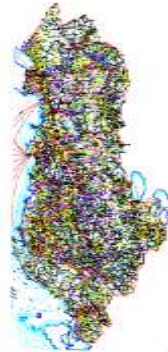




NATIONAL SPATIAL DATA INFRASTRUCTURE ALBANIA



By Eng. Besnik Çomo
Paper prepared for
First Regional Forum INSPIRE
ZAGREB

Central Office of Immovable Property Registration
Rruga “Jordan Misja”
Tirane-ALBANIA

Phone: +355 4 2403 302 Fax: +355 4 2403 306

Email: besnik.como@zrpp.gov.al

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DEVELOPMENT OF NSDI IN ALBANIA

GENERAL PRINCIPLES / INSPIRE FRAME WORK:

- Policy of Measurements and Observation;
- Required Data Sets;
- Required Metadata (Information on Data);
- Harmonization of Data;
- Required Services;

POLICY OF DATA.

INSTITUTIONAL ASPECTS OF REALISATION :

- Establishing a Governmental Commission for INSPIRE;
- Monitoring and Reporting;



DEVELOPMENT OF NSDI IN ALBANIA

INTRODUCTION

- **Very Important** that since beginning of 2011 ALBANIA - efforts for Realisation of European Directive **INSPIRE 2007/2/EC**.
- Realisation of “Digital – ALBANIA” Project as well as the application of E_GOVERNMENT is also a important precondition for aplying and implementation of INSPIRE.
 - INSPIRE is considered as one the most important basic componente in the frame of E_GOVERNMENT

Polytically **INSPIRE** is estimated as a request for the integration in EC. .

2.1 ALBANIA, SITUATION, DEVELOPMENTS FOR BUILDING NSDI.

- **YEAR 2010:** Albanian Government appointed a National Coordinator for GIS in the Ministry of Information Technology and Communication in the Department of “Digital Albania”.
- At the beginning of the **Year 2011**, Prime Minister of Albania signed executive order to establish an Interministerial Group, with tasks:
 1. COMPILATION AND MAPPING OF A POLICY DOCUMENT ON GEOSPATIAL DATA ;
 2. PLAN OF ACTION;
 3. LEGAL FRAME;
 4. ALBANIAN RESPONSIBLE INSTITUTIONS ON REFERENCE WITH DIRECTIVE INSPIRE 2007/2/EC.



DEVELOPMENT OF NSDI IN ALBANIA

- During the Year 2011, MITIK for Feedback of Inter-Ministerial Group carried out through a Geoinformation and Legislation Studio (MACK) supported and funded even by UNDP office in Tirana, an analyse & expertise for all the Tasks of Prime Minister Order with attention on INSPIRE Directive.

The most important result and proposal from this activity was to establish:

GOVERNMENTAL AUTHORITY FOR GEOSPATIAL DATA AND INFORMATION.

This authority is ASIG “State Authority for Geospatial Information”

Foreseen to be supported by a :

BOARD OF GEOINFORMATION

- OTHER RESULTS: - **DOCUMENT OF POLICY for BUILDING NSDI.**
 - **LAW ON GEOINFORMATION AND SPATIAL DATA:**

“On organisation and function of National Infrastructure on Geospatial Data in Republic of Albania”.

