SDIs in Belarus and neighbouring countries

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ICC 2017 - Pre-conference workshop on Spatial data infrastructures, standards, open source and open data for geospatial (SDI-Open 2017), 1-2 July 2017

Outline

- Belarus
- INSPIRE a short overview
- Neighbouring countries
 - Russia
 - Poland
 - Latvia
 - Lithuania
 - Ukraine
- Summary



Republic of Belarus





Development

- 2008: State Property Committee (Государственный комитет по Имуществу Республики Беларусь, Госкомимущество, http://www.gki.gov.by/ru/): Project "Research and Development of the SDI Concept"
- According to Olshewski (2010) further development stopped.
- 2011: Shavrov (2011) diagnoses a total lack of domestic standards, metadata, geoservices, interoperability, agreements,
 - suggest that Belarus' SDI should follow the INSPIRE directive (see next slide)!
- In Shavrov C. (2014) the portal "http://www.map.nca.by/" is announced
- 2016: Common SDI with Russia for Smolensk und Vitebsk Region
- 2016: Belarus, Kazakhstan and the Republic of Korea sign a memorandum on the creation of the Eurasian spatial data infrastructure (www.Belta.by (2016)):
 - "purpose of functioning of the Eurasian technological platform is to increase the effectiveness of interaction of all stakeholders on the basis of the potentials of the participating countries to stimulate mutually beneficial innovative development and increase the competitiveness of national economies."

- Sharov (2011) concludes:
 - Belarus lags **behind the current state** of creating a modern SDI.
 - The INSPIRE directive of the European Union should be considered as a plan and methodology for Belarus
 - A system of technical normative legal acts for SDI should be based on the specifications of OGC and international ISO standards (19xxx) to save time and money.
 - A domestic service oriented architecture should be implemented by a single service provider.





Status June 2017



http://servicemap.spatineo.com/ [2017-06-29]

Gap analysis [Anagnosti 2015]

Similar to Sharov (2011) gaps exist on:

- 1. **policy level:** no NSDI strategy has been developed yet, but some preparatory works and pilot projects have been carried out
 - <u>http://www.maps.by/</u>, <u>http://map.nca.by/</u>
- 2. legal level: Belarus has no legal basis for establishing a NSDI

3. institutional level: for the previous projects, different institutions acted as coordination bodies, a leading instituion is needed



http://www.maps.by/

ΓΟCΚΑΡΤΓΕΟЦΕΗΤΡ 13 Q R ۲ **P** новости КАРТА БЕЛАРУСИ ПОИСК ДАННЫХ O HAC КОНТАКТЫ Поиск новости 🖆 АРХИВ НОВОСТЕЙ АРІ-карта Республики Беларусь ЗАБЫЛИ ПАРОЛЬ? Войти Госкартгеоцентр в тестовом режиме предс тавляет возможность использования электронной карты Беларуси посредство > < Регистрация ГЛАВНОЕ МЕНЮ КАРТОГРАФИЧЕСКИЕ МАТЕРИАЛЫ $\mathbf{\nabla}$ ОЛЕЗИЧЕСКИЕ ЛАННЫЕ > МЕТАДАННЫЕ Кадастровые карты и планы (ЗИС) • Поиск по метаданным > ГЕОДЕЗИЧЕСКИЕ ДАННЫЕ • Каталог карт • О метаданных \$2 ☆ 51 : ← → C ③ www.maps.by/map услуги • Исторические карть > ссылки • Перепись > O HAC 👼 Распечатать карту новости поиск данных о нас контакты ЛЕМОНСТРАЦИОННАЯ КАРТА ВЕННЫЙ КАТА Материалы аэрофотосъемки (АФ 🕎 🖉 і 🛓 Искать.. Поиск по координатам: WGS 84 🔻 широта 0 долгота 0 Искать æ ГЕОГРАФИЧЕСКИХ ОБЪЕКТОВ РЕСПУБЛИКИ БЕЛАРУСЬ Форма заявки получе картографических ма Maßstab = 1 : 4367833 MHTEPECHO SHATE. ¢ » Вопрос - Ответ • Общегеографические ГОСКАРТТЕОЦЕНТР Посударственный комитет по инуществу Республики Беларусь © 2010-2017 0 НОВОСТИ КАРТА БЕЛАРУСИ ПОИСК ДАННЫХ Витебск Минск Могилёв Гродно омель © Госкартгеоцентр © Государственный комитет по имуществу Республики Беларусь



http://map.nca.by/map.html



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Suggested Road Map [Anagnosti 2015]

