIdentifier/*/text()
        return
        if (($countResolutions &gt; 0) and ($countScale = 0) and ($countDistance = 0)) then
            local:addMessage('TR.noResolutions', map { 'filename': local:filename($record), 'id': $rid
        else if(count($invalidScale) != 0) then
            local:addMessage('TR.invalidScale', map { 'filename': local:filename($record), 'id': $rid,
        else if(count($invalidDistance) != 0) then
```

https://github.com/inspire-eu-validation/ets-repository/blob/2.0/metadata/2.0/datasets-and-series/sample_ets_2.0.xml

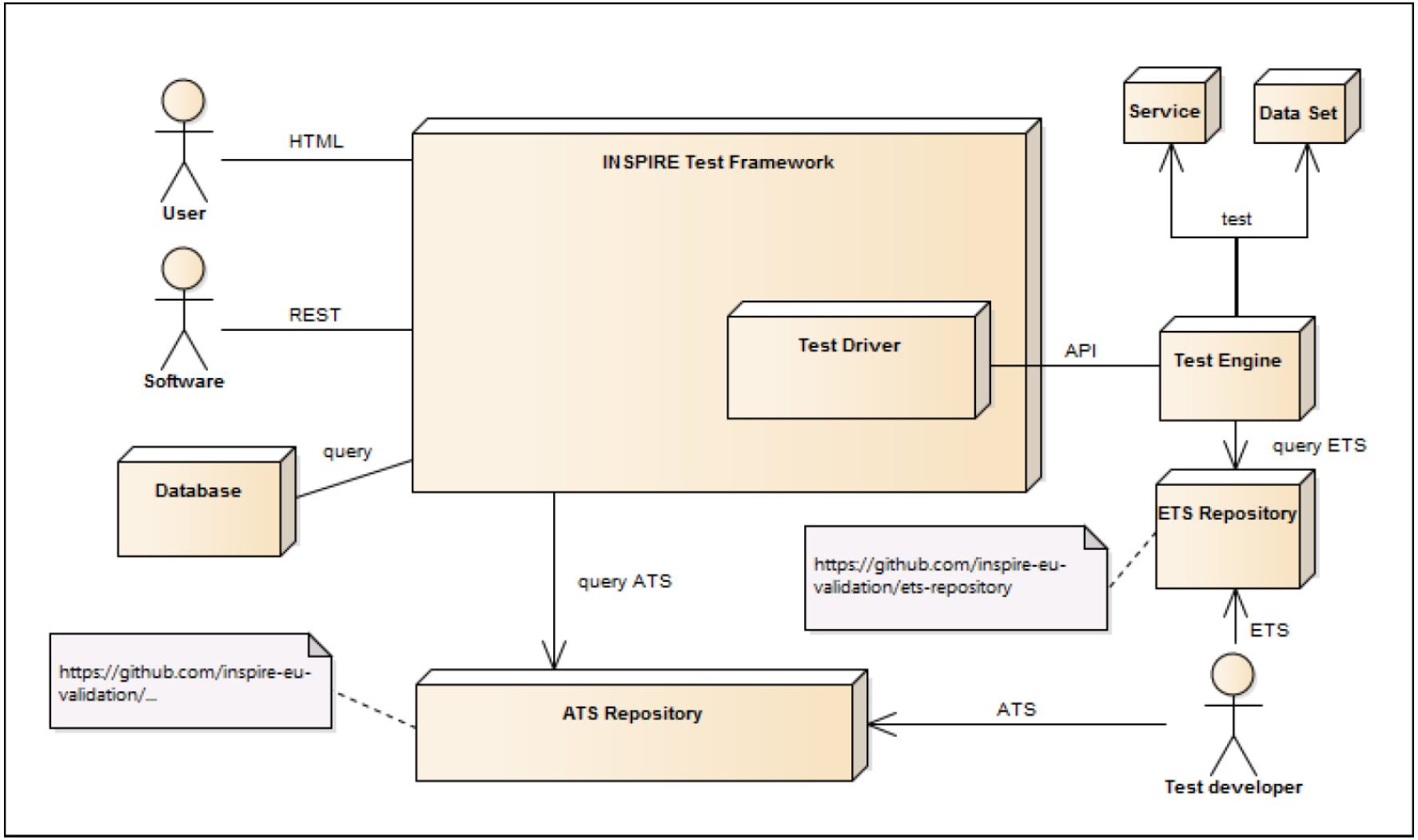
Testing Framework (ETF)

- A Testing Framework is a software to run ETS.
- The INSPIRE Validator makes use and further extends ETF:
  - a testing framework to validate data, metadata & web services in SDIs
  - developed since 2010
  - open source under EUPL v1.2
  - current version: 2.0 (January 2019), next version planned for July 2020
  - ETF design goals:
    - user-friendly
    - consistent with the standards (ISO/OGC)
    - capable of testing all resources in an SDI
  - manuals for users, developers & admins (http://docs.etf-validator.net)

Testing Framework (ETF)

- Any ETF deployment is composed of:
  - a database, one or more test engines, a servlet container
- Currently supported test engines to execute ETS are:
  - SoapUI for testing web services (to be discontinued)
  - BaseX for testing sets of XML documents
  - TEAM Engine – the tool used by the OGC CITE tests
- ETF can be used by:
  - a responsive web application (https://github.com/etf-validator/etf-webapp)
  - a REST API (http://docs.etf-validator.net/v2.0/Developer_manuals/WEB-API.html)
- The easiest way to deploy ETF is a Docker container.