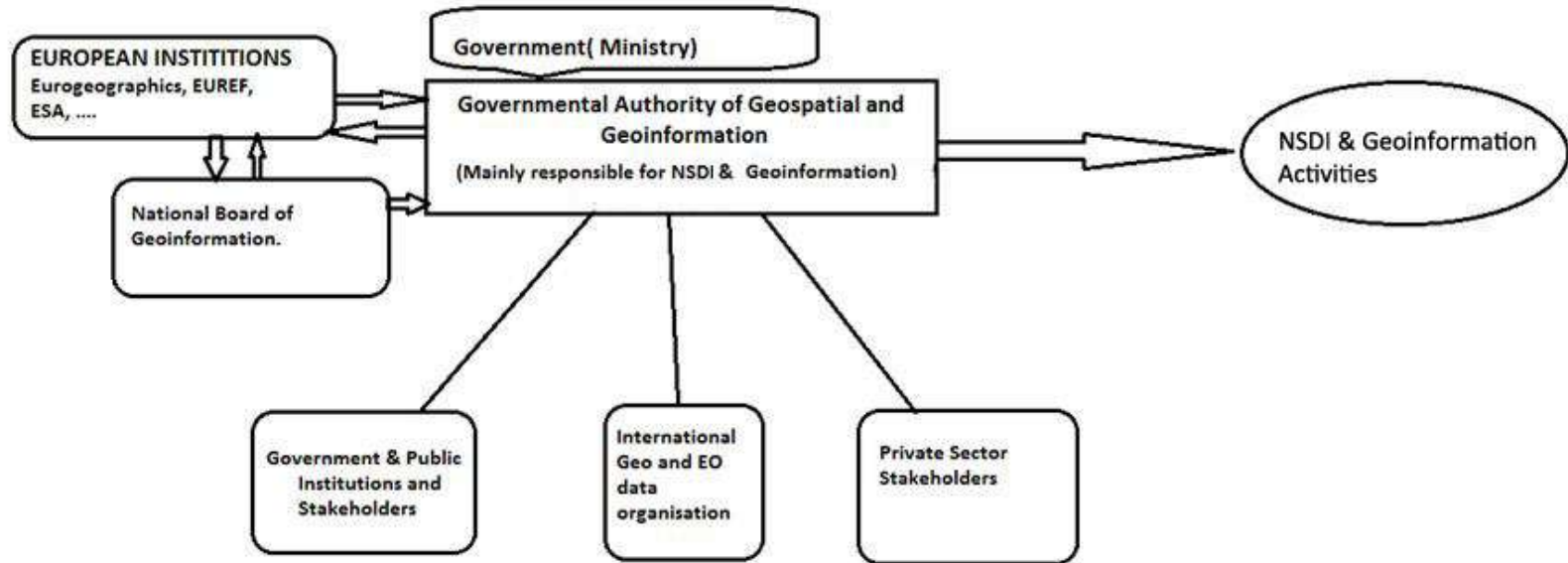
All this activities – all important for implementation of NSDI in ALBANIA.

DECISION : - Parliament of Albania approved the Law, No.72/2012, date 28.06.2012



DEVELOPMENTS OF NSDI IN ALBANIA

INSTITUTIONAL SCHEMA OF NSDI IN ALBANIA





DEVELOPMENT OF NSDI IN ALBANIA

QUESTIONS AND POSSIBILITIES FOR BUILDING OF NSDI IN ALBANIA :

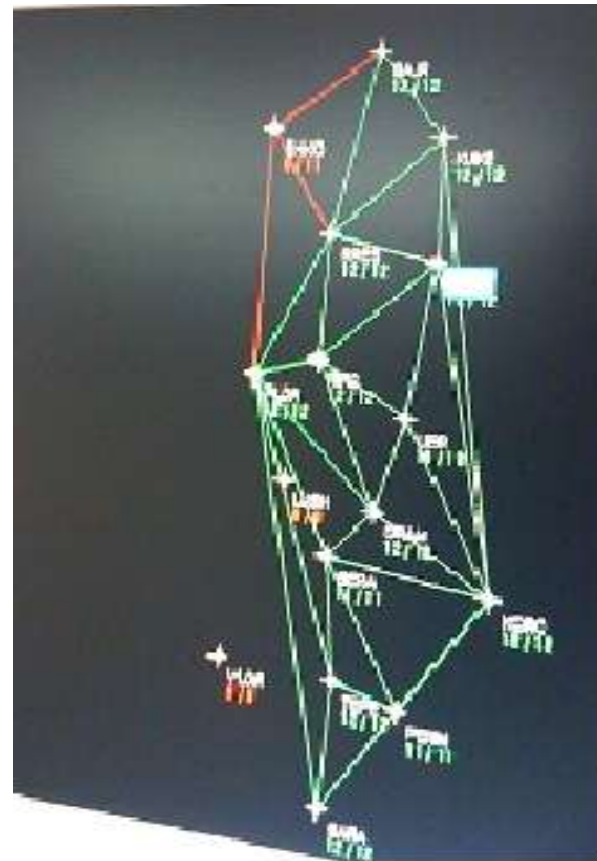
“Combine data from different sources all over Europe **“seamlessly”**, suggests as a first question to be solve:

A Coordinative Refencing System (Basic & Foundation Layer)

1. Determination of a **Coordinative Refencing System** (a basic layer in INSPIRE), should be in coherence with the EUROPIANE Satellite Reference Frame(EUREF) and to be proper to support other NSDI Layers in optimal way for migration into European INSPIRE Frame.
2. Determination of **Hights System**(a Layer in SDI), with the same concept as in point 1. In this context a new overview on Hights Systems and undertaking studies, analyses as well as a designed project for the local determination of the local GEOID included the overview the status and functioning of Mareograph/Durres, for a accurate MSL.



