

**Workshop on
Geospatial Data Infrastructure for Economic Development**

ETT 53097

**Importance of mapping and
cadastre for management of
resources and sustainable
development**

Tomaž Petek

AGENDA

- Why management of spatial data
- Roll of NMCA in NSDI
- Land Governance
- Land Administration
- Land Management
- Sustainable development
- The importance of capacity development

INTRODUCTION

- Geodetic engineer (BcS) and Master degree at Information Systems Management (Msc)
- Profesional experience in geodetic authority, geoinformation, land cadastre, spatial data infrastructure and governmental reform.
- 22 years work experience on state geodetic projects and spatial data infrastructure project, development of geoinformation infrastructure in Republic of Slovenia and management of regional geodetic authority.
- Member of SMA management board responsible for international affairs coordination and INSPIRE
- Member of INSPIRE permanent committee and National contact point for INSPIRE
- Member of Eurogeographics Management Board and involved in several EG Knowledge expert network and ELF project
- mail: tomaz.petek@gov.si

SLOVENIA VS MOLDOVA

<u>Capital</u> (and largest city)	<u>Ljubljana</u> <u>46°03'N 14°30'E</u>	<u>Chişinău</u> <u>47°0'N 28°55'E</u>
<u>Official language(s)</u>	<u>Slovene</u>	Moldovan
<u>Recognised regional languages</u>	<u>Hungarian</u> , <u>Italian</u>	<u>Gagauz</u> , <u>Russian</u> and <u>Ukrainian</u>
<u>Ethnic groups</u>	83% <u>Slovene</u> , 2% <u>Serb</u> , 2% <u>Croat</u> , 1% <u>Bosniak</u> , 12% others and unspecified	69.6% <u>Moldovans</u> , 11.2% <u>Ukrainians</u> , 9.4 <u>Russians</u> , 3.9% <u>Gagauz people</u> , 2.0% <u>Bulgarians</u> , 1.9% <u>Romanians</u> , 2% others
<u>Demonym</u>	Slovenian, <u>Slovene</u>	<u>Moldovan</u> , <u>Moldavian</u>
<u>Government</u>	<u>Parliamentary republic</u>	<u>Parliamentary republic</u>
Independence		
	From <u>Yugoslavia</u> 25 June, 1991	August 27, 1991
<u>Area</u>		
	Total <u>20.273 km²</u>	<u>33.846 km²</u>
	<u>Water (%)</u> 0.7	1,4
<u>Population</u>		
	2010 estimate 2,048,951	3,563,695
	2002 census 1,964,036	3,383,332
	<u>Density</u> 101/km ²	121,9/km



Settlements 6.023

Land parcels

5.3 SLO / 4,4 MD

Land Owners 950 000

Buildings

1,2 mio SLO / 1,1 MD



For my eyes only...

