

SEIS National State of Play: Methodology and first results

Danny Vandembroucke - K.U.Leuven
Rafal Wawer - K.U.Leuven

Prague, eEnvironment Conference,
March 25th, 2009

Outline

- Background and objectives
- Methodology
 - For the State of Play at national level
 - For the assessment at the EU level
- First results
 - Of the State of Play at national level
 - Of the assessment at EU level

Outline

- Background and objectives
- Methodology
 - For the State of Play at national level
 - For the assessment at the EU level
- First results
 - Of the State of Play at national level
 - Of the assessment at EU level

Objectives

- SEIS should/will build and further develop upon existing SEIS components
- Therefore:
 - Need to have a good insight in what is already in place, what is working well ('Good Practices'), the encountered problems, (gaps) ...
 - Need to analyse the overall situation in Europe to help e.g. detecting priority areas for further development
 - All of this to support the elaboration of the Road Map for SEIS

Objectives

- NESIS is a network of best practices and therefore
 - Will be key to mobilise the SEIS stakeholders, i.e. the EIONET network (of stakeholders)
 - Will not give a complete SEIS 'ready-to-use' solution
 - Will focus on ICT related issues with secondary attention to organisational aspects

Outline

- Background and objectives
- Methodology
 - For the State of Play at national level
 - For the assessment at the EU level
- First results
 - Of the State of Play at national level
 - Of the assessment at EU level

Methodology

- Partially based on the experience with the INSPIRE SoP
 - See <http://www.ec-gis.org/INSPIRE>
- Sequential approach
 - Describe the State of Play (qualitative & quantitative)
 - which components are in place, how do MS work, what are the problems, the priorities, ...
 - Structure the information
 - Transform the information into selected indicators
 - Analyse the resulting matrices >> conclusions

Methodology

- The methodology allows
 - Not only to have a snap-shot at one point in time, but also to assess the status over time (updates of reports)
 - To work flexible and capture also dynamic and qualitative information
 - To better understand why things are done in a certain way, but also to detect problems
- What the methodology is not
 - A systematic survey based on questionnaires
 - A method to compare countries and select the best amongst them (e.g. based on performance measurement)
 - Giving direct answers on which unique technology to use or system components to us

Methodology

■ State of Play at National level

- Report template elaborated with questions to guide the respondents
- Best Practice template

■ Assessment at EU level

- Structure and interpret information
- 'Translate' into a series of indicators
- Analysis of the results
- Give recommendations

Methodology

Template for State of Play at national level

- Organization of the technical work
- Overview of SEIS related activities
- Data and information flows
- Infrastructure and systems
- Use of standards
- Obstacles
- Priorities for SEIS
- Good practices
- List of contacts
- List of references
- List of standards in operation
- List of technologies and services in operation

Methodology

■ Chapters of the SoP reports

□ Organization of the technical work

- Organisational set-up for technical issues
- Technical implementation plan(s) and guidelines
- Funding

□ Overview of SEIS related activities

- User requirements analysis
- Review and evaluation of monitoring & reporting mechanisms
- Pilot projects
- Link with INSPIRE/GMES activities

Methodology

Data and information flows

- Electronic versus analogue data
- Major information flows
- Data sources and metadata
- Streamlining monitoring and reporting
- Data sharing

Infrastructure and systems

- NEIS architecture
- Existing systems and applications
- Network services
- Portals
- Use of Reportnet

Methodology

Use of standards

- Generic ICT standards
- GI and EO related standards
- Community specific standards

Obstacles

Priorities for SEIS

- Priorities in funding
- Priorities in maintaining existing systems

Good practices

- Technical
- Organizational

Methodology

■ Structuring the information

- E.g. Organisation of the information flows (collection, management, reporting)
 - PC-PC-PC, PC-PC-PA, PC-PA-PA, PA-PA-PA
- E.g. Automation of the information flows
 - Most, Some, None
- E.g. NEIS architecture
 - None, Centralised, Distributed, Combined
- E.g. Use of technologies (based on list)
- E.g. Use of standards (based on list)
- To help structuring, templates will be adapted to capture more and more precise information

