



REPUBLIKA HRVATSKA
Državna geodetska uprava



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Podrška razvoju NIPP-a u Republici Moldovi kroz EU Twinning Projekt



Sanja Zekušić
Državna geodetska uprava

Dani IPP-a 2022., Zadar, 19-20.10.2022.

Twinning projekt:

Poboljšanje mrežnih usluga prostornih podataka u Republici Moldovi prema standardima EU-a



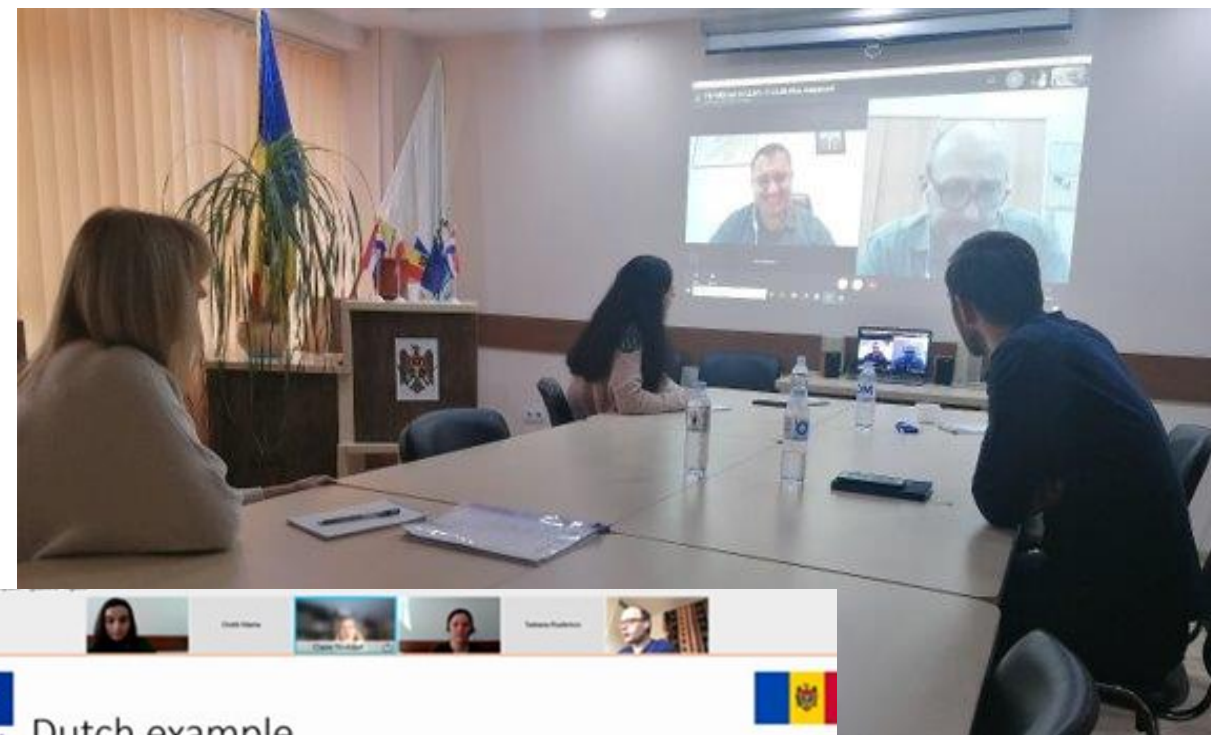
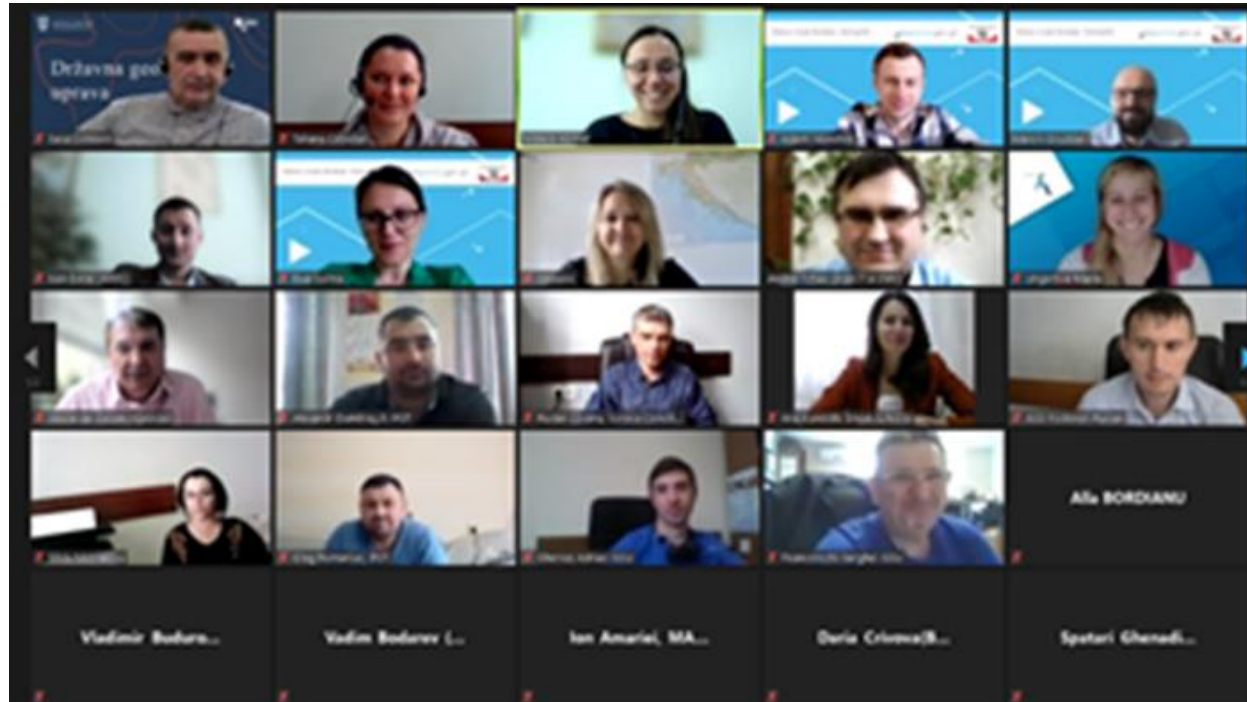
Provedba: 1.9.2020-30.4.2023.

