12. INSPIRE ESPUS školenie „INSPIRE validácia“

Intro do INSPIRE validácie

Operačný program Efektívna verejná správa

Európska únia
Európsky sociálny fond

MINISTERSTVO
ŽIVOTNÉHO PROSTREDIA
SLOVENSKEJ REPUBLIKY

ESPUS
Efektívna správa priestorových údajov a služieb

12. INSPIRE ESPUS školenie „INSPIRE validácia“

Intro do INSPIRE validácie

18.11.2022

CC BY

Operačný program
Efektívna
verejná správa

Európska únia
Európsky sociálny fond

Prehľad

INSPIRE validácia

- Legislatívne požiadavky
- Technické odporúčania

Úroveň validácie

- ATS, ETS

Predmet validácie

- metaúdaje
- služby
- interoperabilita
- linkovanie

ESPUS

Efektívna správa priestorových údajov a služieb

INSPIRE validácia

INSPIRE validácia

- neexistuje presná definícia v legislatíve
- účelom je overenie súladu s požiadavkami smernice INSPIRE
- hodnotenie stavu implementácie smernice INSPIRE

INSPIRE validácia - legislatívne požiadavky

- neexistuje samostatná legislatíva pre požiadavky validácie
- vyžaduje sa zabezpečenie súladu s jednotlivými implementačnými pravidlami pre oblasti

  - Metaúdaje
    - Nariadenie 1205/2008
  - Sieťové služby
    - Nariadenie 976/2009
  - Súbory priestorových údajov
    - Nariadenie 1089/2010

INSPIRE validácia - legislatívne požiadavky

- VYKONÁVACIE ROZHODNUTIE KOMISIE (EÚ) 2019/1372 zo 19. augusta 2019,ktorým sa vykonáva smernica Európskeho parlamentu a Rady 2007/2/ES, pokiaľ ide o monitorovanie a podávanie správ
  - Článok 4 - Monitorovanie súladu metaúdajov s nariadením Komisie (ES) č. 1205/2008
  - Článok 5 - Monitorovanie súladu súborov priestorových údajov s nariadením Komisie (EÚ) č. 1089/2010 o interoperabilite
  - Článok 7 - Monitorovanie súladu sieťových služieb s nariadením (ES) č. 976/2009

INSPIRE validácia - technické požiadavky

- Legislatívne nezáväzné požiadavky na úrovni Technických návodov INSPIRE pre jednotlivé oblasti

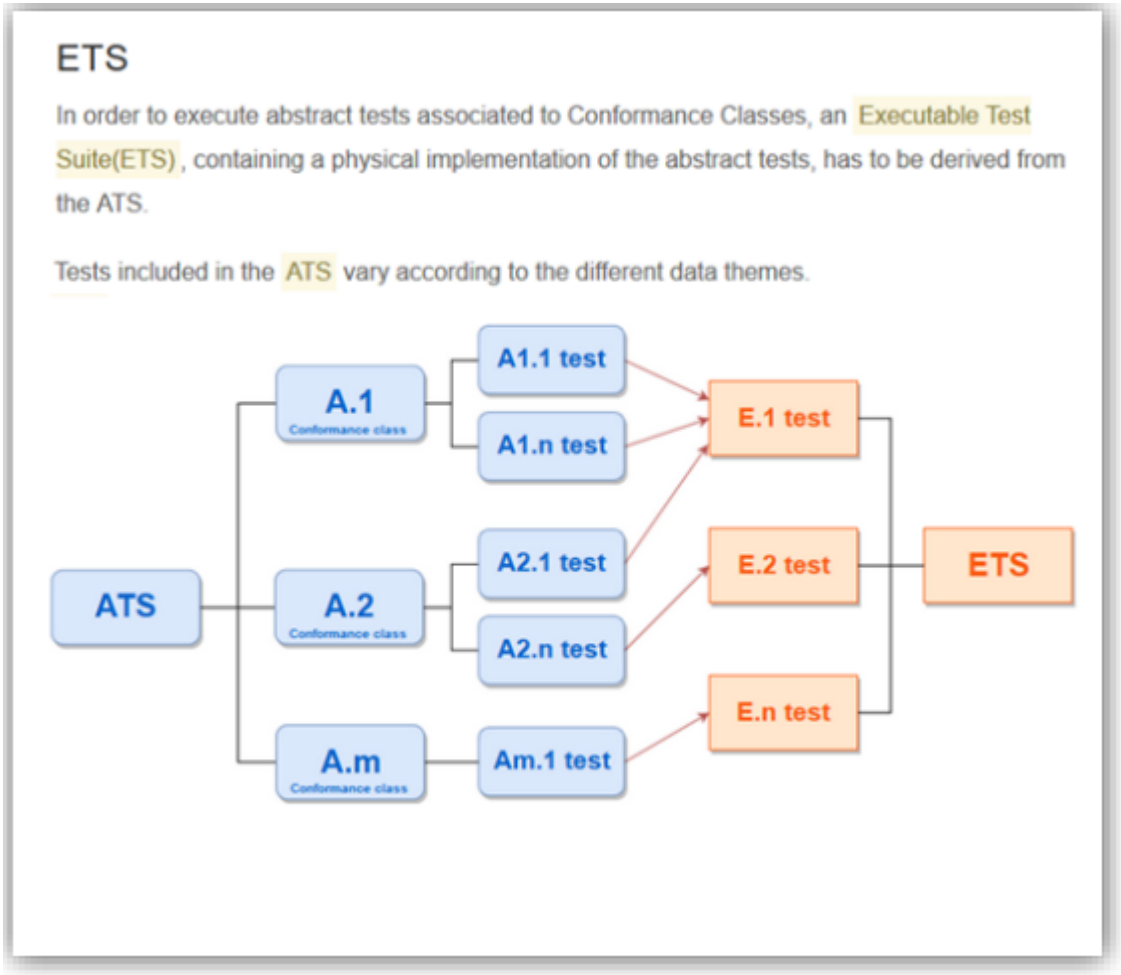
TG Requirement 1.1: metadata/2.0/req/datasets-and-series/resource-type

The resource type shall be declared as "dataset" or "series" using the first *gmd:hierarchyLevel* child element of *gmd:MD_Metadata*. The *gmd:hierarchyLevel* shall contain a *gmd:MD_ScopeCode* element[32].