Methodology

- Indicators to assess the status in Europe
 - Use of the structured information to feed the indicators
 - Examples from INSPIRE SoP
 - *“The SDI-initiative is devoting significant attention to standardisation issues”*
 - *“Concern for interoperability goes beyond conversion between different data formats”*
 - *“One or more standardised metadata catalogues are available covering more than one data producing agency”*
 - Those indicators are focusing on GI, are very generic
 - *Therefore need for more precise indicators with focus on ICT aspects - but principle remains the same*

Methodology

- How indicators could be applied in NESIS
 - E.g. Share of digital data and technology level within NEIS
 - E.g. Degree of automation in environmental M&R
 - E.g. Degree of general ICT standardisation, degree of GI standardisation
 - Based on application or not of certain standards
 - E.g. Degree of integration with INSPIRE
 - Based on use or not of GI, network services, ...
 - E.g. Number of users of existing NEIS systems and applications

Methodology

■ Sources for the assessment

- NSoP reports
- NESIS Best Practises Catalogue
- The structured information and indicators
- EEA SEIS Country Visits' reports
- INSPIRE SoP

■ 4 main chapters in the Summary Report

- Methodology (NSoP, indicators)
- Assessment at EU level (results' matrix, indicators)
- Highlighting some Good Practices
- Recommendations

☞ *Each chapter reviewed by NFPs and bodies addressing SEIS*

Outline

- Background and objectives
- Methodology
 - For the State of Play at national level
 - For the assessment at the EU level
- **First results**
 - Of the State of Play at national level**
 - Of the assessment at EU level**

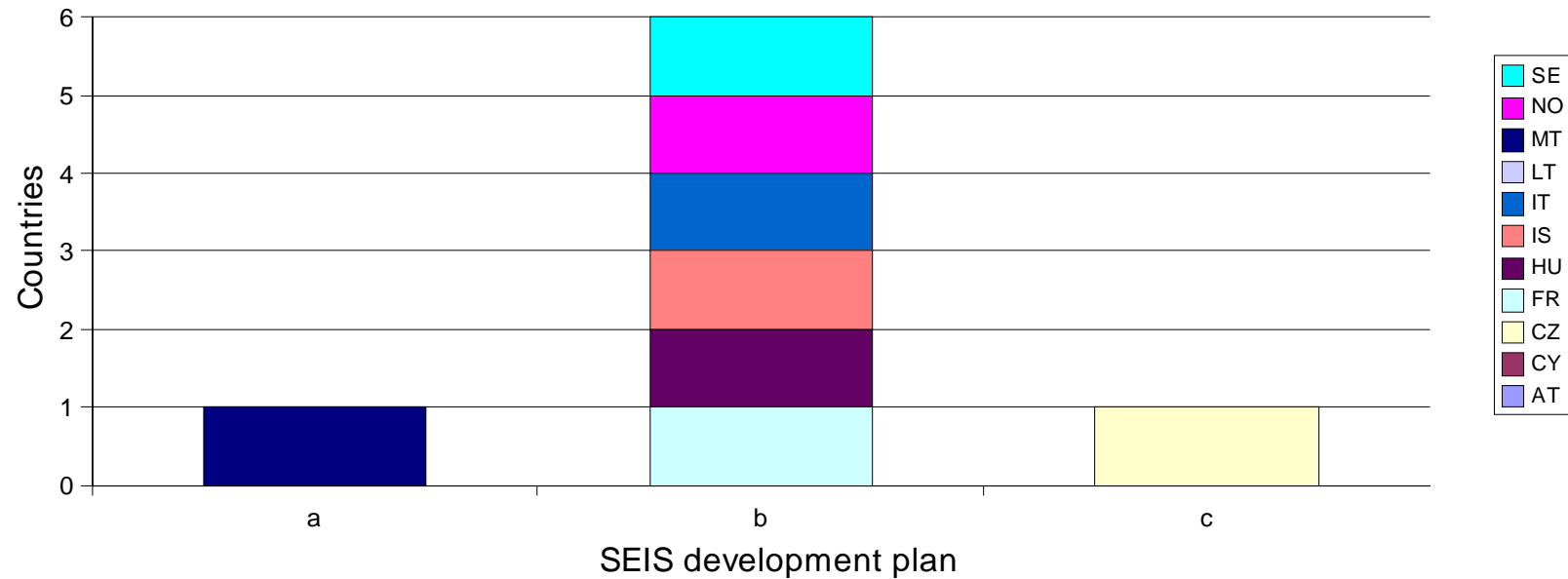
The template was subjected to consultation and review with the Steering Committee and the Advisore Board, and with JRC and EEA in order to be complementary with SEIS Country Visit reports with focus on ICT aspects of SEIS.

