

Integrated Geospatial Information Framework in Serbia in support of Government priority areas

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REPUBLIC GEODETIC AUTHORITY

Serbian Government

Ministries Special Governmental Organizations

Ministry of Construction, Transport and Infrastructure Republic Geodetic Authority

Republic level 6 Sectors

Municipal level Real-estate Cadastre Offices

By the official Law on state survey and cadaster RGA is national geospatial data provider responsible for:

- ✓ NSDI;
- ✓ Geodetic Reference Systems;
- ✓ State Survey;
- ✓ Real-estate cadastre;
- ✓ Utility cadastre;
- ✓ Registry of administrative Units;
- ✓ Addresses Registry;
- ✓ Topography and Cartography;
- ✓ Real-estate Mass Valuation;
- ✓ Registry of Geographic Names;
- ✓ Professional supervision and licensing of geodetic organizations;
- ✓ Geomagnetism and aeronomy;
- ✓





INSPIRE directive

INfrastructure for **S**patial **I**nfOrmation in Europe

<http://inspire.jrc.ec.europa.eu>

Implementation 2007 – 2021

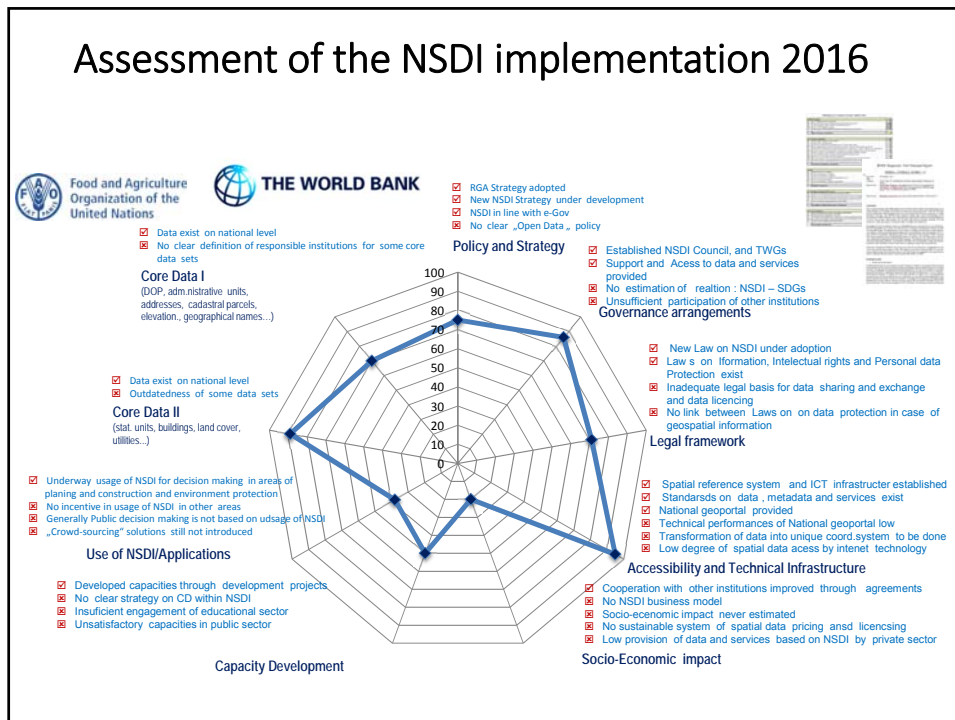
EU INSPIRE directive lays foundation for comprehensive harmonization of geoinformation within EU for environmental policy making. A uniform infrastructure enables data exchange and makes geodata available on national level and across Europe.

Address register (2015)

- **Population: 7,020,858**
- 2.676.898 citizens live in street without name and house number
- 3.028.020 citizens live in street without house number
- 6.500 streets are not registered - estimation



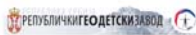
Assessment of the NSDI implementation 2016



- ⇒ Data are outdated
- ⇒ Heterogeneity of IT infrastructures
- ⇒ Duplication-cost and efforts
- ⇒ Lack of standards
- ⇒ Low accessibility
- ⇒ Data sharing not functional
- ⇒ Unclear regulation and licences
- ⇒ No coordination
- ⇒ Others – lack of technical knowledge, limited financial and human capacities....