• 2016

- Adoption of EU Inspire Directive into Belarusian national law
- Development of a NSDI strategy
- Set up of regulatory bodies for the implementation (Steering Committee)
- Development of NSDI implementation working plan
- Drafting of a public sector data sharing agreement
- 2017
 - Metadata available for spatial data sets and services
 - Spatial data sets available for discovery and view from the NSDI geoportal
 - Spatial data sets available for download and transformation
- 2018
 - Spatial data sets available for download and transformation
 - Ongoing work regarding disaster/risk prevention and management

State Committee on Standardization (Gosstandart)

- established 2006 according to the Decree No. 289 of the President of 05.05.2006 «On the structure of the Government of the Republic of Belarus»
- "the republican public authority for implementation of the common governmental policy in technical regulation, standardization, metrology, conformity assessment, energy efficiency, for carrying out surveillance in construction and inspection of projects and estimates compliance with regulations and standards, as well as supervision of fuel, electric and heat energy rational use."
- At present more than 50 organizations situated in different regions of the country constitute the structure of the Committee.
- National standardization of geographical names in the Republic of Belarus

Not part of ISOTC211



INSPIRE Directive (2007)

- Eu-related general rules to establish an **In**frastructure for **S**patial Information in **E**urope for Community environmental policies and policies
- Policies or activities with impact on the environment
- INSPIRE is built on the SDIs established and operated by the Member States and European INSPIRE portal (JRC)
- Spatial data held by/on behalf of public authorities
- Does not require collection of new data

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| DIRECTIVE 3 | 007/2/EC OF THE EUROPEAN | PARLIAMENT AND OF THE COU | NCIL |
| establishing on he | of 14 Man | ds 2007 atian in the European Correspondence | INSPIRE |
| consistenting an in | rastructure for spana inform | ation in the European Community | (SSTIKE) |
| HE EUROPEAN DARLAMENT AND UROPEAN UNION, | THE COUNCIL OF THE | integration, it is necessary to coordination between the un- information so that informat different sectors can be combin- | entablish a measure of es and providers of the ion and knowledge from ed. |
| laving regard to the Treaty establishing, and in particular Article 175(1) | ing the European Commu- thereof. | (2) The Sinth Invironment Action | n Programme adopted by |
| laving regard to the proposal from | the Commission, | Decision No 1600/2002/EC of and of the Council of 22.1 consideration to be given to ens environmental policy-making tegrated way, taking into ac | f the European Padiament aly 2002 (7) requires full aring that the Community's is undertaken in an in- count regional and local |
| laving regard to the opinion of the ocial Committee (¹). | e European Economic and | differences. A number of pro availability, quality, organisation of spatial information needed objectives set out in that progra | blems exist regarding the t, accessibility and sharing in order to achieve the emme. |
| ther consulting the Committee of t | he Regions, | (i) The problems regarding the av | nlability, quality, organisa- |
| leting in accordance with the proced of the Treaty, in the light of the J Soscillation Committee on 17 Janu | ure laid down in Article 251 joint test approved by the ay 2007 (*). | tion, accessibility and sharing common to a large number of themes and are experienced a public authority. Solving these that address exchange, shar interoperable spatial data and the cortexe leads of mublic way | of spatial information are of policy and information zons the various lovek of problems requires measures ing, access and use of patial data services across hostes and uses of formation and uses of formation and users of formations. |
| Whereas: | | sectors. An infrastructure for Community should therefore b | spatial information in the established. |
| Community policy on the envir level of protection taking int situations in the various ry Moreover, information, includ resultd for the formulation a policy and other Community pri- tomeranity pri- policy pri- tomeranity pri- | correct must aim at a high account the diversity of pions of the Community, ing spatial information, is ad implementation of this objects, which must integrate | (4) The Infrastructure for Spatial In Community Juspins) should relation to policies and activiti or indirect impact on the environity. | formation in the European assist policy-making in or that may have a direct menerst. |
| Article 6 of the Treaty. In a | rements in accordance with eder to bring about such | (1) Inspire should be based on the information that are created by are made compatible with on | infrastructures for spatial the Member States and that remon implementing rules |
| [9] OJ C 221, 8.9.2005, p. 33. [9] Opinion of the European Pallament 25.5.2008, p. 116, Council Commu- [O] C 128 E, 103.32006, p. 16) Parliament of 13 June 2006 [not Journal], Pectosen of the Council of | of 7 June 2005 (OJ C 124 E, n Position of 23 January 2006 and Position of the European yet published in the Official 19 January 2007 and legislative | and are supplemented with me These measures should ensure spatial information created by compatible and anable in a Com- context. | stares at Community level, that the Infrastructures for 7 the Member States are reamity and transboundary |

