Turkey’s National SDI Implementation

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Presentation Plan

- NSDI Background
- General Directorate of Geographic Information Systems
- NSDI Project
- INSPIRE Directive
- Urban Information Systems
NSDI Background

• “e-transformation Turkey” in 2003 with the Circular No.2003/48 by the Prime Ministry.
• Action Number 47: “Pre-study for Establishment of Turkish Geographical Information Systems”.
• General Directorate of Land Registry and Cadastre (TKGM).
• Working Group 32 public institution, 9 municipalities and 3 universities.
• Pre-study Report submitted to SPO.
NSDI Background

- “e-transformation Turkey Project 2005 Action Plan” is published.
- Action 37: “Infrastructure Preparation Studies for the Establishment of Turkish GIS” responsible institution: TKGM.
- Several Working Groups and Commissions.
- Turkish National Spatial Data Inventory (NSDI) Policy and Strategy Report submitted to SPO.
NSDI Background

• Medium and long term strategies and targets: Information Society Strategy 2006-2010 and Information Society Strategy Action Plan 2006-2010 was published in 2006 by SPO.

• Feasibility Study finished in 2011 by TKGM aiming provision of technologies, policies and human resource.

• Encouraging geographic data sharing among public institutions, private sector and public.
NSDI Background

- Decree Law No. 644 on July 4th 2011, Ministry of Environment and Urbanization established.
- Unification of the former Ministry of Public Works & Settlement and former Ministry of Environment & Forestry.
- MoEU responsible institution for establishment of GIS and implementation of the INSPIRE Directive.
General Directorate of GIS

DECREE-LAW NO 644 ARTICLE 13:
– establishment, utilization and development of the National Geographic Information System,
– encourage and coordinate the utilization of the modern information technologies in an effective and efficient way in the country,
– ensure the standards regarding the production, quality and sharing of geographic information at national level and determination of basic policy and strategies regarding these subjects and to prepare the necessary legislation,
General Directorate of GIS

– present our country in studies relevant to GIS carried out by national and international institutions and organizations, coordinate collaboration and harmonization studies,

– ensure utilization and evaluation of the data produced by public and private institutions, by the units of Ministry in all subjects regarding the scope of NGIS,

– carry out studies in scope of the establishment and development of the spatial data infrastructure and transmission of all kinds of data required by the Ministry, in order to perform Ministry services efficiently,
General Directorate of GIS

• make necessary arrangements for the setting up urban information systems in a standard and widespread way,
• establish and operate a geo-portal through which the spatial data produced by official institutions and private organizations will be submitted in the scope of NGIS,
• participate in the international data sharing networks and to prepare necessary legislation,
General Directorate of GIS

• ensure performing of the studies on certification and accreditation services relevant to Geographic Information System,
• carry out implementation, organization, development and monitoring activities on navigation, management, automation, documentation and RS technologies,
• carry out IT services of the Ministry,
• perform other similar duties assigned by the Minister,
General Directorate of GIS

Services by General Directorate of GIS

- TNSDI
- Ministry Spatial Services
- Ministry IT Services
- Legal Infrastructure
  - Data and Network Standards
  - Service Standards
  - TNSDI Portal Implementation and Operation
- Ministry GIS Projects Support Services (Planning, Coordination, Business Development, Implementation and Operation)
- Information Infrastructure (Hardware, Network) ERP (Software)
General Directorate of GIS

**NATIONAL GIS TO BE DEVELOPED**
National geo-portal to serve spatial data through a common infrastructure.

**MUNICIPAL GIS STANDARDS TO BE SPECIFIED**
E-government integration by Municipal GIS Standards.

**SPATIAL DATA INFRASTRUCTURE FOR THE MINISTRY TO BE DEVELOPED**
Spatial data infrastructure of the Ministry will be developed and integrated to the Turkish NSDI.
NSDI Project

Data Specifications for Themes

Data Exchange Standards

Data Sharing Rules

Governance Model

Legislation
Components of NSDI Project

Organization + Data Sources + Networks + Services + Standards

- Human Sources
- Basic data
- Advanced data
- Meta Data
- National Networks
- Institutional Networks
- WMS
- WFS
- Gazetteer-Service
- Catalogue-Service

Processes
Benefits of NSDI Project

- Preventing of duplicate data production
- Specification of geographic data standards
- Access to accurate and updated data

Waste of resources will be prevented.

E-government applications will become widespread and quality of service provided to citizens will be improved.

Decision support and investment processes will be improved.
INNSPIRE Directive

INSPIRE Directive
INfrastructure for SPatial InfoRmation in Europe

INSPIRE Directive 15 May 2007:

Aim of the Directive:
provision of high quality and harmonized geographical data available for implementation, monitoring and evaluation activities, used by public and governmental agencies at local, national and international levels”.
INSPIRE Directive

In the first phase of Turkish National SDI project, data specification documents corresponding to the themes in ANNEX-1 has been prepared.

**Annex 1**
1. Coordinate Reference Systems
2. Geographical Grid Systems
3. Geographical Names
4. Administrative Units
5. Addresses
6. Cadastral Parcels
7. Transport Networks
8. Hydrography
9. Protected Sites

**Annex 2**
1. Elevation
2. Land Cover
3. Ortho-imagery
4. Geology
INSPIRE Directive

Annex 3

1. Statistical Units
2. Buildings
3. Soil
4. Land Use
5. Human Health and Safety
6. Utility and Governmental Services
7. Environmental Monitoring Facilities
8. Production and Industrial Facilities
9. Agricultural and Aquaculture Facilities
10. Population Distribution
11. Area Management
12. Natural Risk Zones
13. Atmospheric Conditions
14. Meteorological Geographical Features
15. Oceanographic geographical Features
16. Sea Regions
17. Bio-Geographical Regions
18. Habitats and Biotopes
19. Species Distribution
20. Energy Resources
21. Mineral Resources
INSPIRE Directive

- Geographical data and data sets
- Interoperability and sharing of geographical data sets and services
- Network Services associated with geographical data publishing
- Preparation and recording of metadata
- Governance
- Establishment and operation of Municipal Information System
INSPIRE Directive

Hierarchy of Standards

International Standards

National Standards

Sectoral Standards

Institutional Standards

ISO
OGC
INSPIRE

Data Interchange

Turkish NSDI

TAKBIS
TRKBIS
MAKS
ADYS
...
Urban Information Systems

Related to Urban Information Systems:
- data standards,
- communication protocols and system architecture,
- essential legislations.

Aiming:
- Preventing of duplicate investments
- Fast, easy and reliable data to public services
Urban Information Systems

GRAPHIC INFORMATION
- Infrastructure Map
- Geological Maps
- SE Maps
- Zoning Maps
- Topographic Maps
- Satellite Images
- Ortophoto Images

TEXT INFORMATION
- Parcel Registrations
- Institutional Subscription
- Census Data
- Address Information
- Land Information
- Survey Information
- Social and Economic Data
General Directorate of GIS

MISSION

• Responsible from establishment, utilization and development of the National GIS,

• Determine the standards of municipal information systems regarding the activities of planning, mapping, infrastructure and superstructure and utilization of municipal information systems widely,

• operation of the National Geo-portal.
General Directorate of GIS

VISION

• Contribute to more reliable, faster and high quality in planning, investment and surveillance activities as well as public utilities by promoting the production of accurate, standard and high-quality geographic information and by achieving the sharing of it widely.
THANK YOU.