OUR DATASETS

Land use

Land cadastre

Register of citizens

Register of companies

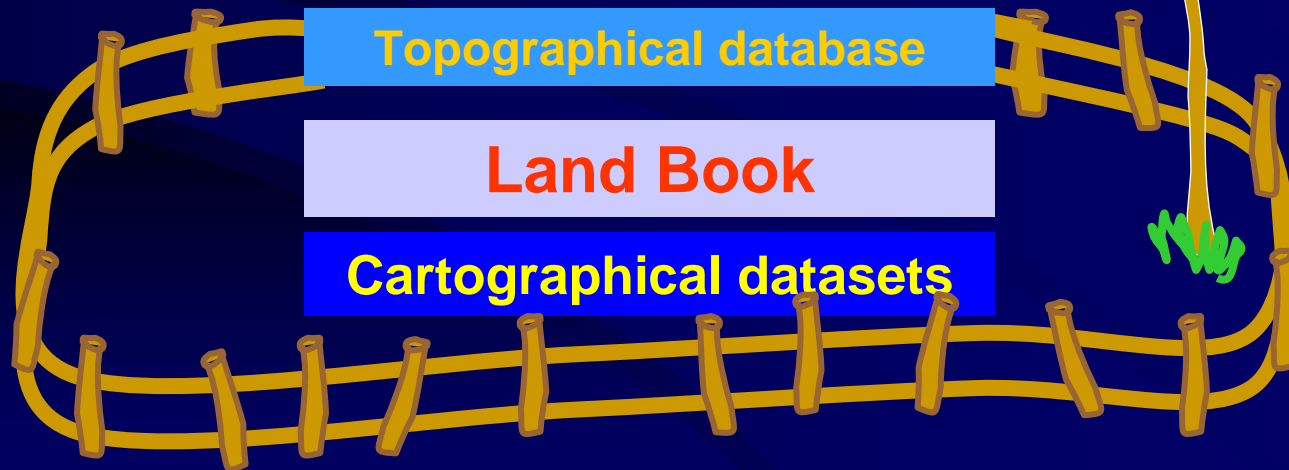
Register of buildings

Topographical database

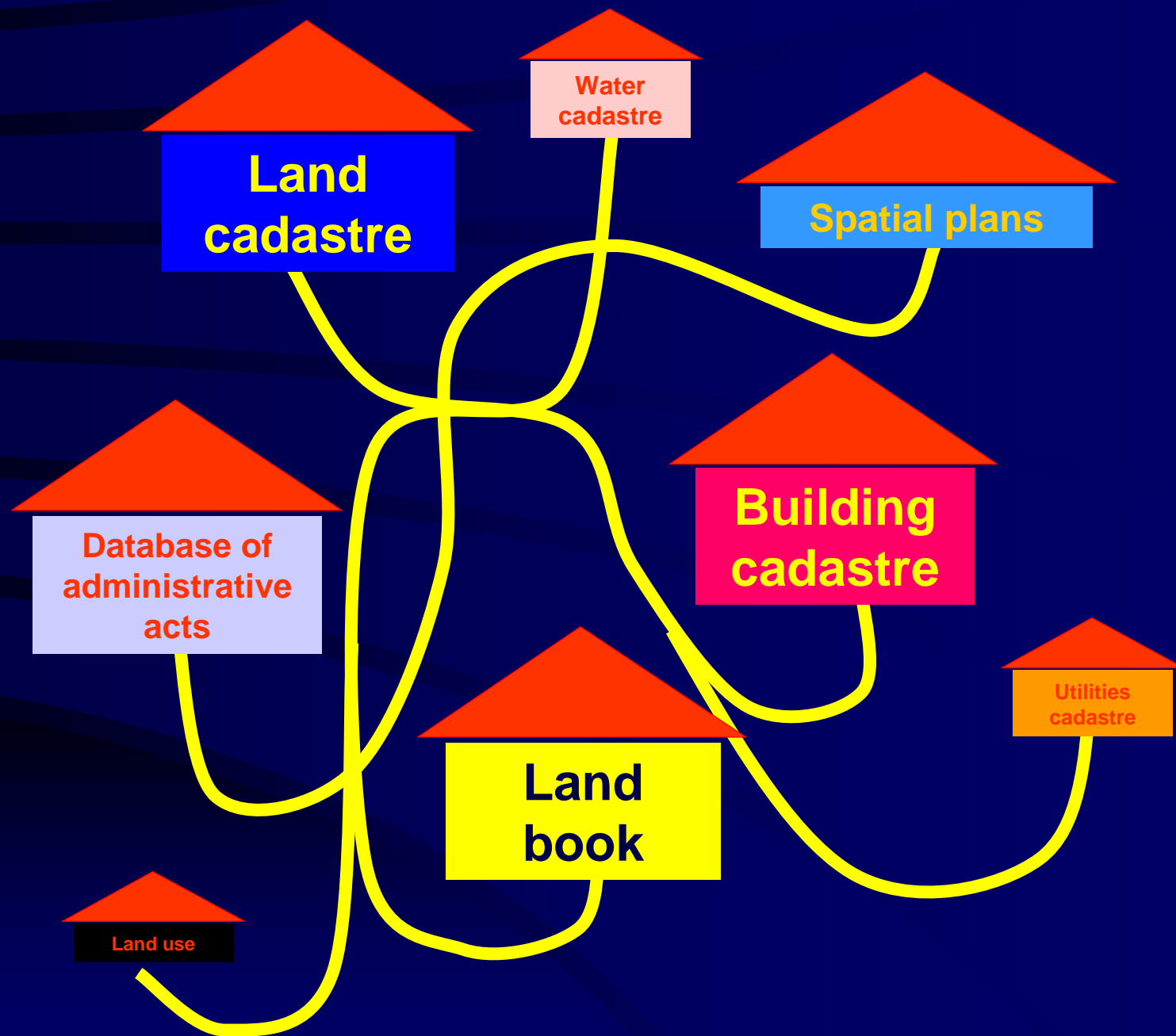
Land Book

Cartographical datasets

*This is
ours!*



Interoperability of spatial datasets and services



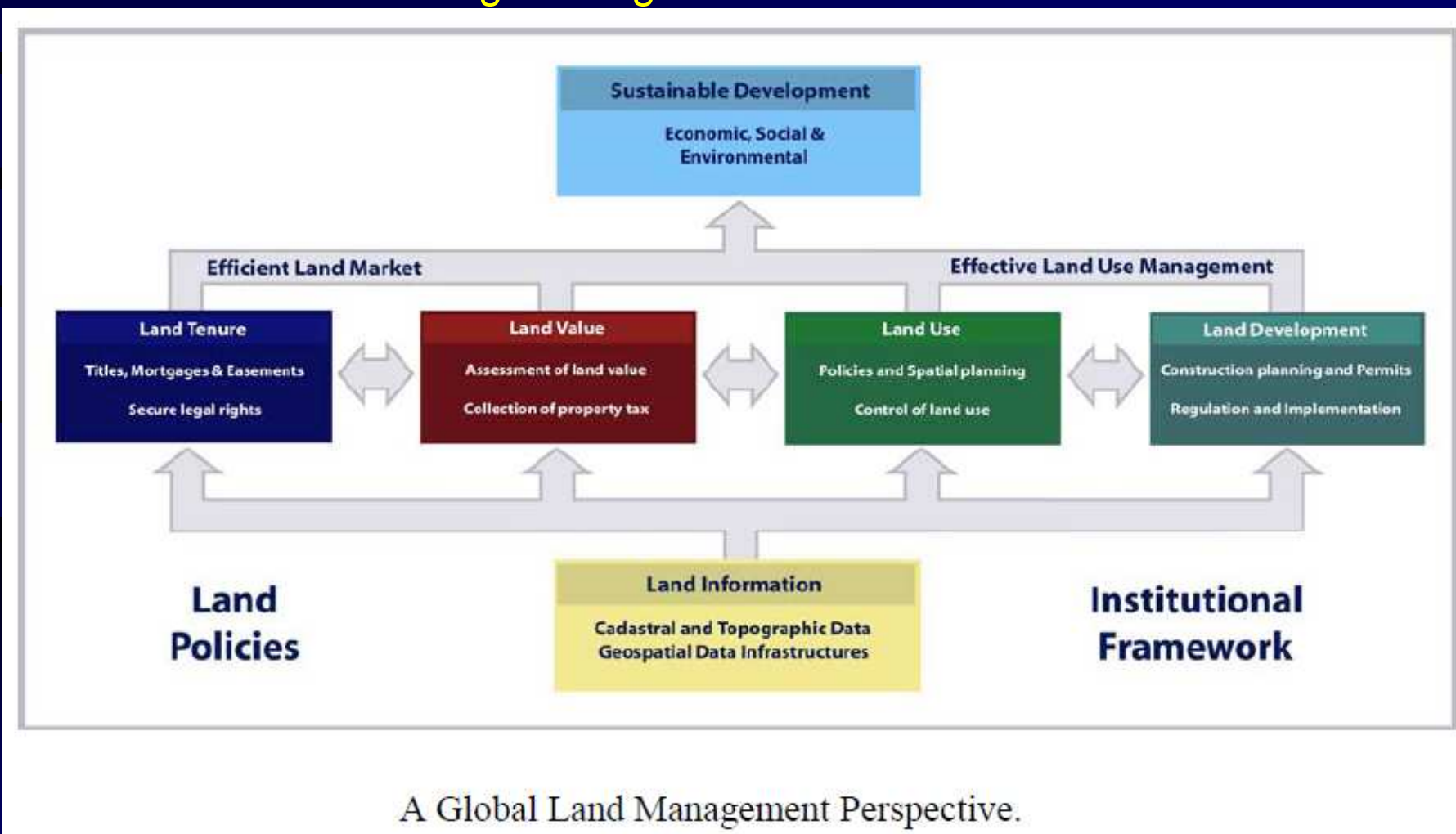
Millennium Development Goals

- The key challenges of the new millennium are
 - climate change;
 - food shortage;
 - urban growth;
 - environmental degradation; and
 - natural disasters

These issues all relate to governance and management of land.

Land Governance

the key to achieving sustainable development and to supporting the global agenda of the MDGs



Land administration

- processes of recording and disseminating information about:
 - ownership,
 - value and
 - use of land and its associated resources.
- Determination of property rights and other attributes of the land that relate to its value and use,
- Survey and general description of these, their detailed documentation provision of relevant information in support of land markets capacity development

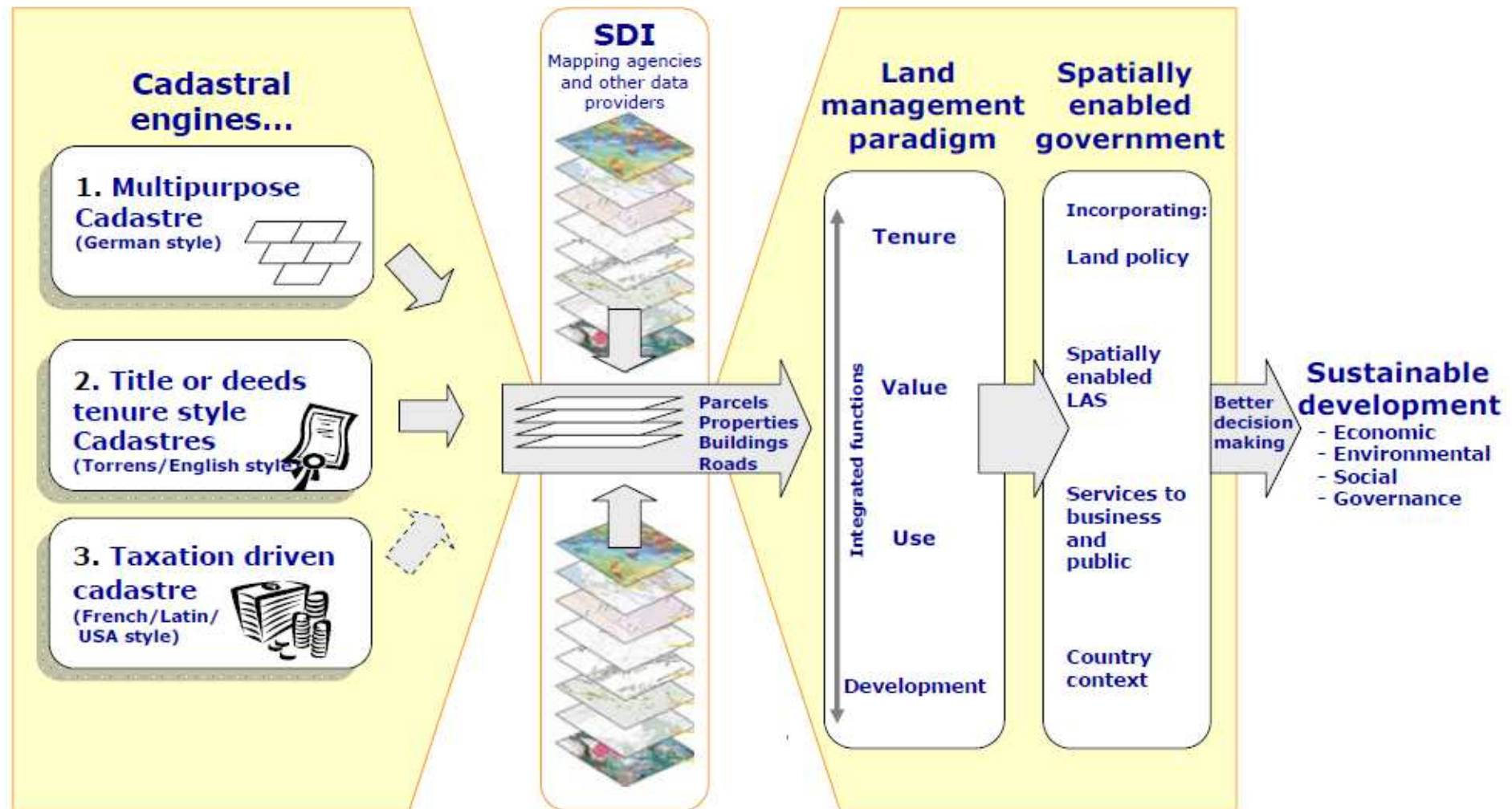
Land administration system

- Land management paradigm
- People and institutions
- Rights, restrictions and responseability
- Cadastre
- Procesess
- Technology
- SDI

