

Praktična iskustva prilagodbe topografskih podataka specifikacijama podataka iz Aneksa I INSPIRE direktive

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INSPIRE → ESDI

Pravni okvir za uspostavu ESDI

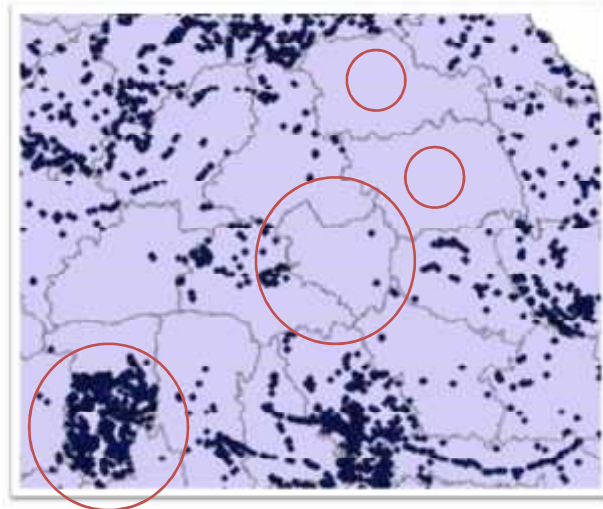
kompatibilnost infrastruktura prostornih podataka

Provedbena pravila

1. Metapodaci za opisivanje **prostornih podataka**
2. Mrežni servisi za nalaženje, transformaciju, prikaz i preuzimanje **prostornih podataka**
3. Razmjena **prostornih podataka** i servisa
4. Specifikacije **prostornih podataka**
5. Nadgledanje i izvještavanje



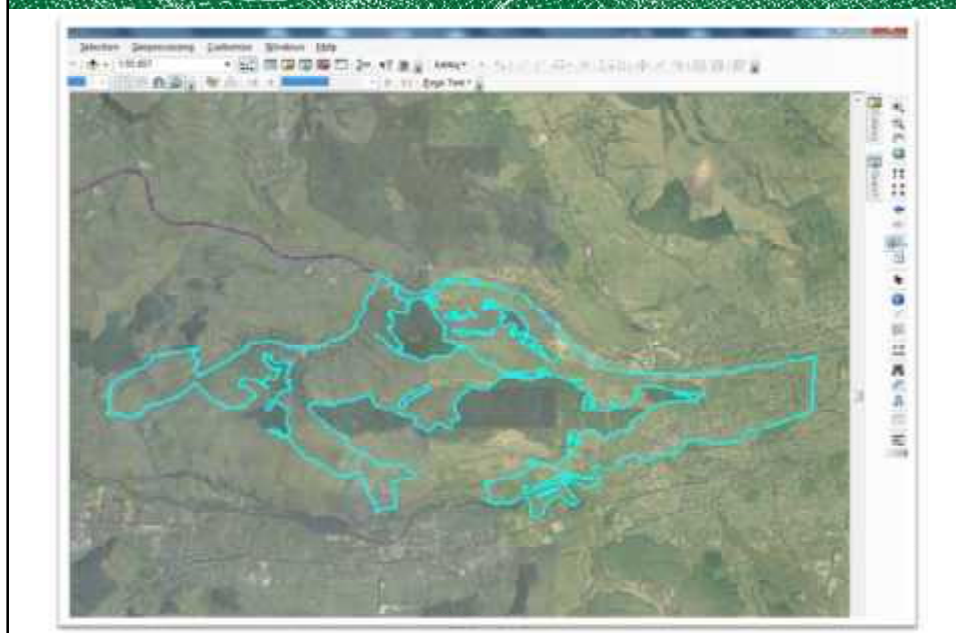
Situacija 1



Situacija 2



Situacija 3



Primjer 1

H.Bridge OP	Point/ Line/ Polygon	Type 1	Road Railway Pedestrian Unknown
		Type 2	Bridge Small bridge Tube Viaduct Unknown
		Fabric	Metallic Strong metal Stone Reinforced concrete Wood Pontoons Rafts Unknown

Primjer 2

2201	INDUSTRIJSKI OBJEKTI	GRANICA POVRŠINE				
	TVORNIKA					P1a
	DIMNIJAK					P1b
	SILOS					P1c
	MLIN					P1d
	PILANA					P1e
	CIKLANA					P1f
	CEMENTARA					P1g
	ŠLJUNČARA					P1h
	RUDNIK					P1i
	SOLANA					P1j
	VINARIJA					P1k
	KAMENOLOM					P1l
	RAFINERIJA					P1m
	BRODOGRADIŠTE					P1n
	BRANA					P1o
	ŽELJEZARA					P1p
	OSTALO					P1r