RGA Strategy 2016-2020



The **overall goal** - **support the economic reform** of the Government by effective provision of information in the sphere of real-estate and geospatial related activities for the **fast, easy and rightful decision-making at all strategic levels.**

VISION

The Republic Geodetic Authority will provide reliable and updated geospatial and property data, in a standardized and readily accessible manner, for the purpose of sustainable social and economic development of the Republic of Serbia.

MISSION

The Republic Geodetic Authority is a respectable public service attending to citizens, economy, and state, adjusting its operation, volume, and quality of services and data to the international standards and norms, as well as with user requirements noted.

The Republic Geodetic Authority is a governmental institution competent for the official national register of properties and property rights holders.

The Republic Geodetic Authority is a governmental institution competent for providing services in the domain of geospatial data management for the purposes of society and state, actively participating and assisting other governmental organs to implement activities aimed at meeting pre-accession commitments in the Republic of Serbia European integration process.

LEGAL FRAMEWORK

Law on National Spatial Data Infrastructure (2018)

Law on Procedures for Real Estate and Utility Cadaster Registration (2018)

Law on eGovernment (2018)

Law on spatial planning (2018)

Law on DRMR (2018)

Law on Administrative fees (2017)

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By-law on Address Register (2017)

By-law on Internal organization and work places in RGA (2017)

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Government of Republic of Serbia

Monitor and support development of NSDI through goals set in State Strategic documents:

➤ [Government Action Plan](#)

„Establishment and Improvement of National Spatial Data Infrastructure” „ A regional center for geospatial established in accordance with the EU INSPIRE Directive”

➤ [Strategy for Public Sector Reform](#)

„Establishment of the National Geospatial Data Infrastructure (NIGP) through the adoption of all by-laws in accordance with the Law on NIGP and the development of a national geoportai in accordance with the INSPIRE Directive”

➤ [Economic Reform Program](#)