INSPIRE Validator – Technical context



https://etf-validator.net | https://github.com/etf-validator

European Commission

INSPIRE Validator – Web application

- 2 instances:
  - staging instance (http://staging-inspire-validator.eu-west-1.elasticbeanstalk.com/etf-webapp)
    - includes bug fixes & latest features for testing purposes
  - production instance (http://inspire.ec.europa.eu/validator)
    - includes only consolidated developments

https://inspire.ec.europa.eu/validator
http://staging-inspire-validator.eu-west-1.elasticbeanstalk.com/etf-webapp

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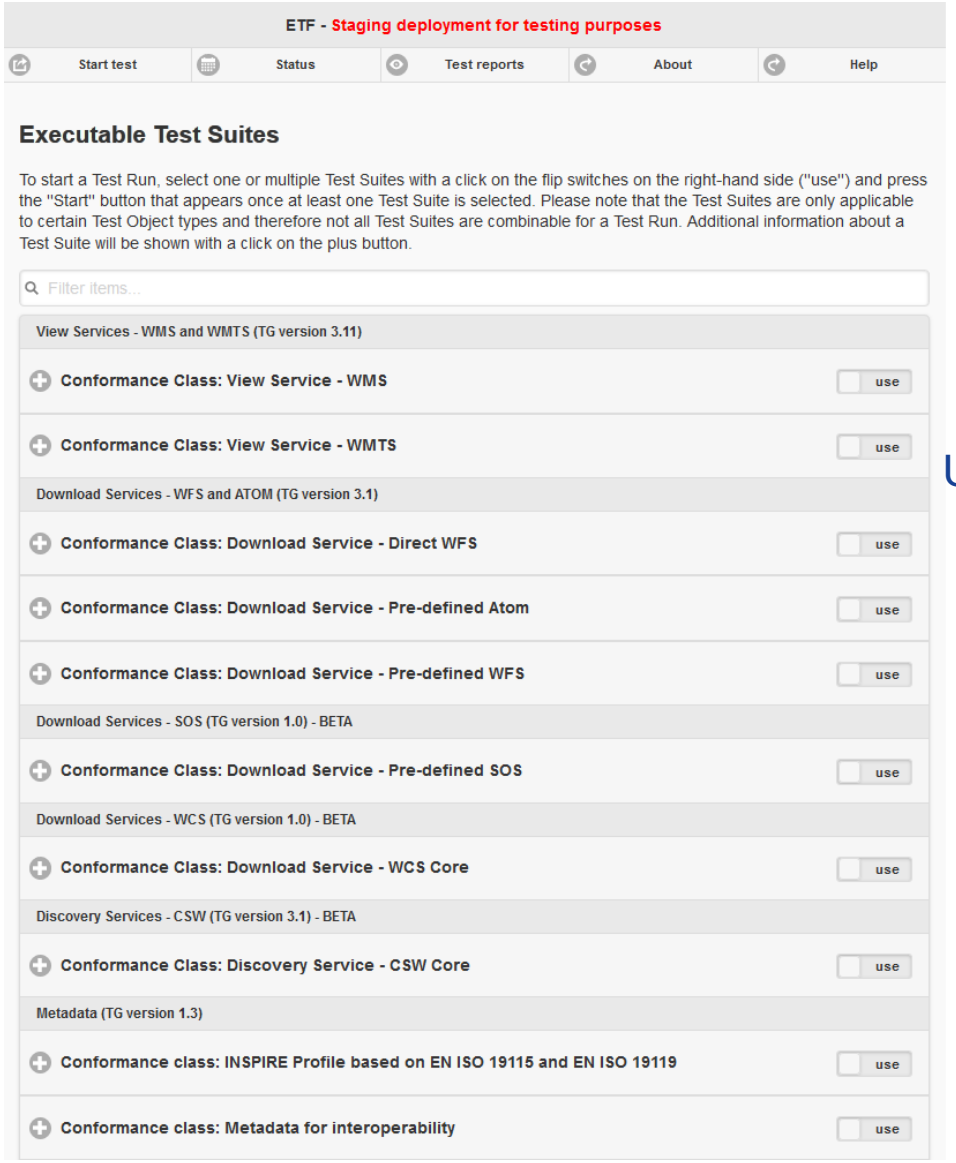
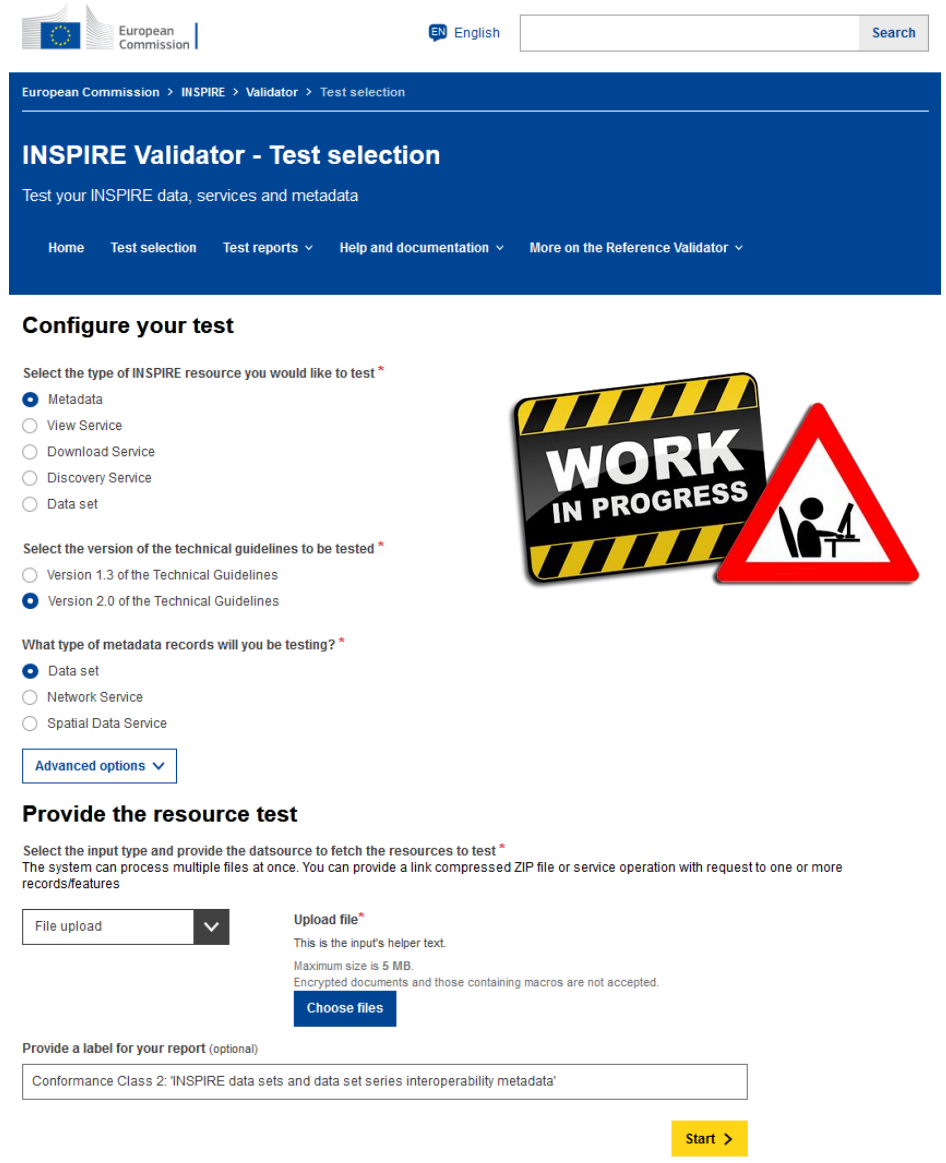
  - production instance (http://inspire.ec.europa.eu/validator)
    - includes only consolidated developments
- Both instances deployed on the cloud:
  - improve performance
  - keep up with peaks of requests
  - minimize downtime on maintenance

https://inspire.ec.europa.eu/validator
http://staging-inspire-validator.eu-west-1.elasticbeanstalk.com/etf-webapp

INSPIRE Validator – Web application demo

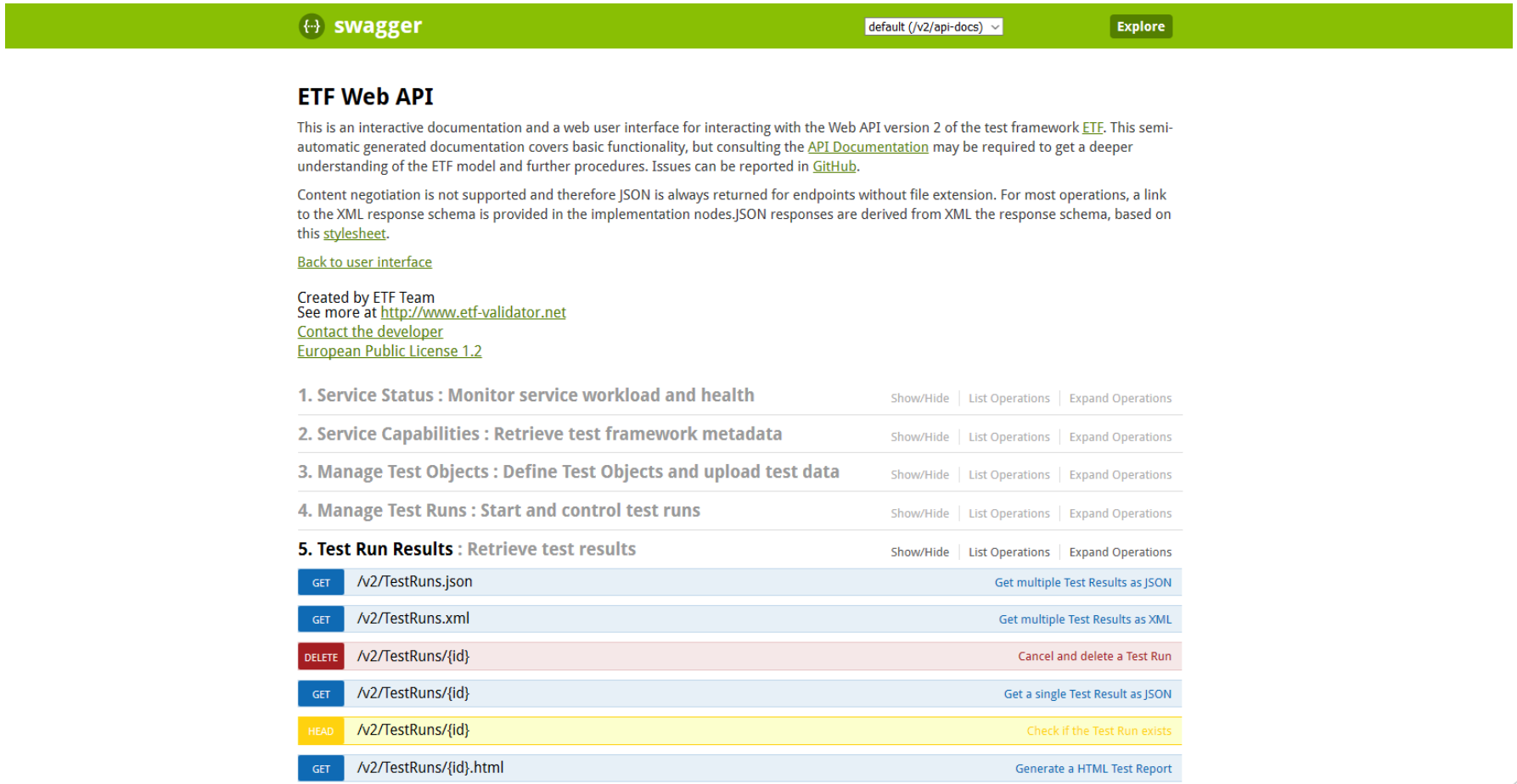


new INSPIRE-based
UI under development



INSPIRE Validator – REST API

