



REPUBLIC OF MOLDOVA: E-Government and Spatial Data Infrastructure developments

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Contents

1. Introduction
2. Geospatial data for e- Governance
 - e-Government Strategy
3. Spatial Data Infrastructure in Moldova
4. Accessibility & Technical Infrastructure
5. Capacity development
7. Conclusions/Next step for development

Introduction

Republic of Moldova:

√ Total area – 33,7 thousand km²

√ Capital – Chisinau

√ Population – 3 mln

√ Real Estate – 5.7 mln



√ divided to thirty-two districts (raion), three municipalities, and two autonomous regions (Gagauzia and Transnistria).
√ 1, 681 localities, of which 982 localities have their own LPAs. Five localities have municipality status, 66 have city status, and 916 are villages with commune status.

Transparența decizională

Actualități

Informație utilă

Acte legislative și normative

Certificare

Certificare în domeniul
evaluării

Certificarea inginerilor
cadastrali

Certificarea în domeniul
geodeziei, cartografiei,
prospecțiunilor topografice și
geoinformaticii

Inspectoratul de Stat pentru
Supravegherea Geodezică,
Tehnică și Regim

Direcții

- Direcția relații funciare și
protecția solurilor
- Direcția geodezie.



Anatolie Ghilaș
Director general ARFC

Știri

2017-03-13 15:50

[Concurs cu privire la ocuparea
funcției de registru](#)

Agencia Relații Funciare și Cadastru,
întreprinderea Specializată în "Cadastru"
anunță primirea cererilor pentru
concursul cu privire la ocuparea funcției
de registru în oficiile cadastrale
teritoriale: Briceni, Cahul, Călărași.

*Agencia Relații Funciare și Cadastru a Republicii
Moldova este organul administrației publice centrale,
care realizează politica statului în domeniul relațiilor
funciare, cadastrului, geodeziei, cartografiei,
geoinformaticii și este subordonată Guvernului
Republicii Moldova.*

Pagina principală

Agencia Relații Funciare și Cadastru a Republicii Moldova este
organul administrației publice centrale, care realizează politica
statului în domeniul relațiilor funciare, cadastrului, geodeziei,
cartografiei, geoinformaticii și este subordonată Guvernului
Republicii Moldova.

Deoarece cadastrul servește ca bază pentru crearea Infrastructurii
Nationale de Date Spațiale, actualmente Agenția este preocupată
de elaborarea Sistemului Informațional Geografic Național.

Conform Hotărârii Guvernului RM nr. 383 din 12.05.2010 se
stabilește efectivul-limită al aparatului central al Agenției Relații
Funciare și Cadastru în număr de 41 unități, cu un fond anual de
retribuire a muncii conform legislației în vigoare.

✓ **The Agency for Land Relations and Cadastre:**
Public Government Authority carrying out
execution, control and supervising the Land
Administration, Geodesy, Mapping and Cadastre
Systems in Moldova <http://www.arfc.gov.md/>

✓ Established in 1994

✓ National contact point for the NSDI
implementation, responsible for establishment,
maintaining and management of the NSDI
geoportal, monitoring and reporting of the spatial
data infrastructure at all levels.

✓ **ALRC is Founder of four State Enterprises:**

- S.E. "CADASTRU" <http://www.cadastre.md/>

- S.E. Institute of Geodesy, Engineering
Research and Cadastre "INGEOCAD "

<http://www.ingeocad.md>

- S.E. Project Institute for Land Management

"IPOT" <http://www.ipot.md/>

- S.E. "Soil Protection and Land

Development" <http://www.arsps.md/>



Geospatial Data for e- Governance

In April 2012, the Government of Moldova joined the Open Government Partnership initiative.

E-Governance and Open data in Moldova are essential to the sustainable development vision, and especially for the successful maintenance and application of Spatial Data Infrastructure.

E-Government Strategy in Moldova

✓ With the World Bank's support the Government of Moldova launched its M-Cloud platform in 2013 .