So far the NSoP reports were drafted by:

- CENIA (CZ)
- SFT (NO)
- MoEW (HU)
- ISPRA (IT)
- IEFA (IS)
- UBA-A (AT)
- MEPA (MT)
- IFEN (FR), (2 scenarios of SEIS development);
- SEPA (SE)
- AAA (LT)
- ARI (CY)

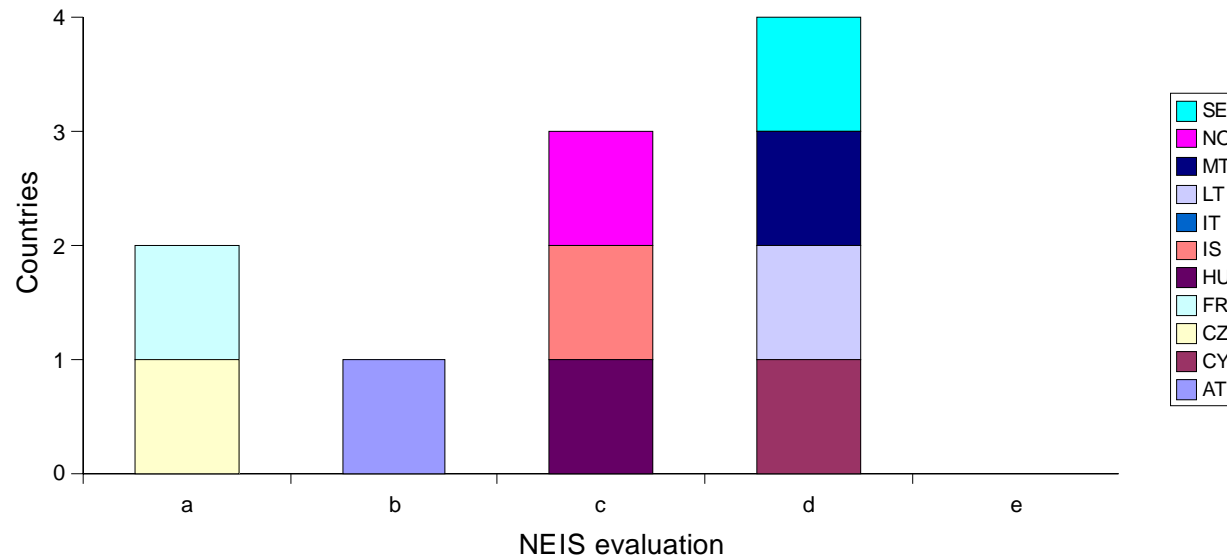
Based on the received reports, some lessons learned: sample report template filled, use of check lists

Existing technical implementation plan or guidelines for the development and implementation of SEIS or SEIS components