Common principles

- Efficiency: Data should be collected only once and kept where it can be maintained most effectively.
- Ability of combination and sharing: It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- Scale independency: It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
- **Transparency**: Geographic information needed for good governance at all levels should be readily and transparently available.
- Accessibility: Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.

After: http://inspire.ec.europa.eu/index.cfm/pageid/48

Concerning 34 geodata themes

INSPIRE is a Framework Directive

- Implementing Rules (IR): legal acts for
 - 1. Metadata
 - 2. Data Themes and their Specifications
 - 3. Network based Services (discovery, view, download, transform, invoke)
 - 4. Data and Service Sharing
 - 5. Monitoring and Reporting
- To achieve and to assure interoperability of
 - 1) spatial data sets and
 - 2) services
- Supported/Detailed by **Technical Guidelines (TG)** useful information for countries like Belarus

1. Metadata

- metadata for spatial data
 - For discovery, evaluation and use
 - keywords
 - simple search criteria about key characteristics about the data set
 - Spatial and temporal extent
 - Must be kept consistent with the actual resource

and

- metadata for services (ISO19139)
 - enables the discovery of spatial data services.
 - service type
 - operations parameters
 - geographic information

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http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?sciences uri=OJ:L:2007:108:FULL&from=EN

2. Data themes

34 themes, listed in 3 annexes – (required to successfully build *environmental* information systems)

Annex I

- Coordinate reference systems
- Geographical grid systems
- Geographical names
- Administrative units
- Addresses
- Cadastral parcels
- Transport networks
- Hydrography
- Protected sites

Annex II

- Elevation
- Land cover
- Ortho-imagery
- Geology

Annex III

- Statistical units
- Buildings
- Soil
- Land use
- Human health and safety
- Utility and governmental services
- Environmental monitoring facilities
- Production and industrial facilities
- Agricultural and aquaculture facilities
- Population distribution demography
- Area management/restriction
- /regulation zones & reporting units
- Natural risk zones
- Atmospheric conditions
- Meteorological geographical features
- Oceanographic geographical features
- Sea regions
- Bio-geographical regions
- Habitats and biotopes
- Species distribution
- Energy Resources
- Mineral resources

3. Services

"... are necessary for sharing spatial data between the various levels of public authority in the Community." [DIRECTIVE 2007/2/EC (17)]

- Network services: service oriented architecture (SOA)
 - Metadata allow the description, discovery, and automatic usage of services
 - Services can be combined
 - Support by additional services and functionalities (i.e. Authentication, Authorisation, DRM, eCommerce)

3. Service categories



- Discovery services: search for spatial data sets and services based on the content of corresponding metadata, and display the metadata content;
- View services: as a minimum: display, navigate, zoom in/out, pan, or overlay spatial data sets and display legend information and any relevant content of metadata;
- Download services: enabling copies of complete spatial data sets, or of parts of such sets, to be downloaded and where practicable, accessed directly;
 ---> Download predefined data sets (atom) or data objects (WFS)
- **Transformation services (for SRS and Data Models)**, enabling spatial data sets to be transformed with a view to achieving interoperability;
- Invoke SD services: allowing spatial data services to be invoked.

