INSPIRE: The Information Highway Solution?

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The Information Dilemma - Tower of Babel or Valhalla?

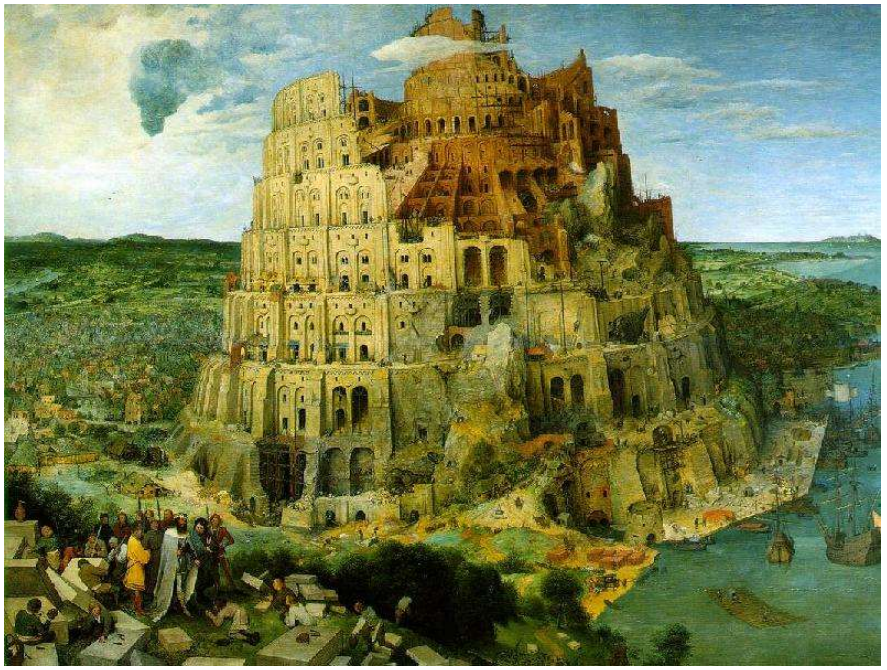
Today we are facing a period unprecedented in history: information is available, it is easy to decipher and is accessible to all…

Or is it?

Are we going down the Babel way?

The most brilliant architects got together with the brightest inventions and plans..

But there were too many languages and they couldn't communicate. That killed the tower not the technology



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Current Situation

We have to move from a passive to active mode

Data – Information – Knowledge – Action

The Data Cycle is suffering from DRIPS

Data – Rich – Information - Poor Syndrome

Data are **expensive** and creators need to recoup costs. Cost effectiveness is creating cost-recovery measures through the use of copyright and access restrictions

Access is still restricted but has to change – various legislations have been enacted or are coming into force –-INSPIRE-Århus-DP-FoIA

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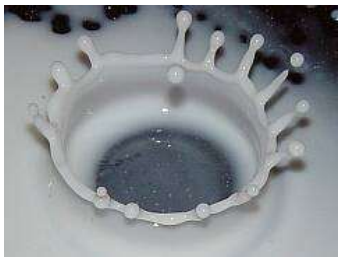


Which dimension is most important for Env Data?

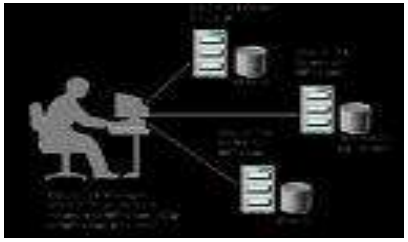
Many say:
Relevance

Another popular choice:
Timeliness

The classical one:
Accuracy

A smart answer is:
All

Our personal preference:
…



Terminology of Error for Spatial Data

– before we try to implement INSPIRE: Terms for consideration:

- **Accuracy** – extent to which an estimated value approaches the true value
- **Precision** – level of recorded detail
- **Scale and resolution** – smallest size that can be displayed
- **Bias** – systematic deviation from a norm or from the truth
- **Completeness** – extent to which data is supplied for all component parts and time periods
- **Temporal consistency** – repeated elements of the data handling process
- **Logical consistency** – suitability of commands, operations and analysis
- **Semantic accuracy** - quality with which objects are described
- **Repeatability** – extent to which independent users can produce the same data or output