Implementation Requirement 6 The `<inspire_common:MetadataURL>` element within the extended INSPIRE capabilities of an **[ISO 19128]** – WMS 1.3.0 `<wms:Capability>` element shall be used to reference the INSPIRE service metadata available through an INSPIRE Discovery Service. Mandatory **[ISO 19128]** – WMS 1.3.0 metadata elements shall be mapped to INSPIRE metadata elements to implement a consistent interface.

INSPIRE validácia - ATS

- Abstract test suite
- Abstraktná množina testov, na báze ktorých sa testuje súlad
- Generická základná množina testov
- Testy sú spájané do tzv. conformance classes
- ATS je definované pre všetky oblasti implementácie INSPIRE
- ANNEX A tech. návody



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

INSPIRE validácia - ATS metaúdaje

A.1 ATS: Metadata for INSPIRE datasets and data set series

A.1.1 Conformance Class 1: Baseline metadata for data sets and data set series

This section contains test cases covering all the TG Requirements of Conformance Class 1: INSPIRE data sets and data set series baseline metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/datasets-and-series).

A.1.2 Conformance Class 2: Interoperability metadata for data sets and data set series

This section contains test cases covering all the TG Requirements of Conformance Class 2: INSPIRE data sets and data set series interoperability metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/isdss).

Req#	Description	Covered by test(s)	IR reference(s)
2.1	Coordinate Reference System	crs	IR MD, Part B 1.3, Part D 1
2.2	Coordinate Reference System Identifiers	crs-id	IR MD, Part B 1.3, Part D 1
2.3	Temporal Reference System	temporal-rs	IR MD, Part B 1.4
2.4	Spatial Representation Type	spatial-representation-type	IR MD, Part B 1.4
2.5	Character Encoding	character-encoding	IR MD Part B 1.5
2.6	Data Encoding	data-encoding	IR MD Part B 1.5
2.7	Topological Consistency Descriptive Results	topological-consistency-quantitative-results	
2.8	Topological Consistency Quantitative Results	topological-consistency-descriptive-results	IR MD Part B 1.7

Req#	Description	Covered by test(s)	
1.1	Resource Type	resource-type	
1.2	Only One md Data Identification	only-one-md-data-identifica	
1.3	Unique Resource Identifier	dataset-uid	
1.4	INSPIRE Theme Keyword	inspire-theme-keyword	
1.5	Spatial Resolution	spatial-resolution	
1.6	Resource Language	resource-language	
1.7	Topic Category	topic-category	
1.8	Resource Locator for Data Set or Series	resource-locator	
1.9	Data quality info: One Data Quality Element	one-data-quality-element	
1.10	Data quality info: Conformity	conformity	
1.11	Data quality infi: Lineage	lineage	

Req#	Description	Covered by test(s)	IR reference(s)
C.1	XML Schema	xml-schema	
C.2	Root Element	root-element	
C.3	Encoding of Code List Values	code-list-value	
C.4	Encoding of Free Text Values	free-text	
C.5	Language Code	metadata-language-code	
C.6	Metadata Point of Contact	md-point-of-contact	
C.7	Metadata Date	md-date	
C.8	Resource Title	resource-title	
C.9	Resource Abstract	resource-abstract	
C.10	Responsible Organisation	responsible-organisation	
C.11	Temporal References	temporal-reference	
C.12	Not More than one Date of Creation	max-1-date-of-creation	
C.13	Not More than one Date of Last Revision	max-1-date-of-last-revision	
C.14	Temporal Extent	temporal-extent	
C.15	Keyword Originating CV	keyword-originating-cv	
C.16	Group Keywords by CV	group-keywords-by-cv	
C.17	Limitations on Public Access	limitations-on-public-access	
C.18	Conditions for Access and Use	conditions-for-access-and-use	
C.19	Geographical Bounding Box	bounding-box	
C.20	Conformity Statement	conformity	
C.21	Conformity Specification	conformity-specification	
C.22	Conformity Degree	conformity-degree	

https://inspire.ec.europa.eu/sites/default/files/documents/metadata/inspire-tg-metadata-iso19139-2.0.1.pdf

INSPIRE validácia - ATS metaúdaje

A.2 ATS: Metadata for INSPIRE Spatial Data Services

A.2.1 Conformance Class 3: Baseline metadata for Spatial Data Services

This section contains test cases covering all the TG Requirements of Conformance Class 3: INSPIRE Spatial Data Service baseline metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/sds).

A.2.2 Conformance Class 4: Metadata for INSPIRE Network Services

This section contains test cases covering all the TG Requirements of Conformance Class 4: INSPIRE Network Services metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/ns).

A.2.3 Conformance Class 5: Metadata for Invocable Spatial Data Services

This section contains test cases covering all the TG Requirements of Conformance Class 5: INSPIRE Invocable Spatial Data Services metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/sds-invocable).

A.2.4 Conformance Class 6: Metadata for Interoperable Spatial Data Services

This section contains test cases covering all the TG Requirements of Conformance Class 6: INSPIRE Interoperable Spatial Data Services metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/sds-interoperable).