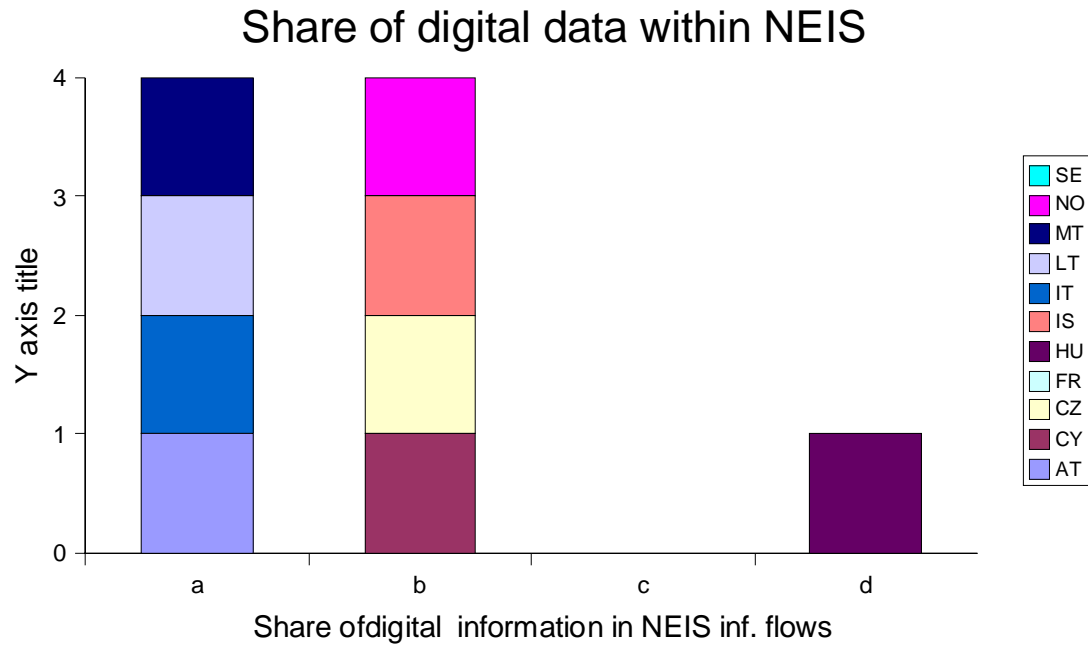


- a. directly addressing SEIS
- b. NEIS. Potentially addressing SEIS or its components (independent to INSPIRE)
- c. based upon INSPIRE

Evaluation of existing NEIS

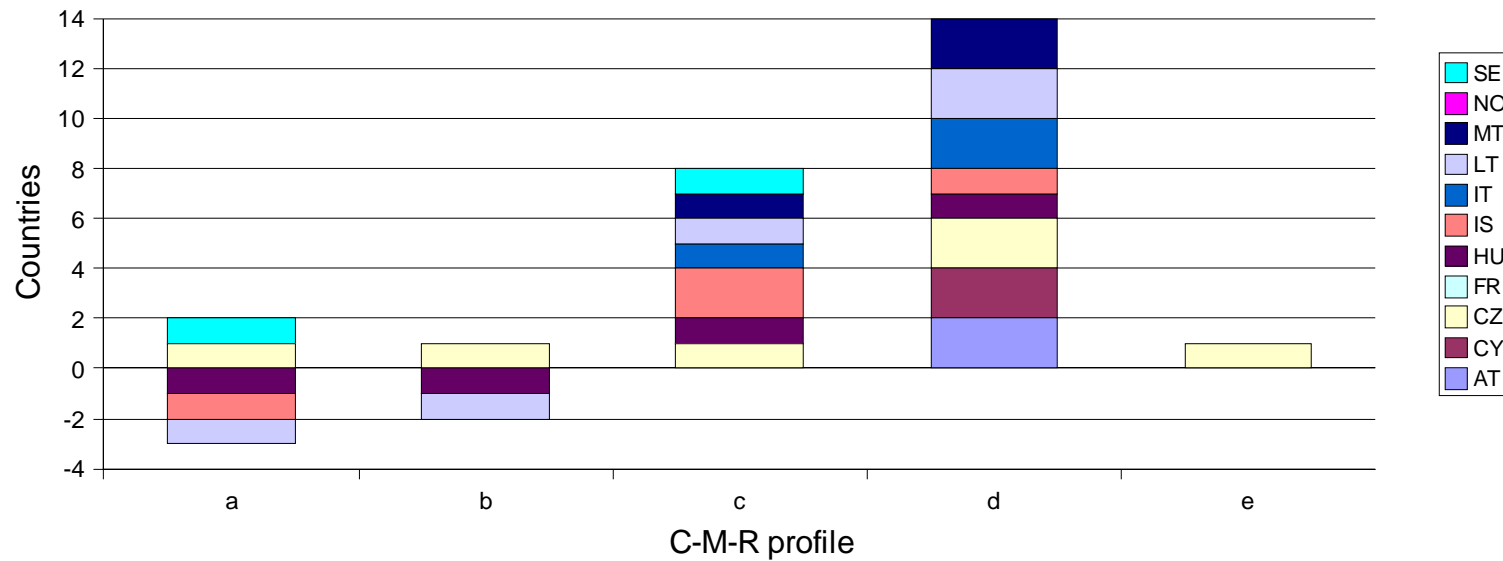


- a. None
- b. Pilots
- c. Chosen sectors
- d. Not regular. Complete
- e. Regular, complete, including technical set-ups
- f. No information



