Integrated Geospatial Information Framework: country assessment of Ukraine

Dmytro Makarenko
State Service of Ukraine for Geodesy, Cartography and Cadastre

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Content of the presentation

- StateGeoCadastre in brief
- NSDI in Ukraine: good start but…
- IGIF initial assessment: Ukraine
- Further actions to be taken

State Service of Ukraine for Geodesy, Cartography and Cadastre

KEY FUNCTIONS & RESPONSIBILITY:

- **Topography, geodesy, mapping**
- **State Land Cadastre**
- **Spatial Data Infrastructure**
- **Land auctions & land protection**
- **Control for land use**
- **Administrative services**

Cabinet of Ministers of Ukraine

Ministry of Economy, Trade and Agriculture Ukraine

Minister

State Service of Ukraine for Geodesy, Cartography and Cadastre

- **25** regional offices (in each oblast)
- **10 000 +** employees all over the country
- **55** state enterprises on mapping and land management

History of "NSDI Attempts" in Ukraine

1991 – Creation of State Committee on GIS under Cabinet of Ministers of Ukraine

1995 – TC-103 established "Geographical Information/Geomatics"

2000 – Ukrainian-Swedish project on institutional preparations for NSDI

2006 – Scientific manual "Strategy of NSDI Creation in Ukraine"

2007 – CMU approved the concept of NSDI Law

2008 – 1st draft of NSDI Law submitted

2011 – **ДСТУ ISO 19101:2009** "Geographical information /geomatics: Geographical information– master model)

2015 – JICA Project on NSDI Prototype launched

2017 – Approval of a set base international standards ISO 19100 for Ukraine; Establishment of NSDI coordination group

2018 – 3rd draft of NSDI law submitted; Approval of a national standard "Geographical information. Rules for modelling of geospatial data"

2019 – New concept of NSDI law submitted to Parliament

Why NSDI is still not implemented?

"Wrong time and wrong place" for NSDI initiatives	4 times draft NSDI law was in Parliament and never even voted
Insufficient awareness about geospatial information benefits	The "digital solutions" were not of the highest priority
Geospatial initiatives have not highly identified "social" aspects	Unknown "NSDI topic" has not as much relation to the citizens as land reform, pension reform or medical one
Low mobility of the state authorities along with political instability	Created a "vacuum" in geospatial information management on the central level: a lot of local initiatives, NGO and donor support without final national goal

IGIF was considered to be a perfect trigger for geospatial initiatives development

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1 Governance and institutions

SCORE: 34

- StateGeoCadastre is considered to be **"NSDI champion"** in Ukraine according to the legislation and due to holding the most number of data sets
- **SubGroup on coordination of NSDI development** is established and is operating under the Ministry of Economy, Trade and Agriculture. Representation is on the middle management level.
- SubGroup of NSDI **is not actively involved** to the cooperation with other levels and stakeholders (local level, private sector and NGOs)
- StateGeoCadastre is an active member of Eurogeographics and UN-GGIM: Europe, mainly as **"benefit user", not as "benefit producer"**
- E-governance ministry of Ukraine is responsible for digitalization. The cooperation between StateGeoCadastre and E-Ministry exists, but is not too active

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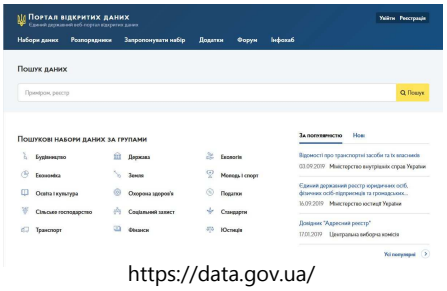
2 Legal and Policy

SCORE: 42

- **A separate NSDI policy is needed.** NSDI initiatives do not have systematic approach within the state policies / strategies etc.
- **NSDI law is drafted**, already in the Parliament. Necessity of additional legal sub-regulations is recognized. **Concept of NSDI development for 2020-2023 is drafted**.
- Open data policy for Ukraine was adopted in 2015. The Open data portal is operating. Data are mainly for general use (statistical forms, etc). Geospatial data have low share on the portal. **Geospatial data are were included to "open data"**
- Data protection is included to some of the state policies, but the term "data licensing" should be studied and applied additionally.