A.2.5 Conformance Class 7: Metadata for Harmonised Spatial Data Services

This section contains test cases covering all the TG Requirements of Conformance Class 7: INSPIRE Harmonised Spatial Data Services metadata (http://inspire.ec.europa.eu/id/ats/metadata/2.0/sds-harmonised).

Req#	Description	Covered by test(s)
3.1	Resource Type	resource-type
3.2	Service Identification Element	service-identification-element
3.3	Spatial Resolution	spatial-resolution
3.4	Spatial Data Service Category	sds-category
3.5	Spatial Data Service Type	sds-type
3.6	Linking to Provided Data Sets Using Coupled Resource	coupled-resource
3.7	Resource Locator for Services	resource-locator
3.8	Data Quality Info Section	only-one-dq-element

Req#	Description	Covered by test(s)
4.1	Spatial Data Service Type	sds-type

Req#	Description	Covered by test(s)
5.1	Spatial Data Service Type	sds-type
5.2	Resource Locator Access Point	access-point
5.3	Data Quality Conformity	conformity
5.4	Spatial Data Service Category	sds-category
5.5	Conformity to Technical Specifications	conformity-to-technical-specifications

Req#	Description	Covered by test(s)
6.1	Coordinate Reference System Identifier	crs
6.2	CRS http URIs	crs-http-uris
6.3	Conditions Applying to Access and Use	conditions-applying-to-access-and-use
6.4	Responsible Party	responsible-party
6.5	Quality of Service	quality-of-service

Req#	Description	Covered by test(s)
7.1	Invocation Metadata	invocation-metadata
7.2	Operation Metadata	operation-metadata
7.3	Operation Metadata Parameters	operation-metadata-parameters

https://inspire.ec.europa.eu/sites/default/files/documents/metadata/inspire-tg-metadata-iso19139-2.0.1.pdf

INSPIRE validácia - ATS metaúdaje

Conformance Class 2b: INSPIRE data sets and data set series metadata for Monitoring

Req#	Description	Covered by test(s)
M.1	Spatial scope keyword	spatial-scope
M.2	Priority datasets keyword	priority-datasets

https://github.com/inspire-eu-validation/metadata/blob/2.0/README.md

INSPIRE validácia - ATS datasety

Conformance Class	Tests
A.1 Application Schema Conformance Class	A.1.1 Schema element denomination test
	A.1.2 Value type test
	A.1.3 Value test
	A.1.4 Attributes/associations completeness test
	A.1.5 Abstract spatial object test
	A.1.6 Constraints test
	A.1.7 Geometry representation test
A.2 Reference Systems Conformance Class	A.2.1 Datum test
	A.2.2 Coordinate reference system test
	A.2.3 Grid test
	A.2.4 View service coordinate reference system test
	A.2.5 Temporal reference system test
	A.2.6 Units of measurements test
A.3 Data Consistency Conformance Class	A.3.1 Unique identifier persistency test
	A.3.2 Version consistency test
	A.3.3 Life cycle time sequence test
	A.3.4 Validity time sequence test
	A.3.5 Update frequency test
A.4 Data Quality Conformance Class	A.4.1 Data quality target results test
A.5 Metadata IR Conformance Class	A.5.1 Metadata for interoperability test
A.6 Information Accessibility Conformance Class	A.6.1 Code list publication test
	A.6.2 CRS publication test
	A.6.3 CRS identification test
	A.6.4 Grid identification test
A.7 Data Delivery Conformance Class	A.7.1 Encoding compliance test
A.8 Portrayal Conformance Class	A.8.1 Layer designation test
A.9 Technical Guideline Conformance Class	A.9.1 Multiplicity test
	A.9.1 CRS http URI test
	A.9.2 Metadata encoding schema validation test
	A.9.3 Metadata occurrence test
	A.9.4 Metadata consistency test
	A.9.5 Encoding schema validation test
	A.9.6 Coverage multipart representation test
	A.9.7 Coverage domain consistency test
	A.9.8 Style test

INSPIRE validácia - ATS datasety A1

A.1.1 Schema element denomination test

a) Purpose: Verification whether each element of the dataset under inspection carries a name specified in the target application schema(s).

b) Reference: Art. 3 and Art.4 of Commission Regulation No 1089/2010

c) Test Method: Examine whether the corresponding elements of the source schema (spatial object types, data types, attributes, association roles, code lists, and enumerations) are mapped to the target schema with the correct designation of mnemonic names.

NOTE Further technical information is in the Feature catalogue and UML diagram of the application schema(s) in section 5.2.

A.1.2 Value type test

a) Purpose: Verification whether all attributes or association roles use the corresponding value types specified in the application schema(s).

b) Reference: Art. 3, Art.4, Art.6(1), Art.6(4), Art.6(5) and Art.9(1)of Commission Regulation No 1089/2010.

c) Test Method: Examine whether the value type of each provided attribute or association role adheres to the corresponding value type specified in the target specification.

NOTE 1 This test comprises testing the value types of INSPIRE identifiers, the value types of attributes and association roles that should be taken from enumeration and code lists, and the coverage domains.

NOTE 2 Further technical information is in the Feature catalogue and UML diagram of the application schema(s) in section 5.2.

A.1.3 Value test

a) Purpose: Verify whether all attributes or association roles whose value type is a code list or enumeration take the values set out therein.

b) Reference: Art.4 (3) of Commission Regulation No 1089/2010.

c) Test Method: When an attribute / association role has an enumeration or code list as its type, compare the values of each instance with those provided in the application schema. To pass this tests any instance of an attribute / association role

- shall not take any other value than defined in the enumeration table when its type is an enumeration.
- shall take only values explicitly specified in the code list when the code list's extensibility is "none".