- a. All data is in digital form
- b. Most of the data in digital form
- c. Considerable share of digital data
- d. Some o the data are digital

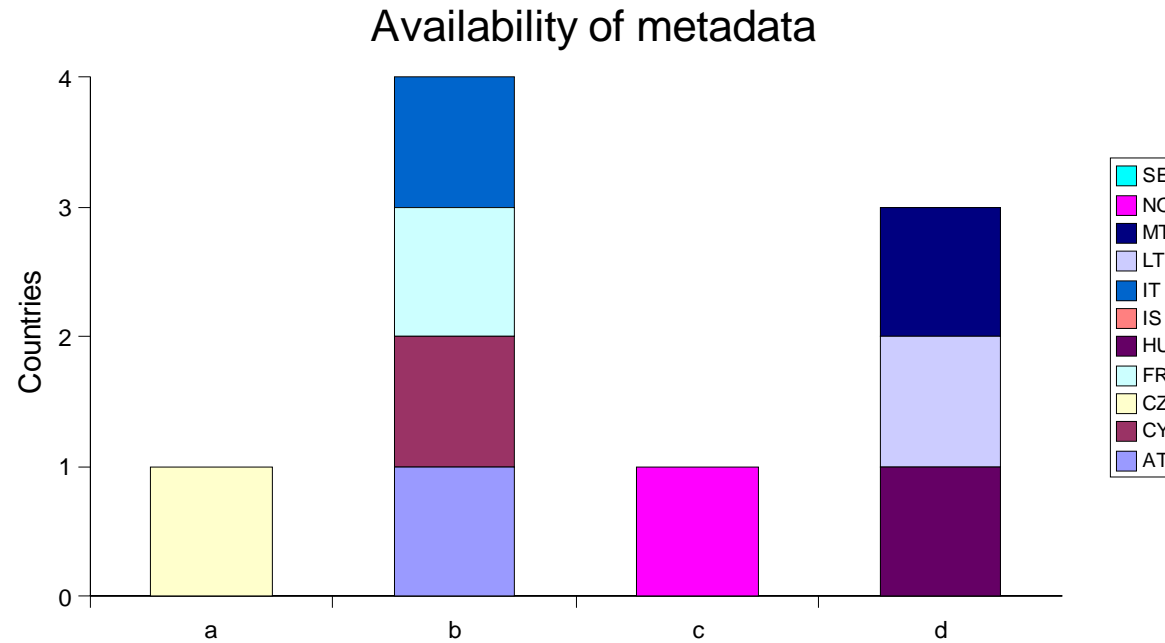
General organization of information flow (collection-management-reporting)