https://data.gov.ua/

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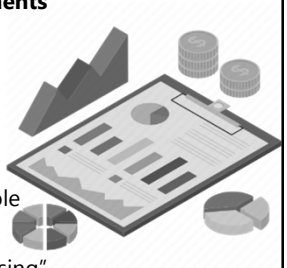
3 Financial

SCORE: 28

- Organizational NSDI model exists (according to the existing legislative drafts)
- Finance is secured, **but not for "NSDI" as a whole, but for separate components** (budget program "topographic and geodetic activities").
- All data sets and services with geospatial data **will be free of charge** (draft law)
- Private sector **is too active in the geospatial domain in "competitive" manner**. It is planned to attract private sector into NSDI, but within limited authorization and role
- Data protection is included to some of the state policies, but the term "data licensing" should be studied and applied additionally.



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4 Data

SCORE: **63**

- **The list of core reference data sets is identified.** Not all critical data sets are created already and duly updated.
- **ICT system for NSDI prototype is created**, but for pilot territory. It is needed to roll-out for the whole Ukraine. The possibility for data sharing hasn't been checked yet within all stakeholders.
- **Geoportal for NSDI Prototype** is created and operating
- **Single national coordinate system** USC-2000 (as of 2003), launched in for land management in **2016.**
  State Reference System is being developed with support of Kartverket.
  At the moment private CORS networks are operating on the market.

Fundamental Geospatial Data Sets in Ukraine: which way to move?

FUNDAMENTAL DATA SETS (NSDI DRAFT LAW 2019)

1) Coordinate-spatial base of geospatial data
2) State border of Ukraine
3) Border of administrative units
4) Border of Conglomerated territorial communities
5) Hydrography objects and hydro-technical constructions
6) Settlements and road-street network
7) Buildings and construction
8) Automobile roads
9) Railways
10) Engineer communications
11) Airports, sea and river ports
12) Vegetation and soils
13) Land parcels
14) Street register and addresses of objects
15) Geographical names
16) Digital terrain model
17) Orthophoto plans

CORE REFERENCE DATA (INSPIRE WG)

1) Geographical names
2) Administrative units
3) Addresses
4) Land parcels
5) Transport network
6) Hydrography
7) Elevation
8) Land cover
9) Orthophoto and imagery
10) Statistical units
11) Buildings
12) Land use
13) Communal (infrastructure) networks and services
14) Management of the territories

FUNDAMENTAL DATA SETS (UN:GGIM)

1) Global Geodetic Reference Frame
2) Addresses
3) Buildings and Settlements
4) Elevation and depth
5) Functional zones
6) Geographical names
7) Geology and soils
8) Land cover and land use
9) Land parcels
10) Infrastructure
11) Population distribution
12) Orthophoto
13) Transport network
14) Water

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5 Innovation

SCORE: 40

- Ministry of digital transformation (former E-governance agency) is responsible for implementation of innovations. **Geospatial domain is not included to the Strategies and Concepts**
- Private sector is "competitive" in the sphere, producing alternative products **(authoritative data vs. other data sources)**.
- **Collaborative approach** between public and private sector/NGO is needed
- **Private sector and NGO supported the principle "free sharing of geospatial data without NSDI administrator"** (or NSDI administrator from private company).