5401	POVRŠINE INTENZIVNE EKSPLOATACIJE ZEMLJIŠTA	GRANICA POVRŠINE				
	ISKOP GLINE					G1a
	ISKOP PLESKA					G1b
	ISKOP ILOVAČE					G1c
	ISKOP ŠLJUNKA					G1d
	RUDNIK OTVORENI KOP					G1e
	SOLANA					G1f
	KAMENOLOM					G1g
	OSTALO					G1h

Primjer 3

- Marina

„mjesto koje služi za pristajanje i vezivanje brodova i jahti. Površina marine uključuje površine unutar područja marine koja ne pripadaju niti jednom drugom pokrovu zemljišta.”



Temeljni okvirni dokumenti

- D2.5 INSPIRE generički konceptualni model
- D2.3 Definicije i opseg tema INSPIRE-a
- D2.6 Metodologija izrade specifikacija podataka
- D2.7 Smjernice za kodiranje geoprostornih podataka



D2.3 Definicije i opseg tema INSPIRE-a

ANNEX I

- 1.Coordinate reference systems
- 2.Geographical grid systems
- 3.Geographical names
- 4.Administrative units
- 5.Addresses
- 6.Cadastral parcels
- 7.Transport networks
- 8.Hydrography
- 9.Protected sites

ANNEX II

- 1.Elevation
- 2.Land cover
- 3.Orthoimagery
- 4.Geology

ANNEX III

- 1.Statistical units
- 2.Buildings
- 3.Soil
- 4.Land use
- 5.Human health and safety
- 6.Utility and Government services
- 7.Environmental monitoring facilities
- 8.Production and industrial facilities
- 9.Agricultural and aquaculture facilities
- 10.Population distribution – demography
- 11.Area management / restriction / regulation zones & reporting units
- 12.Natural risk zones
- 13.Atmospheric conditions
- 14.Meteorological geographical features
- 15.Oceanographic geographical features
- 16.Sea regions
- 17.Bio-geographical regions
- 18.Habitats and biotopes
- 19.Species distribution
- 20.Energy resources
- 21.Mineral resources



D2.5 INSPIRE generički konceptualni model

- Temeljni dokument koji postavlja koncepte svih specifikacija podataka INSPIRE-a
- Komponente za postizanje interoperabilnosti:
 - Prostorna shema
 - Vremenska shema
 - Identifikatori objekata
 - Životni ciklus objekata
 - Višejezičnost
 - ...



D2.5 INSPIRE generički konceptualni model

INSPIRE Data Specifications	Reference: D2.5_v3.2
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Requirement 35 Every feature catalogue shall contain the information specified in the corresponding application schema in accordance with ISO 19110.

Requirement 11 Every spatial object type specified in an INSPIRE application schema shall be drawn from feature type concepts in the INSPIRE Feature Concept Dictionary Register with status "valid" or proposed as a new register item when no adequate spatial object type already exists.

Requirement 12 If no related concept exists in the INSPIRE Feature Concept Dictionary Register, that can be reused or amended, a concept from another international feature concept dictionary or feature catalogue shall be reused and proposed for adoption in the INSPIRE Feature Concept Dictionary Register, if possible.

In other words, whenever possible, a concept in an INSPIRE application schema shall be drawn from an established dictionary.

EXAMPLE: An example for such an established dictionary is the DFDD (DGIWG Feature Data Dictionary); see <https://www.dgiwg.org/FAD/registers.jsp?register=DFDD>.

D2.6: Metodologija izrade specifikacija podataka

- Definira proces i alate za modeliranje i izradu specifikacija podataka INSPIRE tema
- Temelji se na:
 - Korisničkim zahtjevima
 - D2.5 INSPIRE generičkom konceptualnom modelu
 - Najznačajnijim međunarodnim normama



D2.6: Metodologija izrade specifikacija podataka

„Očekuje se da će utjecati na modeliranje podataka na nacionalnoj razini”

1. Dodaje vrijednost nacionalnim infrastrukturama prostornih podataka
2. Pojednostavljuje usklađivanje sa specifikacijama podataka INSPIRE-a



D2.6: Metodologija izrade specifikacija podataka

- Baziran na ISO19131 – Specifikacije podatkovnog proizvoda – propisuje sadržaj specifikacija podataka:
 - Opće informacije
 - Referentni sustav
 - Informacije o kvaliteti podataka
 - Katalog kartiranja
 - Informacije o održavanju
 - Metapodaci
 - ...