- a. PC-PC-PC
- b. PC-PC—PA
- c. PC-PA-PA
- d. PA-PA-PA
- e. other

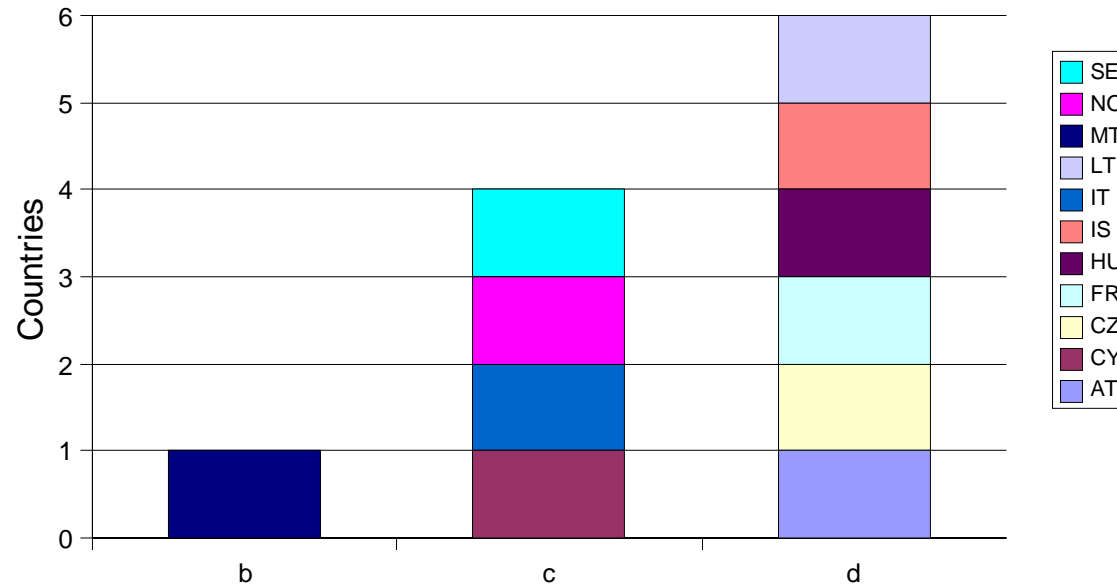
PC – private company

PA – public authority



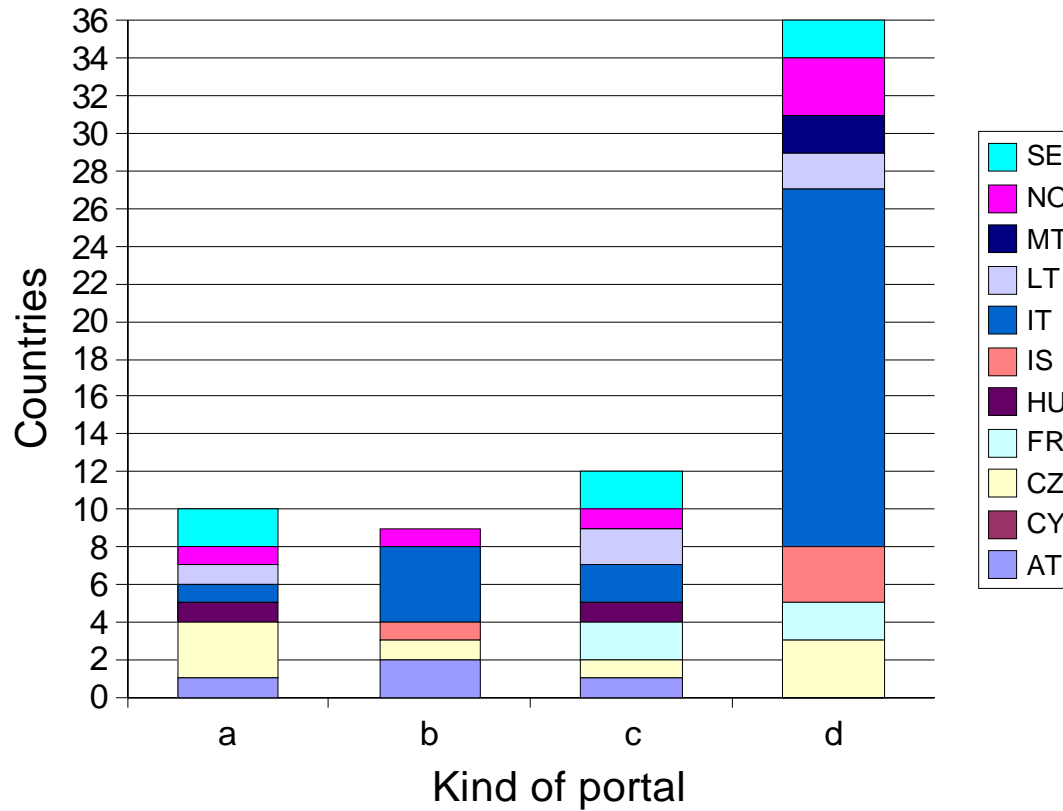
- a. All information has metadata
- b. Most of the data comes with metadata
- c. Metadata limited to spatial datasets (INSPIRE)
- d. Little information is described in metadata