Komponente projekta

Cilj: unaprijediti e-upravu kroz poboljšanje dijeljenja prostornih podataka

- 1 Održivo upravljanje NIPP-om (*Analiza i strateški okvir*)
- 2 Poslovni model (*Cost recovery*)
- 3 Korištenje postojećih podataka unutar NIPP-a (*Podatci i geoportal*)
- 4 Izgradnja kapaciteta i podizanje svijesti
- 5 Zakonodavni okvir NIPP-a

Upravljanje i organizacija



- Basis Registrations (KADA)
 - MIM model
 - IMBAG
- Nature Management Plan
 - IMNAB
- Stored in database in orig

Croatian example

Current situation and proposed progress regarding Strategic Goal per year are summarized in the table and in the figure of the spider diagram:

Indicators

2016 2018 2020



Polish experience (1)

- The modelling in GUGiK was done in 2011-2015 for the following data sets
 - [Land and Building Register](#)
 - [Topographic database 250k, 10k and 500](#)
 - [State Register of Geographic Names \(new\)](#)
 - [State Register of Boundaries](#)
 - [Register of Addresses](#)
 - [Utilities](#)
 - [Geodetic control points](#)
- Currently, most data models are being reviewed and updated



Ostvareni rezultati

Komponenta 1:

- Izvješće o stanju
- Program NIPP-a + Akcijski plan
- Preporuke u vezi
 - Upravljanja podacima i interoperabilnosti
 - Dijeljenja podataka
 - Licenciranja
 - Institucionalni okvir (vijeće i radne grupe)



TWMD-1-111-17

Situation Report on the NSDI implementation, maintenance and development in the Republic of Moldova



TWMD 1-121-03

PROGRAM FOR THE DEVELOPMENT OF THE NATIONAL SPATIAL DATA INFRASTRUCTURE (2022-2026) FOR THE REPUBLIC OF MOLDOVA

EU ENI 2020 Twinning project: MD 16 ENI OT 01 19
"Improving Spatial Data Services in the Republic of Moldova following EU standards"