D2.8: Specifikacije podataka

5.3.2 Feature catalogue

Table 5 – Feature catalogue metadata

Feature catalogue name	INSPIRE: feature catalogue Hydrography
Scope	Hydrography – Physical Waters
Version number	3.0.1
Version date	2010-04-26
Definition source	INSPIRE Data specification Hydrography

Table 6 – Types defined in the feature catalogue

Type	Package	Stereotypes	Section
Crossing	Hydro - Physical Waters	«featureType»	5.3.2.1.1
CrossingTypeValue	Hydro - Physical Waters	«codeList»	5.3.2.3.2
DamOrWeir	Hydro - Physical Waters	«featureType»	5.3.2.1.2
DrainageBasin	Hydro - Physical Waters	«featureType»	5.3.2.1.3
Embankment	Natural Risk Zones	«featureType»	5.3.2.4.1
Falls	Hydro - Physical Waters	«featureType»	5.3.2.1.4
FluvialPoint	Hydro - Physical Waters	«featureType»	5.3.2.1.5
Ford	Hydro - Physical Waters	«featureType»	5.3.2.1.6
GlacierSnowfield	Land Cover	«placeholder/featureType»	5.3.2.4.2
HydrologicalPersistenceValue	Hydro - Physical Waters	«codeList»	5.3.2.3.3
HydroOrderCode	Hydro - Physical Waters	«dataType»	5.3.2.2.1
HydroPointOfInterest	Hydro - Physical Waters	«featureType»	5.3.2.1.7
HydroPowerPlant	Energy Resources	«featureType»	5.3.2.4.3
InundatedLand	Natural Risk Zones	«featureType»	5.3.2.4.4
InundationValue	Natural Risk Zones	«codeList»	5.3.2.4.5
LandWaterBoundary	Hydro - Physical Waters	«featureType»	5.3.2.1.8
Lock	Hydro - Physical Waters	«featureType»	5.3.2.1.9

D2.8: Specifikacije podataka

CrossingTypeValue	
Definition:	A pipe or artificial channel that is designed to transport water from a remote source, usually by gravity, for freshwater supply, agricultural, and/or industrial use.
Description:	SOURCE [DFDD].
Value: bridge	
Definition:	A structure that connects two locations and provides for the passage of a transportation route over a terrain obstacle.
Description:	SOURCE [Based on DFDD].
	EXAMPLE 1 (Transportation route) A road or a railway.
	EXAMPLE 2 (Terrain obstacle) A waterbody, a gully, and/or a road.
Value: culvert	
Definition:	An enclosed channel for carrying a watercourse under a route.
Description:	SOURCE [Based on DFDD].
	EXAMPLE 1 (Watercourse carried in an enclosed channel) A stream, a sewer, or a drain.
	EXAMPLE 2 (Route over a culvert) A road, a railway, or an embankment.
Value: siphon	
Definition:	A pipe used for conveying liquid from one level to a lower level, using the liquid pressure differential to force a column of the liquid up to a higher level before it falls to the outlet.
Description:	SOURCE [DFDD].

INSPIRE registar – rječnik koncepata objektnih vrsta



European Commission
Joint Research Centre
Institute for Environment and Sustainability

INSPIRE Registry 1.1.4 (en) BUILD NUMBER: 4 (en) BUILD: 10

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INSPIRE registry

Europe's Environment Commissioner

Brussels, September 11, 2012

Feature Concept Dictionary

View Register Items

Next document in: [LINK]

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The INSPIRE Feature Concept Dictionary Register is a feature concept dictionary managed as a register conforming to **ISO 19126** (Feature concept dictionaries and registers) and maintained as an ISO 19135 conformant register.