- Documented using OpenAPI:



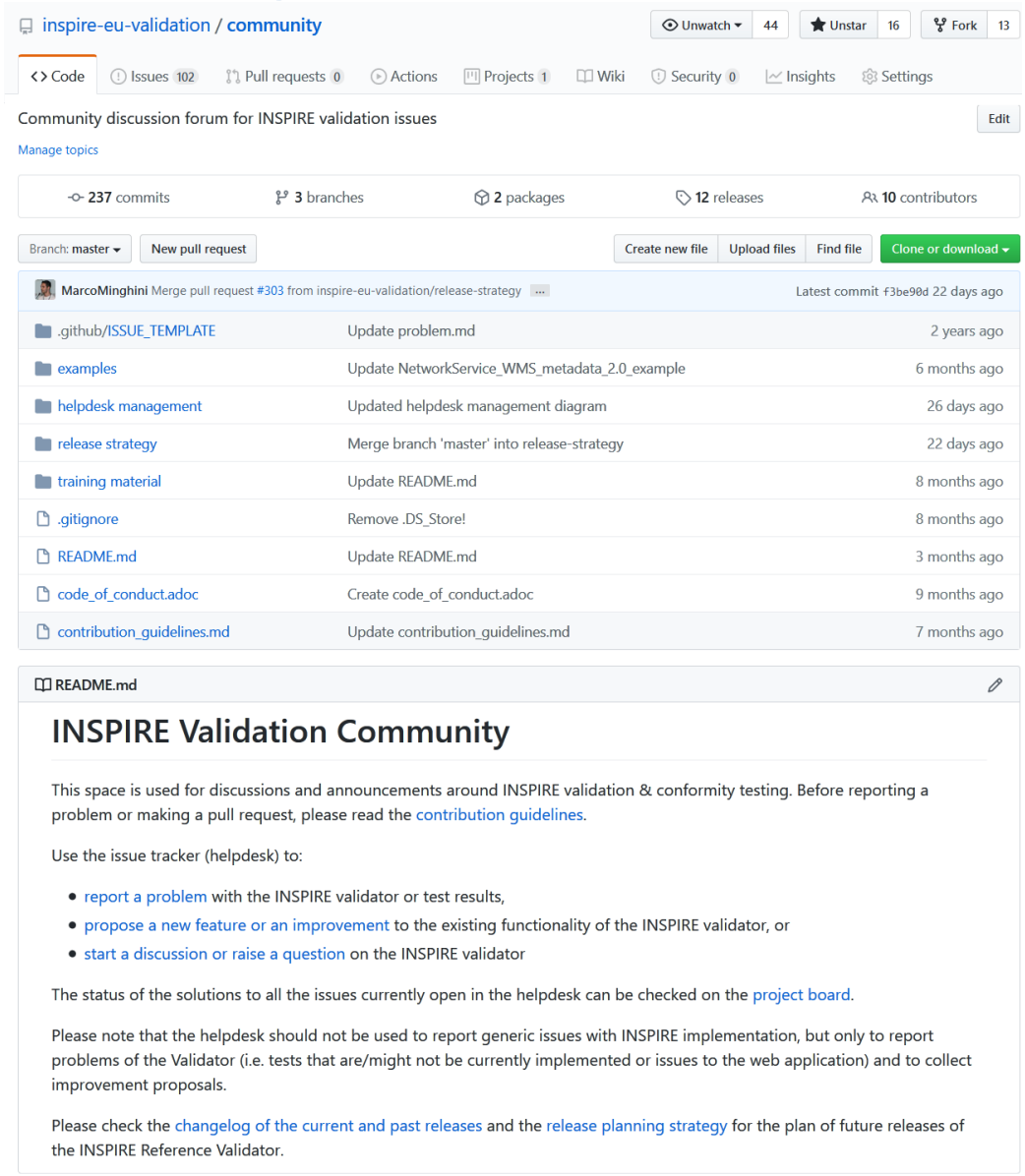
http://inspire.ec.europa.eu/validator/swagger-ui.html

European Commission

INSPIRE Validation community

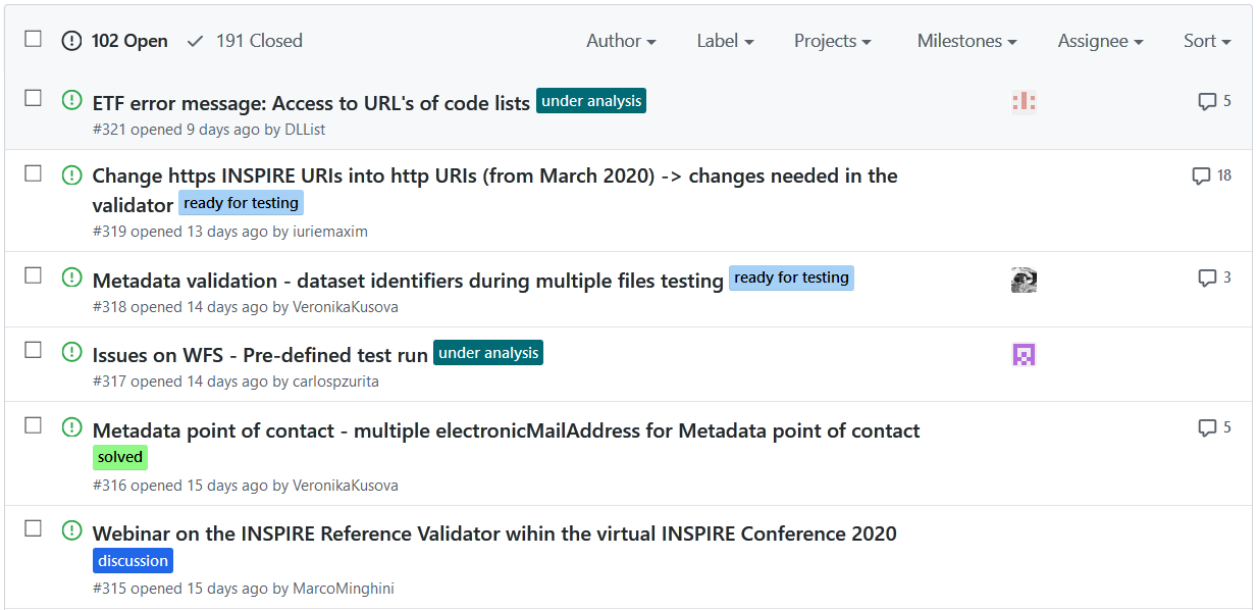
- The central place of interaction for the INSPIRE community:
  - helpdesk
  - release planning
  - changelog of past releases
  - training material & sample resources

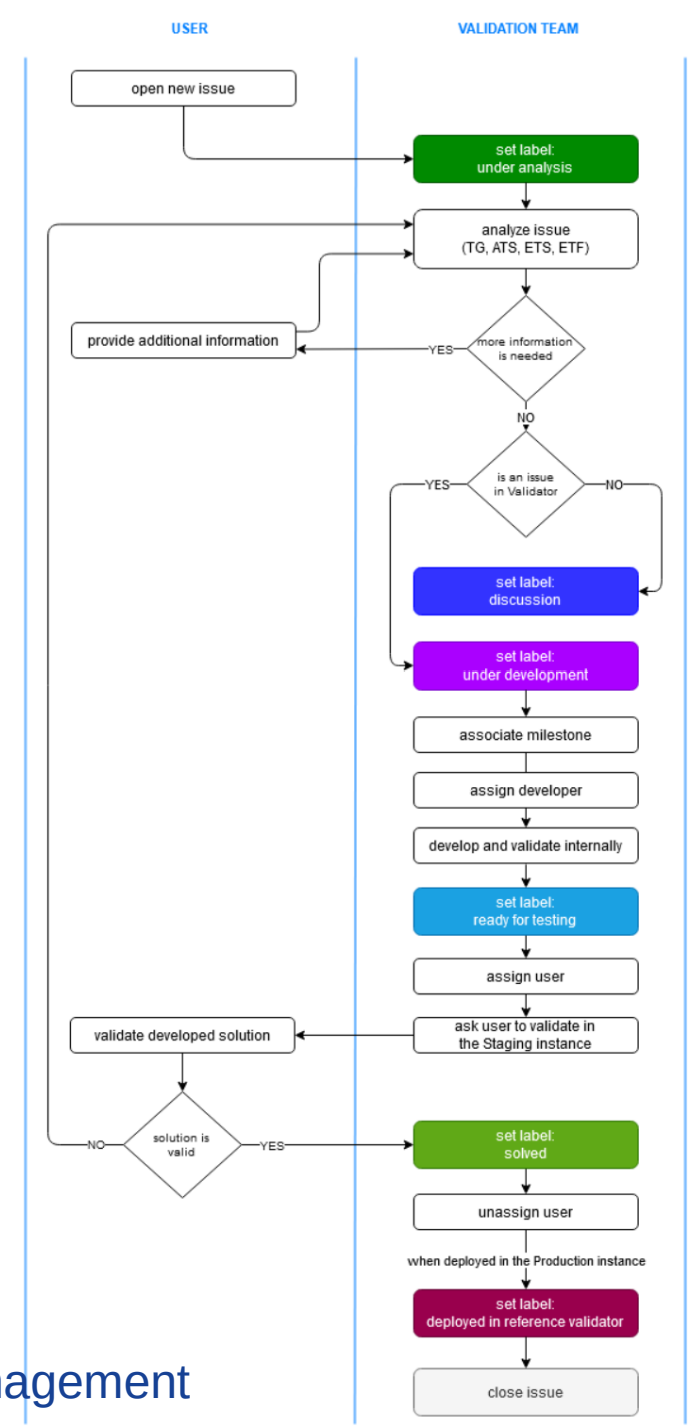
https://github.com/inspire-eu-validation/community



INSPIRE Validation community – Helpdesk

- Used by the community to report problems, propose new features & start discussions.
