

# INSPIRE State of Play Study:

Status of the National Spatial Data Infrastructure in Europe  
(2002-2005)



SADL

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# Outline

- Context
- Objectives
- Approach and methodology
- Results
- Conclusions

Warning: this document does not represent necessarily the position of the European Commission or its services, neither does it give the official position of the countries involved



# Context

- Launch of INSPIRE, 2001
  - Recognising the importance of GI&GIS
  - MoU within the EC, 2002
  - Proposal for a Directive on INSPIRE, mid 2004
  - Recognition of importance of NSDI, RSDI, LSDI, ...
  - Only a partial view existed on what is going on ...

## INSPIRE - SoP

- Status of the National Spatial Data Infrastructures in Europe



# Objectives

- Status of the NSDI between 2002-2005
- Describe, monitor and analyse activities of NSDI in 32 European countries
  - EU-25, 3 Candidate Countries, 4 EFTA countries
- Collect and structure information on 5 components of the NSDI + environment
  - Legal framework and funding
  - Reference data and core thematic data
  - Metadata
  - Access and other services
  - Standards



# Approach and methodology

- First stage – 2002-2003:
  - Survey of websites, key documents for 32 countries
  - Completed with the help of national experts
  - ☞ 32 country reports
- Second stage – 2003:
  - Visit and in depth review of 9 countries (BE, NL, IT, HU, DE, FR, UK, FI, CH)
  - ☞ 9 dedicated country reports
- Summary report – ‘spring 2003’:
  - Assessment: ‘distance to target’ – in relation to INSPIRE
  - Supporting material for the Draft Directive
- Updates of 2004 and 2005
  - Aimed to give input for the implementation of the Directive



# Methodology

I. Organisational issues		
Level of SDI	1	The approach and territorial coverage of the SDI is truly national
Degree of operationality	2	One or more components of the SDI have reached a significant level of operationality
Coordination	3	The officially recognised or de facto coordinating body of the SDI is a NDP, i.e. a NMA or a comparable organisation (Cadastral or Land Survey Agency, i.e. a major producer of GI)
	4	The officially recognised or de facto coordinating body for the SDI is an organisation controlled by data users
	5	An organisation of the type 'national GI-association' is involved in the coordination of the SDI
Participants	6	Producers and users of spatial data are participating in the SDI
	7	Only public sector actors are participating in the SDI



# Methodology

II. Legal issues and funding		
Legal framework	8	There is a legal instrument or framework determining the SDI-strategy or -development
Public-private partnerships (PPP)	9	There are true PPP's or other co-financing mechanisms between public and private sector bodies with respect to the development and operation of the SDI-related projects
Policy and legislation on access to public sector information (PSI)	10	There is a freedom of information (FOI) act which contains specific FOI legislation for the GI-sector
Legal protection of GI by intellectual property rights	11	GI can specifically be protected by copyright
Restricted access to GI further to the legal protection of privacy	12	Privacy laws are actively being taken into account by the holders of GI
Data licencing	13	There is a framework or policy for sharing GI between public institutions
	14	There are simplified and standardised licences for personal use
Funding model for the SDI and pricing policy	15	The long-term financial security of the SDI-initiative is secured
	16	There is a pricing framework for trading, using and/or commercialising GI



# Methodology

III. Reference Data & Core Thematic Data		
Scale and resolution	17	Geodatasets exist which provide a basis for contributing to the coverage of pan-Europe for the INSPIRE-selected data themes and components
Geodetic reference systems and projections	18	The geodetic reference system and projection systems are standardised, documented and interconvertable
Quality of reference data & core thematic data	19	There is a documented data quality control procedure applied at the level of the SDI
Interoperability	20	Concern for interoperability goes beyond conversion between different data formats
Language and culture	21	The national language is the operational language of the SDI
	22	English is used as secondary language



# Methodology

IV. Metadata for reference data and core thematic data		
Availability of metadata	23	Metadata are produced for a significant fraction of geodatasets of reference data and core thematic data
Metadata catalogue availability + standard	24	One or more standardised metadata catalogues are available covering more than one data producing agency
Metadata implementation	25	There is a coordinating authority for metadata implementation at the level of the SDI



# Methodology

<b>V. Access and other services for reference data, core thematic data and their metadata</b>		
Metadata	26	There are one or more on-line access services for metadata on reference data and core thematic data
Data	27	There are one ore more on-line access services for reference data and core thematic data
Web mapping	28	There are one or more web mapping services available for reference data and core thematic data



# Methodology

<b>VI. Standards</b>		
Standards	29	The SDI-initiative is devoting significant attention to standardisation issues

<b>VII. Thematic environmental data</b>		
Thematic Environmental data	30	Thematic environmental data are covered by the described SDI-initiative or there is an independent thematic environmental SDI



# Results

Even with the 32 countries studied,  
only part of reality is described and assessed

Each review reveals the enormous wealth of  
initiatives in the field of the NSDI



# Results (~2003)

- Complete NSDI as described in the GSDI Cookbook do not exist in Europe
- Various NSDI are emerging with different components being developed
- Mostly in the Public Sector
  - modernisation of government,
  - modernisation of NMA,
  - cadastre,
  - E-government,
  - specific occasions (e.g. disaster management)
  - ...