DEVELOPMENT OF NSDI IN ALBANIA (ALBPOS – Permanent Station on map and on Screen))





DEVELOPMENT OF NSDI IN ALBANIA

2. SPATIAL DATA IN INSPIRE

- Principle of Building INSPIRE: **“Capture spatial data only once”**
and **manage it where it can be done in the most efficient way”**

3. EO DATA SETS RESOURCES FOR INSPIRE ENTRY:

(Who? What? Specification and Evaluation?)

Albanian Geographic (Military) Institute (AGMI)

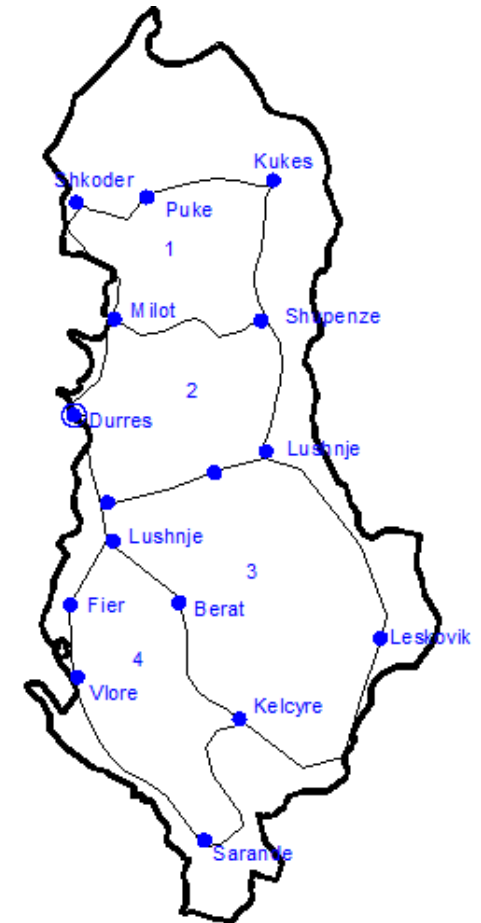
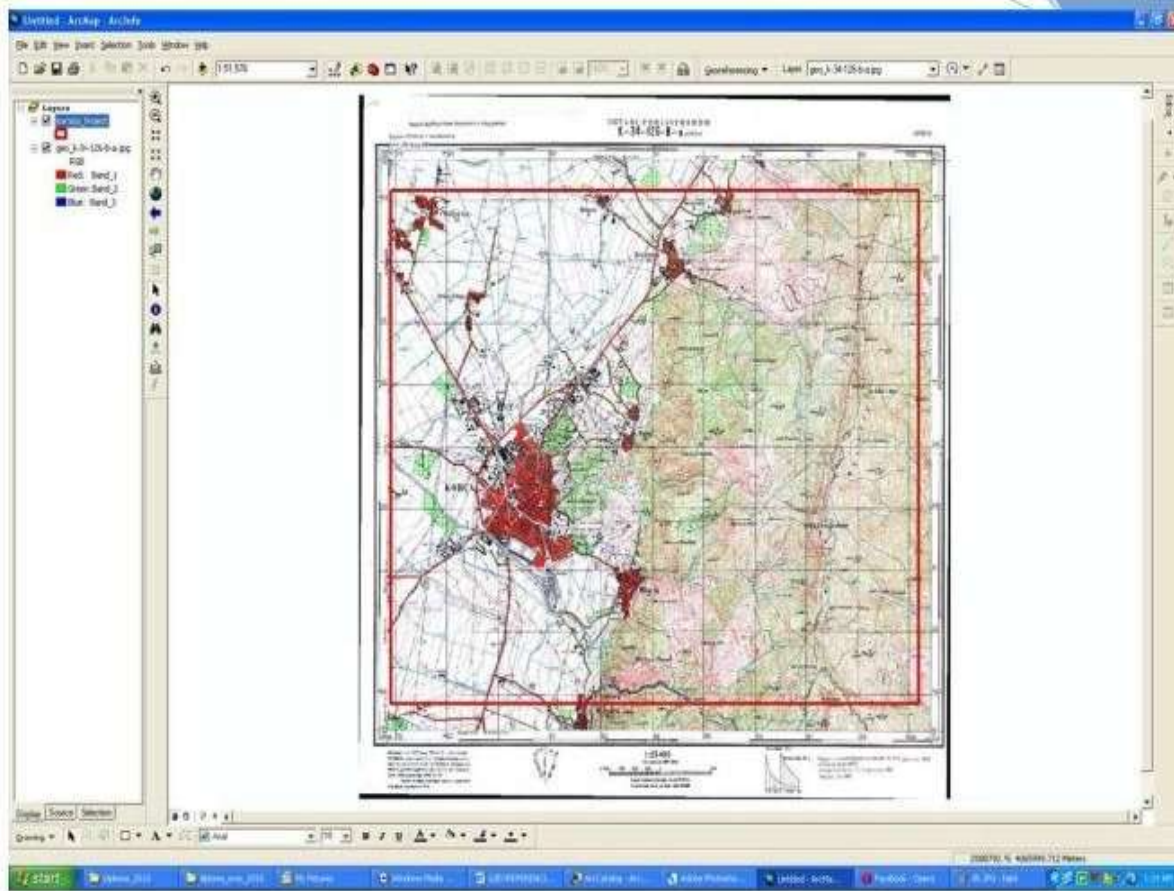
-Produced: Till 1990, for all Albanian Territory - Topographic Maps at ranges of scales, from 1:10 000 till 1:100 000. Those Maps are actually digitised, georeferenced in Alb87, and evaluated for accuracy and quality. There are in TM and UTM format. **Can be used in INSPIRE as “spatial data only once”.**