Existing general architecture within NEIS, basis for SEIS



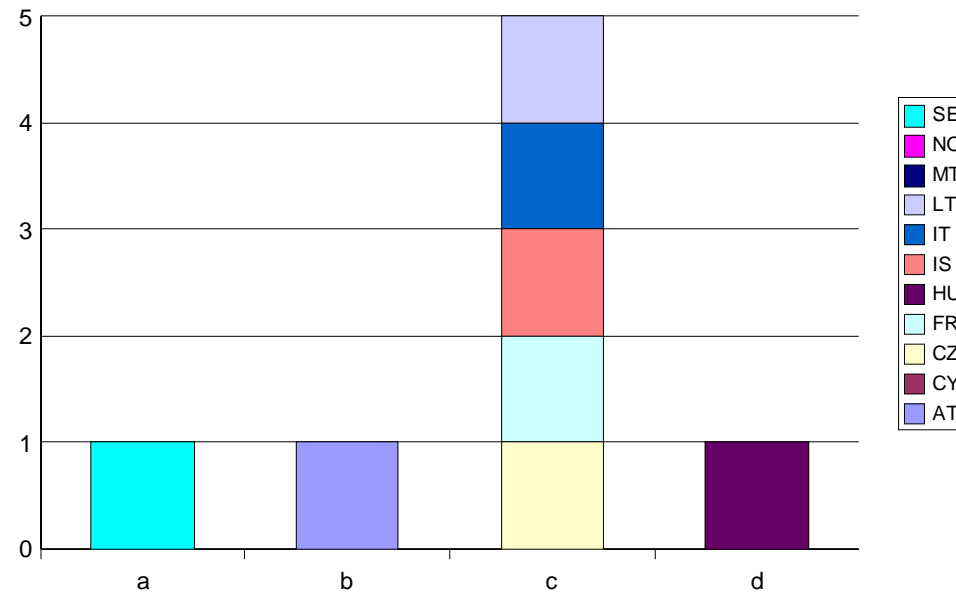
- a. None
- b. Centralized
- c. Decentralized
- d. Combined

Number of EI portals



- a. Centralized
- b. Air
- c. Water
- d. Other

Data sharing



- Excellent. Ensured in national regulations on sharing of environmental information
- Good. In big part on voluntary basis and inter-sector agreements
- Internal. Information shared mainly between public parties
- Limited. Limited in both public and private sectors.

Next steps

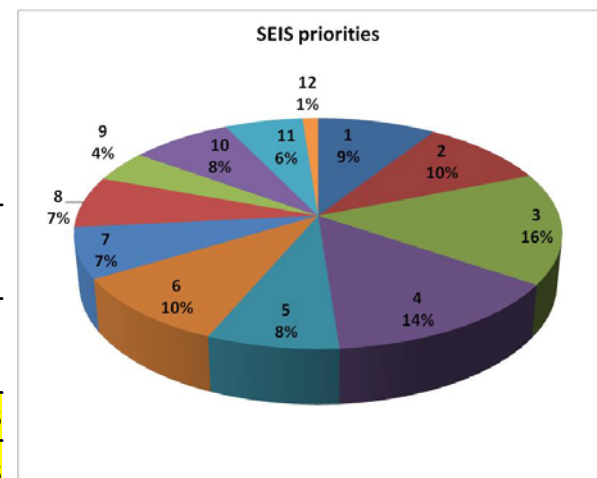
- Some of the chapters are not giving the required detail
 - Especially related to the technology/standards used
- Modify the template
 - Add a filled ('fictive') example
 - Add lists for standards and technologies used - better structure this (collaboration with GIGAS and others)
- Second iteration of the SoP
- Carry out the assessment
 - Systematically structure the information
 - Proposal of a list of indicators (what do we want to 'measure'?) - apply them
 - Which lessons can be learned - recommendations

Priorities of SEIS in MSs (input for a Pilot A action).

