The Process of Spatial Data Harmonization in Italy

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ISSUES

• Geospatial Information in Europe:
  – lack of data harmonization
  – the lack of data
  – duplication of data
CHALLENGES

• Challenge of INSPIRE:
  – European Union (EU) Spatial Data Infrastructure

  ▪ sharing of environmental spatial information among organizations of the public sector;
  ▪ easy public access to spatial information across Europe.
CONSEQUENCES

• European projects have born to make geospatial information:
  – More accessible
  – Usable
  – Exploitable

by potential users by providing digital databases
  ❖ consistent
  ❖ aggregated
  ❖ always updated
European Project: GIS4EU
http://www.gis4eu.eu

Objectives
• To increase communication and networking relationships among the project partners addressing cross scale, cross language and cross border interoperability and accessibility issues.
• To define a common data model in order to enable access to consistent and homogenous reference data provided by cartographic authorities of different countries and at different levels (national, regional and local)
• To identify the rules to aggregate data by solving problems related to the adjacency of different databases, data generalization and multilingualism.
European Project: GIS4EU
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The different geo-spatial and cartographic data provided by 10 data-providers:

• Made available and harmonized into a single data model
• Accessible through the web
• Interoperable as if they were put into a single centralized database.
• The cartographic data continues to be maintained and published by individual data providers
• Integrated and aggregated to other available data, creating a single virtual geographic database.
INSPIRE Directive in Italy

Legislative Decree

"Implementation of Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)".

Aims

• creating a national infrastructure for spatial information and environmental monitoring

• allowing the Italian State to participate in the infrastructure for spatial information in the European Community (INSPIRE).
INSPIRE Directive in Italy

The decree:

• defines general rules for the data exchange, sharing, access and utilization

• applicable to all spatial data available in electronic format and held by any public administration
INSPIRE Directive in Italy

The Ministry of Environment:
- has authority and responsibility for the implementation of the decree
- it commits to public authorities the provision of metadata.

The public authorities:
- responsible for the production, management, updating and distribution of spatial data and the related services
- allow the public to access spatial data through research services, consulting services, services for downloading data, spatial data conversion services.
The National Geoportal

- Main Spatial Data Infrastructure in Italy
- Driving force for all public administrations

- adoption of the terms of the INSPIRE Directive
- sharing of free geospatial data through interoperable services according to the Open Geospatial Consortium Standards (OGC): WMS, WFS, WCS, SWE
Spatial Data Infrastructure

Necessary for the implementation of an SDI:

- technologies
- and the political cooperation agreements
- understandings on the production, management, updating and dissemination of data to make available.
Spatial Data Infrastructure

The SDI should ensure the following functions:

**Consultation** which allows the visualization of spatial data

**Library** to provide access to spatial data and meta-information

**Download** a complete copy of the spatial data sets or part of them.

**Research** which allows the search for spatial data sets and spatial data services.

**Geocoding**, which enables searching some significant features such as cities, towns, localities and display geographically on a map, specifying the name;

**Transformation** in other coordinates systems.
Geoportals at regional level

The majority of Italian regions are provided with a Spatial Data Infrastructure from which it is possible to retrieve local spatial information, either by downloading them or through the interoperability services defined by OGC standards.

- Portale Open Data Regione Piemonte
- Geoportale Regione Piemonte
- Geoportale Regione Lombardia
- Portale dati cartografico Regione Liguria
- Geoportale Provincia Autonoma Trento
- Portale dati cartografico Provincia Autonoma di Bolzano
- Geoportale Regione Veneto
- Portale dati cartografico Regione Friuli Venezia Giulia
- Geoportale Regione Emilia Romagna
- Portale Open Data Regione Emilia Romagna
- Portale dati cartografico Regione Emilia Romagna
- Portale dati cartografico Regione Toscana
- Portale dati cartografico Regione Lazio
- Geoportale Regione Sardegna
- Geoportale Regione Abruzzo
- Geoportale Regione Campania
- Geoportale Regione Puglia
- Geoportale Regione Calabria
- Geoportale Regione Sicilia
Geoportals at regional level
Regione Puglia

provides areas accessible to businesses, professionals, organizations and citizens
Geoportals at regional level
Regione Puglia

Regional Spatial Data Repository

• is a catalog of metadata based on ISO19115, 19119 and 19139 compliant with the INSPIRE directive and the European Regulation on the metadata

• public registry which allows:
  - Consultation of the metadata of spatial data;
  - Extended mode consultation through the use of a geographic browser;
  - Management of metadata reserved to public administration offices.
Geoportals at regional level  
Regione Puglia

The catalog contains also metadata for local services made available by the Regional Territorial Information System-SIT (service planning, urban planning, civil protection, etc.).

The RRDT allows the management and publishing of:
• Metadata for spatial data (maps technical issues etc.);
• Metadata about local services
• Metadata for new recorded spatial data.
INTEREST GROUP FOR INSPIRE

- increasing number of associations and interest groups that work together and share their point of view through the web.
- AMFM GIS Italy
AMFM GIS Italy

The Association promotes
- the methodologies and processes of standardization,
- communication and sharing of geographical data
- promotes legislative and regulatory adjustments necessary to ensure the development of National Spatial Data Infrastructure (IDT).

This portal includes participation in discussion groups on:
- 3D GIS
- Cadastre
- GIS and Technological Networks
- Security and Defense
- European Union
- Standards.
CONCLUSIONS

• The social effect of the regulations has created a wide awareness between local authorities and the Italian professionals which adhere to associations and interest groups for INSPIRE.

• Increase of geoportals at national and regional level and the rise of interest groups and blogs with interest on interoperability and standardization of spatial data:
  – promote the exchange of knowledge and experience between public and private stakeholders
  – reflects a growing awareness by local authorities and governments, on issues dictated by the European directive INSPIRE

• SDI is an important support for the Central and Local Public Administration:
  – rational management of the territory
  – accurate monitoring of its critical factors
  – localization and monitoring of public structure and cultural heritage.
Thank you for your kind attention

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