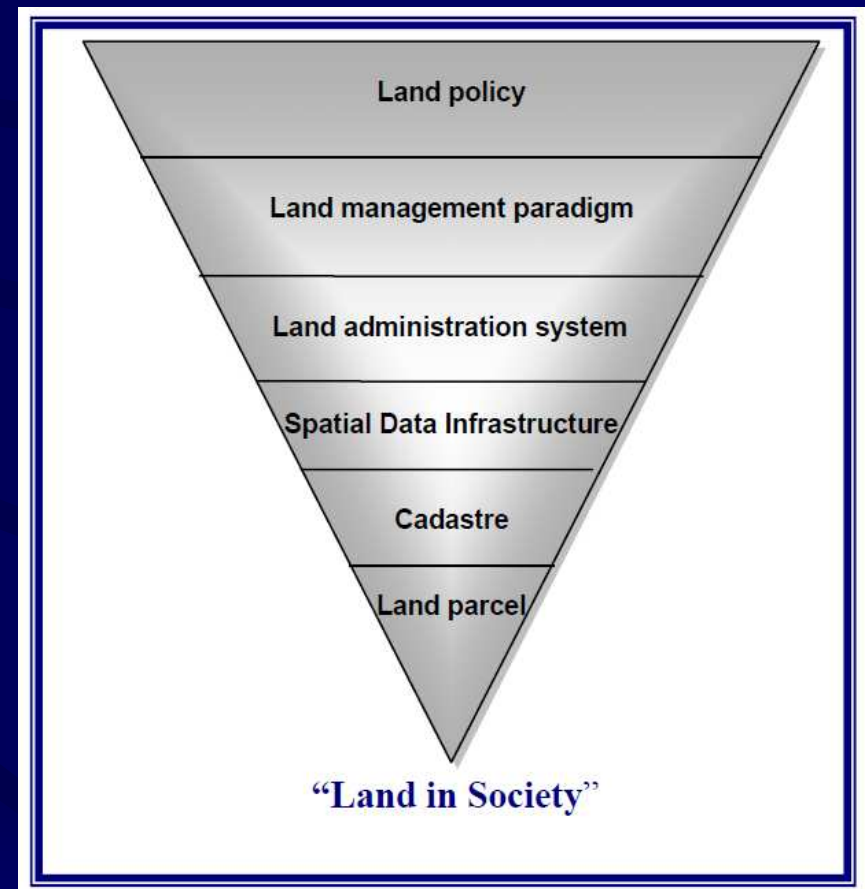
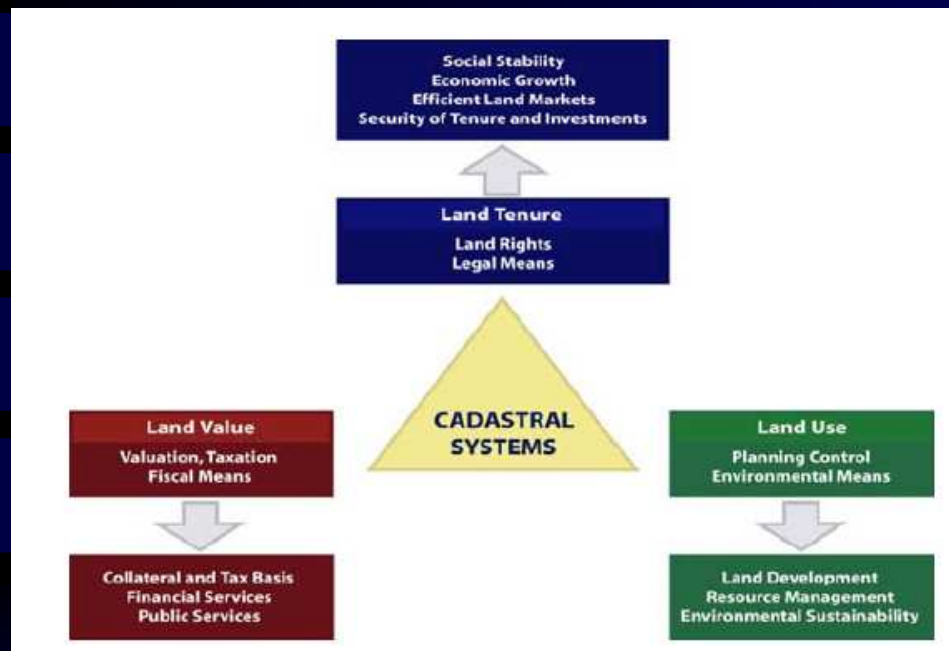
LAND MANAGEMENT PARADIGM

- design of land administration systems (LAS) toward an enabling infrastructure for implementing land policies and land management strategies in **support of sustainable development**.
 - In simple terms, the information approach needs to be replaced by a model capable of assisting design of new or reorganized land administration systems to perform the broader and integrated functions now required.
- Land management covers all activities associated with the management of land and natural resources that are required to fulfill political and social objectives and achieve sustainable development.
 - land tenure (securing and transferring rights in land and natural resources);
 - land value (valuation and taxation of land and properties); land use (planning and control of the use of land and natural resources);
 - land development (implementing utilities, infrastructure, construction planning, and schemes for renewal and change of existing land use).

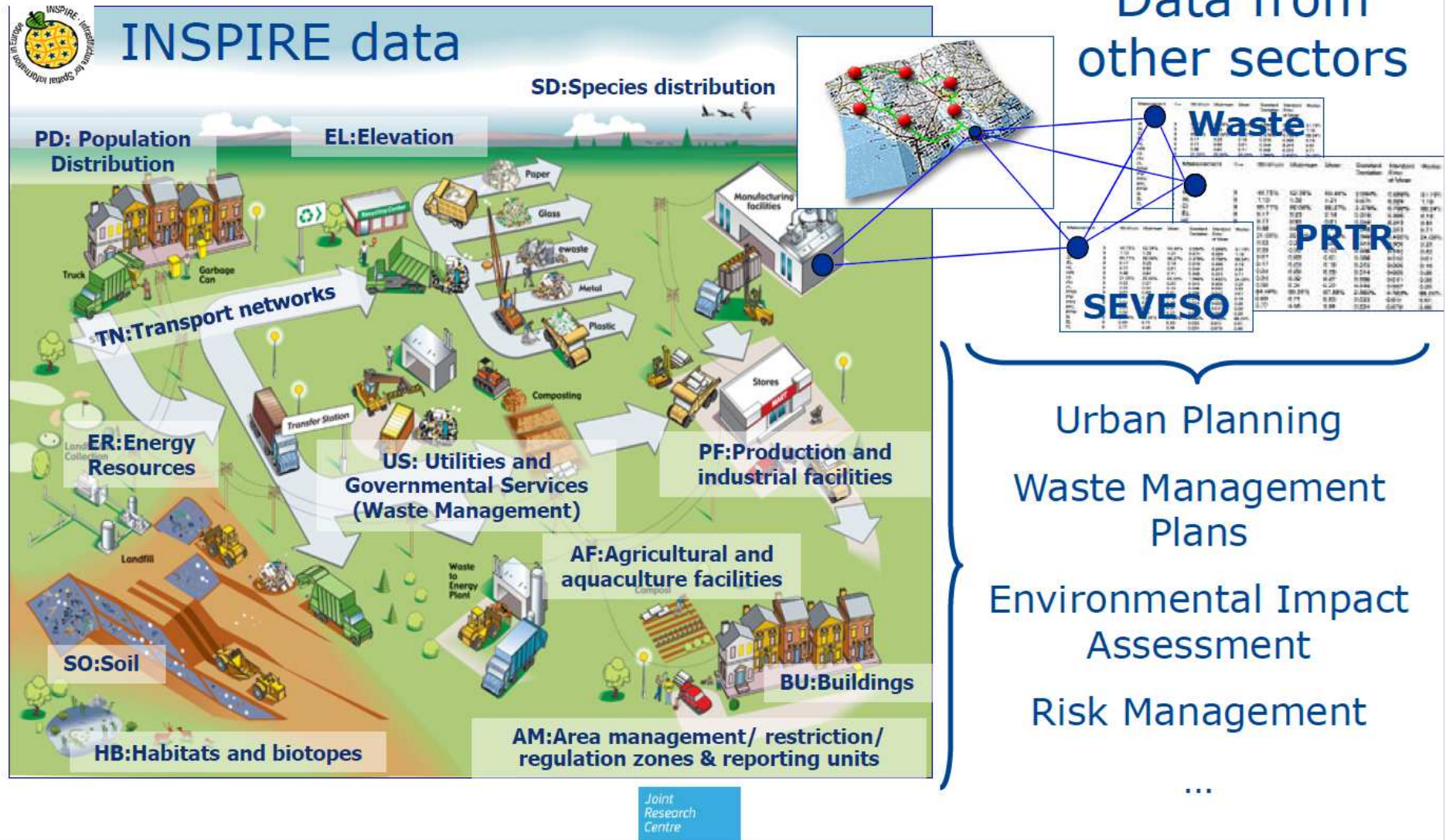
Significance of the Cadastre



Multipurpose Cadastre and Land Management Paradigm



Cross-sector data interoperability





Infrastructure for Spatial Information in Europe

- European initiative to ...
 - Assist policy-making in activities that concern the environment
 - Improve spatial data sharing across all levels of public sector

Interoperable

- Facilitate **collaboration**

- Using standards, community frameworks, web services

Available

- Increase **availability**

- Using metadata & discovery services

Accessible

- Ease **accessibility**

- Using view (WMS), download (WFS) services

Compatible

- Ensure **compatibility**

- Using schema transformation, GML encodings

RE-Usable

- Improve **quality/re-use**

- Using quality evaluation, edge matching, generalisation

MISSION AND GOALS OF NMA

- The National Mapping Agencies are usually one of the steakholders in the process of establishing National Spatial Data Infrastructure (NSDI):
 - provider of basic Geo-information infrastructure.
 - Host the Secretariat of the Inter Ministerial SDI Board
 - provide coordination of NSDI activities
 - technical support
 - developement of Geo-portal and
 - metadata servicies.