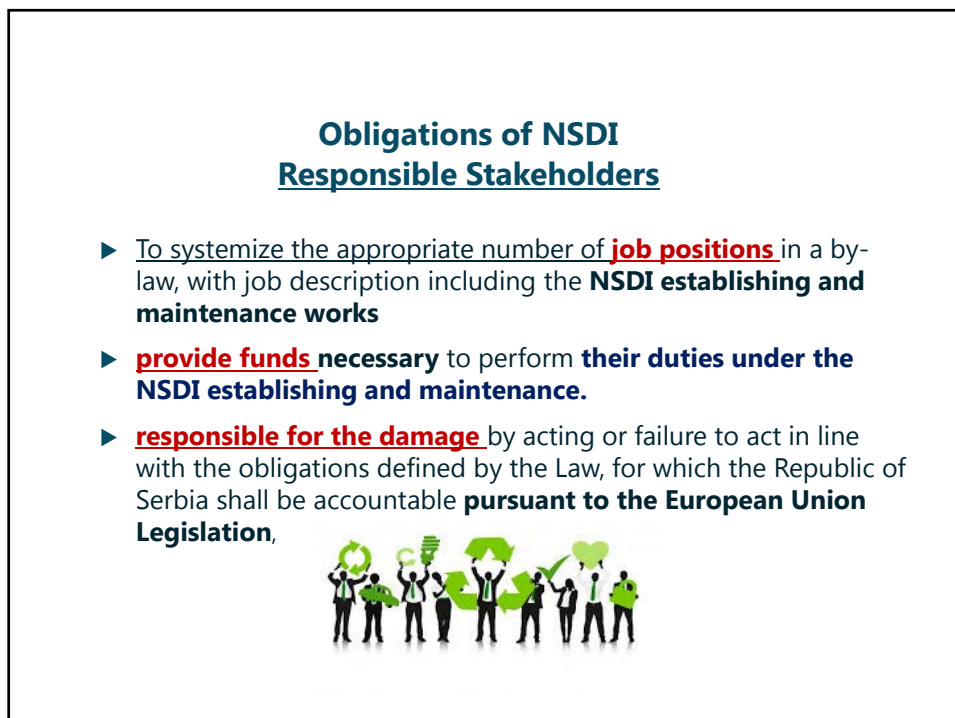
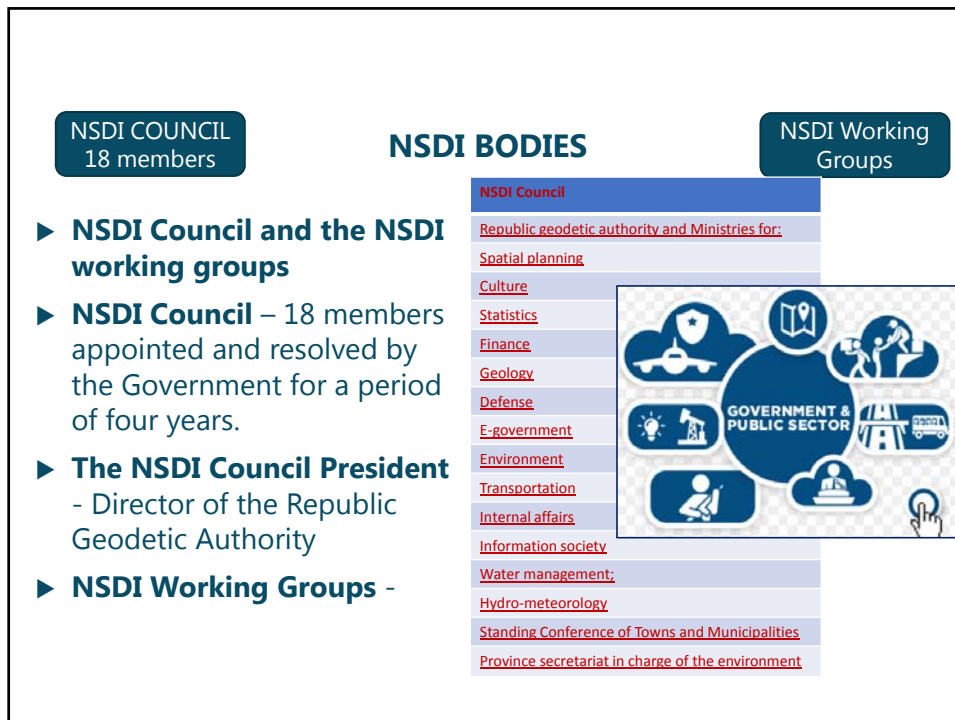
„Improving the geospatial sector in support of investment decision-making,”

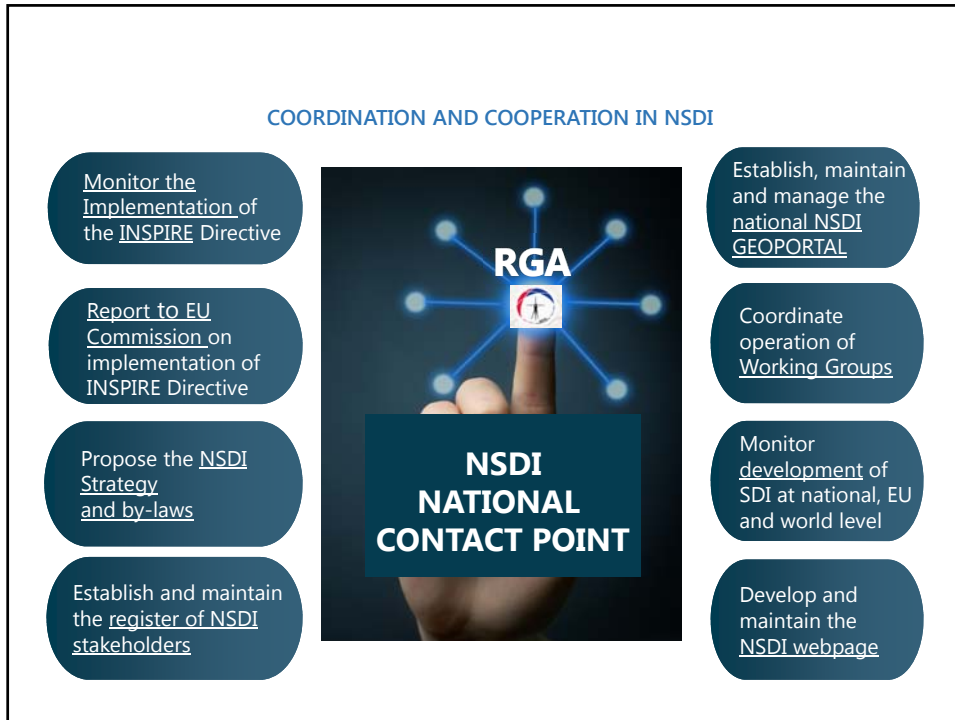
➤ [Action Plan - Doing Business](#)