NOTE 1 This test is not applicable to code lists with extensibility "open" or "any".

NOTE 2 When a data provider only uses code lists with narrower (more specific values) this test can be fully performed based on internal information.

INSPIRE validácia - ATS datasety A1

A.1.4 Attributes/associations completeness test

a) Purpose: Verification whether each instance of spatial object type and data types include all attributes and association roles as defined in the target application schema.

b) Reference: Art. 3, Art.4(1), Art.4(2), and Art.5(2) of Commission Regulation No 1089/2010.

c) Test Method: Examine whether all attributes and association roles defined for a spatial object type or data type are present for each instance in the dataset.

NOTE 1 Further technical information is in the Feature catalogue and UML diagram of the application schema(s) in section 5.2.

NOTE 2 For all properties defined for a spatial object, a value has to be provided if it exists in or applies to the real world entity – either the corresponding value (if available in the data set maintained by the data provider) or the value of *void*. If the characteristic described by the attribute or association role does not exist in or apply to the real world entity, the attribute or association role does not need to be present in the data set.

A.1.5 Abstract spatial object test

a) Purpose: Verification whether the dataset does NOT contain abstract spatial object / data types defined in the target application schema(s).

b) Reference: Art.5(3) of Commission Regulation No 1089/2010

c) Test Method: Examine that there are NO instances of abstract spatial object / data types in the dataset provided.

NOTE Further technical information is in the Feature catalogue and UML diagram of the application schema(s) in section 5.2.

A.1.6 Constraints test

a) Purpose: Verification whether the instances of spatial object and/or data types provided in the dataset adhere to the constraints specified in the target application schema(s).

b) Reference: Art. 3, Art.4(1), and Art.4(2) of Commission Regulation No 1089/2010.

c) Test Method: Examine all instances of data for the constraints specified for the corresponding spatial object / data type. Each instance shall adhere to all constraints specified in the target application schema(s).

A.1.7 Geometry representation test

a) Purpose: Verification whether the value domain of spatial properties is restricted as specified in the Commission Regulation No 1089/2010.

b) Reference: Art.12(1), Annex II Section 5 of Commission Regulation No 1089/2010

c) Test Method: Check whether all spatial properties only use 0, 1 and 2-dimensional geometric objects that exist in the right 2-, 3- or 4-dimensional coordinate space, and where all curve interpolations respect the rules specified in the reference documents.

NOTE Further technical information is in OGC Simple Feature spatial schema v1.2.1 [06-103r4].

INSPIRE validácia - ATS datasety A2

A.2 Reference Systems Conformance Class

Conformance class:
http://inspire.ec.europa.eu/conformance-class/ir/ad/rs

A.2.1 Datum test

a) Purpose: Verify whether each instance of a spatial object type is given with reference to one of the (geodetic) datums specified in the target specification.

c) Reference: Annex II Section 1.2 of Commission Regulation No 1089/2010

b) Test Method: Check whether each instance of a spatial object type specified in the application schema(s) in section 5 has been expressed using:

- the European Terrestrial Reference System 1989 (ETRS89) within its geographical scope; or
- the International Terrestrial Reference System (ITRS) for areas beyond the ETRS89 geographical scope; or
- other geodetic coordinate reference systems compliant with the ITRS. Compliant with the ITRS means that the system definition is based on the definition of ITRS and there is a well-established and described relationship between both systems, according to the EN ISO 19111.

NOTE Further technical information is given in Section 6 of this document.

A.2.3 View service coordinate reference system test

a) Purpose: Verify whether the spatial data set is available in the two dimensional geodetic coordinate system for their display with the INSPIRE View Service.

b) Reference: Annex II Section 1.4 of Commission Regulation 1089/2010

c) Test Method: Check that each instance of a spatial object types specified in the application schema(s) in section 5 is available in the two-dimensional geodetic coordinate system

NOTE Further technical information is given in Section 6 of this document.

A.2.2 Coordinate reference system test

a) Purpose: Verify whether the two- and three-dimensional coordinate reference systems are used as defined in section 6.

b) Reference: Section 6 of Commission Regulation 1089/2010.

c) Test Method: Inspect whether the horizontal and vertical components of coordinates one of the corresponding coordinate reference system has been:

- Three-dimensional Cartesian coordinates based on a datum specified in 1.2 and using the parameters of the Geodetic Reference System 1980 (GRS80) ellipsoid.
- Three-dimensional geodetic coordinates (latitude, longitude and ellipsoidal height) based on a datum specified in 1.2 and using the parameters of the GRS80 ellipsoid.
- Two-dimensional geodetic coordinates (latitude and longitude) based on a datum specified in 1.2 and using the parameters of the GRS80 ellipsoid.
- Plane coordinates using the ETRS89 Lambert Azimuthal Equal Area coordinate reference system.

A.2.4 Temporal reference system test

a) Purpose: Verify whether date and time values are given as specified in Commission Regulation No 1089/2010.

b) Reference: Art.11(1) of Commission Regulation 1089/2010

c) Test Method: Check whether:

- the Gregorian calendar is used as a reference system for date values;
- the Universal Time Coordinated (UTC) or the local time including the time zone as an offset from UTC are used as a reference system for time values.

NOTE Further technical information is given in Section 6 of this document.

A.2.5 Units of measurements test

a) Purpose: Verify whether all measurements are expressed as specified in Commission Regulation No 1089/2010.

b) Reference: Art.12(2) of Commission Regulation 1089/2010

c) Test Method: Check whether all measurements are expressed in SI units or non-SI units accepted for use with the International System of Units.