# Results (~2003)

- Classification or typology of countries
  - National Data Producer taking the lead
  - One or more organisations driving the development
- In a few exceptional cases legislation has been drafted
  - With formal mandates (for the SDI)
  - With substantial funding
- Reference data
  - Some gaps, other being build
  - Harmonisation within organisations OK, amongst them not
  - Variable metadata, fraction in metadata catalogues
- Access services rather the exception









# Changes 2003-2004

Country	Organisational issues (I)							Legal issues and funding (II)									Reference data & core thematic data (III)						Metadata (IV)			Access services (V)			Standards (VI)
	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	
AT	■	■										■	■					■									■		■
BE																													
DE	■																												
DK	■																										■		
ES					■									■					■								■		
FI													■	■					■										
FR	■	■			■			■	■				■							■									
GR		■																■								■	■		
IE												■																	
IT									■				■						■	■									■
LU		■				■	■									■	■							■					
NL											■																		
PT			■	■	■																								
SE													■																
UK																													
CY																		■	■	■	■	■	■						■
CZ		■						■				■													■			■	■
EE																		■									■		
HU																											■		
LT													■										■				■		
LV		■											■	■														■	
MT										■	■																		
PL													■						■										
SI		■							■										■										
SK		■				■								■														■	
BG	■						■																					■	■
RO											■							■											
TR	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CH								■					■												■				
IS																												■	
LI		■						■					■							■		■						■	
NO								■																					

- In better agreement than in 2003
- In less agreement than in 2003
- Change due to removal of 'unknown', error correction or second opinion
- No change compared to 2003

Table 4: Changes between status of NSDI building blocks between spring 2003 and spring 2004



# Changes 2003-2005

Country	Organisational issues (I)							Legal issues and funding (II)									Reference data & core thematic data (III)						Metadata (IV)			Access services (V)			Standards (VI)	Environmental data (VII)	Country							
	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					
AT	Green	Green										Green	Purple					Purple																		AT		
BE	Purple																																			BE		
BE-V	Purple																																			BE-V		
BE-W	Purple																			Green																BE-W		
DE				Purple			Purple				Green										Purple															DE		
DK	Purple																																			DK		
ES	Green	Green			Purple	Red	Purple																	Purple		Green										ES		
FI														Purple																						FI		
FR	Green	Green			Purple				Purple																		Green									FR		
GR		Green																																		GR		
IE													Green																							IE		
IT										Purple																										IT		
LU		Purple				Purple	Purple																													LU		
NL											Purple																										NL	
PT			Green	Orange																																	PT	
SE																																					SE	
UK	Green										Purple																									UK		
CY													Purple																								CY	
CZ		Green								Purple																											CZ	
EE		Green																																			EE	
HU										Purple																											HU	
LT												Green																									LT	
LV		Purple																																			LV	
MT												Green																									MT	
PL																																					PL	
SI		Purple																																			SI	
SK		Green				Green																															SK	
BG	Green						Red																														BG	
RO																																					RO	
TR																																						TR
CH																																					CH	
IS																																						IS
LI		Green										Green																									LI	
NO																																						NO

- In much better agreement than in 2003
- In better agreement than in 2003
- In less agreement than in 2003
- Change due to removal of 'unknown', error correction or second opinion
- Twice changed due to removal of 'unknown', error correction or second opinion
- No change compared to 2003

Table 4: Changes between status of NSDI building blocks between spring 2003 and spring 2005



# Typology of NSDI (2005)

Level I	Level II	Level III	EU-15	EU+10	CC-3	EFTA-4	Class
NDP-led	users involved	operational	DK, FI, SE, <b>PT</b>	HU, <b>CZ</b>		IS, NO	1,1,1
		partially operational	AT, <b>GR, LU, BE</b>	PL			1,1,2
		not operational					1,1,3
	users not involved	operational		SI, SK			1,2,1
		partially operational		LT		LI	1,2,2
		not operational		EE, LV, MT, <i>CY</i>	<i>RO, BG, TR</i>		1,2,3
not NDP-led	formal mandate	operational	BE-VL, DE, <b>IT, IE</b>			CH	2,1,1
		partially operational					2,1,2
		not operational					2,1,3
	no formal mandate	operational	NL, UK, <b>BE-WA</b>				2,2,1
		partially operational	<b>FR, ES</b>				2,2,2
		not operational					2,2,3



# General observations on changes 2005

- The contribution of the **regional and local levels** for building the NSDI and activities related to it are becoming increasingly important
- In general **more stakeholders** find their place in the NSDI and activities of **National Mapping Agencies** are more prominent
- The large majority of countries do **not yet** have an **integrated approach**
- Some countries refer explicitly to the Draft **INSPIRE Directive** for modifying and further developing their NSDI.
- Construction of some of the **core reference datasets** was already mature for several of the countries. However, progress reported for some of the important layers of annex 1-3 of the Draft Directive is slow.
- There is an increasingly amount of **web services** being put in place. A lot of these services are accessible through **web-portals**.
- **Standards** are progressively being introduced
- There is a growing interest in the use of **Open Source Software**