The role of the Surveying and Mapping Authority is gradually changing

- from map factory to SDI co-ordinator
- from product oriented to user needs orientation
- from data to network services
- from large number of staff to fewer staff in flexible structure



Spatial data infrastructure: So close, yet so far?



Technical challenges

- Essential standards, Cloud computing, Cloud sourcing, Web 2.0
- Cadaster 2.0, 3D, AAA...

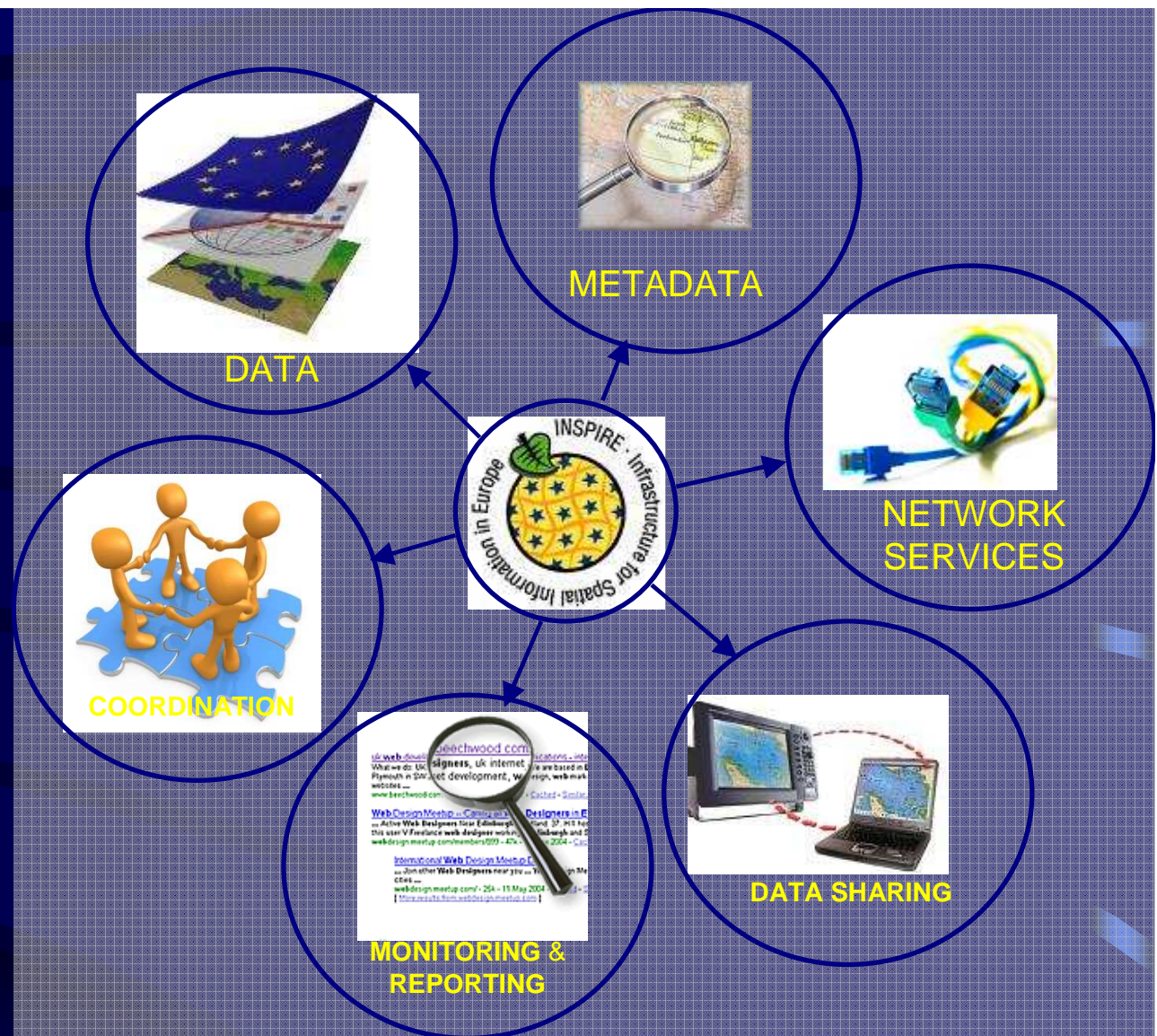
Social challenges

- Social networks, Capacity building, Awareness raising,

Organisational challenges

- to share or not to share,
- government or private, public participation,
- security, information propriety,

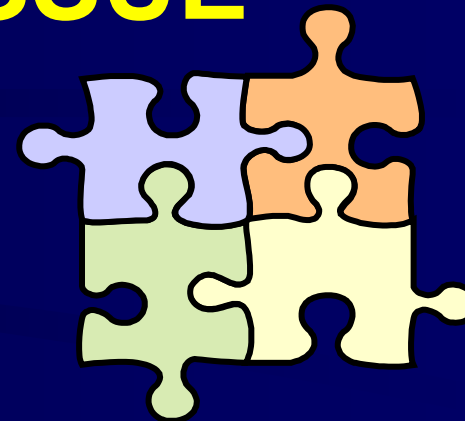
ELEMENTS of Slovenian infrastructure for spatial information



....for the effective compilation, management, access, delivery and use of the spatial information (Delgado, 2007).

COORDINATION AND ORGANISATIONAL ISSUE

- National contact point -
Surveying and Mapping
Authority of the Republic of
Slovenia,



MONITORING & REPORTING



11 SERVICES
88 SPATIAL DATASETS



INSPIRE
Infrastructure for Spatial Information in Europe

Member State Report: SLOVENIA

	Existence	Compliance	Extend	Compliance	MD Accessibility	DS Accessibility	Use	Compliance
Indicator Name	MDi1	MDi2	DSi1	DSi2	NSi1	NSi2	NSi3	NSi4
Indicator Value	77%	0%	95%	0%	74%	69%	0	0%
Numerator	68	0	1.505.338	0	65	53	0	0
Denominator	88	88	1.583.794	77	88	77	0	0

http://www.geoportal.gov.si

SLOVENIAN GEO-PORTAL



Slovenski INSPIRE Geoportal

[NOVICE](#)

[SEZNAM ZBIRK](#)

[STORITVE](#)

[PREDPISI IN GRADIVA](#)

[WWW.INSPIRE.SI](#)





Osebni vpogled v podatke o lastnih nepremičninah

Spletna aplikacija, ki omogoča vpogled v podatke o nepremičninah na območju Republike Slovenije

[Povezava do aplikacije](#)

Prostorski portal

- Podatki o lastnih nepremičninah
- Atlas okolja
- PreGIZ
- Evidenca trga nepremičnin
- Naravovarstveni atlas
- Pregledovalnik kart

[Več aplikacij](#)

METAPODATKOVNI SISTEM

ZADNJE NOVICE

02 Nov 2010
Poročilo o slovenskem trgu nepremičnin za prvo polletje 2010
GURS je na današnji novinarski konferenci predstavila obveščanje lastnikov nepremičnin o poskusnem izračunu vrednosti nepremičnin

01 Nov 2010
Obveščanje o poskusnem izračunu vrednosti nepremičnin
Geodetska uprava Republike Slovenije je v skladu z določili Zakona o množičnem vrednotenju nepremičnin poskusno izračunala vrednost nepremičnin.

[Več novic](#)

INSPIRE predstavlja kratico za infrastrukturo za prostorske informacije v Evropi in jo uvaža Direktiva 2007/2/ES Evropskega parlamenta in Sveta o vzpostavitvi infrastrukture za prostorske informacije v Evropski skupnosti (INSPIRE) (UL L št. 108 z dne 25. 4. 2007, str.1). Direktiva je bila uveljavljena 15. maja 2007 in določa pravne okvire za vzpostavitev in delovanje evropske prostorsko podatkovne infrastrukture, ki predstavlja zbir medopravilnih infrastruktur za prostorske informacije posameznih držav članic. Inspire je najlažje razložiti skozi tri vidike interoperabilnosti:

- Organizacijski vidik ... težnja po sodelovanju, poenostavljanju procesov, odpravi administrativnih ovir (koordinacija)
- Semantični vidik ... potreba po razumevanju prostorskih podatkov (metapodatkovni sistem)
- Tehnični vidik ... uporaba sodobnih informacijskih tehnologij v sistemih za upravljanje in uporabo prostorskih podatkov (tehnologija spletnih servisov)

Uveljavljeni predpisi



Predpisi (EU in slovenska zakonodaja), ki so povezani z direktivo INSPIRE in slovensko infrastrukturo za prostorske informacije

[Uveljavljeni predpisi](#)

Povezave



Direktiva INSPIRE velja za prostorske podatke, ki se nanašajo na območje držav članic EU, so v digitalni obliki, vodeni s strani javne uprave in se nanašajo na sklope podatkov, navedenih v prilogah I, II in III k direktivi INSPIRE. Podatki morajo biti na voljo v obliki in na način, usklajen z INSPIRE podatkovnimi specifikacijami.