NOTE 1 Further technical information is given in ISO 80000-1:2009.

INSPIRE validácia - ATS datasety A3

A.3.1 Unique identifier persistency test

a) Purpose: Verify whether the namespace and localId attributes of the external object identifier remain the same for different versions of a spatial object.

b) Reference: Art. 9 of Commission Regulation 1089/2010.

c) Test Method: Compare the namespace and localId attributes of the external object identifiers in the previous version(s) of the dataset with the namespace and localId attributes of the external object identifiers of current version for the same instances of spatial object / data types; To pass the test, neither the namespace, nor the localId shall be changed during the life-cycle of a spatial object.

NOTE 1 This test can be performed exclusively on the basis of the information available in the database of the data providers.

NOTE 2 When using URI this test includes the verification whether no part of the construct has been changed during the life cycle of the instances of spatial object / data types.

NOTE 3 Further technical information is given in section 14.2 of the INSPIRE Generic Conceptual Model.

A.3.2 Version consistency test

a) Purpose: Verify whether different versions of the same spatial object / data type instance belong to the same type.

b) Reference: Art. 9 of Commission Regulation 1089/2010.

c) Test Method: Compare the types of different versions for each instance of spatial object / data type

NOTE 1 This test can be performed exclusively on the basis of the information available in the database of the data providers.

A.3.3 Life cycle time sequence test

a) Purpose: Verification whether the value of the attribute beginLifespanVersion refers to an earlier moment of time than the value of the attribute endLifespanVersion for every spatial object / object type where this property is specified.

b) Reference: Art.10(3) of Commission Regulation 1089/2010.

c) Test Method: Compare the value of the attribute beginLifespanVersion with attribute endLifespanVersion. The test is passed when the beginLifespanVersion value is before endLifespanVersion value for each instance of all spatial object/data types for which this attribute has been defined.

A.3.4 Validity time sequence test

a) Purpose: Verification whether the value of the attribute validFrom refers to an earlier moment of time than the value of the attribute validTo for every spatial object / object type where this property is specified.

b) Reference: Art.12(3) of Commission Regulation 1089/2010.

c) Test Method: Compare the value of the attribute validFrom with attribute validTo. The test is passed when the validFrom value is before validTo value for each instance of all spatial object/data types for which this attribute has been defined.

NOTE 1 This test can be performed exclusively on the basis of the information available in the database of the data providers.

A.3.5 Update frequency test

a) Purpose: Verify whether all the updates in the source dataset(s) have been transmitted to the dataset(s) which can be retrieved for the AD data theme using INSPIRE download services.

b) Reference: Art.8 (2) of Commission Regulation 1089/2010.

c) Test Method: Compare the values of beginning of life cycle information in the source and the target datasets for each instance of corresponding spatial object / object types. The test is passed when the difference between the corresponding values is less than 6 months.

NOTE 1 This test can be performed exclusively on the basis of the information available in the database of the data providers.

INSPIRE validácia - ATS datasety A4

A.4 Metadata IR Conformance Class

Conformance class:
http://inspire.ec.europa.eu/conformance-class/ir/ad/md

A.4.1 Metadata for interoperability test

a) Purpose: Verify whether the metadata for interoperability of spatial data sets and services described in 1089/2010 Commission Regulation have been created and published for each dataset related to the AD data theme.

b) Reference: Art.13 of Commission Regulation 1089/2010

c) Test Method: Inspect whether metadata describing the coordinate reference systems, encoding and spatial representation type have been created and published. If the spatial data set contains temporal information that does not refer to the default temporal reference system, inspect whether metadata describing the temporal reference system have been created and published. If an encoding is used that is not based on UTF-8, inspect whether metadata describing the character encoding have been created.

NOTE Further technical information is given in section 8 of this document.

INSPIRE validácia - ATS datasety A5,A6

A.5 Information Accessibility Conformance Class

Conformance class:
http://inspire.ec.europa.eu/conformance-class/ir/ad/ia

A.5.1 CRS publication test

a) Purpose: Verify whether the identifiers and the parameters of coordinate reference system are published in common registers.

b) Reference: Annex II Section 1.5

c) Test method: Check whether the identifier and the parameter of the CRS used for the dataset are included in a register. .

NOTE Further technical information is given in section 6 of this document.

A.6 Data Delivery Conformance Class

Conformance class:
http://inspire.ec.europa.eu/conformance-class/ir/ad/de

A.6.1 Encoding compliance test

a) Purpose: Verify whether the encoding used to deliver the dataset comply with EN ISO 19118.

b) Reference: Art.7 (1) of Commission Regulation 1089/2010.

c) Test Method: Follow the steps of the Abstract Test Suit provided in EN ISO 19118.

NOTE 1 Datasets using the default encoding specified in Section 9 fulfil this requirement.

NOTE 2 Further technical information is given in Section 9 of this document.

INSPIRE validácia - ATS datasety A7

A.7 Portrayal Conformance Class

Conformance class:
http://inspire.ec.europa.eu/conformance-class/ir/ad/po

A.8.1 Layer designation test

a) Purpose: verify whether each spatial object type has been assigned to the layer designated according to Commission Regulation 1089/2010.

b) Reference: Art. 14(1), Art14(2) and Annex II Section 5.6 .

c) Test Method: Check whether data is made available for the view network service using the specified layers respectively: AD.Address

NOTE Further technical information is given in section 11 of this document.