„Ensuring the wide application of geospatial data in accordance with the INSPIRE Directive, the concept of "open data" and international standards”

➤ [Action plan for DRMR](#)


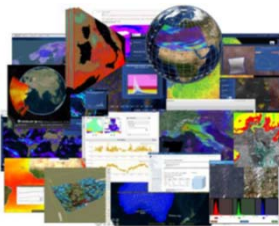


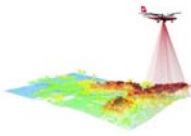
➤ [Programme of the eGovernment Development](#)





TECHNOLOGIES

- New IT Systems**
- LiDAR** – from 2012, flood prone areas and archeology*
- Satellite Images***
- Blockchain technology** – planned*
- Big Data** – DataCube federation*
- Crowdsourcing** – Updating Address Register, Register of waste dump sites, Archeological sites*
- Digital platform** – Geoserbia, further developments*

GEOSERBIA - GEOSPATIAL PLATFORM

Services

Metadata catalog
A national application enables searching, creating, maintaining and sharing metadata for spatial data sets, spatial data set series and spatial data services.

Collaborative platform
National portal enables the cooperation between relevant national and regional communities, support, trainings and informing.

Digital platform
The national web GIS application enables the display, search, analysis, transformation, creation, sharing and maintenance of geospatial data of Serbia.

Geosrbija mobi

Crowd SDI

OGC services

Rest api

Stakeholders

Training

Geosrbija mobi

Download

Harmonization

Open data

crowdSDI

OGC Services

REST API

Transformation

New national geoportal GeoSrbija– WebGIS solution <http://a3.geosrbija.rs/>

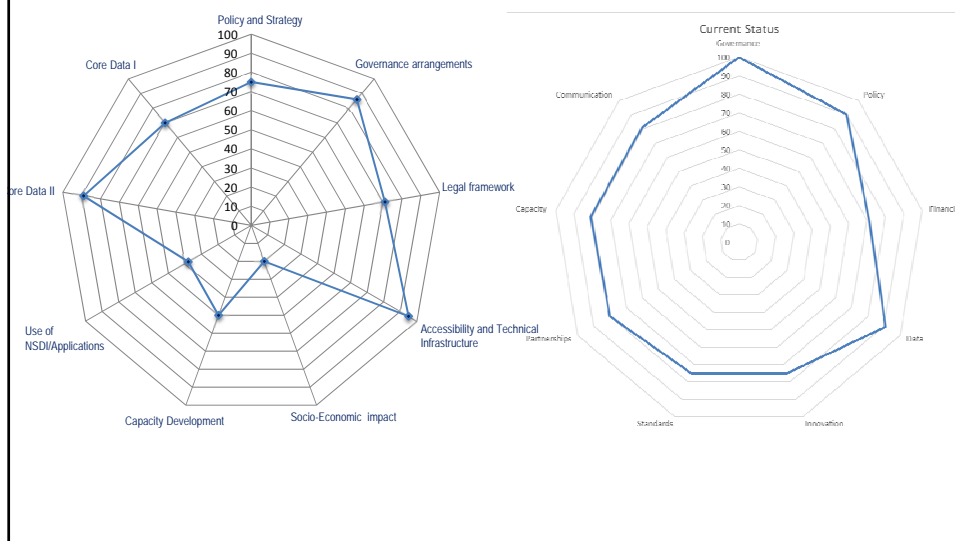
The screenshot displays the GeoSrbija WebGIS interface. It features a main map area with a search bar at the top left. A 'Layer Manager Pro' panel on the right lists various data layers such as 'Price Register', 'Residential buildings', 'Apartments', 'Business buildings', 'Industrial buildings and w...', 'Special purpose objects', 'Agricultural objects', 'Industrial space', 'Business space', 'Garages', 'Garage space', 'Building land', 'Agricultural land', 'Forests', 'Other land', 'Objects - Unknown purpose', and 'Other'. A mobile app interface is overlaid on the map, showing a search bar and a list of results. A 'GET IT ON Google Play' badge is also visible. The bottom of the screen shows the 'CADASTER' and 'BASEMAPS' logos, along with coordinates and a scale of 1:1,000.