Activity	CZ	AT	FR1	FR2	HU	IS	IT	LT	M	NO
Creation of new data sets (Gl. statistics, in situ measurement data. ...)	8		50		10	5	6		12	
Creation of metadata for data sets	6	10	10	25	10	10	6	15	6	
Harmonisation of existing data sets and information	10	20	10	25	16	20	20	25	10	
Re-engineering data/information flows in order to reduce the timeframe for monitoring and reporting	6		15	25	16	25	20	10	6	20
Automated creation of indicators and reports	6	10	5	10	10	10	2	15	8	
Set-up of own network services to have easier access to the information	10	30		5	10	10	16	10	8	
Set-up of network services at European level to have easier access to the information in a cross border context	10	30			2		2	5	2	20
Development of end-user applications	12				10	5	10	15	20	
Implementation of standards	10				2	5	14	5	8	
Set-up of better coordinating mechanisms	8		10	10	2		2		6	40
Incentives for better sharing	8				12	10	2		8	20
Other:...	6								6	

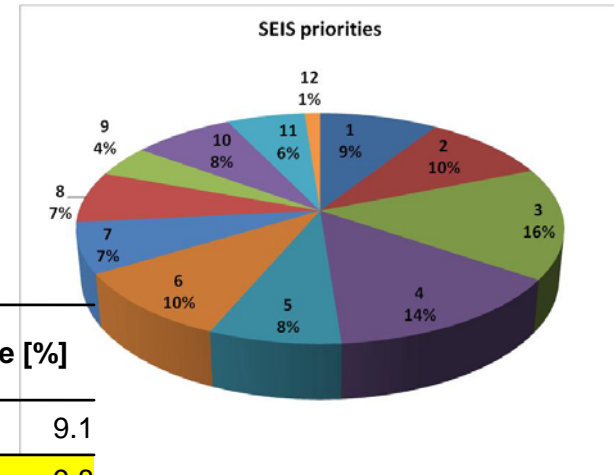
Highest priority actions

	Activity	Share [%]
1	Creation of new data sets (GI, statistics, in situ measurement data, ...)	9.1
2	Creation of metadata for data sets	9.8
3	Harmonisation of existing data sets and information	15.6
4	Re-engineering data/information flows in order to reduce the timeframe for monitoring and reporting	14.3
5	Automated creation of indicators and reports	7.6
6	Set-up of own network services to have easier access to the information	9.9
7	Set-up of network services at European level to have easier access to the information in a cross border context	7.1
8	Development of end-user applications	7.2
9	Implementation of standards	4.4
10	Set-up of better coordinating mechanisms	7.8
11	Incentives for better sharing	6
12	Other: coordination group	1.2
Total		100



High priority actions

	Activity	Share [%]
1	Creation of new data sets (GI, statistics, in situ measurement data, ...)	9.1
2	Creation of metadata for data sets	9.8
3	Harmonisation of existing data sets and information	15.6
4	Re-engineering data/information flows in order to reduce the timeframe for monitoring and reporting	14.3
5	Automated creation of indicators and reports	7.6
6	Set-up of own network services to have easier access to the information	9.9
7	Set-up of network services at European level to have easier access to the information in a cross border context	7.1
8	Development of end-user applications	7.2
9	Implementation of standards	4.4
10	Set-up of better coordinating mechanisms	7.8
11	Incentives for better sharing	6
12	Other: coordination group	1.2
Total		100



Input to a Pilot A ICT-PSP

- Harmonisation and interoperability of existing data sets and information (spatial, in situ measurements, statistical data, ...)
- Re-engineering data/information flows to reduce timeframe of monitoring/reporting
- Set-up of spatial, processing and authentication network services for an easier access to correct, standardized and certified information (at a National, European and also at cross border level)
- Development of end-user applications (application scenarios)
- Support of automated creation of indicators and reports

Conclusions

- Objective is to describe existing ICT components
- Methodology developed based on SoP report, Good Practices, European assessment
- First results from participating countries, other are coming
- Fine-tuning the approach (templates)



Thank you,
for your interest and
contribution to NESIS

Giorgio Saio
g.saio@gisig.it

Danny Vandembroucke
Danny.vandembroucke@SADL.kuleuven.be