[Povezave](#)

[KOLEDAR](#)

[DOGODKI](#)

<<

November 2010

>>

Pon	Tor	Sre	Čet	Pet	Sob	Ned
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

2010 Geodetska uprava Republike Slovenije - Vse pravice pridržane.

http://www.geoportal.gov.si

METADATA

GeoNetwork - Portal prostorskih podatkov in informacij - IBM Lotus Notes

Naslov <http://prostor3.gov.si/imps-test/srv/sl/main.ho>

Delovni prostor | Tomaž Petek - Prejeto | Fw: Povabilo: predstavitev... | ppt za ministra | Fw: Namestitev IMPS DISTRIBU... | GeoNetwork - Portal prostorskih...

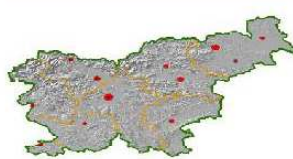
METAPODATKOVNI SISTEM

Domov | Pomoč | Slovenščina

Uporabniško ime: _____ Geslo: _____ Prijava

KAJ?

KJE?




- Vse -

Iskanje

Ponastavi Napredno Možnosti

- PODATKI O STAVBAH - STAVBE
- REGISTER PROSTORSKIH ENOT - RPE
- GEODETSKE TOČKE - GT
- TOPOGRAFSKI PODATKI merila 5000 - DTK 5
- DIGITALNI MODEL VIŠIN - DMV0125 - DMV0250 - DMV1000
- DIGITALNI ORTOFOTO - DOF050
- DIGITALNI ORTOFOTO - DOF025
- ZBIRNI KATASTER GOSPODARSKE JAVNE INFRASTRUKTURE - ZK GJI
- ZEMLJIŠKI KATASTER - zemljiško katastrski prikaz
- REGISTER ZEMLJEPISNIH IMEN - REZI

IŠČITE PO SLOVENSKIH PROSTORSKIH METAPODATKIH USKLAJENIH Z DIREKTIVO INSPIRE



1. OPREDELITEV

Naslov vira: _____

Povzetek vira: _____

PODATKI O STAVBAH - STAVBE

Podatkovni niz prikazuje grafične in atributne podatke o stavbah in delih stavb, ki jih uporabnik podatkov prejme v izmenjevalnih datotekah.

Kataster stavb je temeljna evidenca o stavbah in o delih stavb in predstavlja tehnično osnovo za evidentiranje pravnih razmerij na stavbah in na delih stavb. V kataster stavb se vpišejo osnovni podatki o stavbi ali del stavbe kot so: id, številka stavbe, nepremični zajem, v skrajni knjigo - ZRS.

Podatki kažejo povezavo z nepremični

Vrsta vira: _____

Operates On: **- NI PODATKA -**

Internetni naslov vira: <http://www>

Spletni vir: <http://www>

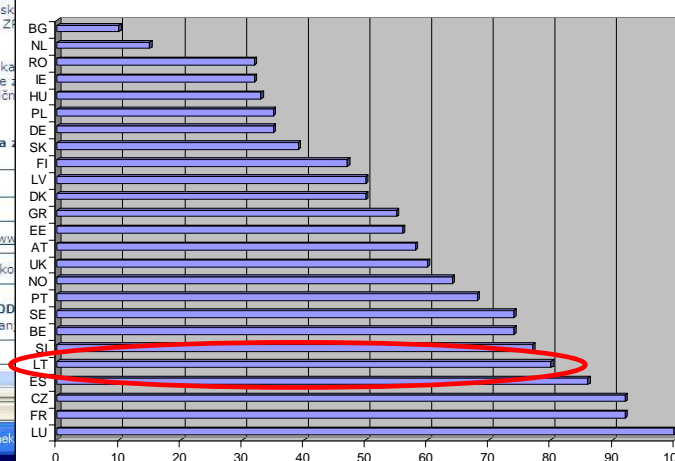
Jezik vira: Slovensko

2. RAZVRSTITEV PROSTORSKIH PODATKOV

Kategorija teme: Načrtovanje

3. KLJUČNA BESEDA

Existence Metadata (MDI1)



Country	Percentage (%)
BG	10
NL	15
RO	30
IE	30
HU	35
PL	35
DE	40
SK	45
FI	45
LV	50
DK	50
GR	55
EE	55
AT	60
UK	60
NO	65
PT	70
SE	75
BE	75
SI	80
LT	80
ES	85
CZ	90
FR	90
LU	95

GLOSSARY

INSPIRE pregledovalnik gesel - Windows Internet Explorer

http://www.geoportal.gov.si/tezaver/

File Edit View Favorites Tools Help

Google Search More >>

INSPIRE pregledovalnik gesel

FIGInn...

Pregledovalnik gesel INSPIRE

Pregledovalnik gesel INSPIRE obsega seznam gesel s spletnega mesta INSPIRE (Feature Concept Dictionary in Glossary na dan 18.11.2010) s prevodi v slovenščino.
Datum zadnje posodobitve 1. 2. 2011.

Prikaži 25 zapisov Išči:

	Geslo v angleščini	Geslo v slovenščini	Definicija v slovenščini	Datum veljavnosti
+	Access Restriction	omejitev dostopa	Omejitev dostopa do elementa prometa.	20110301
+	actor			20110301
+	Address	naslov	Oznaka nespremenljive lokacije nepremičnine z uporabo strukturirane zloženke iz zemljepisnih imen in identifikatorjev.	20110301
+	Address Area Name	ime naslovnega območja	Komponenta naslova, ki ponazarja ime geografskega območja ali kraja, ki zaradi dodeljevanja naslova združuje več naslovljivih objektov in ni upravna enota.	20110301
+	Address Component	komponenta naslova	Identifikator ali zemljepisno ime določenega geografskega območja, lokacije ali drugega prostorskega objekta, ki določa obseg naslova.	20110301
+	addressable object	naslovljiv objekt	Prostorski objekt, ki mu je smiselno dodeliti naslov.	20110301
+	addresses	naslovi	Lokacija nepremičnin, ki temelji na identifikatorjih naslova običajno z imenom ulice, hišno številko, pošto.	20110301
+	Administrative boundary	upravna meja		20110301
+	Administrative unit	upravna enota		20110301
+	Administrative Unit Name	ime upravne enote		20110301
+	Administrative units	upravne enote	Units of administration, dividing areas where Member States have and/or exercise jurisdictional rights, for local, regional and national governance, separated by administrative boundaries.	20110301
+	Aerodrome Area	območje letališča	Upravne enote za lokalno, regionalno in nacionalno upravo, ki razdeljujejo območja, na katerih države članice imajo in/ali izvajajo jurisdikcijo, ločene z upravnimi mejami.	20110301

Zaporedna št.: 156

Vrsta: tema

Geslo v angleščini: Administrative units

Geslo v slovenščini: upravne enote

Definicija v angleščini: Units of administration, dividing areas where Member States have and/or exercise jurisdictional rights, for local, regional and national governance, separated by administrative boundaries.

Definicija v slovenščini: Upravne enote za lokalno, regionalno in nacionalno upravo, ki razdeljujejo območja, na katerih države članice imajo in/ali izvajajo jurisdikcijo, ločene z upravnimi mejami.