Albanian Geologic Survey (AGS), stakeholder :

Main Producer of Geologic, Hidrologic, Risk and Natyral Hazards, Mineral Resources, etc. At range of scales 1:10000 till 1: 100 000 and in more, as 1: 200000. Those maps are implemented by GIS, build with 11 layers. AGS has actually increased digital capacities and the volumes. **Those data in digital format can be an entry to INSPIRE.**



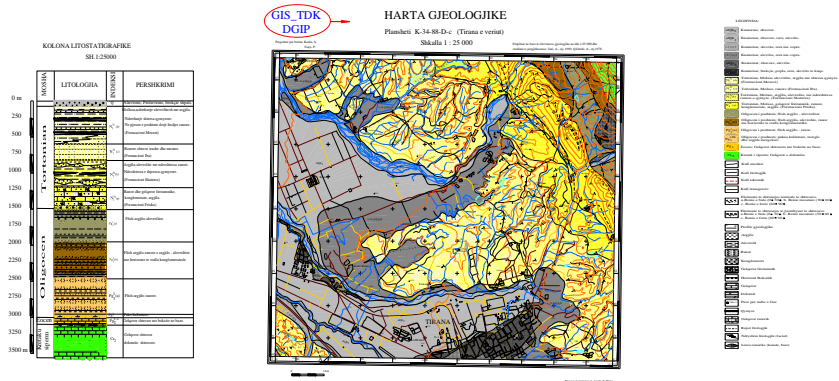
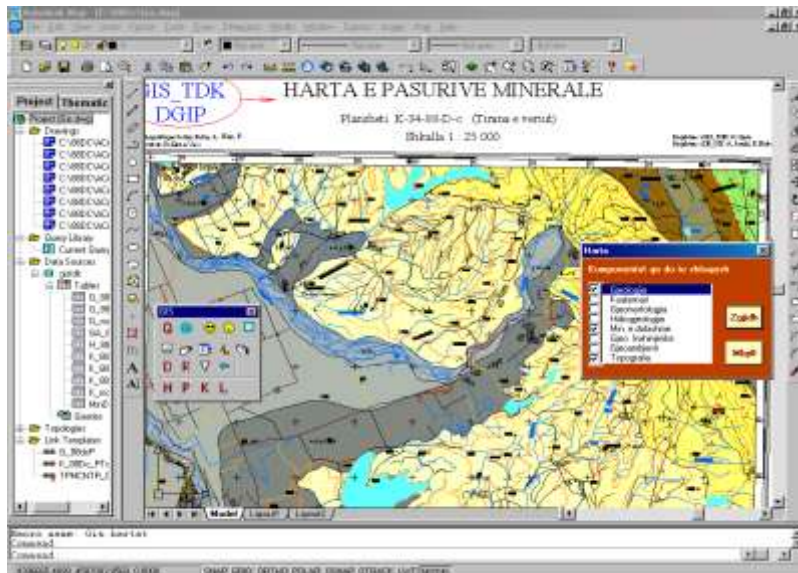
DEVELOPMENT OF NSDI IN ALBANIA