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European Environment Agency

Initiatives and the Way Forward

EEA – EIONET Structure – A precursor for INSPIRE

- Dataflow process implemented since 2003
- Established structure:
  - NFP - National Focal Point
  - PCP – Principal Contact Point
  - NRC – National Resource Centre
- Data uploads – using one of two options:
  - EEA CDR (Common data Repository)
  - CIRCA (country-based server system)
- Malta's Environmental data is uploaded to the EEA and EU is available for public use and access

- Most data is now in GI format

  - http://cdr.eionet.europa.eu/mt

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Dataflow Activities

Focus:

- identifying and reporting data for priority data flows annually

Actions - Done

- - sourcing data and identifying gaps
- - identifying formats
- - updating & validating information
- - consolidating & submitting
- - respecting target dates and deadlines

Initiatives and the Way Forward

The INSPIRE Case

INSPIRE Directive

- Implementation rules – standardisation
- National Data Infrastructure
- Metadata
- Spatial structures
- Data Services
- Discovery Services

Why INSPIRE

Environmental Needs

- **Better information** needed to support policies
- Improvement of existing **information flows**
- Revision of approach to reporting and monitoring, moving to concept of **sharing of information**

Situation

- **Lack of co-ordination** across borders and between levels of government
- **Lack of standards** incompatible information and information systems
- **Existing data not re-usable** fragmentation of information, redundancy, inability to integrate

Environmental data

90% is linked to geography

INSPIRE

The INSPIRE Case

DEFINITION

"infrastructure for spatial information" means

- **metadata**, spatial data sets and spatial data services;
- **network services** and technologies;
- **agreements on sharing, access** and use;
- coordination and **monitoring mechanisms**, processes and procedures.

Two Categories of Data

The first category (annex I and II data):

data for **geo-referencing data** in the second category.

They have the status of "multi-purpose" spatial or basic data.

High demands on harmonisation

The second category (annex III data): the **environmental data**

They are needed in order to monitor and improve the state of the environment, including air, water, soil and …..

Limited demands on harmonisation

Annex I

Coordinate reference systems
Geographical grid systems
Geographical names
Administrative units
Transport networks
Hydrography
Protected sites

Annex I I

Elevation
Addresses of properties
Cadastral parcels
Land cover
Orthoimagery

Annex III

Statistical units census
Buildings
Soil
Geology
Landuse
Human health and safety
Governmental services and environmental monitoring facilities
Classified sites (industry and agriculture)
Population distribution – demography
Area management and …. zones
Natural risk zones
Atmospheric conditions
Meteorological geographical features
Oceanographic geographical features
Sea regions
Bio-geographical regions

DATA-SHARING AND RE-USE

Discovery services	free of charge
View services	free of charge
Download services	charging is possible
Transformation services	free of charge
E-commerce services	to be available
Additional services	charging is possible

Community portal	The Commission
National portals	The countries (not mandatory)

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based on a service oriented architecture

Related Projects - Initiatives

Structural Funds Monitoring Project

- Targeted EURmulti-million project – INSPIRE-compliant
  - New Information Systems
  - Data modules
  - Information structures
  - Cross-Discipline information management
  - Full Data Cycle
- Århus-related – major dissemination processes

Related Projects - Initiatives

Structural Funds Monitoring Project

- Air, Water and Soil – Noise, Chemicals, Radiation
- Concentrates on Environmental functions with IR and ICT services
- Emphasised information gap identification in monitoring processes
- Enhanced data cycle: sourcing, gathering, analysis, access and dissemination: GIS focus
- All results will be INSPIRE-compliant:
  - Initially metadata
  - Data structures
  - Dissemination

Related Projects - Initiatives

Shared Environment Information System

- Group of 4 (EEA, JRC, DG-Env, EUROSTAT)
  - Shared Environmental Information Systems
  - Need for Certified Standards
  - Need for data-exchange
  - Need for expertise audit of data
  - Århus-related – EU-wide Access standards
  - INSPIRE will be used as the integrative tool for SEIS implementation

INSPIRE Process

Implementing the process at the National Level

- Setup Stakeholders group
  - National Contact Point – already in place
  - Setting up of a network
  - Stakeholders own the process
  - Participatory process
  - Data and Information made accessible on-line
- Functional MoUs, governed by Data Protection Act