INSPIRE validácia - ATS datasety A8

A.8 Technical Guideline Conformance Class

Conformance class:
http://inspire.ec.europa.eu/conformance-class/tg/ad/3.1

A.8.1 Multiplicity test

a) Purpose: Verify whether each instance of an attribute or association role specified in the application schema(s) does not include fewer or more occurrences than specified in section 5.

c) Reference: Feature catalogue and UML diagram of the application schema(s) in section 5 of this guideline.

b) Test Method: Examine that the number of occurrences of each attribute and/or association role for each instance of a spatial object type or data type provided in the dataset corresponds to the number of occurrences of the attribute / association role that is specified in the application schema(s) in section 5.

A.9.1 CRS http URI test

a) Purpose: Verify whether the coordinate reference system used to deliver data for INSPIRE network services has been identified by URIs according to the EPSG register.

c) Reference: Table 2 in Section 6 of this technical guideline

b) Test Method: Compare the URI of the dataset with the URIs in the table.

NOTE 1 Passing this test implies the fulfilment of test A6.2

NOTE 2 Further reference please see *http://www.epsg.org/geodetic.html*

A.9.2 Metadata encoding schema validation test

a) Purpose: Verify whether the metadata follows an XML schema specified in ISO/TS 19139.

c) Reference: Section 8 of this technical guideline, ISO/TS 19139

b) Test Method: Inspect whether provided XML schema is conformant to the encoding specified in ISO 19139 for each metadata instance.

NOTE 1 Section 2.1.2 of the Metadata Technical Guidelines discusses the different ISO 19139 XML schemas that are currently available.

A.9.3 Metadata occurrence test

a) Purpose: Verify whether the occurrence of each metadata element corresponds to those specified in section 8.

c) Reference: Section 8 of this technical guideline

A.9.4 Metadata consistency test

a) Purpose: Verify whether the metadata elements follow the path specified in ISO/TS 19139.

c) Reference: Section 8 of this technical guideline, ISO/TS 19139

b) Test Method: Compare the XML schema of each metadata element with the path provide in ISO/TS 19137.

NOTE 1 This test does not apply to the metadata elements that are not included in ISO/TS 19139.

A.9.5 Encoding schema validation test

a) Purpose: Verify whether the provided dataset follows the rules of default encoding specified in section 9 of this document

c) Reference: section 9 of this technical guideline

b) Test Method: Inspect whether provided encoding(s) is conformant to the encoding(s) for the relevant application schema(s) as defined in section 9:

NOTE 1 Applying this test to the default encoding schema described in section 9 facilitates testing conformity with the application schema specified in section 5. In such cases running this test with positive result may replace tests from A1.1 to A1.4 provided in this abstract test suite.

NOTE 2 Using Schematron or other schema validation tool may significantly improve the validation process, because some some complex constraints of the schema cannot be validated using the simple XSD validation process. On the contrary to XSDs Schematron rules are not delivered together with the INSPIRE data specifications. Automating the process of validation (e.g. creation of Schematron rules) is therefore a task and an opportunity for data providers.

INSPIRE validácia - ATS datasety A8

A.9.6 Style test

a) Purpose: Verify whether the styles defined in section 11.2 have been made available for each specified layer.

b) Reference: section 11.2.

c) Test Method: Check whether the styles defined in section 11.2 have been made available for each specified layer.

INSPIRE validácia - ATS vyhľadávacie služby

https://github.com/inspire-eu-validation/discovery-service/tree/review-ats-csw-3.1/csw-iso-ap

1	Scope: CSW ISO AP + INSPIRE extensions	n/a, covered by dependency and the tests for the other requirements
2	Extended Behaviour	at-02-extended-behaviour
3	Federated Catalogues	at-03-federated-catalogues
4	Search Attributes Support	at-04-search-attributes-support
5	Search Attributes Advertised	at-05-search-attributes-advertised
6	Preferred Language	at-06-preferred-language
7	Extended Capabilities	at-07-extended-capabilities
8	Service Metadata Sections	at-08-service-metadata-sections
9	Discovery Language Query Parameters	at-09-discover-language-query-parameters
10	Discover Language Parameter	at-10-discover-language-parameter
11	Discover Query Paramater	at-11-discover-query-parameter
12	Discover Resource Matching Query	at-12-discover-resource-matching-query
13	Publish Discovery Service	at-13-publish-discovery-service
14	Link Discovery Service Operation	at-14-link-discovery-service-operation
15	Link Publish Metadata Operation	at-15-link-publish-metadata-operation
16	Link Federated Capabilities Document	at-16-link-federated-capabilities-document
17	Link Federated Search Attribute	at-17-link-federated-search-attribute
18	Query Inspire Discovery Interface	at-18-query-inspire-discovery-interface
19	Query Search Criteria	at-19-query-search-criteria
20	Query Language Parameter	at-20-query-language-parameter
21	Query Additional Parameters	at-21-query-additional-parameters
22	Query Parameters Advertised	at-22-query-parameters-advertised
23	Language Supported	at-23-language-supported
24	Language Natural Language Fields	at-24-language-natural-lang-fields
25	Language Parameter ISO valid	at-25-language-parameter-iso-valid
26	Language Natural Fields Default	at-26-language-natural-fields-default
27	Language Response Value	at-27-language-response-value
28	Language Supported Default Cardinality	at-28-language-supported-default-cardinality
29	Extended Capabilities Schema Valid	at-29-extended-capabilities-schema-valid
30	Language GetRecords without Parameter	at-30-language-getrecords-without-parameter
31	Language GetRecords Language Filter	at-31-language-getrecords-lang-filter
32	Language GetRecords Exception	at-32-language-getrecords-exception

INSPIRE validácia - ATS zobrazovacie služby

https://github.com/inspire-eu-validation/view-service/tree/3.2.0

Conformance class	Standardization target
INSPIRE Profile of WMS 1.3.0 / ISO 19128	OGC Web Service (WMS 1.3.0)
INSPIRE Quality of Service	OGC Web Service (Quality of View Services)
INSPIRE Profile of WMTS 1.0.0	OGC Web Service (WMTS 1.0.0)

