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# THE IMPLEMENTATION OF NATIONAL SPATIAL DATA INFRASTRUCTURE IN ALBANIA





## Overview:

- *Goals of paper*
- *Some definitions of SDI – NSDI*
- *Development NSDI in ALbania*
- *ASDI & AGB*
- *Problems*
- *Future directions in development of ASDI*



## Goals of presentation

To highlight the development of the spatial data infrastructure in Albania.

To identify problems associated with the data infrastructure.

To determine future directions for further consolidation and development of the data infrastructure.



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"The implementation of National Spatial Data Infrastructure in Albania"  
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## **SDI (SPATIAL DATA INFRASTRUCTURE )**

*THE BROAD POLICY, ORGANIZATIONAL,  
TECHNICAL AND FINANCIAL ARRANGEMENTS  
TO SUPPORT GLOBAL ACCESS TO GEOGRAPHIC INFORMATION.*

### **MAJOR INITIATIVE – INSPIRE directive**

*EFFECTIVE EXCHANGE OF GEOINFORMATION  
AMONG EUROPEAN UNION COUNTRIES*

## **SPATIAL DATA INFRASTRUCTURES (SDI) IN EUROPE**

*TOOLS FOR GOOD AND MODERN GOVERNANCE,  
THROUGH THE ESTABLISHMENT  
OF A COORDINATED NETWORK OF NATIONAL SDI (NSDI).*



## **SPATIAL DATA INFRASTRUCTURE (SDI)**

*SPATIAL DATA INFRASTRUCTURE AS AN INSTITUTIONAL CONCEPT ARE STANDARDS FOR SHARING AND USE SPATIAL INFORMATION IN THE NATIONAL INTEREST.*

## **NATIONAL SPATIAL DATA INFRASTRUCTURE (NSDI) IS A**

*FRAMEWORK OF SPATIAL DATA, METADATA, USERS AND TOOLS INTERACTIVELY CONNECTED.*

*TECHNOLOGY, POLICIES, STANDARDS TO PROCESS, STORE, DISTRIBUTE, IMPROVE UTILIZATION AND INTEGRATION OF GEOSPATIAL DATA .*



## **DEVELOPMENT OF NSDI IN ALBANIA**

***ESTABLISHMENT OF ALBANIAN GEOINFORMATION BOARD  
IN 2004, WAS THE NEW PHASE FOR DEVELOPMENT  
OF ALBANIAN SPATIAL DATA INFRASTRUCTURE (ASDI).***

**BEFORE THIS TIME, TWO MAIN PROJECTS HAVE BEEN REALIZED:**

- DIGITAL MODEL OF A LANDSCAPE and*
  - DIGITAL CARTOGRAPHIC MODEL;*
- AIMED TO PREPARE THE TOPOGRAPHIC MAPS.*



## **ALBANIAN GEOINFORMATION BOARD IS RESPONSIBLE TO :**

- CONSTRUCTION OF A NATIONAL DATA NETWORK.***
- DRAFTING OF NATIONAL POLICIES AND COORDINATION BETWEEN INSTITUTIONS AND AGENCIES THAT PRODUCE AND USE GEOGRAPHIC INFORMATION.***
- DEVELOPMENT OF THE RULES FOR ECONOMIC ADVANTAGES IN USING GEOGRAPHIC INFORMATION.***
- COORDINATION OF WORK TO PREPARE AND DETERMINE THE STANDARDS OF GEOINFORMATION.***
- INTEGRATE THE DEVELOPMENT OF ASDI ACCORDING TO THE GLOBAL SPATIAL DATA INFRASTRUCTURE NET.***



## ACTUAL SITUATION

- Albania has large spatial data collections that consist:
  - geodetic points,
  - topographic data base,
  - depths data base and
  - thematic data base;which cover almost all of our territory;
- All of them are gathered and managed from several national and local agencies/institutions.
- They are stored in different standards.
- Have good quality.
- Not integrated in one unique system in national level.



## In ALBANIA

there are many organizations dealing with collection of spatial data.

Just few institutions have operational GIS databases.

Except Municipality of Tirana, there are no other online spatial data bases.