✓ MCloud products provide strong infrastructure support for the further development of e-Services

<http://egov.md/en>:

- i) *MPass* (government authentication and access control service),
- ii) *MSign* (government digital signature service), and
- iii) *MPay* (government electronic payment gateway)

✓ The Open Data portal <http://www.date.gov.md> applies to currently around 944 data sources and around 30 applications.



NSDI in Moldova

The development of NSDI in Moldova achieved a significant progress in recent years, thanks to donors support as:

i) Norwegian Government and Norwegian Mapping and Cadastre Authority “Kartverket”(2006-2017):

- ✓ Orthophoto maps <http://moldova-map.md>;
- ✓ Digital Terrain Model <http://moldova-map.md>;
- ✓ CORS system (MoldPOS Net) <http://www.moldpos.md/>;
- ✓ Laser Scanning of Flood Risk areas <http://moldova-map.md>;
- ✓ Land Information System development in Cadastre MoldLIS;
- ✓ Pilot testing of Drones (UAV/UAS) technology;
- ✓ Vector base mapping for the NSDI <http://moldova-map.md>
- ✓ NSDI National Geoportal (in development).

iii) JICA:

Creation of Digital Base Map for Development of National Spatial Data Infrastructure in the Republic of Moldova (2010-2012).

iv) EU funds:

TAIEX/Twinning

EU Twinning Project “Organization, Streamlining and Computerization Process in Mapping in the Republic of Moldova” (2014-2016). Twinning partners: **SWEDESURVEY** overseas agency of **Lantmäteriet** (Swedish Agency for mapping, cadastre and land registration) from Sweden and **State Geodetic Administration of the Republic of Croatia**.

NSDI in Moldova: Demonstrate SDI's components



NSDI in Moldova: Legal Framework Component

Umbrella Law on NSDI approved by Parliament in 2016

- ✓ Responsibility for spatial data
- ✓ Content and creation of metadata
- ✓ Interoperability
- ✓ Network services
- ✓ Data sharing
- ✓ Duties of public authorities and third parties
- ✓ NSDI Steering Committee
- ✓ Coordination authority - ALRC

✓ Government Decision Nr. 458 of 22 June 2017 on responsibilities of public entities on spatial data sets;

✓ Government Decision Nr. 459 of 22 June 2017 on Council of national spatial data infrastructure;

Strategy on NSDI

- ✓ Vision
- ✓ Strategic goals
- ✓ Operational goals
- ✓ Action plan



**Legal
framework**

NSDI in Moldova: Standards Component



Standards

- ✓ Metadata profile for spatial datasets
- ✓ Metadata profile for network services
- ✓ Guidelines for metadata profiles
- ✓ Profile for data specification
- ✓ Guidelines for data specification profile