Neighbouring countries

Russia

- 1992: Russian Federation Government decree «On establishment of the Russian research and production and regional production centers in geo-information».
- 2006: Concept for the Creation and Development of theSDI of the Russian Federation approved by the Government of the Russian Federation d(August 21, 2006 No. 1157-p.)
- Russian Federation 's SDI apparently fulfills a set of essential requirements:
 - Information resources, including basic spatial data and metadata;
 - organizational structure allowing to provide creation and functioning of the SDI's infrastructure;
 - Normative and legal support for the creation and operation of the SDI;
 - Technologies and technical means which are the basis for the creation and operation of the SDI.

http://gisgeo.org/



All geoportals of Russia are federal, regional, municipal level. Investment and thematic geoportals







- Federal Geoportals
- Regional GIS and Geoportals
- Municipal (city)
 GIS and geoportals
- Investment maps and geoportals
- Open data geoportals
- GIS and geoportals of scientific, educational, commercial and public organizations

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Federal Geoportals

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| Federal geoportals | | | | | | |
|-------------------------------|---|--|--|--|--|--|
| nege/ | The Open Data Portal of the Russian Federation Customer: Ministry of Economic Development of Russia Developer: Update | | | | | |
| | Geoportal Spatial Data Infrastructure of the Russian Federation Customer: Federal Service for State Registration, Cadastre and Cartography Developer: DATA + | | | | | |
| | Public cadastral map Customer: Federal Service for State Registration, Cadastre and Cartography Developer: DATA + | | | | | |
| | Federal GIS of Territorial Planning (FGIS TP) Customer: Ministry of Regional Development (abolished) Developer: to be confirmed | | | | | |
| | Geoinformation system of industrial parks Customer: Ministry of Industry and Trade of Russia Developer: ORBIS | | | | | |
| | Portal of open remote sensing data Customer: GC Roskosmos Developer: Scientific Research Institute of Precision Instruments | | | | | |
| | Geoportal of ROSKOSMOS Customer: Federal Space Agency Developer: Scientific Research Institute of Precision Instruments | | | | | |
| | GIS SOBR Rosnedra Customer: Federal Agency for Subsoil Use Developer: Center "Mineral" Federal State Unitary Enterprise "Aerogeology" (software) and FSUE "VSEGEI" | | | | | |
| | Information system of remote monitoring of the Federal Forestry Agency (ISDM-Rosleskhoz) Customer: Federal Forestry Agency Developer: Department of Satellite Monitoring Technologies, IKI RAS . | | | | | |
| | Geoportal of the Ministry of Natural Resources Customer: Ministry of Natural Resources Developer: ScanEx R & D Center | | | | | |
| | Atlas of agricultural land Customer: Ministry of Agriculture Developer: to be confirmed | | | | | |
| DOCT VITHAR CPEBA STOCKNER | State program Accessible environment Customer: Ministry of Labor and Social Protection Developer: to be confirmed | | | | | |
| 0 | Epidemiological Atlas of the Privolzhsky Federal District Customer: Nizhny Novgorod Research Institute of Epidemiology and Microbiology (FBUN NNIIEM) Developer: Laboratory of GIS-technologies and bioinformatics FBUN NNIIEM | | | | | |
| | Map of clusters of Russia Customer: Russian cluster observatory, Institute for Statistical Studies and Knowledge Economy, HSE Developer: to be confirmed | | | | | |
| | Business Navigator SMEs | | | | | |



Business Navigator SMEs Customer: JSC "Corporation" MSP " Developer: Everpoint **Geoportal of the Arkhangelsk Region** Customer: Government of the Arkhangelsk Region Developer: ZAO Samara-Informsputnik

The branch node of the Unified CIS of Moscow (Geoportal Customer: Architecture and proan Planning Committee Regionfactor Developer: to be confirmed

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he Volgograd Re Administration c r: GBU " Center 1

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of the GBU KO "Kalugai r: ORBIS

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Electronic Atlas of Moscow

Customer: to be confin Developer: to be con Geoportal of the Mur

Customer: Government Developer: KGILTS



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Geoportal of the Niz The official version is Nizhny Novgorod regio Customer: Government Developer: ORBIS

Geoportal of the Nov Customer: to be confir Developer: to be cor

GIS portal of Omsk r Customer: Governme Developer: Associati

Geoportal of the San Customer: Samara Rec Developer: Samara-

Geoportal of the Smo Customer: Government Developer: OAO NPK

Geoportal of the Rep Customer: Governmen Developer: to be cor

Electronic map of th Customer: Governmen Developer: Gradoserv

Electronic map of Tv Customer: to be confir Developer: to be con

Portal of Open Data of Tula region

Customer: Ministry of Informatization, Communication and Open Control Issues of Tula Region Developer: Center for Information Technology