Tirana GIS GENERAL DIRECTORY OF URBAN AND TERRITORY CONTROL DEVELOPMENT - URBAN AND PLANNING INFORMATION

Search for

Result

Municipality boundary		
@	Name	Area [km*km]
+	N/bashkia 11	4.75
+	N/bashkia 9	2.69

Buildings					
@	Name	Shopping	Material	Condition	Heig
+	Qendra Profesionale Don Bosko	ABSENT	CONCRETE	GOOD	2
+		PRESENT	CONCRETE	GOOD	4
+		PRESENT	CONCRETE	GOOD	4

Map interface showing a street map of Tirana with various layers like Buildings, Roads, and Networks. Includes a scale bar (0-600m) and coordinate information (X: 399840, Y: 4576960).

This information is not for official use!

Map Server W3C XHTML 1.0



## **AMANDED**

# **Geodetic and cartographic law in Albania in relation with NGIS**

The amended geodetic and cartographic law

lays down that the National Geographic Information System (NGIS) is a state register composed of standardized databases holding information about objects on and below the Earth’s surface in the whole country, also defining their location as well as procedures and methods for systematic data collection, updating, processing and accessing.

**By law, the Military Geographic Institute is the top level organization for NGIS that has the obligation to perform terrestrial, sea and airborne mapping and maintenance of geodetic networks.**



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## **ASDI ACTORS**

**The Albanian Geoinformation Board (AGB)  
and Military Geographic Institute (MGI) are working to create and develop the  
National Geographic Information System in collaboration with :**

### **INSTITUTES**

*Public Administration Institutions*

*Institute of Public Health*

*Institute of Statistics*

*Institute of Telecommunication and Transportation*

*Institute of Geosciences*

*Institute of Energy, Water and Environment*

### **SERVICES**

*Office for Registration of Real Estates*

*Meteorological Service of Aerial Forces Geological Service,*

*Agency for Legalization Integration of Informal Areas / Buildings*

### **MINISTRIES**

*Ministry of Public Works*

*Ministry of Environment, Forests and Water Management.*

*Ministry of Agriculture, Foods and Protection of Consumers,*

### **MUNICIPALITIES**

### **UNIVERSITY**

*Faculty of Geology and Mining*

*Faculty of History and Philology*

### **ORGANIZATIONS**

**NONPROFIT NGO AND PRIVATE COMPANIES**



## **PHASES OF ASDI**

**THE DEVELOPMENT OF ASDI IS A PROCESS IN TWO MAIN PHASES:**

### **THE FIRST PHASE**

*RELATES TO THE DEVELOPMENT OF ASDI STRUCTURE,  
DATA BASE AND METADATA AGENCIES,  
THE NATIONAL CENTRAL OFFICE, MECHANISM AND STANDARD NETS.*

### **THE SECOND PHASE**

*RELATES WITH THE EQUAL DEVELOPMENT OF THE FIRST PHASE,  
BUT THE GOAL IS DIFFERENT, TO COMPLET THE TEMPLATE DEVELOPMENT.*



## **PROBLEMS**

**THERE ARE MANY CHALLENGING ISSUES DURING THE CONSTRUCTION OF ALBANIAN SPATIAL DATA INFRASTRUCTURE**

**FIRST - MOST OF SPATIAL DATA, PRODUCED BY AGENCIES FOR THEIR OWN PURPOSES**

**SECOND - THE DATA ARE NOT MANAGED PROPERLY.**

*INSECURITY OF DATA*

*DUPLICATION OF COLLECTING DATA*

*THE UNAVAILABILITY AND ACCESS TO SPATIAL DATA*

*INCONSISTENCY, POOR MANAGEMENT AND ILLEGAL USES OF SPATIAL DATA.*



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## **FUTURE DIRECTIONS IN DEVELOPMENT OF ASDI**

**FOCUS THE IMPROVING COORDINATION MECHANISM.**

**COMPLETION OF THE SPATIAL DATA BASE.**

**DEVELOPMENT OF NATIONAL METADATA.**

**INVOLVEMENT OF STATE AGENCIES.**

**IMPROVING OF DEVELOPMENT OF DIGITAL DATA IN ALBANIA.**

**CONSTRUCTION OF THE TOPOGRAPHIC DATABASE REFERENCE.**

**BUILDING AND DEVELOPING THE INTEGRATED CADASTRAL SYSTEM.**



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In behalf of coauthors,



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**THANK YOU FOR YOUR ATTENTION!!!**

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