NSDI in Moldova: Cooperation Component

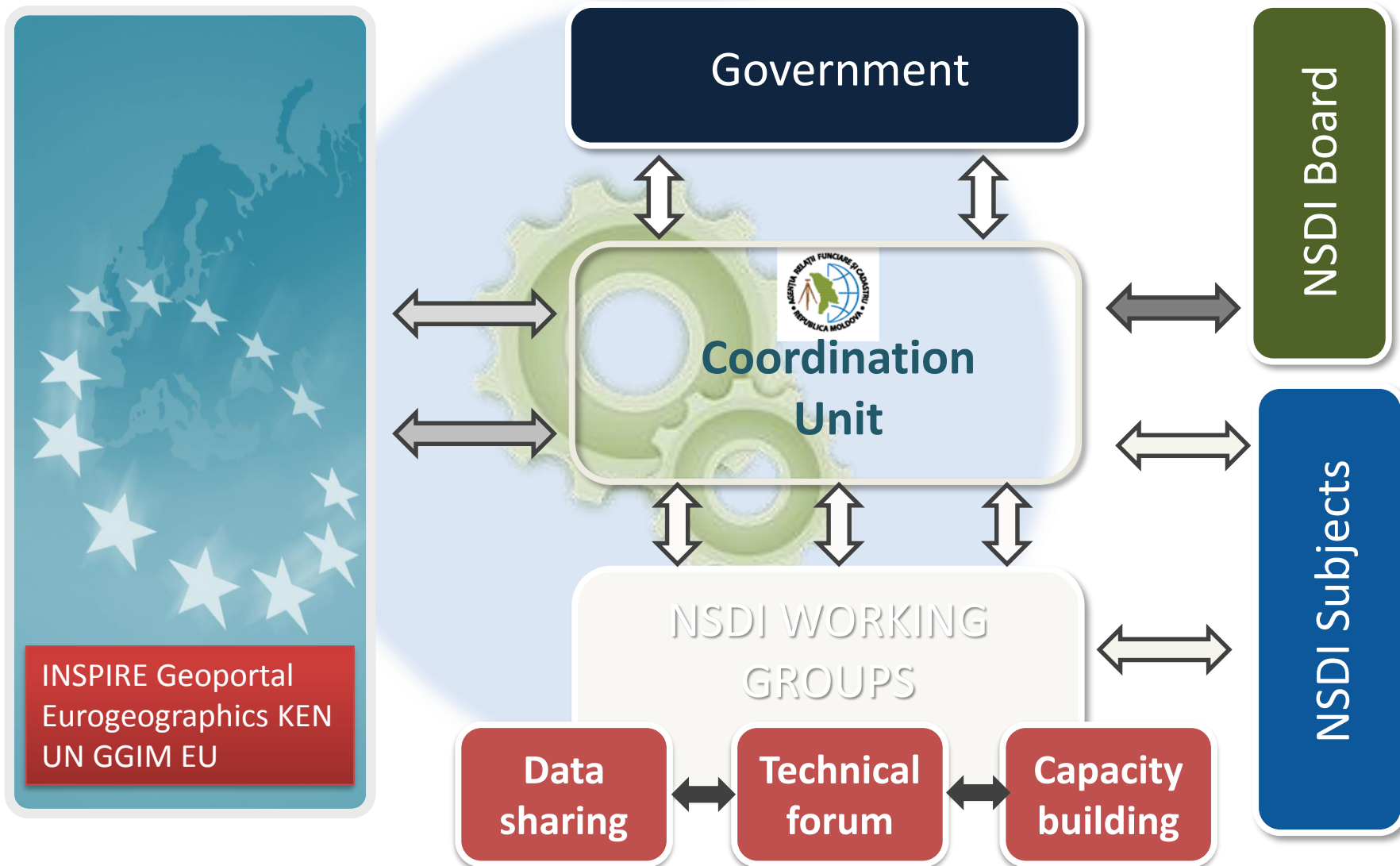


Cooperation

- ✓ Collaboration agreement with regards to demonstration of an SDI solution on a pilot area in line with EU best practices
- ✓ Collaboration agreement on sharing data sets and implementation of NSDI in the Republic of Moldova
- ✓ Organization structure for NSDI