DEVELOPMENT OF NSDI IN ALBANIA

PRODUCT GIS_PILOT IN PLANSHETEN K-34-88-D-c





DEVELOPMENT OF NSDI IN ALBANIA

Agency for Legalisation of Urban and Informal Zones and Buildings (ALUIZNI):

- Provider of Orthophoto for all Albanian Territory, obtain from a flying Mission of 2007. High Accuracy and support topographic mapping in cities from the scales 1: 1000 and smaller. This EO product can be a entry in INSPIRE/SDI.

Central Technical Archive in Tirana.

Has archived and it is provider of all local geodetic nets and topographic & mapping survey plans, Engineering Geologic Studies and maps, etc. of all Cities and Towns as well as many villages in Albania at ranges of Sc. 1:500, 1:1000 and 1:2000, done before the year '90, from a EX- Technical Institute Geology _Geodesy. All those works or EO Data Sets are evaluated as with High accuracy standards. Updating, filtering, migration, georeferencing of all those data first into the National Coordinative System Frame, adaptation of them in respect with specification and standards of INSPIRE directive, can be result as EO data entry in NSDI.

Central Office of Immovable Properties Registraton and its branches

Ownership Index Maps, Cadastral attributive data and maps, Cadastral zoning, Ownership charts, addressing, codes, etc.

OTHERS: National Agency of Forest, N.A.of Water, N.A.Environment, N.A. of Territory

Administration;etc. - are providers of various EO Data suitable for different Layers in SDI/ INSP.

Urban Offices in Municipalities, Districts or Cities Hall in Albania;

Geo Private Companies;



DEVELOPMENT OF NSDI IN ALBANIA

Orthofoto from ALUIZNI- Tirana





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Compilation of Index Map
with OrthoImagery



DEVELOPMENTS OF NSDI IN ALBANIA

INDEX MAP OF FIERI CITY FROM ORTHOPHOTO





DEVELOPMENT OF NSDI IN ALBANIA

• 4. TECHNOLOGIES OF GEOGRAFIC INFORMATION.

1. GPS (Global Positioning Systems);

2. Satellite Imaging (REMOTE SENSING);

3. Geografic Information systems (GIS + WEB-GIS);

- Those Technologies are foreseen as the main and basic Tools for production and processing of spatial data to be used for Building, Implementing and Administration of SDI – INSPIRE infrastructure.

SITUATION IN ALBANIA, Comment: In respond of those important tools to build the NSDI, Albania have developments as:

1. Establishing **ALBPOS**, Albanian Sallite Positioning System, which comprises 16 permanente stations, a Control Center, actually not certified from EUPOS. Lach of expertise and manegment in Control Center. (ALBPOS is seen as a basic technique for Building of NSDI).
NEEDS: Qualification and training of Control Center staff.
2. Orthophoto and Satellite images are very important for building of many layers and monitoring in NSDI. Orthphoto (orthophoto images) is one of products to complete one of the Layer in SDI. Based in principle: **“only once”, Orthophoto done by ALUIZNI is seen as a Product to be enter in the NSDI/ Albania.**



INSPIRE AND DEVELOPMENTS OF NSDI IN ALBANIA

2. **Satellite Images** are very important for Building NSDI / INSPIRE. Actually satellite Images and Remote Sensing data offer very accurate and qualitative Data. They offer data on such layers like: Land Use, Waters, Seas, Protected Zones, Land Covers, etc.

In this Context; Albania should think to Establish:

A Certified Center for processing of Satellite Images and Remote Sensing.