INSPIRE validácia - ATS ukladacie služby

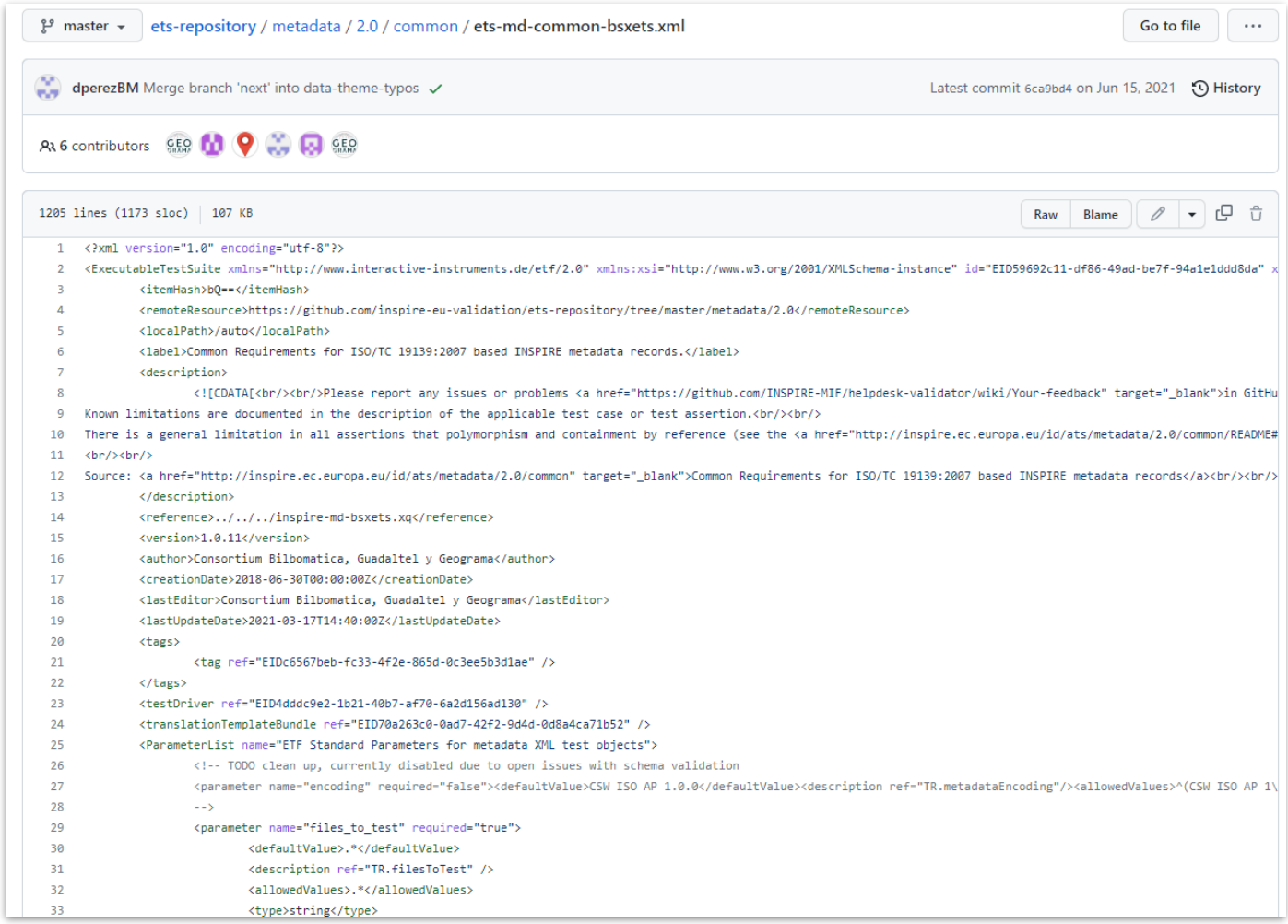
https://github.com/inspire-eu-validation/download-service
https://cite.opengeospatial.org/teamengine/about/wfs/2.0.0/site/

Conformance class	Standardization target
Pre-defined Atom	Atom feed with Open Search description
Pre-defined WFS	OGC Web Service (WFS 2.0.0)
Direct WFS	OGC Web Service (WFS 2.0.0)
INSPIRE Quality of Service	OGC Web Service (WFS 2.0.0)