- Managed through a predefined workflow based on labels to identify the implementation status of fixes.

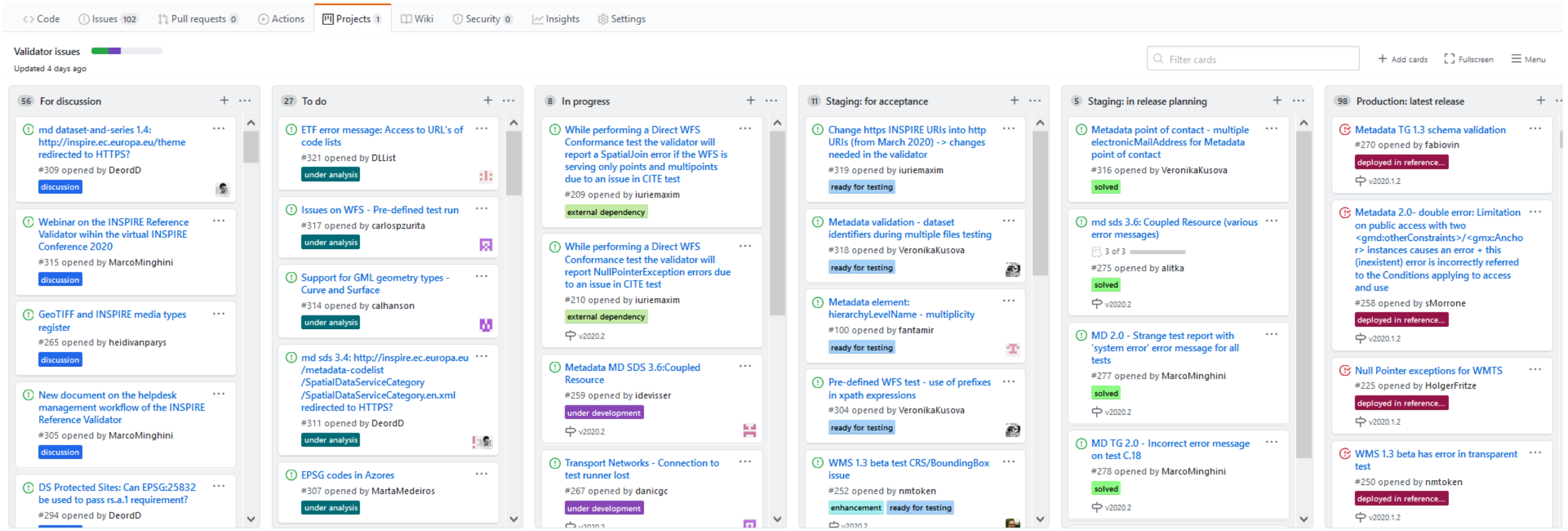




https://github.com/inspire-eu-validation/community/issues
https://github.com/inspire-eu-validation/community/tree/master/helpdesk%20management

INSPIRE Validation community – Helpdesk

- The implementation status of all fixes is summarized in a project board:



https://github.com/inspire-eu-validation/community/projects/1

European Commission

INSPIRE Validation community – Release planning

- A document describing the annual plan for future releases of the INSPIRE Reference Validator:
  - designed to help data providers prepare themselves for the annual Monitoring deadline in December
  - it describes:
    - the number of scheduled releases
    - the content of each release
    - the management of releases

Table of contents

https://github.com/inspire-eu-validation/community/tree/master/release%20strategy

INSPIRE Validation community – Release planning

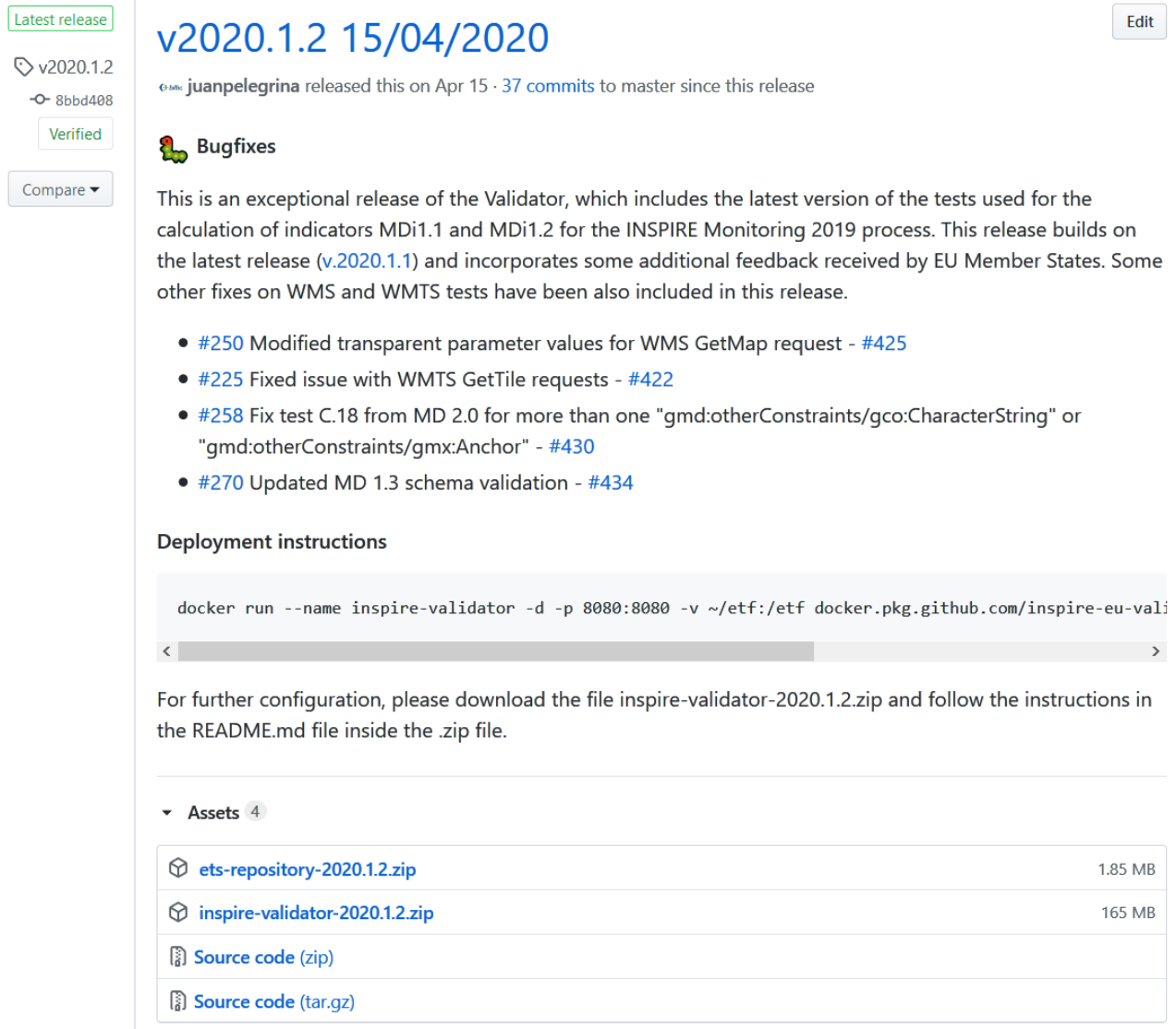
Annual releases

- **v2020.1 - 15/03/2020**: it includes both breaking and non-breaking changes.
- **v2020.2 - 15/06/2020**: it includes both breaking and non-breaking changes.
- **v2020.3 - 15/09/2020**: it only includes non-breaking changes, so that any INSPIRE resource passing the test in the previous release automatically passes the same test in this release. This release is the one used for the end-of-year Monitoring process.