- To be a public institution;
- With dependency from the National Authority of GeoSpatial data;
- To generate products for NSDI and Governmental Decision in the case of natural hazards and in consistent way for risks;

3. **GIS** – have to play two roles:

1. Like Builder of internals of NSDI (Layers and DBASE) ;
2. For export-import of data and Info through Portals (Web_GIS),



INSPIRE AND DEVELOPMENTS OF NSDI IN ALBANIA

RELATION WITH EUROPEAN ORGANISATION and AGENCIES.

- INSPIRE – Yearly Report on Implementation of NSDI from National Agencies to EU Agencies (EuroGraphics, EUREF, ESA, Etc).

- Stakeholders-at and Others results

- Under Inspire and even in the context of Inspiration, Stakeholders are identified all those organisations, public Agencies, private, commercial, which dealt with data, geoinformation, geospatial data, etc.

They seem to be very important role in Building INSPIRE and Usage of it under the precondition of the collaboration between them .

The stakeholders in our country are identified to be divided by three parts dependent from their status of Data.:

1. Producers 2. Providers 3. Users

- **Albania** through this Project has identified over **24 Stakeholders**.

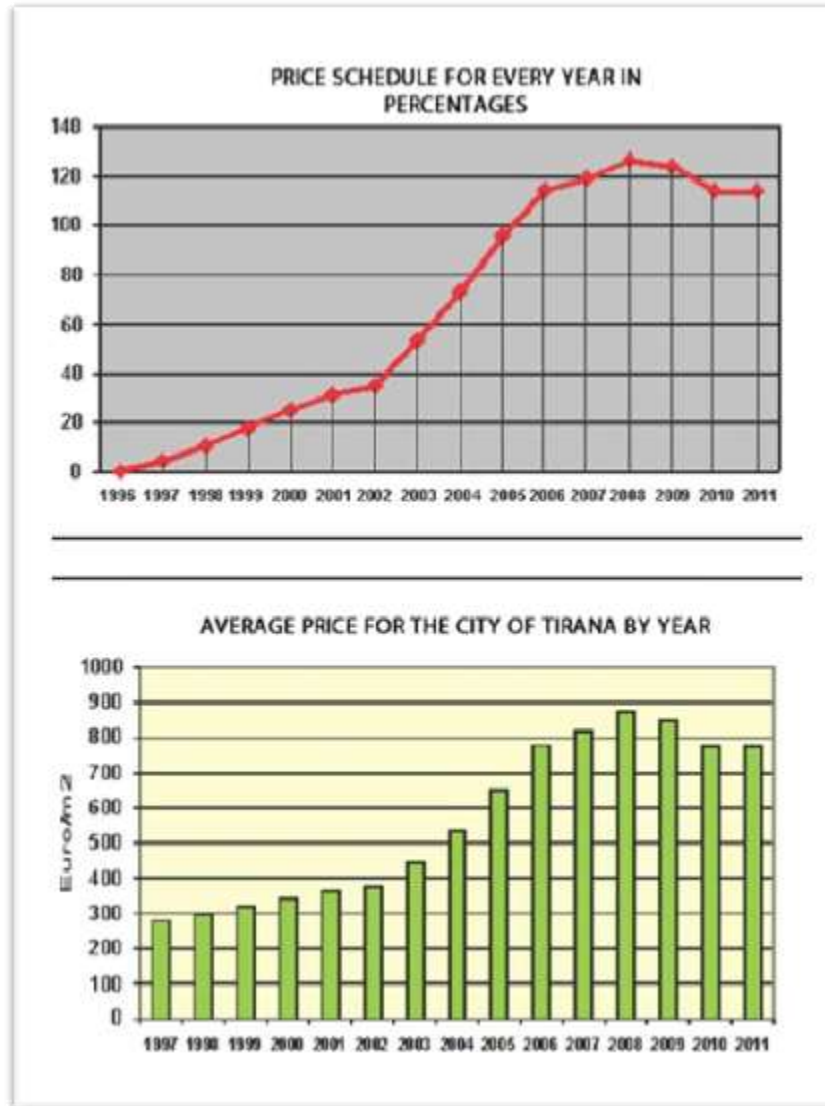
- We expect fulfilment of tasks of project, is trying to undertake some activities , in order to increase understanding and awareness of institutions, Stakeholders, students, GIS Data specialist, government, public, etc.