INSPIRE validácia - ETS

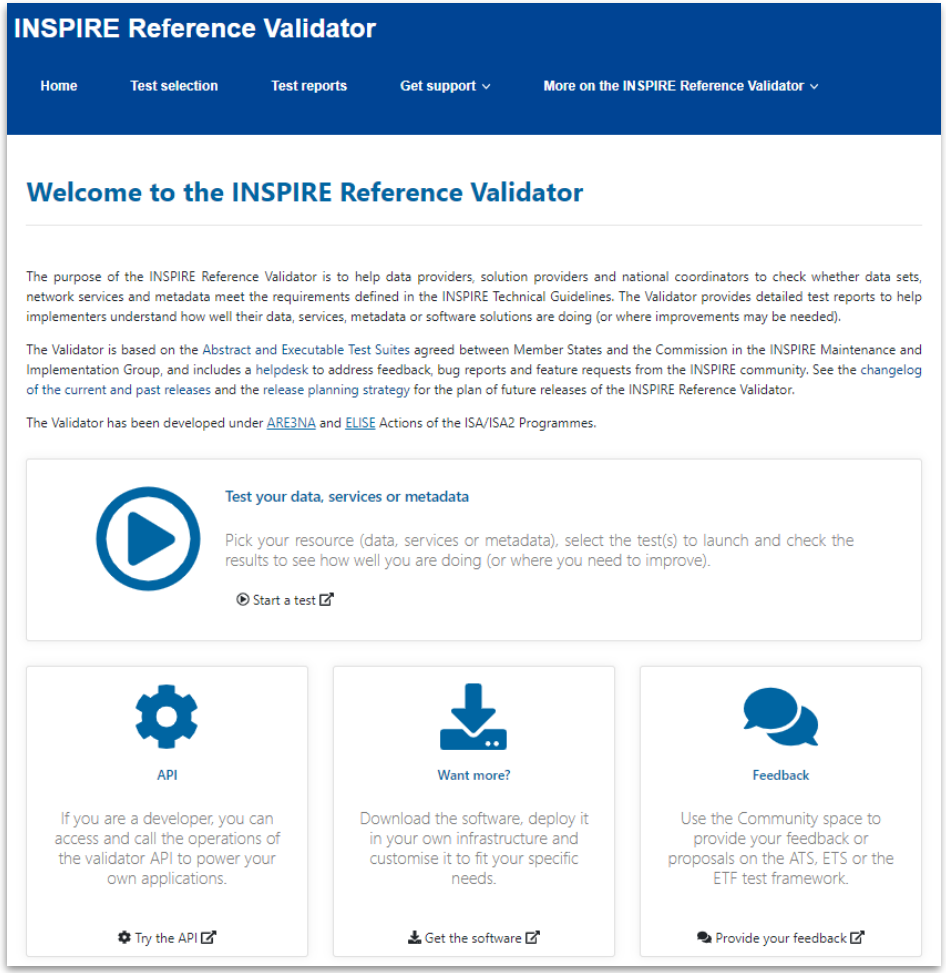
- Technická implementácia ATS

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

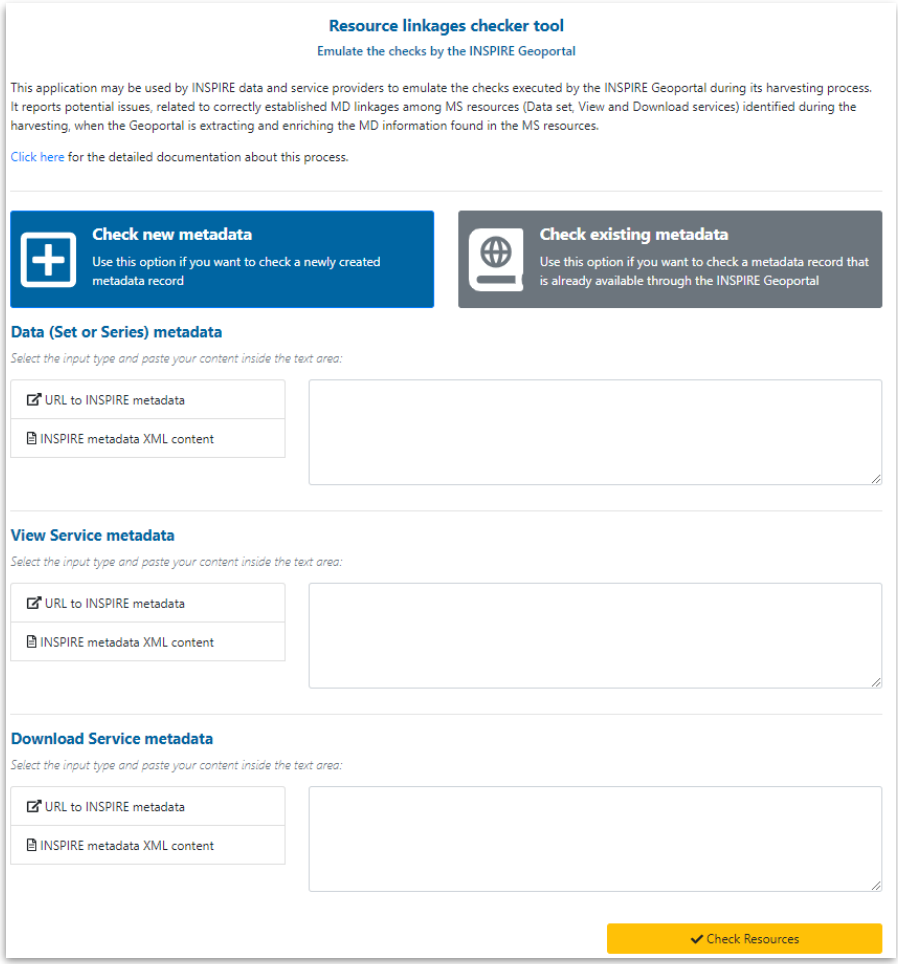


INSPIRE validácia - Nástroje

INSPIRE referenčný validátor



INSPIRE linkage checker



Ako sa stať INSPIRE validný :)

- Metaúdaje
  - Metaúdaje súborov priestorových údajov
  - Metaúdaje služieb priestorových údajov
    - zobrazovacie služby
    - ukladacie služby
- Služby priestorových údajov
  - zobrazovacie služby
    - WMS
    - WMTS
  - ukladacie služby
    - ATOM
    - WFS
    - OGC API?
- Súbory priestorových údajov
- Overenie prelinkovania

ESPUS

Efektívna správa priestorových údajov a služieb

Ďakujem za pozornosť!

Mgr.Radoslav Chudý PhD.
rado.chudy@gmail.com

ESPUS

https://inspire.gov.sk/projekty/espus

Operačný program Efektívna verejná správa

Európska únia
Európsky sociálny fond