ID	Theme	Concept	Valid	Valid
11	theme	Policy	Valid	08-Dec-06
15	theme	Statistical units	Valid	03-Dec-06
16	theme	Buildings	Valid	03-Dec-06
17	theme	Land use	Valid	05-Dec-06
18	theme	Land use	Valid	05-Dec-06
19	theme	Human health and safety	Valid	05-Dec-06
20	theme	Safe and sound environmental services	Valid	05-Dec-06
21	theme	Environmental monitoring facilities	Valid	05-Dec-06
22	theme	Production and industrial facilities	Valid	03-Dec-06
23	theme	Agricultural and aquaculture facilities	Valid	03-Dec-06
24	theme	Population distribution – demography	Valid	05-Dec-06
25	theme	Area management/restriction/regulation zones and reporting units	Valid	05-Dec-06
26	theme	Natural risk zones	Valid	05-Dec-06
27	theme	Atmospheric conditions	Valid	05-Dec-06
28	theme	Hydrological/geographical features	Valid	05-Dec-06
29	theme	Oceanographic/geographical features	Valid	05-Dec-06
30	theme	Sea regions	Valid	03-Dec-06

D2.8: Specificație de date

7.2.3 Topological consistency	
Topological consistency should be documented using:	
• number of faulty point-curve connections • number of missing connections due to underheads • number of missing connections due to crossing of bridges • number of missing connections due to overheads • number of invalid self-enclosed errors • number of invalid self-overlap errors • number of watercourse links below threshold length • number of closed watercourse links • number of multi-part watercourse links	
These topological consistency quality sub-elements are recommended in order to build a "clean" and closed hydrological network.	
Name	number of faulty point-curve connections
Alternative name	extraneous nodes
Data quality element	topological consistency
Data quality subelement	topological consistency
Data quality basic measure	error count
Definition	number of faulty point-curve connections in the dataset
Description	A point-curve connection exists where different curves touch. These curves have an intrinsic topological relationship that shall reflect the true constellation. If the point-curve connection contradicts the universe of discourse, the point-curve connection is faulty with respect to this data quality measure. The data quality measure counts the number of errors of this kind.
Parameter	-
Data quality value type	integer
Data quality value structure	-
Source reference	-
Example	Example: System automatically places point-curve based on vertices location built into software code where no spatial justification for point-curve exists. Key 1. Line-code 2. 100 vertices limit 11 (100 vertices limit)
Maximum identification	11 (100 vertices limit)

D2.8: Specificație de date

NUTS 3	LAU1 NAT CODE	LAU2 NAT CODE	CHANGE	NAMF 1	NAMF 2 LAU
RO121	n.a.	0117	no	Municipal Alba Iulia	Municipal Alba Iulia
RO121	n.a.	1211	no	Municipal Aiud	Municipal Aiud
RO121	n.a.	1230	no	Municipal Blaj	Municipal Blaj
RO121	n.a.	1874	no	Municipal Sibiu	Municipal Sibiu
RO121	n.a.	1151	no	Oras Arad	Oras Arad
RO121	n.a.	2815	no	Oras Baia de Arad	Oras Baia de Arad
RO121	n.a.	1155	no	Oras Caracul	Oras Caracul
RO121	n.a.	695	no	Oras Cluj	Oras Cluj
RO121	n.a.	734	no	Oras Cluj-Mare	Oras Cluj-Mare
RO121	n.a.	808	no	Oras Cluj-Mare	Oras Cluj-Mare
RO121	n.a.	1935	no	Oras Cluj	Oras Cluj
RO121	n.a.	2130	no	Oras Cluj	Oras Cluj
RO121	n.a.	2130	no	Oras Cluj	Oras Cluj
RO121	n.a.	2130	no	Oras Cluj	Oras Cluj
RO121	n.a.	2130	no	Oras Cluj	Oras Cluj
RO121	n.a.	2130	no	Oras Cluj	Oras Cluj

Level	Code	NUTS-Code	Description	Remark
1	14330	RO	ROMANIA	
2	14340	RO1	Macroregiunea una	
3	14350	RO11	Nord-Vest	
4	14360	RO111	Bihor	
4	14370	RO112	Bistrița-Năsăud	
4	14380	RO113	Cluj	
4	14390	RO114	Maramureș	
4	14400	RO115	Satu Mare	

Na kraju...

INSPIRE ne zahtjeva mijenjanje nacionalnih
modela podataka ili prikupljanje novih podataka
po INSPIRE modelu

ALI

zahtjeva prilagodbu nacionalnih prostornih
podataka INSPIRE-ovom okviru



Na kraju...

Koliko dobro poznajete vlastite podatke?
Proizvođači ↔ Korisnici

INSPIRE ≠ sredstvo prisile

PREPOZNAJTE KORIST ZA SEBE!!!



Hvala na pažnji...

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