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Metadata: Progress

- Malta is highly advanced in the implementation of the metadata process:
  - There are two processes being employed:
    - Using an excel-based input tool
    - Using an online editor created by JRC
      - http://www.inspire-geoportal.eu/inspireEditor.htm

Microsoft Excel - Metadata_Trial.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

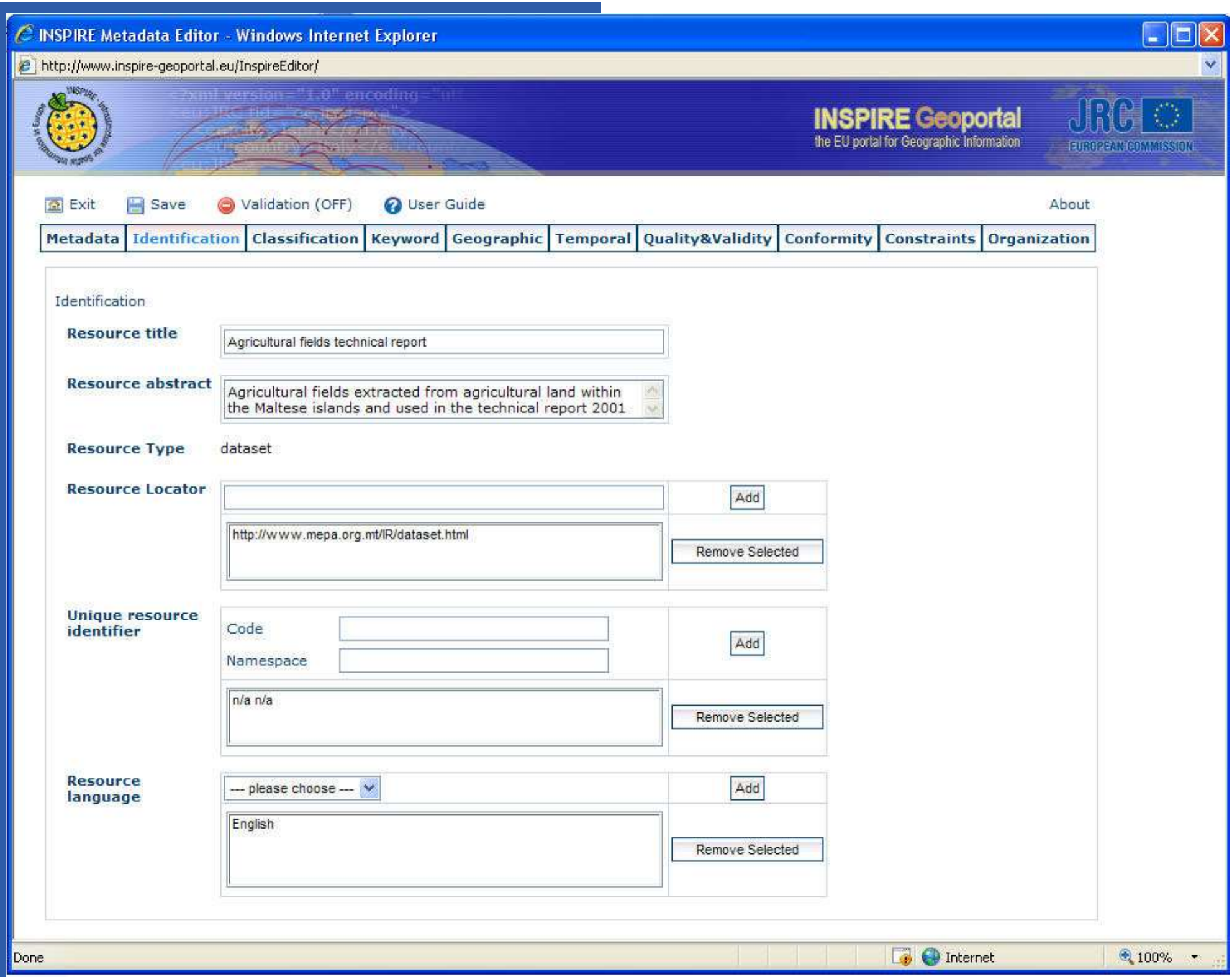
H8 Spatial dataset

	A	B	C	H	I	J	K
1	**INSPIRE METADATA ELEMENTS**						
2							
3						**MEPA Spatial Dataset**	
4		**Guideline IR**	**Component**	**AgriculturalLandTechRep**	**Agriculture Gozo**	**Agriculture Maltese Islands**	**Malta Agriculture Final**
5	**2.2.1**	**B1**	**Identification**				
6	**2.2.1.1**	**B1.1**	Resource Title	Agricultural Fields Technical Report	Agricultural Fields in Gozo by type	Agricultural Fields in the Maltese Islands	Agricultural Fields in the Malta
7	**2.2.1.2**	**B1.2**	Abstract	Agricultural Fields extracted from Agricultural land within the Maltese Islands and used in Technical Report	Agricultural Fields in Gozo shown by type - manually digitised from hard copy	Agricultural Fields in the Maltese Islands by merging digital datasets of Gozo and Malta	Agricultural Fields in the Maltese Islands digitised from hard copy map
8	**2.2.1.3**	**B1.3**	Resource Type	Spatial dataset	Spatial dataset	Spatial dataset	Spatial dataset
9							
10							
11	**2.2.1.4**	**B1.4**	Resource locator	n/a	n/a	n/a	n/a
12	**2.2.1.5**	**B1.5**	Unique Resource Identifier	n/a	n/a	n/a	n/a
13	**2.2.1.6**	**B1.6**	Coupled Resource				
14	**2.2.1.7**	**B1.7**	Resource language	eng	eng	eng	eng
15							
16	**2.2.2**	**B2**	**Classification of spatial data and services**				
17	**2.2.2.1**	**B2.1**	Topic category	Farming	Farming	Farming	Farming
18	**2.2.2.2**	**B2.2**	Classification of spatial data services				
19							
20	**2.2.3**	**B3**	**Keyword**				