Izvorni vir: INSPIRE FCD

Vir za prevod: Direktiva INSPIRE; GI

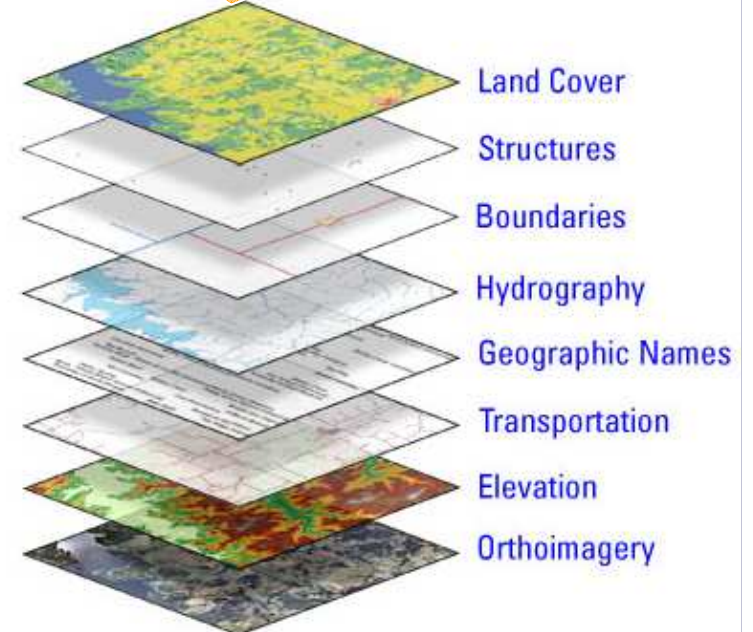
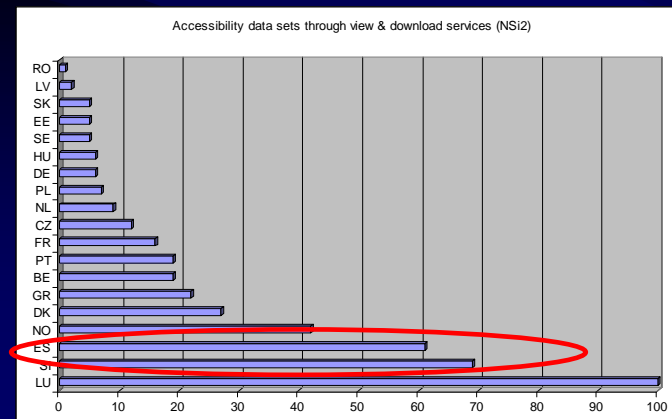
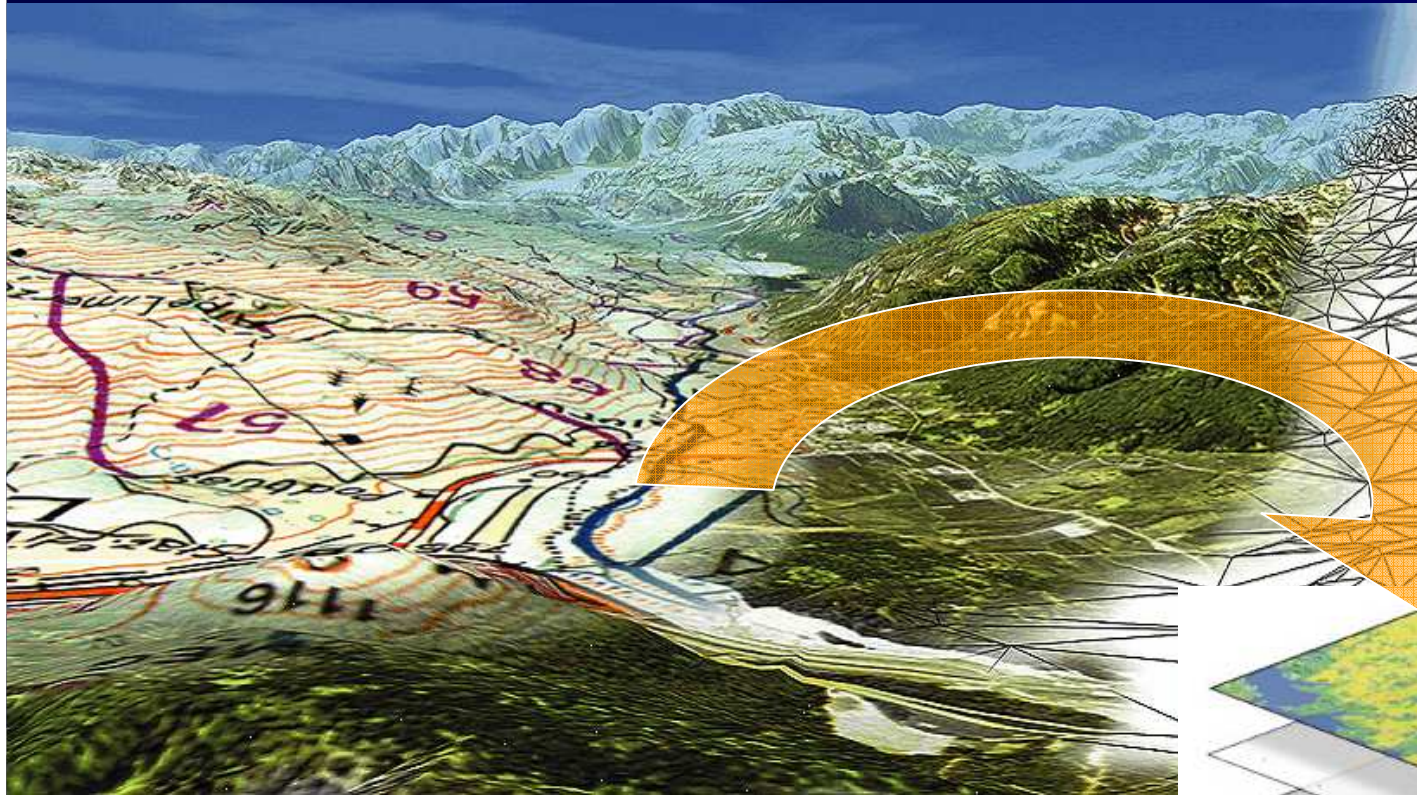
start

Slovenski INSPIRE ge... Location of the Hotel ... Microsoft PowerPoint ... GeoNetwork - Portal ... INSPIRE pregledoval...