NSDI in Moldova: Cooperation component

Organisation of NSDI in Republic of Moldova



NSDI in Moldova: Competence Component

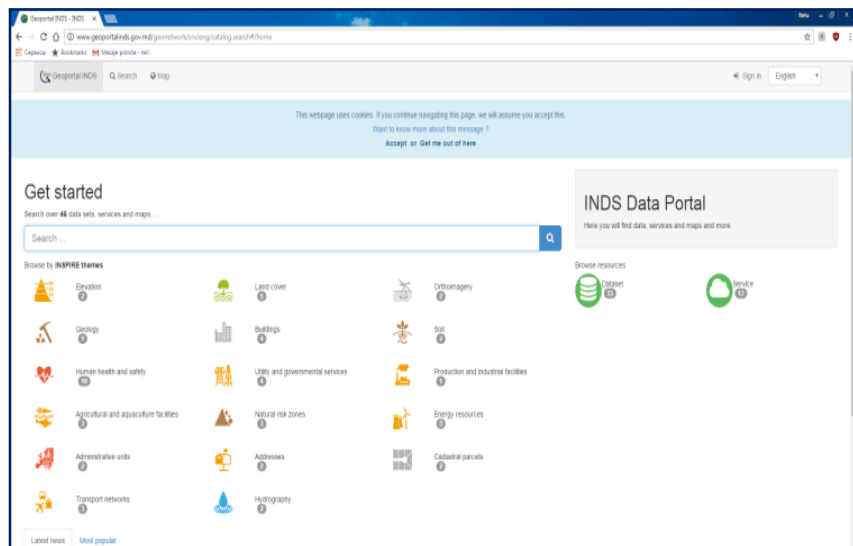
Trainings

- ✓ SDI and INSPIRE
- ✓ Standards and metadata
- ✓ Geoportal
- ✓ Network services
- ✓ Legislation
- ✓ Business model and agreements
- ✓ Cooperation
- ✓ Training of trainers (coordination-role)
- ✓ Data harmonization
- ✓ Elaboration of data specifications



Competence

NSDI in Moldova: Geoportal Component



✓ The ALRC, with the support of Swedish and Croatian experts, has established a provisional geoportal based on an open-source solution „GeoNetwork”. It will be functional until a permanent geoportal will be created within the Norwegian technical support Project.



Geoportal

✓ **NSDI Geoportal** is a single point of access to geospatial data and nowadays it is at pilot stage <http://www.geoportalinds.gov.md/> .

✓ **NSDI Geoportal** includes the metadata catalogue, containing metadata created by the public entities.

NSDI in Moldova: Spatial Data Component

- ✓ Spatial data exists in the Republic of Moldova
- ✓ Only part of the spatial data is in digital form
- ✓ Spatial data is in different formats
- ✓ Much spatial data is in format not suitable for digital dissemination
- ✓ Duplication of spatial data occurs, i.e. same spatial data sets may exist within several organizations
- ✓ On the governmental level it is recognized how deep spatial data is connected with decision making process



Spatial data

NSDI in Moldova: Spatial Data Component



In the NSDI search for spatial data, available in the Republic of Moldova, will be done in national geoportal via metadata

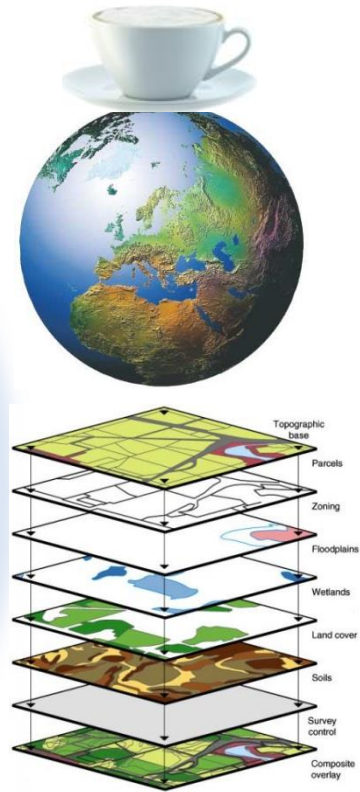
Spatial data, available in the Republic of Moldova, provided through network services are limited



Services



Spatial data



NSDI in Moldova: Metadata Component



Metadata

- ✓ Metadata for at least one dataset from each stakeholder was created together with the stakeholders
- ✓ Metadata for several network services was created together with stakeholders responsible for the services
- ✓ Metadata has been registered in the provisional national geoportal

Fundamental/Reference Geospatial Data

✓ Basic data is available in digital format.