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General Objectives / Specific Objectives / Actions	Monitoring indicators	Implementation costs	Deadline	Responsible authorities and institutions
GENERAL OBJECTIVE 1: Ensuring an appropriate regulatory framework for the establishment, development and maintenance of NSDI				
Specific Objective 1.1: Adjusting the regulatory framework for the establishment, development and maintenance of the NSDI to the current requirements and principles of INSPIRE Directive				
1.1.1. Drafting amendment of Law no. 254/2016 on the national spatial data infrastructure to be fully aligned with EU INSPIRE Directive policies, including completion with provisions related to the creation and maintenance of the spatial data register.	Draft normative act approved and submitted to the Parliament.	Within the limit of budget allocations.	June 2022	ALRC
1.1.2. Drafting amendment of the Government Decision no. 718/2017 on metadata and metadata profiles to align with the EU INSPIRE Directive specifications on metadata, as well as to define the procedure for creating the unique resource identifier (URI).	Draft normative act approved and published in gazette.	Within the available budget.	March 2022	ALRC
1.1.3. Drafting amendment of the Government Decision no. 254/2018 on the norms for sharing spatial data sets and related services among public entities and third parties to include best practices for sharing spatial data and network services.	Draft normative act approved and published in gazette.	Within the available budget.	September 2022	ALRC, public entities responsible for spatial data sets and services.

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EU ENI 2020 Twinning project: MD 16 ENI OT 01 19
"Improving Spatial Data Services in the Republic of Moldova following EU standards"

General Objectives / Specific Objectives / Actions	Monitoring indicators	Implementation costs	Deadline	Responsible authorities and institutions
1.2.2. Determining / updating costs for spatial data network services created by responsible public entities.	Tariffs (costs) approved by order of NSDI public entity director. 50% of the public entities responsible for spatial data in accordance with Government Decision No. 458 will define the costs for their network services.	Within the available budget.	2023-2024	ALRC, public entities responsible for spatial data sets and services
GENERAL OBJECTIVE 2: Strengthening cooperation among all NSDI stakeholders				
Specific Objective 2.1: Improving NSDI organizational framework.				
2.1.1. Developing an annual work plan for NSDI Council, with clearly-defined objectives and deadlines.	Annual work plan for the NSDI Council approved and published. 2 NSDI Council meetings held per year.	Within the available budget.	2022-2024	ALRC, NSDI Council
2.1.2. Defining the roles, tasks and responsibilities of the Working Groups.	Annual activity plans for the Working Groups approved. Working Groups meetings held on a quarterly basis.	Within the available budget.	2022-2024	ALRC, NSDI public entities members of WG

Specif
2.2.1. entities
2.2.2. entities develop
2.2.3. platform between

Ostvareni rezultati

- ❑ Izvješće o stanju
- ❑ Program NIPP-a + Akcijski plan
- ❑ Preporuke u vezi
 - Upravljanja podacima i interoperabilnosti
 - Dijeljenja podataka
 - Licenciranja
 - Institucionalni okvir (vijeće i radne grupe)