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6 Standards

SCORE: 46

- **National Standardization Body of Ukraine** is checking and approving the standards from different spheres. **The standards are not mandatory** for being used and have only recommendation character.
- The standards are mandatory **if they are referenced from the law or regulation**
- These standards are distributed **not free of charge** for the interested parties.
- SE "Research Institute for Geodesy and Cartography" (supervised by StateGeoCadastre) is a member of TC-103

The most recent standards **that were published in 2019**:

ДСТУ 8774 «Rules of geospatial data modelling»
ДСТУ 19115 «Metadata»
ДСТУ 19131 «Specification of geo-informational product»
ДСТУ 19157 «Quality of geospatial data»

› Informative seminars for the data holders on standards' application to be organized by StateGeoCadastre in early 2020

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7 Partnerships

SCORE: 35

- Government Agencies **do cooperate on bilateral level, NOT in terms of NSDI**, but on defined topics (receiving of mapping products, data from land cadaster, combining of cadastral data etc.)
- **Donor funded projects are supporting initiatives on the local level** for Conglomerated territorial communities, **but without "NSDI regulator"** participation.
- Private sector is involved to NSDI initiatives, sometimes **not in line with the public concept.**
- **Private sector and NGO support the principle "free turnover of geospatial data" and insist on NSDI administrator from the private sector.**

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8 Capacity & Education

SCORE: 34

- The vacuum of information hides real benefits of users and the country in general. "NSDI" sounds too difficult and not clear to people who are not dealing with it.
- Solid geospatial programs from universities exist. There is **a gap in continuous professional training** for NSDI specialists from all stakeholders.
- Several geospatial training courses were organized for specialists abroad – **with no systematic approach**.
- **5** International conferences were organized in Kyiv starting from 2015.

  Speakers from **17** countries, Eurogeographics, UN-GGIM and JRC.

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9 Communication & Engagement

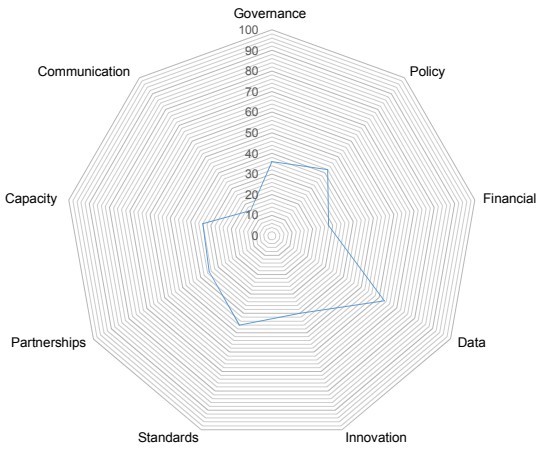
SCORE: 16

- **Good "reformers" vs. bad "regulator" in terms of NSDI development**
- No action plans on engagement and raising awareness = **public sector is loosing the competition**
- **Key goal -** to make people and organizations involved. **Low capacity** to maintain permanent interest and conduct investigation for the Parties, that are involved
- NSDI will make a leapfrog, when each sphere of economy and public life understand clear benefit from geospatial information utilization – **real-economy business cases to be developed**

Assessment result and conclusions

TOTAL SCORE: 38

- Capacity challenges at the "NSDI leader"
- Low level of engagement and involvement from other stakeholders
- Competitive environment between public and private sector. And even between various public institutions
- Absence of common geospatial idea that will find clear benefits for each sector of public and private activities both on national and local levels



Ukraine NOW

Further Actions to be taken

- Adoption of National strategy for geospatial data and development actions plans
- Action plan for i) implementation of the NSDI Strategy ii) raising awareness, ii) engagement of stakeholders
- Practical cooperation between data holders in i) MoUs to raise the public interest, ii) data integration to demonstrate the benefits, iii) licensing agreements for combined data sets
- Continue implementation of different parts of NSDI: i) digital base map 1:50 000, ii) digital base map 1: 10 000, iii) standards, iv) geoportal
- Transformation of NSDI subgroup into the technical working group and establishment of high level coordination committee on the national level
- Adoption of the NSDI Law
- Development of Order for NSDI Administration

ДЕРЖГЕОКАДАСТР

Thank you!

Dmytro Makarenko

Deputy Director for International Cooperation and Land Market –
Head of International Relations Division

makarenko@land.gov.ua

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