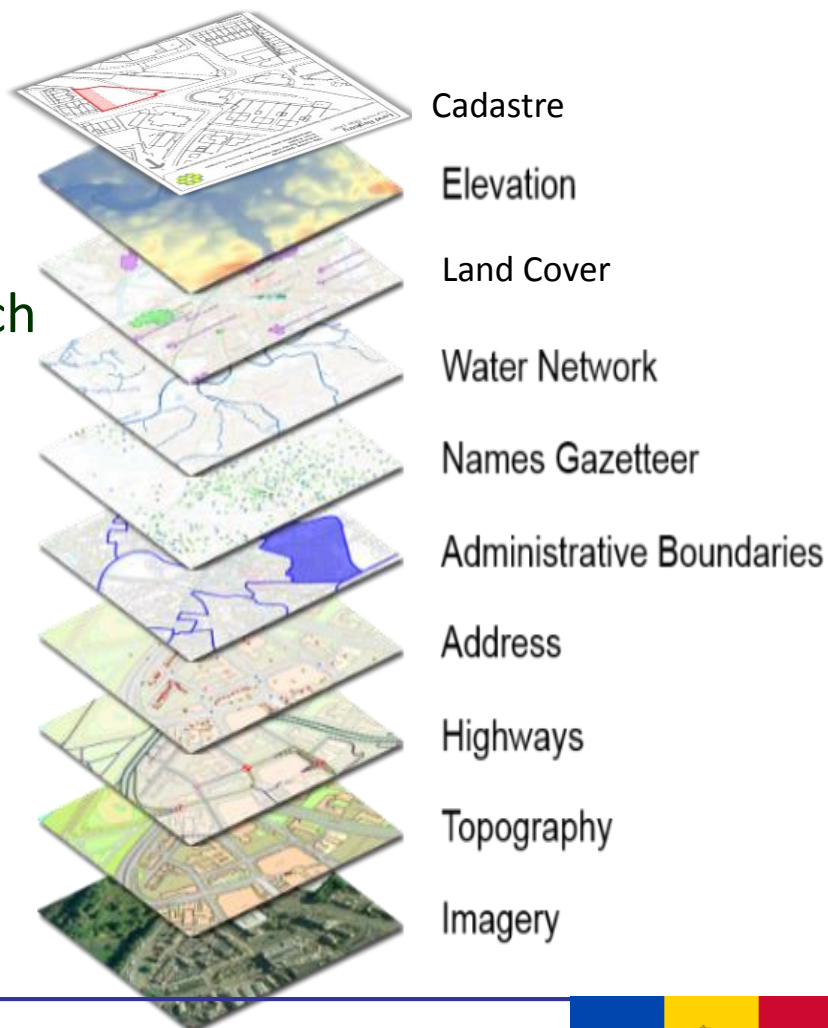
Orthoimagery and base maps are published on <http://moldova-map.md>, <http://geoportal.md> and <http://www.geoportalinds.gov.md/>

✓ A lot of data is available in formats which are not suitable for digital dissemination, such as ungeoreferenced scanned paper maps

