

National Spatial Data Infrastructure – NSDI

THE DIRECTIVE 2007/2/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL of 14 March 2007 defines **THE ESTABLISHMENT OF SPATIAL DATA INFRASTRUCTURE in the European Community /INSPIRE/**

Excerpt:

Community Policy on Environment has to be directed towards its protection taking into consideration the variety of situations in different areas of social communities. Additionally, data / including spatial data / are required for formulating and applying such policy as well as for formulating and applying other Community policies.

The Directive directs full attention to the integrated way of developing Community policy, taking into consideration the existing regional and local differences. Problems related to availability, quality, organization and exchange of spatial data are joint in most political systems, thus they appear on various levels of state administration. Solving of these obstacles requires the application of measures directed towards the exchange, access and use of interoperating spatial data and services for spatial data across various levels of state administration and various sectors. Therefore, spatial data infrastructure should be established in the Community.

INSPIRE should be founded on spatial data infrastructures established by the Member States, which are compatible with general rules for implementation and extended with measures on the level of the Community. These measures should provide that the spatial data infrastructures in the countries are compatible and thus that they could be used within the Community and in international context. It should be established so as to enable the exchange of data collected on one level of state administration among several various state institutions and also in such a way that the access to spatial data is not limited in a way which could prevent their intensive use.

Establishment of INSPIRE will represent additional value and will also have benefits from other initiatives of the Community such as Council regulation /EC/ No. 876/2002 of 21 May 2002 establishing the joint **Galileo Projects** in cooperation with the Commission of the European Parliament and Council titled **Global Monitoring for Environment and Security /GMES/** < Establishment of **GMES** capacities by 2008/

Member States should consider using data and services resulting from **Galileo Projects and Global Monitoring for Environment and Security /GMES/** as they become available, in particular the data related with time and spatial references of the **Galileo Projects**.

Loss of time and resources in the quest for the existing spatial data or during decision making whether the data can be used for certain purposes, represent the main obstacle on the road towards the full use of available data. Thus, the Member States should provide descriptions of the available sets of spatial data and services in the form of METADATA.

Metadata imply information describing the sets of spatial data and services of spatial data enabling their finding, listing and use.

* Annex 1 of INSPIRE Directive defines spatial data themes,

Item 7. Transport networks: Road, rail and water transport networks and related infrastructure. Includes links between different networks. Also includes the trans-European transport network as defined in Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community Guidelines for the development of the trans-European transport network and future revisions of that Decision.

* Annex 2 of INSPIRE Directive spatial data themes

Item 3. Orthoimagery, Geo-referenced image data of the Earth's surface, from either satellite or airborne sensors.

* Annex 3 of INSPIRE Directive spatial data themes

Item 2. Geographical location of buildings

Item 4. Land use: Territory characterized according to its current and future planned functional dimension or socio-economic purpose.

Item 13: Atmospheric conditions: Physical conditions in the atmosphere. Includes spatial data based on measurements, on models or on a combination thereof and includes measurement locations.

Item 14: Meteorological geographical features: Weather conditions and their measurements; precipitation, temperature, air humidity, wind speed and direction.

Republic of Serbia passed the new **Law on State Survey and Cadastre**, Official Gazette No. 72/2009,

Excerpt:

Volume XI – National Spatial Data Infrastructure – NSDI

Themes of NSDI, Article 159

1/ NSDI refers to digital geodata and relevant geodata services for the territory of the Republic of Serbia which are under the jurisdiction of the following:

- 1/ state administration bodies
- 2/ local self-government bodies
- 3/ public enterprises

Content of NSDI, Article 161

NSDI especially contains metadata, geodata services and sets:

- 4/ on traffic and telecommunication networks

Volume XVIII

Transfer to the new spatial reference system

Article 193

1/ Transfer to ETRS 89 in the Republic of Serbia will be initiated by January 1st, 2011 at the latest

2/ Until transfer to ETRS 89 and UTM projection is done, the position of points is expressed in two-dimensional coordinates in the existing projections /Gauss-Kruger projection, stereographic projection and Soldner projection/.

IN ACCORDANCE WITH THE ABOVE STATED LEGAL OBLIGATIONS, THE PUBLIC ENTERPRISE ROADS OF SERBIA /being the first one to do this in the transport sector/ initiated cooperation during 2010 with the Republic Geodetic Authority, which is authorized for establishment of the Geoportal.

Currently, the employees of the Sector for Strategy, Designing and Development, Sector for Traffic Control Information Systems and Sector for Legal, Staff and Common Affairs are jointly working with their colleagues from the RGA on conducting the check of the test version.

To name a few technical details: National Spatial Data Infrastructure – NSDI represents an integrated system of geospatial data which enables the users to

identify and access the spatial information gathered from different sources, from the local level, through the national and to the global level, in a comprehensive way. The initial geoportal contains metadata for particular sets of data and the metadata editor.

Metadata describe the content, relevant organization, location and other important information on geodata. Metadata enable searching, quality assessment and usage of data on space. Information documented through the metadata is constituent part of spatial data infrastructure.

Republic Geodetic Authority prepared a proposal of standards for NSDI metadata which describe: data on metadata, data set characteristics, relevant organization, harmonization, overview, classification, key words, conditions and limitations, distribution, maintenance, reference system, location and quality. The proposed standard of NSDI metadata is defined on the basis of the following:

- INSPIRE implementation rules for metadata
- ISO 19115 – Geographic data – metadata
- ISOP 19139 – Geographic data – metadata – XML scheme.

Metadata editor is an application for collecting and maintaining the metadata in accordance with the proposed standard for metadata. Editor enables the creation of valid xml files compliant to ISO 19139 standard. Editor's interface has multilingual support for the Serbian and English language. Instructions manual for the metadata editor is the constituent part of the application and is available within the Help menu.

The editor is available for download on the geoportal, and it enables the institutions which provide the spatial data to gather and maintain the metadata under their jurisdiction.

Metadata for sets of data within the themes of coordinate reference system, orthophoto and theme maps are collected in compliance with the proposed standard for metadata by using the metadata editor. XML files with metadata for the relevant sets of data can be searched and previewed on the geoportal's page for the preview of metadata. Metadata editor is an important tool for supporting the national spatial data infrastructure in Serbia. In such a manner, the input of metadata is facilitated in accordance with the standard, as well as their publishing and search, which makes the information on space more available and suitable for usage.

[Link to Geosrbija site](#)