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Geoportal of the Tyumen region

Customer: Department of Informatization of Tyumen Region Developer, operator: SCU TO " Center of Information Technologies of Tyumen Region "

Geoportal of the Ulvanovsk Region Customer: Government of Ulyanovsk region Developer: NPK "REKOD"

Khabarovsk Krai - The Russian Civil Society Institute (temporarily unavailable) Customer: Government of Khabarovsk Krai Developer: CSoft

Geoportal of the Chelyabinsk region Customer: to be confirmed

Developer: to be confirmed

GIS system of the Chechen Republic (temporarily unavailable) Customer: Developer: Sovzond

Geoinformation portal of the Chuvash Republic

Customer: Ministry of Information Policy and Mass Communications of the Chuvash Republic Developer: DATA +

The geoportal of Yugra

Customer: to be confirmed Developer: Scientific and Analytical Center for Rational Subsurface Use. V. I. Shpilman

Geoportal of the Republic of Sakha (Yakutia)

Customer: Ministry of Property and Land Relations of the RS (Y) Developer: Sahagiprozem

Geospatial system of the Yamal-Nenets Autonomous District Customer: Department of Information Technologies and Communication of YaNAO Developer: Date East

Geoportal of the Yaroslavl Region Customer: to be confirmed Developer: to be confirmed

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https://andreygeo.carto.com/viz/06eb712c-49b2-11e6-8932-0ecd1babdde5/embed_map [2017-06-29]

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Геопортал Красноярского края

пулярные разделы

Добро пожаловать на Геопортал геониформационной системы органов власти Красноярского края "Енисей-ГИС"

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Исмплексная карта

660091 тематические слои, размещенные в Енисей ПИС для одновременного просмотоа.

Карта, содержащая наиболее популярные

11 88 Нарушения в жилых донах

Красноярского края

Капта напушений в жилых дома

Мобильная связь Карта доступности мобильной связи в населенных пунктах Красноврского крав. оценками и отзывами посетителей

Œ Geoportal of the geoinformation system of the Krasnoyarsk Territory authorities "Yenisei-GIS"!

Карта размещения терминалов

электронного правительства Крас





Экономика и региональное развитие Атлас экономики и регионального развития Красноярского края

Образование





Атлас учреждений образования Kascupanetoro vasa .



Красноярского края





Новости

26 MIOHR 2017

Порядок получения доступа к Енисей-ГИС для работы по Перечню 232-р

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Войти

В разделе "Открытые данные" опубликован порядок получения доступа к Енисей-ГИС по предоставлению сведений в соответствии с Перечнем 232-р для Органов государственной власти. Администраций городских округов и Администрации нуниципальных образований Красноярского края.

20 10010 2017

Обновление методических рекомендаций

В разделе "Открытые данные" обновлены методические рекомендации для органов государственной власти и органов местного самоуправления Красноярского края по предоставлению сведений с использованием возможностей Енисей-ГИС.

16 Michig 2017

Раздел Открытые данные

Для исполнения распоряжения Правительства Российской Федерации от 9 февраля 2017 г. N 232-о о порядке предоставления сведений об объектах с использованием координат, на сайте Енисей-ГИС создан новый раздел "Открытые данные", содержащий нетодические рекомендации для органов государственной власти и органов местного самоуправления Красноярского края по предоставлению сведений с использованием возможностей Енисей-ГИС.

7 июня 2017

Ежеквартальное обновление базовой карты

Базовые карты Енисей-ГИС обновлены для агломерации Красноярска, данные актуальны по состоянию на 22 мая 2017 года.

28 февраля 2017

Ежеквартальное обновление базовой карты

Базовые карты Енисей-ГИС обновлены для агломерации Красноярска, данные актуальны по состоянию на 16 февраля 2017 года. Агломерация включает территории городов Дивногорск и Железногорск.