- **v2021.b - 15/09/2020**: it includes both breaking and non-breaking changes which are planned to become effective (for Monitoring purposes) in the following year.
- **v2021.0 - 15/01/2021**: it includes both breaking and non-breaking changes, including those available in the beta instance of the previous year.

https://github.com/inspire-eu-validation/community/tree/master/release%20strategy

INSPIRE Validation community – Changelog of past releases

- For each past release of the Validator (since 2019), it includes:
  - changelog (new features, bugfixes, enhancements, documentation)
  - deployment instructions
  - source code



Latest release

v2020.1.2

8bbd408

Verified

Compare

v2020.1.2 15/04/2020

Edit

juanpelegrina released this on Apr 15 · 37 commits to master since this release

Bugfixes

This is an exceptional release of the Validator, which includes the latest version of the tests used for the calculation of indicators MDi1.1 and MDi1.2 for the INSPIRE Monitoring 2019 process. This release builds on the latest release (v.2020.1.1) and incorporates some additional feedback received by EU Member States. Some other fixes on WMS and WMTS tests have been also included in this release.

- #250 Modified transparent parameter values for WMS GetMap request - #425
- #225 Fixed issue with WMTS GetTile requests - #422
- #258 Fix test C.18 from MD 2.0 for more than one "gmd:otherConstraints/gco:CharacterString" or "gmd:otherConstraints/gmx:Anchor" - #430