NSDI DIGITAL PLATFORM

EXAMPLES:

- ☑ Updating Adress Register street system – Government of Republic of Serbia
- ☑ Updating Waste Dump Sites Register – Ministry of Environment
- ☑ Register of Archaeological sites – Ministry of Culture
- ☑ Location for Greenfield, Brownfield and Grayfield investments – Local municipalities and Ministry of Spatial planning
- ☑ Expropriation planning – Local municipalities
- ☑ Risk Register - Disaster risk management and reduction – Sector for emergency situation
- ☑ Flood hazard maps – Ministry of Environment
- ☑ Updating Building Register – Republic geodetic authority
- ☑ Mobile operators / Internet providers
- ☑ Planning of geodetic field works – Private geodetic companies
- ☑ Analyze of the railway intersection - JSC Serbian Railways
- ☑ Vacation planning - Citizens
- ☑

Status 2016 vs 2019



| Key criteria | Options | | | | | | | | | | |
|---|---|--------------------|--|---------------|--|-----------------------------------|---------------------|--------------|-------------------|--------------|-----------------------------|
| 1 Organization type | Public Institution (authority) | | Public Agency | | Public Company | | | | | | |
| 2 Source of financing | Government budget | | Government budget & Income from tariffs | | Solely income from tariffs | | | | | | |
| 3 Responsibilities | Geodetic survey | Topography mapping | Cadaster | Land registry | Military mapping | Thematic mapping | Hydrography mapping | Areal photo. | Satellite imagery | E-government | Spatial data infrastructure |
| 4 Independence in tariff policy | Tariffs defined by the responsible ministry | | Tariffs based on cost & yearly aligned with the responsible ministry | | | Tariff levels formed autonomously | | | | | |
| 5 Source of investment financing | Public funding | | Public funding & bank loans | | Independent, from own funds | | | | | | |
| 6 Asset ownership | Government owned | | Partially owned by government & partially owned by institution | | Fully owned by the institution | | | | | | |
| 7 Autonomy in deciding FTE (full-time employee) numbers | Defined by the government | | Constrained by the budget, but autonomous allocation | | Fully defined autonomously | | | | | | |
| 8 Autonomy in deciding salary levels | Defined by the government | | Constrained by the budget, but autonomous allocation | | Fully defined autonomously | | | | | | |
| 9 Financing of open data policy G2G | Included in total operating budget | | Separate operating budget & open data budget | | Fully compensated based on expenditure | | | | | | |
| 10 Customers | Central government | | Local government | Utilities | Commercial sector | Military | | | | | |

SUSTAINABLE ORGANISATION?

- Source of operations financing
- Source of investment financing
- Asset ownership
- Independence in tariff policy
- Autonomy in deciding FTE numbers
- Autonomy in deciding salary levels

Chart 10: Level of autonomy in surveyed European markets