Читать все новости

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Municipal (city) GIS and geoportals





GIS and geoportals of scientific, educational, commercial and public organizations



Project Kosmosnimki-fires Developer: ScanEx R & D Center



Forests of high conservation value of Russia Developer: WWF-IKEA Forest Partnership



Geoportal of MSU Graduate School of Business Developer: GeoMixer API / ScanEx ScanEx



MSU Geoportal Developer: GeoMixer API / ScanEx ScanEx

Interactive map of loading of the power complex of the branch "Nizhnovenergo" of IDGC of Center and Volga Region, JSC Developer: n / a. On the technology of GeoMixer SC ScanEx



Geoportal of ICM SB RAS Developer: INSTITUTE OF COMPUTER MODELING OF SB RAS



Interactive map of objects of cultural heritage of Moscow region Customer: Ministry of Culture of the Moscow Region Developer: ScanEx R & D Center



Educational geoportal of Tver State University The developer: Midorenko DA, Shavrin VN



Geoportal of the Tyumen State University Developer: Department of Cartography and GIS



Geoportal of OAO NPK REKOD Developer: NPK "REKOD"



GIS ARCTIC Developer: NPK "REKOD"



Open Data Geoportals

| Map of monuments of architecture and history of the Republic of Bashkortosta |
|---|
| Electronic Atlas of the Volgograd Region |
| Vologda Oblast Open Data Portal |
| Open Data Portal of the Voronezh Region |
| Open Data of the Kabardino-Balkarian Republic |
| Open Data Portal of Krasnodar Region |
| Open Data Portal of the Lipetsk Region |
| Copen region. Perm Region |
| Portal of the open data of the Government of Moscow |
| Map of social institutions of the Nizhny Novgorod region |
| Portal of the open data of the Primorye Territory |
| Sober Tuva . <u>People's control</u> . Open data portal of the Republic of Tuva |
| Open data of St. Petersburg |
| Regional Geoportal of the Samara Region |
| Portal of the open data of the Government of the Tula region |
| Geoinformation portal of the Ulyanovsk region |
| Open data portal of the Khanty-Mansiysk Autonomous Okrug - Yugra |
| Open Data Portal of the Chuvash Republic |



Investment maps and geoportals



Customer: Agency for Enterprise and Investment of the Republic of Dagestan

Investment maps of the all-Russian coverage

Investment Card of the Russian Federation Customer: n / a Developer: ORBIS

Investment card of the Far Eastern Federal District Customer: Agency for attracting investments in Siberia. Developer: MyStand

Investment card of the North-Caucasian Federal District Customer: Minkavkaz Russia Developer: PROGNOZ



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Investment portal of the Siberian Federal District Customer: Ministry of the Far East Development Developer: to be confirmed

Open Data policy

- " can be used freely in any lawful purposes by any persons, regardless of the form of its placement"
- "published in the form of machine-readable formats. Examples of such formats are: CSV, XML, JSON, ODS and others"
- "developers of applications and services that use public data as a source material for their developments, as well as journalists and other stakeholders who can do deep socio-economic, scientific research based on raw data"
- "facilitation of access to them for interested persons who can rework them and provide valuable research, applications, analytics, etc. Open data is a kind of basis for a large number of socially important and socially useful projects."

Poland

- 2005: Head Office of Geodesy and Cartography launched the GEOPORTAL.GOV.PL project.
- Act of March 4th 2010, on spatial data infrastructure (the Journal of Laws Dz.U. 2010 nr 76 poz. 489) http://www.geoportal.gov.pl/en/o-geoportalu/informacje-o-projekcie/informacje-ogolne
 [2017-06-29]
- SDI activities coordinated by Minister of Internal Affairs and Administration and Head Office of Geodesy and Cartography (GUGiK, http://www.gugik.gov.pl/)
- 2007 2015: GEOPORTAL 2 project, co-financed from the European Union funds





Developed tools:

- Metadata Editor,
 - compliant with ISO 19115, 19119 an
 - allows to create any metadata profil
 - introducing metadata hierarchies,
 - using dictionaries and thesaurus as well as generating a metadata file tag and automatic time stamp on the metadata.
 - available online, via a web-based interface, API interface or as a web service.
- Validator
 - in terms of compliance to ISO (19115, 19119, 19139), the INSPIRE profile and the metadata profile
- Metadata Generator





http://www.geoportal.gov.pl/en/ogeoportalu/informacje-o-projekcie/ produkty-projektu