# Conclusions and future work

- First year of the study the NSDI were only emerging
- Between 2003 and 2005 there is gradual change:
  - New legislation (~PSI, redefinition of mandates, ...)
  - Extending the base of the NSDI with data
  - Access to data services (geo-portals, catalogues, WMS)
- Still a long way to go along the line of the (Draft) INSPIRE Directive
  - Unclear mandates, review of mandates necessary – who is doing what ...
  - Further developing access to data (discover, view, access)

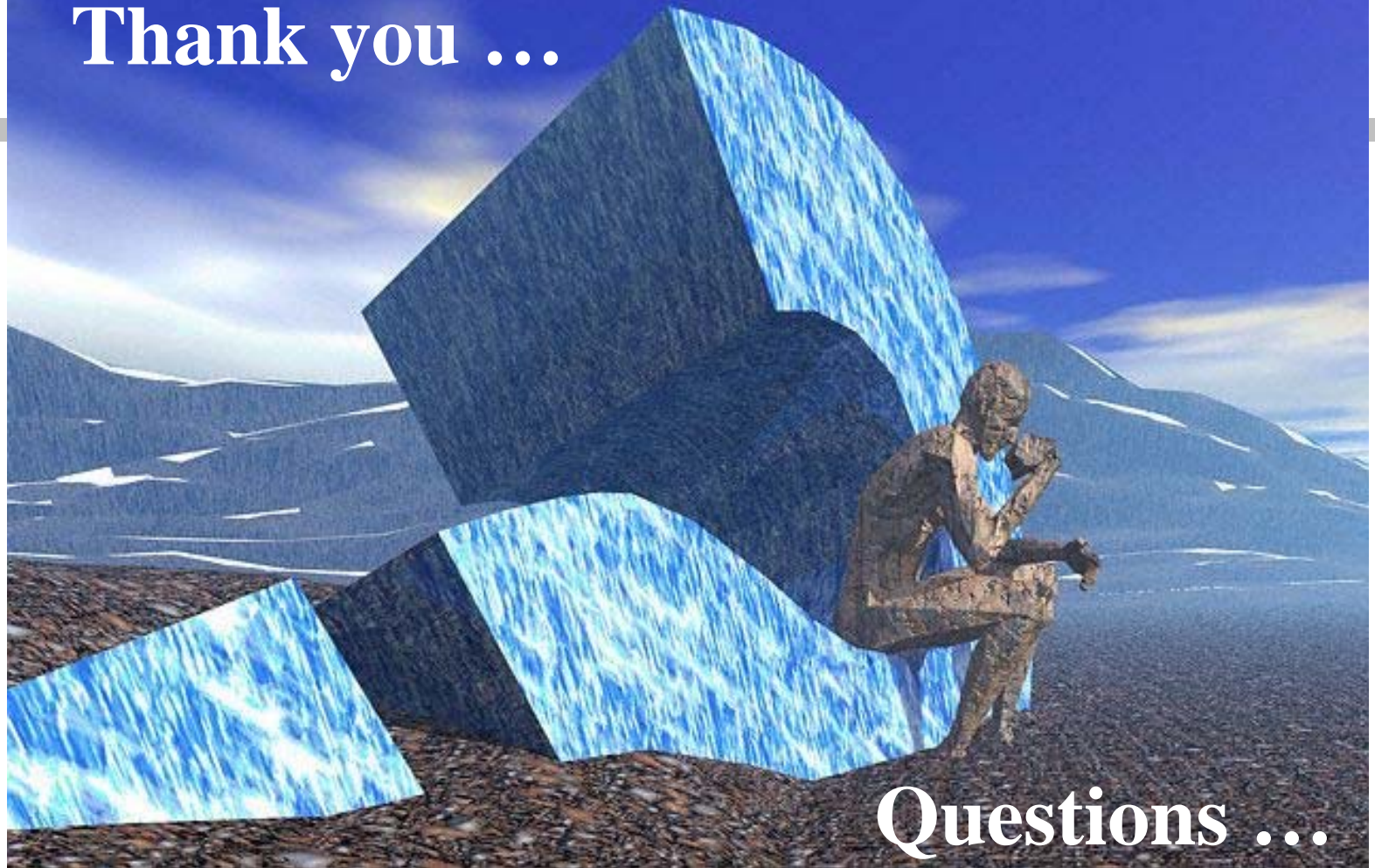


# Conclusions and further work

- What about the SoP itself ?
  - There is a need to update the information in the future because it is a valuable base for monitoring and reporting the implementation of INSPIRE
    - Bring it in line with Draft Directive (e.g. Annexes I, II, III)
  - There is a need for better and more advanced monitoring techniques
    - Legislation and mandates
    - Monitoring existing catalogues, data services, ...
- ☞ INSPIRE DT on Monitoring & Reporting – define implementing rules
- ☞ Initiative of SDIC MORE (MOnitoring and REporting)
  - SADL & Labsita & ... open to other stakeholders



Thank you ...



Questions ...