- **Two Presentations** with Professors and MSc. Students as well as with over 100 surveyors of Pan- Albanian Geodetic Association on INSPIRE DIRECTIVE and its Application in Albania and Balkan.

- Participation in the Inter- governmental Group for preparation of Institutional Plan for Implementation of INSPIRE, etc.



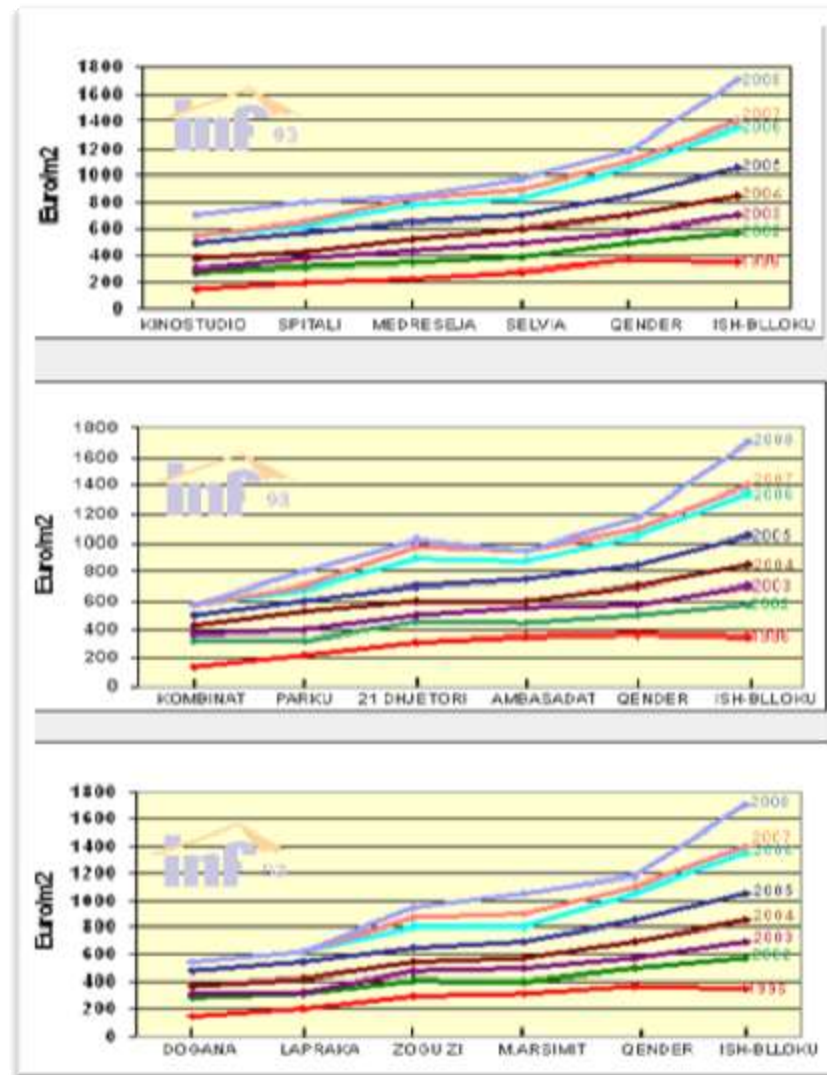
DATA FROM THE MARKET PRICE IN TIRANA





DATA FROM THE MARKET PRICE IN TIRANA

AVERAGE PRICES FOR YEARS 1996, 2002, 2003, 2004, 2005, 2006, 2007, 2008
ACCORDING TO THE MAIN ROAD AXES





DEVELOPMENT OF NSDI IN ALBANIA

- On the next three years we foreseen to do this activities
- Will finish the First Registration on the Urban area for entire Country
- Will finish First Registration and index mapping for all Albania
- The project for a new ortophoto and a new topographic map for Albania
- The Gravimetric project, reason to built Albanian Geoids.
- Will finish project of digitalization of registration process in 10 biggest Offices



DEVELOPMENTS OF NSDI IN ALBANIA

- Collaboration with state on the region and more
- The project with World Bank 21 Million \$, First Registration and other activities.
- The twining project with Lantmateriet (Sweden)
- The project for coordinative network with Military Institute of Florence (Italy)
- The project for change the maps small scale from TM in UTM standard (NATO)
- Orientation and interchange of information with Regional Country making joint project.

THANK YOU