SDIs in Belorus and neighbouring countries

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Latvia

- 1998: Law on Freedom of Information, public access to all information in "any technically feasible form"
- 13 January 2010: Law on Geospatial Information, transposing the INSPIRE directive, but boader for geodesy, cartography and geospatial information
- However: Conflict with "intellectual property rights" regarding geospatial inforamtion. general rules for data sharing in the Law on Geospatial information have not been developed into licensing policies yet.

http://ggim.un.org/knowledgebase/KnowledgebaseArticle51530.aspx [2017-06-29]







http://inspire.ec.europa.eu/reports/stateofplay2011.pdf



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Lithuania



- 2001: Law on Geodesy and Cartography, to regulate
 - the management of geodetic, topographic, and cartographic activities;
 - the principles of creating databases of the GI systems and their integrity;
 - the ownership of the geodetic control and cartographic material;
 - and the main rights and duties of state and municipal institutions and enterprises involved in map production, geodetic survey, gathering of data, its record keeping, and use in the field of geodesy and cartography
- 2010: update of this law for transposition of the INSPIRE directive (and Directive 2006/123/EC on services in the internal market)
- definition of the Lithuanian SDI (LISI),
- regulation public access to spatial data and services
- procedure for access to spatial data via the Lithuanian spatial information portal (LSIP)
- Article 34: copyright protection of GI on state and municipal level " an author's fee shall be charged and a copyright licensing agreement shall be made with the user." http://ggim.un.org/knowledgebase/ KnowledgebaseArticle51531.aspx [2017-06-29]

- 2011: SDI building blocks have reached a significant level of operationality.
- http://inspire.ec.europa.eu/reports/stateofplay2011/rcr11LTv132.pdf



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lietuvių ge⊚portal.lt MAP browser (2012-2015)



Q I'm looking for.

| Geodetic Control Information System: http://www.gis-centras.lt/gkpis |
|---|
| Zuständige Behörde: National Land Service under the Ministry of Agriculture |
| Register of Addresses, Real Estate Cadastre: http://www.registrucentras.lt/adr/ |
| SE Centre of Registers |
| Geological Information System GEOLIS |
| Lithuanian Geological Survey under the Ministry of Environment |
| State Cadastre of Protected Areas: http://stk.vstt.lt/stk |
| State Service for Protected Areas under the Ministry of |
| Environment |
| National Mapping Agency |
| National Service of Geodesy and Cartography |
| National Centre of Remote Sensing and Geoinformatics |
| Federal Geographic Data Committee |
| Environmental Agency |
| Ministry of Agriculture |



Ukraine



| | Belarus | Russia | Poland | Lithuania | Latvia |
|------------------------|--------------------------------|--|--|---|--|
| Name | GDI RB | NSDI Russia | SDI Polen | Lithuanian SDI (LISI) | SDI Latvia |
| SDI Geoportals | <u>www.gismap.by</u> | <u>www.nsdi.ru</u> | www.geoportal.go v.pl/en/ | www.geoportal.lt | www.geolatvija.lv |
| Languages | Russian | Russian | Polish | Lithuanian | Latvian |
| | | | Englisch | Englisch | Englisch |
| Administrative Unit | State Committee on Property | Federal Service for State Registration, Cadastre and | Minister of Internal Affairs a n d | National Land Service under the Ministry of | Geographic information agency of |
| | wo RB). | Cartography (Rosreestr) | Administration | Agriculture of the Republic Lithuania | Latvia |
| # of | 1 | 1 national | 1 national | 1 | 1 |
| Geoportals | | 25 regional | 8 for local SDIs | | |
| Technologies | ArcGIS | ArcGIS | QGIS | ArcGIS | Esri, |
| | | | GRASS | con terra sdi.suite | AutoDesk |
| | | | uDIG | IBM WebSphere | MapInfo |
| | | | PostgreSQL | | [Crompvoets et al. |
| | | | PostGIS | | 2011] |
| Status | u n d e r development | complete | complete | complete | complete |
| deployed | - | 2006-2008 | 2009 | 2009 | 2012 |



Summary – What I learned

Prerequisites for SDI success

- 1. policy level: institutional framework, sharing a clear
 - (N)SDI strategy
 - Licensing strategy
 - Decisions about reference systems and metadata
 - standardization
- 2. legal framework:
 - Government has to provide a legal basis for establishing their NSDI
 - Set up of regulatory bodies for the implementation
- 3. Technical level: Long-term financial support to implement and run the SDI