- #270 Updated MD 1.3 schema validation - #434

Deployment instructions

```
docker run --name inspire-validator -d -p 8080:8080 -v ~/etf:/etf docker.pkg.github.com/inspire-eu-vali
```

For further configuration, please download the file inspire-validator-2020.1.2.zip and follow the instructions in the README.md file inside the .zip file.

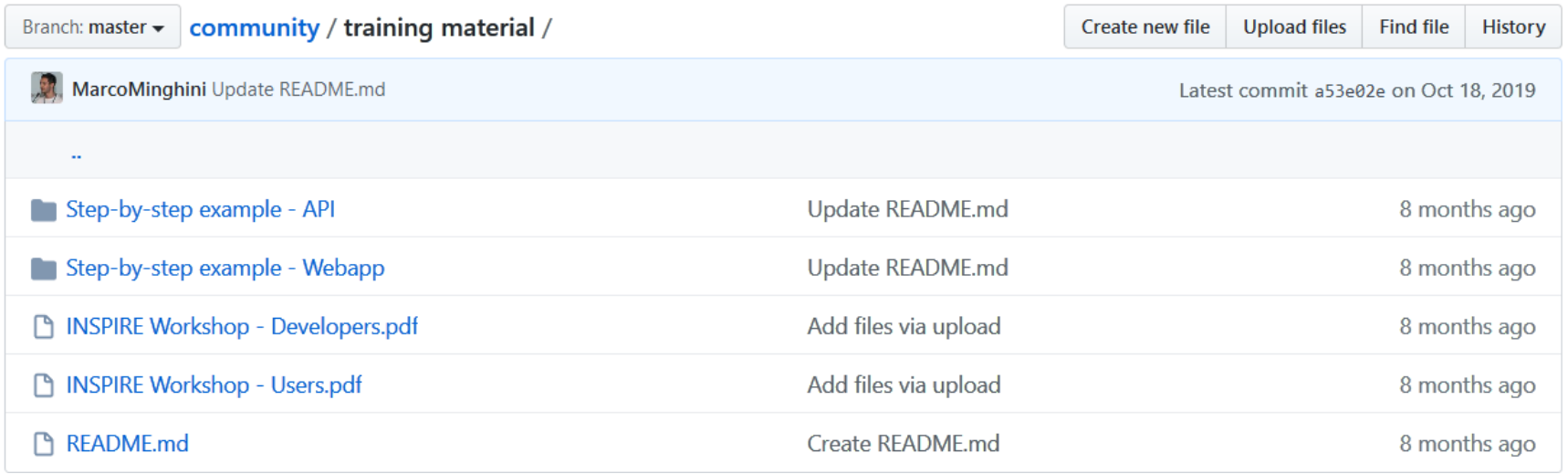
Assets 4

ets-repository-2020.1.2.zip	1.85 MB
inspire-validator-2020.1.2.zip	165 MB
Source code (zip)	
Source code (tar.gz)	

https://github.com/inspire-eu-validation/community/releases

European Commission

INSPIRE Validation community – Training material & sample resources



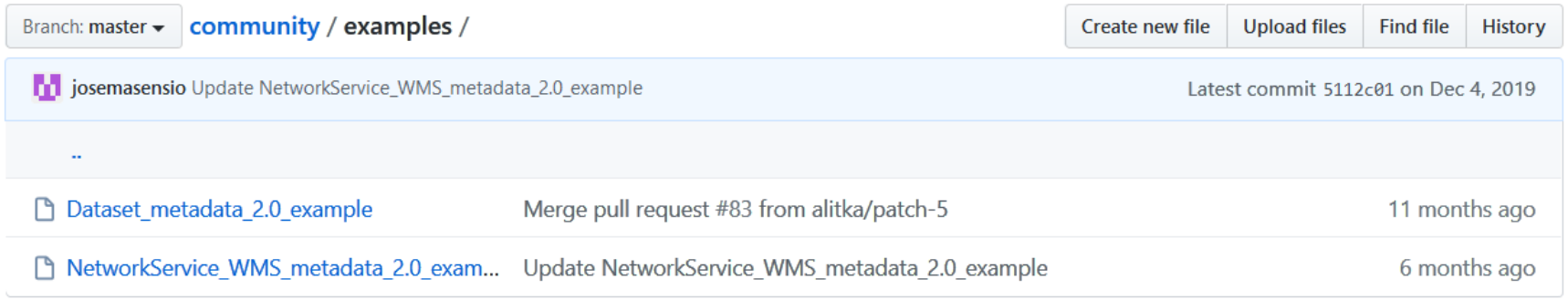
Branch: master ▾ **community / training material /**

Create new file | Upload files | Find file | History

MarcoMinghini Update README.md — Latest commit a53e02e on Oct 18, 2019

..		
Step-by-step example - API	Update README.md	8 months ago
Step-by-step example - Webapp	Update README.md	8 months ago
INSPIRE Workshop - Developers.pdf	Add files via upload	8 months ago
INSPIRE Workshop - Users.pdf	Add files via upload	8 months ago
README.md	Create README.md	8 months ago

https://github.com/inspire-eu-validation/community/tree/master/training%20material



Branch: master ▾ **community / examples /**

Create new file | Upload files | Find file | History

josemasensio Update NetworkService_WMS_metadata_2.0_example — Latest commit 5112c01 on Dec 4, 2019

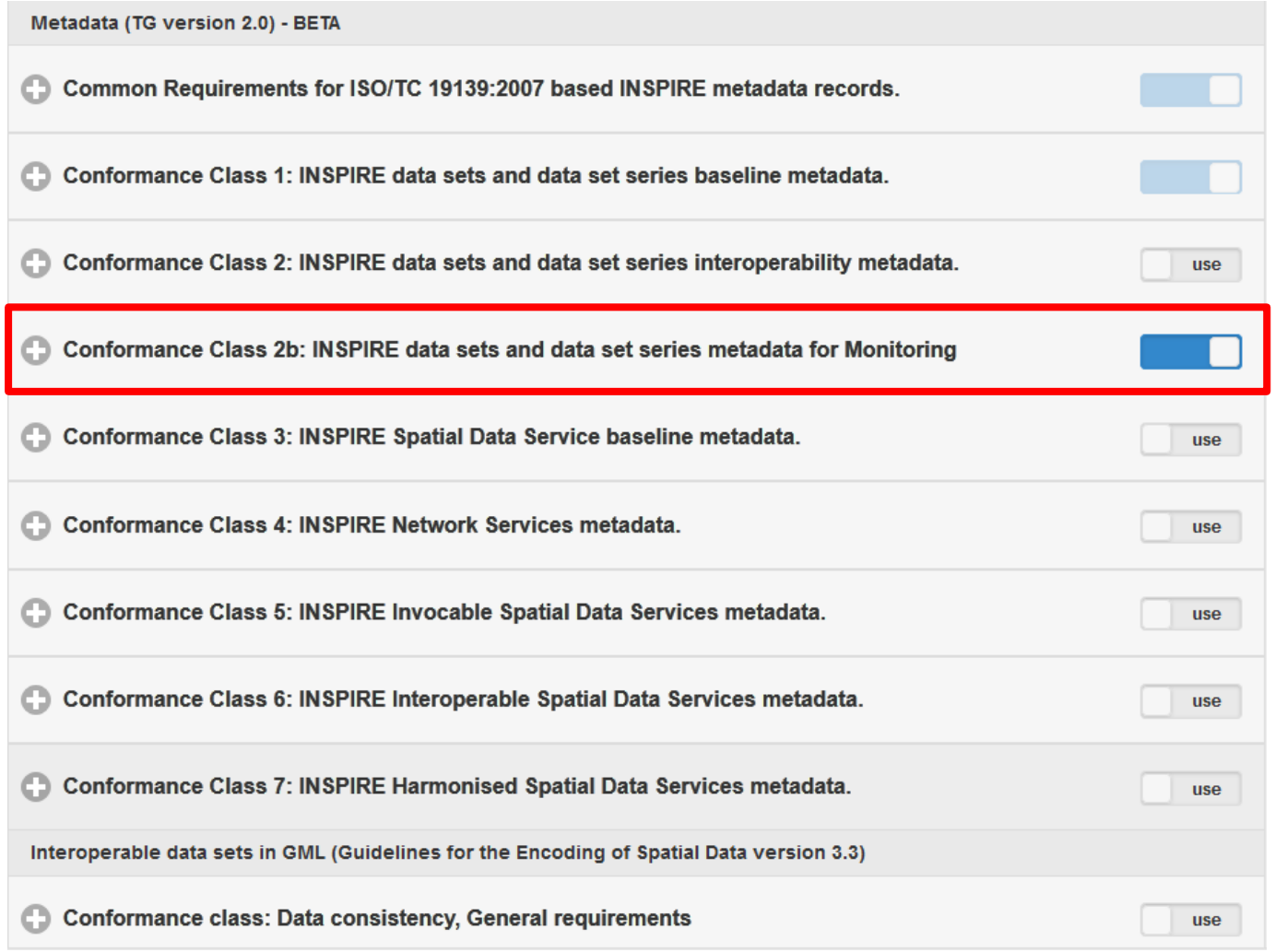
..		