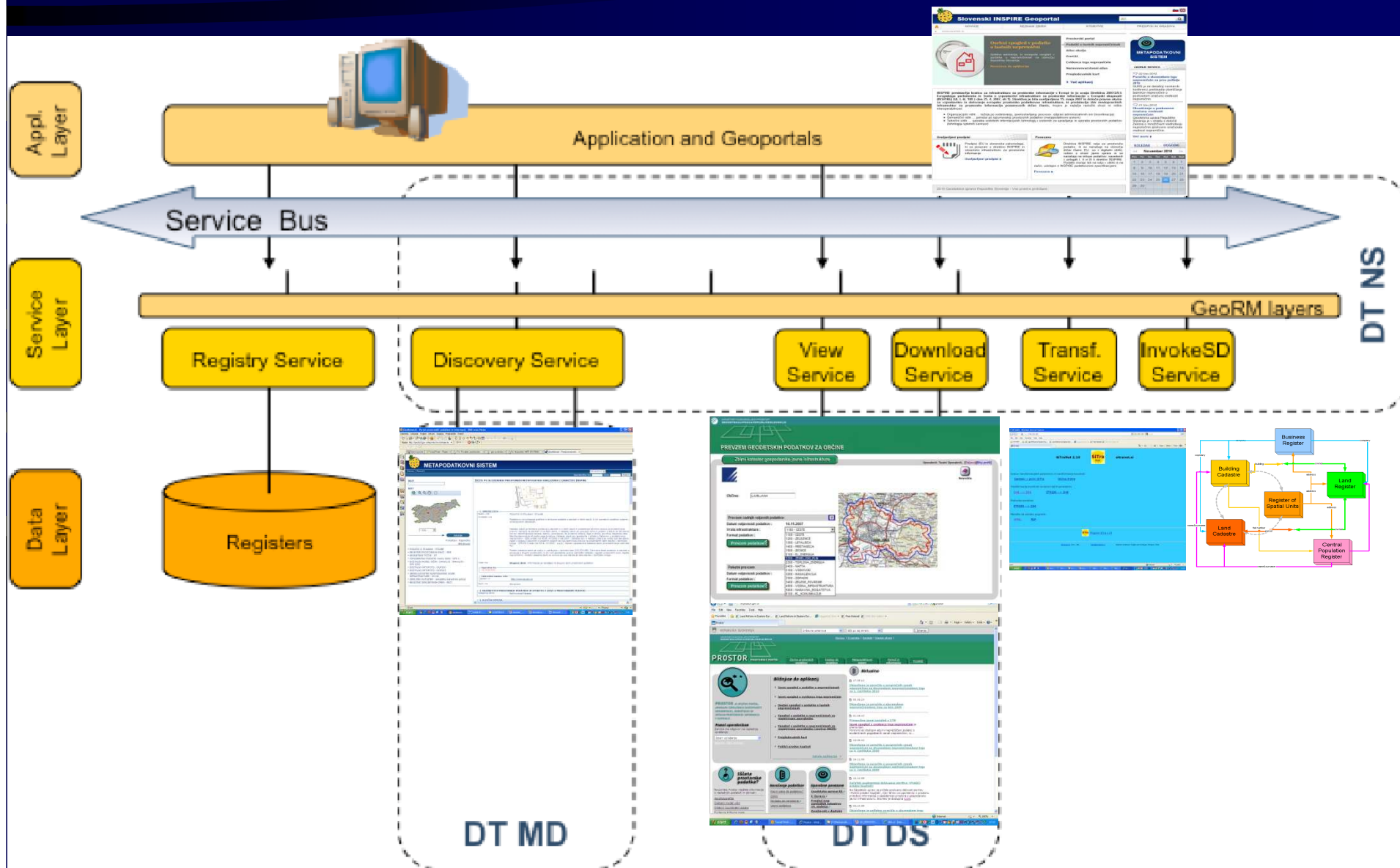
Internet 100% 9:37

DATA

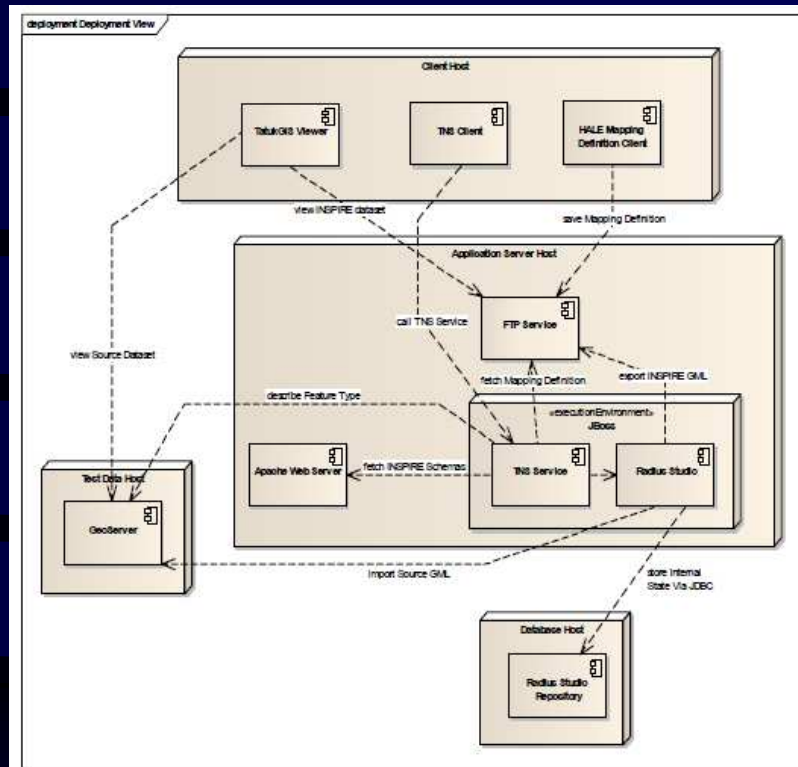
LOCATION



NETWORK SERVICES



INTEROPERABILITY

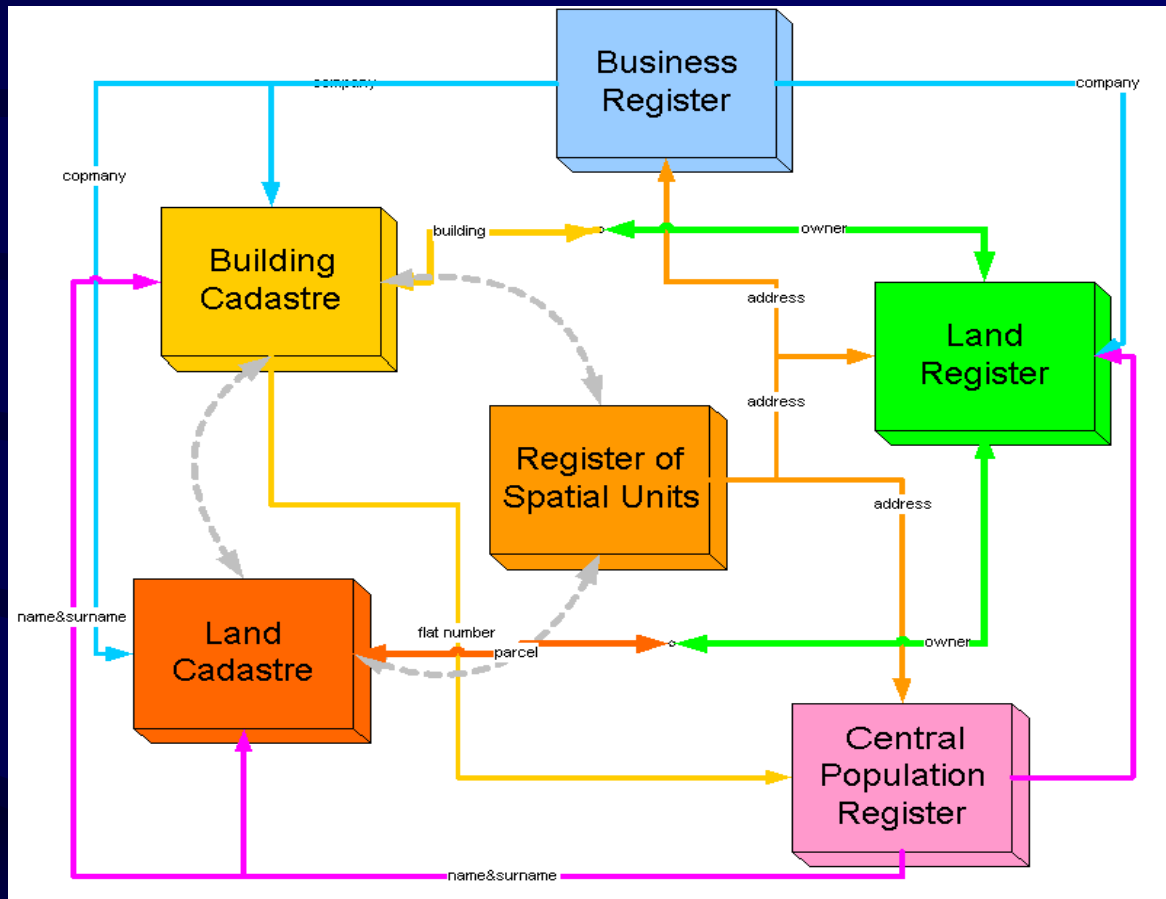


„**interoperability**’ means the possibility for **spatial data sets to be combined**, and for services to interact, **without repetitive manual intervention**, in such a way that the **result is coherent** and the added value of the data sets and services is enhanced“



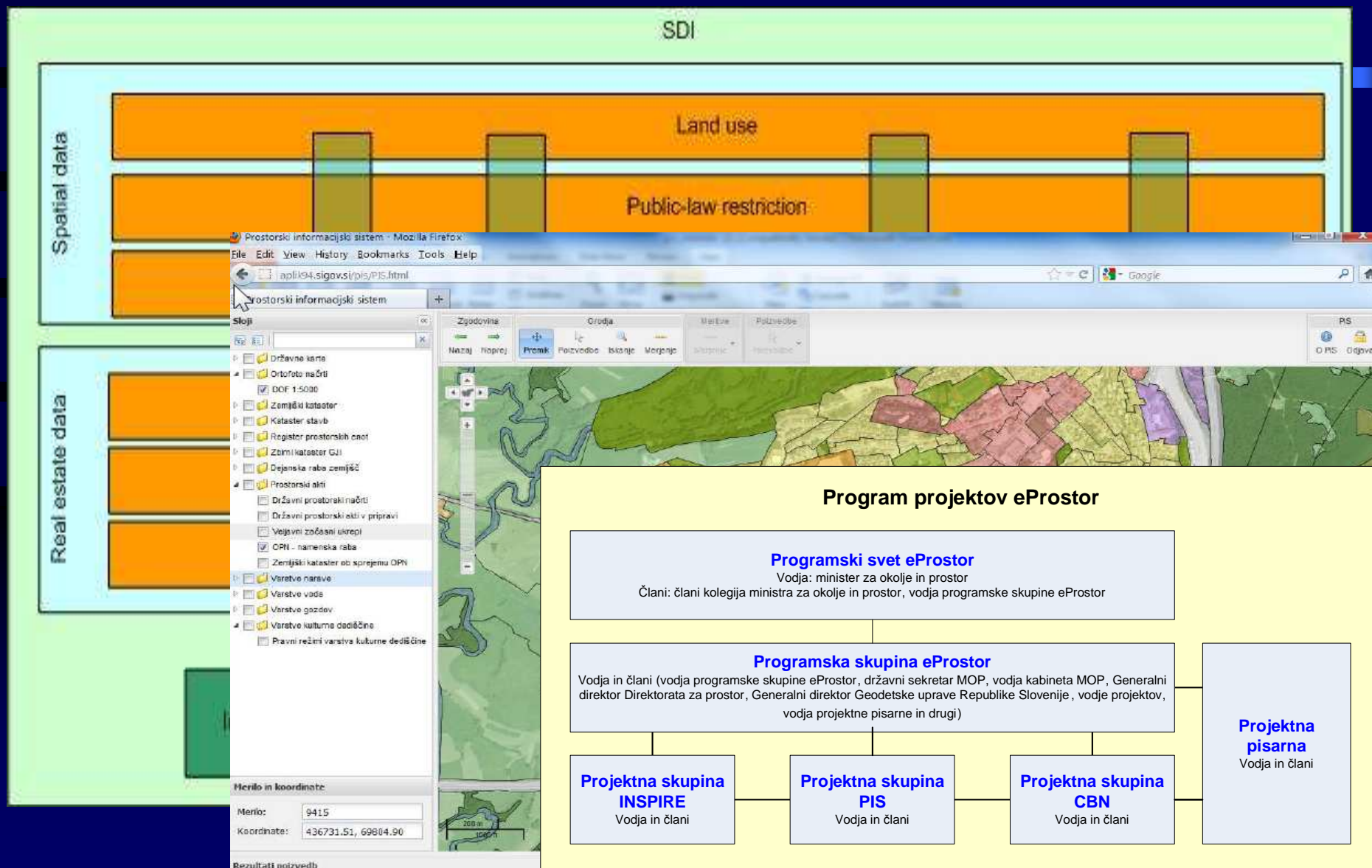
Core state registers

- Connected with web services (WS)
- Clear relations between datasets
- Interoperability of data