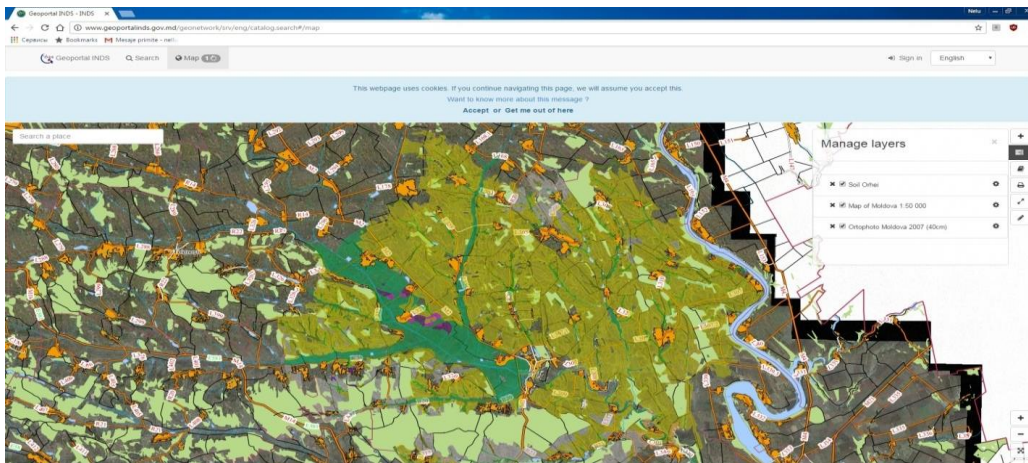
<http://www.statistica.md>

✓ Several thematic datasets are available via the Open Data portal

<http://www.date.gov.md>



Accessibility & Technical Infrastructure

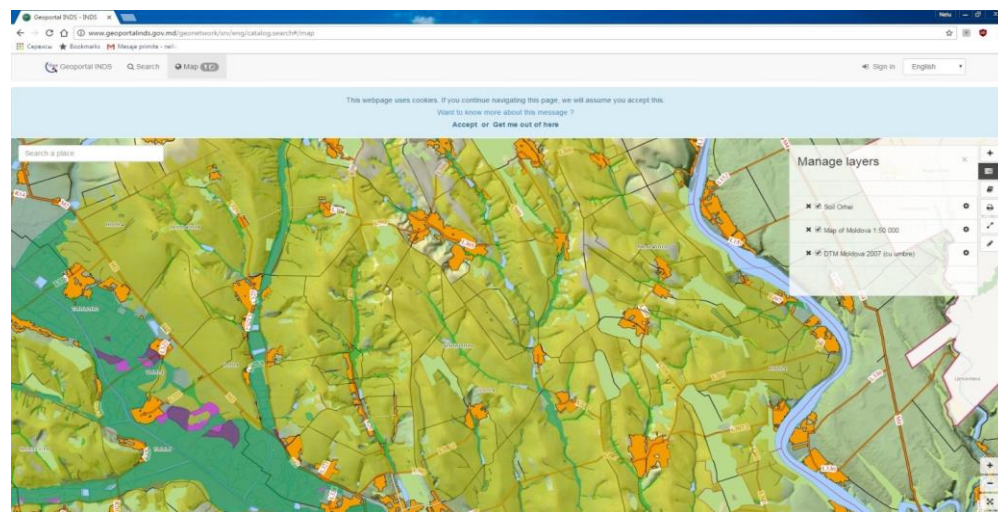


Spatial data - interoperable via network services Soils, Aerial orthophoto and Topographic map 1:50000

✓ **Network services.** These services are: discovery/search, view, download and transformation.

✓ Most public entities do not have network services in Moldova. In the case of those authorities which had them, their services were not compliant with the ISO/TC211 standards.

✓ NSDI Geoportal makes it possible to view harmonised spatial data in a unique standard, which enables the interoperability of various datasets from different public entities, such as: dataset „Soils” of S.E. IPOT with datasets „Aerial orthophoto”, „Digital terrain model” and „Topographic map 1:50000” of S.E. INGEOCAD



Spatial data - interoperable via network services Soils, Digital Terrain Model, Topographic map 1:50000.

Capacity Development

- ✓ The current national capacities of the responsible public authorities are not sufficient for establishment of the NSDI in Moldova.
- ✓ The provision of adequate technical infrastructure and skilled staff with sufficient level of IT and GIS knowledge for public authorities on different levels is needed.
- ✓ The INSPIRE implementation is limited because of a lack in harmonized of geospatial datasets.

Conclusions

- ✓ The development of the NSDI in Moldova achieved a significant progress in recent years, thanks to donors support as Norwegian Government and Norwegian Mapping and Cadastre Agency “Kartverket” (2006 to today), JICA and EU funds/TAIEX and Twinning.
- ✓ NSDI Law was approved in December 2016
- ✓ NSDI Steering Committee and Working Groups was established in 2017
- ✓ Data sharing is already established between 22 organisations (ALRC, Ministry of Transport, Forest Agency “Moldsilva, Emergency Service for Civil Protection etc.).
- ✓ The Agency for Land Relations and Cadastre of Moldova/S.E. INGEOCAD/S.E. IPOT provide available fundamental datasets such as Orthoimagery, Elevation Data, Base Maps in different scales through web-based services, which are extensively used by other public entities.

Conclusions...

Good progress in development of NSDI in Moldova has been made, but further support is required if the achievements made so far are to be developed into meaningful benefits.

In particular, data exchange protocols and procedures need to be developed, standards have to be defined and adopted, more data must be made available in the correct format, and further capacity built in the sector.

Conclusions... next steps

- ✓ Metadata catalogue is not completed;
- ✓ There are no licensing conditions;
- ✓ Lack of human resources;
- ✓ Lack of standards of spatial data;
- ✓ Limited communication between private and government sectors on spatial information;
- ✓ Lack of experience in management and operation of web-services, such as geo-portal;
- ✓ The Business Model is not elaborated;
- ✓ Limited budget for development and maintenance of the geospatial information.

Thank you for your attention

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