Dataset_metadata_2.0_example	Merge pull request #83 from alitka/patch-5	11 months ago
NetworkService_WMS_metadata_2.0_exam...	Update NetworkService_WMS_metadata_2.0_example	6 months ago

https://github.com/inspire-eu-validation/community/tree/master/examples

European Commission

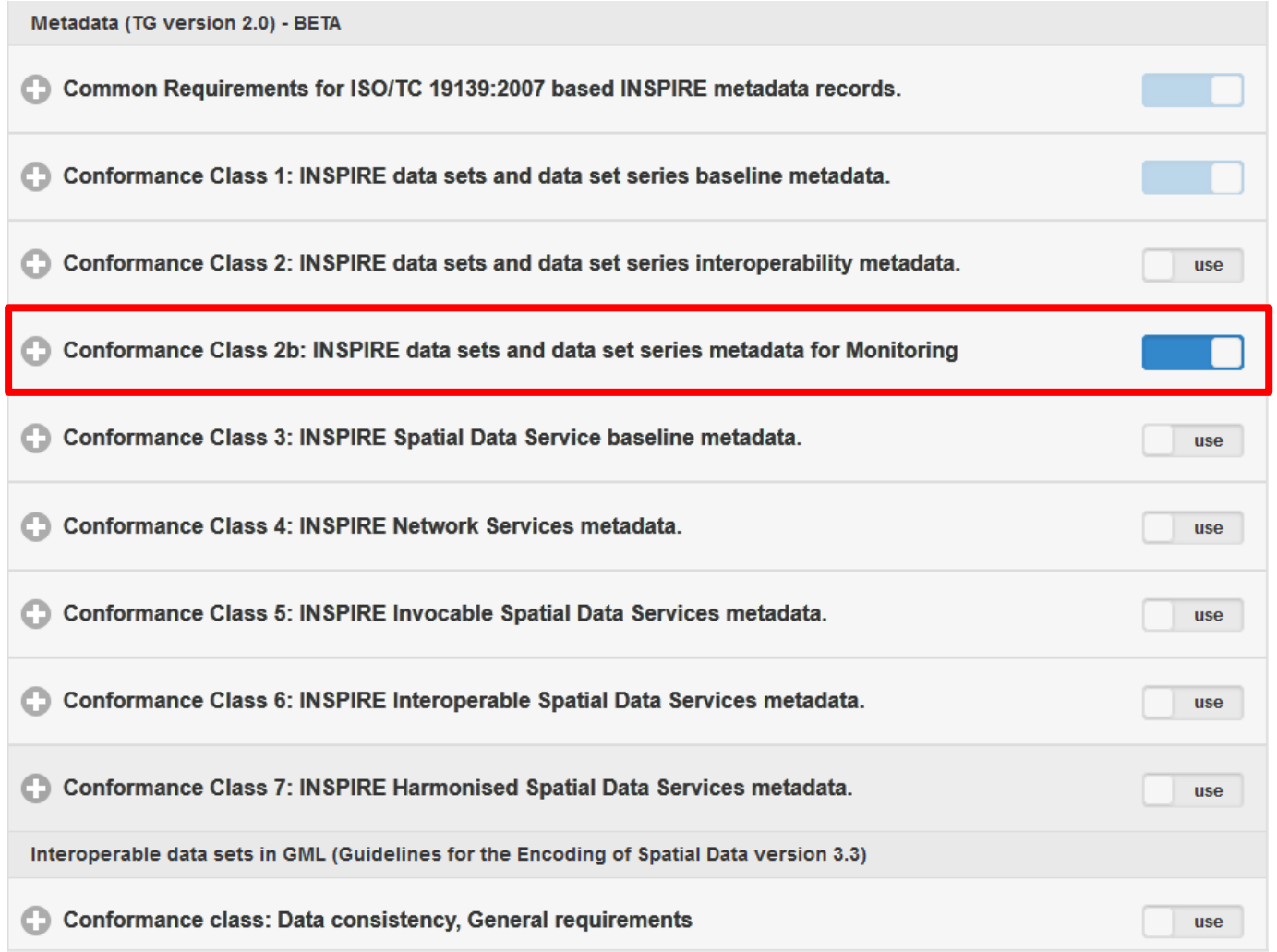
Some news on the Validator

- New ATS / ETS for data set MD (TG 2.0):
  - Spatial Scope
  - Priority Data Sets
- available in the Staging instance for testing (https://github.com/inspire-eu-validation/community/issues/272)



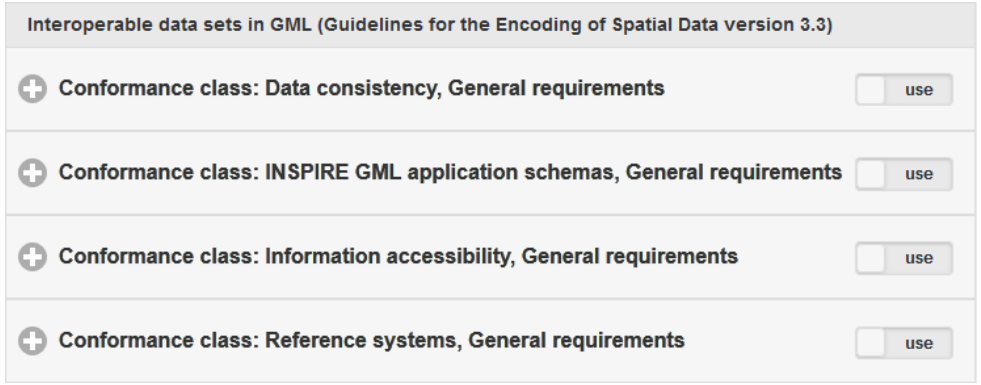
Some news on the Validator

- New ATS / ETS for data set MD (TG 2.0):
  - Spatial Scope
  - Priority Data Sets
- available in the Staging instance for testing (https://github.com/inspire-eu-validation/community/issues/272)
- Performance improvements due to schema caching



Future work on the Validator

- New ATS / ETS for:
  - Annex II / III Data Specifications
    - AM available in the Staging instance, LU under development
    - they will be added incrementally
    - data sets from Annex II / III can already be tested against cross-cutting requirements



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  - Download Services based on OGC API - Features
    - based on the requirements to setup an INSPIRE Download Service based on the OGC API - Features standard: https://github.com/INSPIRE-MIF/gp-ogc-api-features/blob/master/spec/oapif-inspire-download.md

Thank you!

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European Commission

Slido session 2

INSPIRE 2020 Online Conference – June 9, 2020

Joint Research Centre