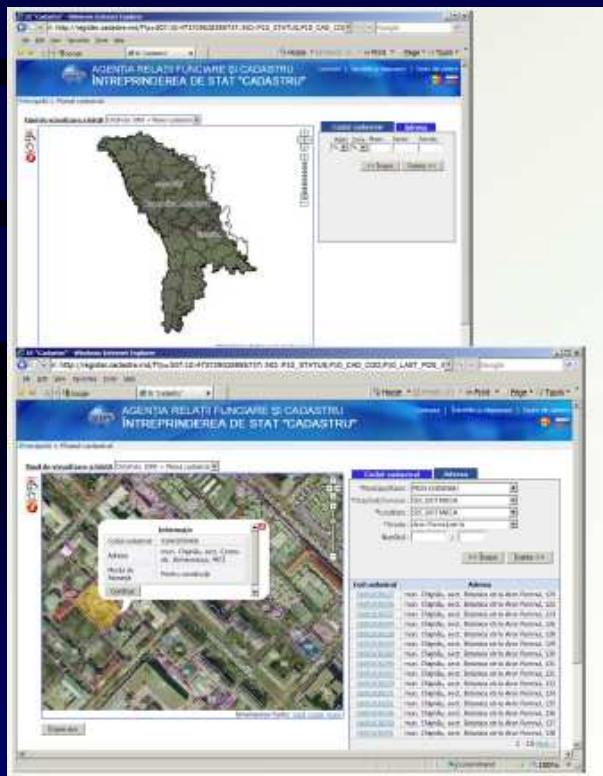
Source: Clemens Portelie: INSPIRE conference 2009

E-Spatial project

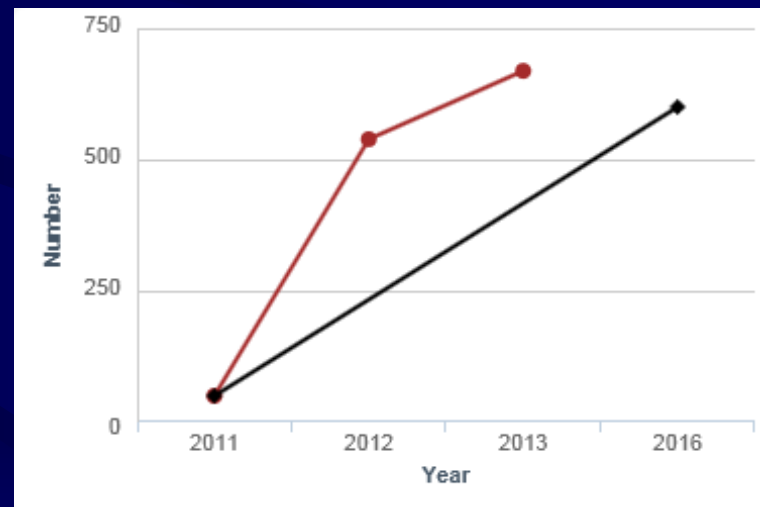
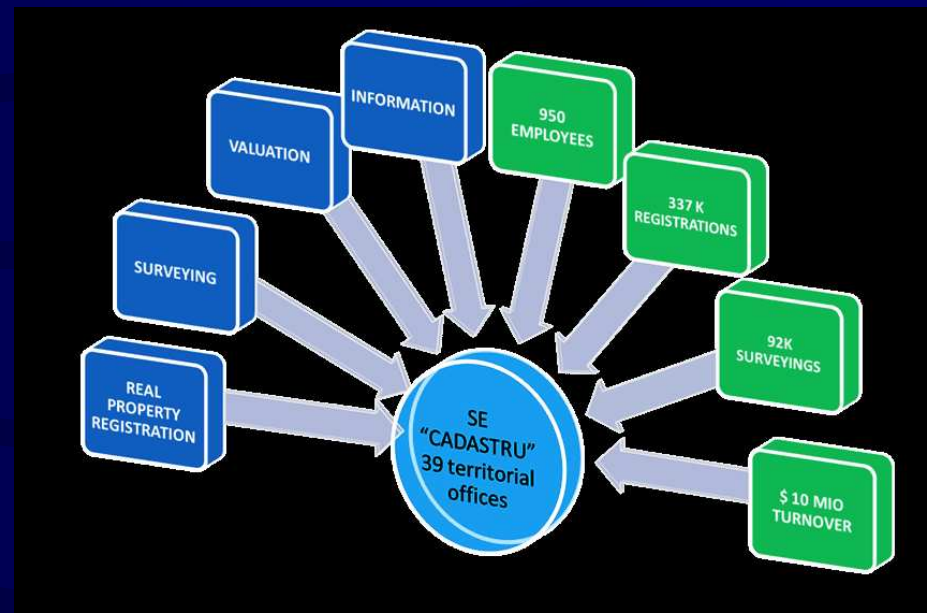


Situation in Moldova

- Data
- Services
- NSDI
- eGovernment
- Portals
- Coordination



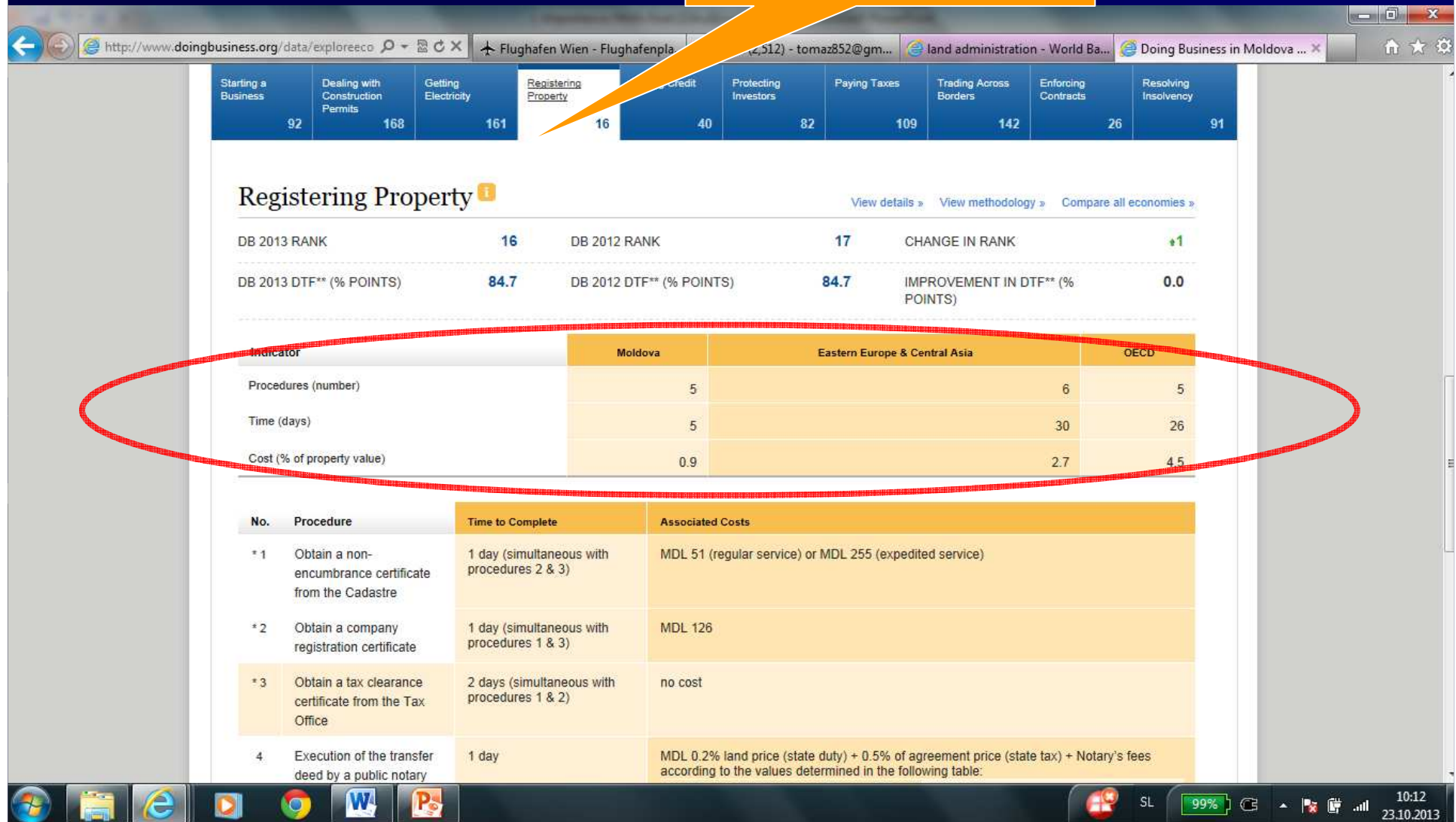
Source: Angela Matcov, SE CADASTRE



Open Data Portal in Moldova
(source WB Report about **Governance eTransformation Project**)

WB Doing Business 2014 – Property registration

16. at the World



CONCLUSIONS

- Cadastre and Mapping prepare for future challenges
- Land governance is the key to achieve sustainable development
- SDI support challenges of the new millennium
- Digital Cadastral Systems underpin efficient management of the four key functions within the land management paradigm
- NSDI build the capacity for taking the land policy agenda
- SMA must take care for quality of authoritative data

Questions?



THANK YOU !