21	**2.2.3.1**	**B3.1**	Keyword value	Agriculture	Agriculture	Agriculture	Agriculture
22	**2.2.3.2**	**B3.2**	Originating controlled vocabulary	GEMET Thesaurus version 1.0	GEMET Thesaurus version 1.0	GEMET Thesaurus version 1.0	GEMET Thesaurus version 1.0
23							
24	**2.2.4**	**B4**	**Geographic location**				
25	**2.2.4.1**	**B4.1**	Geographic bounding box	TR 14.5778973 - 36.0898801	TR 14.5778973 - 36.0898802	TR 14.5778973 - 36.0898803	TR 14.5778973 - 36.0898804
26				LL 14.1812058 - 35.7812906	LL 14.1812058 - 35.7812907	LL 14.1812058 - 35.7812908	LL 14.1812058 - 35.7812909
27							
28	**2.2.5**	**B5**	**Temporal reference**				
29	**2.2.5.1**	**B5.1**	Temporal extent	1997	2001-09	1997	1997
30	**2.2.5.2**	**B5.2**	Date of publication	2003-02-05	2003-02-05	2003-02-05	2003-02-05
31	**2.2.5.3**	**B5.3**	Date of last revision	2007-04-05	2005-02-14	2004-12-17	2003-02-05
32	**2.2.5.4**	**B5.4**	Date of creation	2002-12-16	2003-02-05	2002-12-16	2003-02-05

Metadata Agriculture | Themes | SDS | Responsible party role | Multiplicity

Ready NUM

start The Metadata Editor i... Welcome to the Euro... INSPIRE Metadata Ed... Jasc Paint Shop Pro - ... Microsoft Excel - Met... EN 12:15


INSPIRE Metadata Editor - Windows Internet Explorer
http://www.inspire-geoportal.eu/InspireEditor/
INSPIRE Geoportal
the EU portal for Geographic Information
JRC
EUROPEAN COMMISSION
Exit
Save
Validation (OFF)
User Guide
About
Metadata
Identification
Classification
Keyword
Geographic
Temporal
Quality&Validity
Conformity
Constraints
Organization
Identification
Resource title
Agricultural fields technical report
Resource abstract
Agricultural fields extracted from agricultural land within the Maltese islands and used in the technical report 2001
Resource Type
dataset
Resource Locator
Add
http://www.mepa.org.mt/IR/dataset.html
Remove Selected
Unique resource identifier
Code
Namespace
Add
n/a n/a
Remove Selected
Resource language
--- please choose ---
Add
English
Remove Selected
Done
Internet
100%

Thanks