<div><div>EU ENI 2020 Twinning project: MD 16 ENI OT 01 19 "Improving Spatial Data Services in the Republic of Moldova following EU standards"</div></div> <p>on national spatial data infrastructure as well as the composition and content of new spatial datasets.</p> <ul style="list-style-type: none">• Provide consultations on the norms and conditions for access and use of spatial datasets.• Provide consultation and present proposals with regard to developing collaboration agreements with public entities and third parties in the field of national spatial data infrastructure.• Propose research/study topics to groups of specialists established by the coordinating authority in the field of national spatial data infrastructure.• Recommend standards for defining the content, structure, form of spatial data, necessary to obtain a common and interoperable format of the data.• Recommend the conditions and modalities for masking/disguising spatial data, determine the content of publication of classified data, which is important to areas and objectives of interest for national security and defense. <p>The primary role of the Council is advisory, even though it consists of decision makers from different institutions. The composition of the NSDI Council is the list of institution which are listed in the Annex no. 2 to Government Decision no. 459 from 22 June 2017.</p> <p>According to the Government Decision no. 459, the meetings of the NSDI Council should be held twice a year. Presently the meetings are suspended due to the COVID-19 situation. Because of the supportive character of this body there are more incentives needed to activate work.</p> <h3>2.1 Recommendations and suggestions for improvement</h3> <ul style="list-style-type: none">• the work of the NSDI Council should be based on its work plan for a given calendar year• In the yearly work plan it should be introduced the activity for every member of the NSDI Council• introduce report from the activities that took place during the year, deadline for delivering such a report can be 31st of January every year and the report can be published online or given to the institution that is supervising ALRC• give NSDI Council not only the advisory role with regard to the policy for developing national spatial data infrastructure but more decision-making and more functional and implementation role• NSDI Council task can be also proposing initiatives to improve infrastructure in organizational and technical terms, and to expand its thematic scope• giving opinions on draft legal acts, standards, organizational, scientific and educational projects, plans and reports on infrastructure• in the list of the composition of the NSDI Council should be indicated the specific positions (recommended high level rank) not only the list of institutions• Action plan for SDI in the R. of Moldova should be aligned with activities of the NSDI Council• if this is possible to include in NSDI Council representatives of universities and envisage some remuneration for participation in the meeting• increase the frequency of the NSDI Council meetings, at least once every two months• create a webpage dedicated only to NSDI Council activities• In the event of a justified absence of a member of NSDI Council, a person authorized by member of NSDI Council may participate. The authorization should be given in writing and, in the absence of a	<div><div>EU ENI 2020 Twinning project: MD 16 ENI OT 01 19 "Improving Spatial Data Services in the Republic of Moldova following EU standards"</div></div> <p>member of the NSDI Council. The authorization may include voting by an authorized person on behalf of the NSDI Council member at the meeting to which the authorization relates.</p> <h3>3 Working groups</h3> <p>According to the Law on National Spatial Data Infrastructure No. 254/2016, the coordinating authority has a duty to form working groups with a goal to fulfil the work plan on NSDI implementation. By the Orders no. 66, 67 and 68 of the General Director of the Agency for Land Relations and Cadastre (hereinafter the Agency), three working groups have been established:</p> <ul style="list-style-type: none">• Technical Working Group for implementing NSDI• Working group for sharing spatial data sets and related services• Working Group for capacity building in the NSDI field. <p>According to available information, the existing working groups have an advisory role. The existing working groups do not have a defined work program and do not produce documents. The leaders of the working groups come from the Agency but are not specified in the Orders no. 66, 67 and 68 on the establishment of working groups.</p> <p>The best way to define the obligations of the WGs is to make a yearly working plan for them to follow. The working plan should include the WGs into the NCP (Agency) activities in NSDI implementation as well as raising awareness on NSDI in society. Defined activities and tasks will also help to raise the motivation of the WGs members. Since the working group members are working as volunteers the working plan shouldn't have more than three major tasks per year included. Their main objective is to help the coordinating authority with the NSDI implementation process in the area of their expertise.</p> <p>The composition of the working groups is best not to have more than 10 members, while it's easier to work in smaller groups. This would lead to higher productivity and increase the efficiency of the working groups. Also, as members, institution should nominate experts in the designated field and not managers or politicians. The leader of the working groups should be specified in the Orders which establish the working groups.</p> <p>The Orders no. 66, 67 and 68 should also include WGs obligation to prepare the yearly plan as well as the yearly report on WGs activities and deliver it to the coordinating authority.</p> <h4>3.1 Work plan for the Technical Working Group for implementing NSDI</h4> <p>The work plan has to be obtainable within one year, but should also reflect the current needs of the coordinating authority regarding technical issues for NSDI implementation since the purpose of working group existence should be to help with the implementation, development and promotion of NSDI.</p>
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Ostvareni rezultati

Komponenta 2:

- ☐ Procjena troškova uspostave, održavanja i razvoja NIPP-a
- ☐ Metodologija identifikacije koristi NIPP-a
- ☐ Izvješće o koristima NIPP-a



EU ENI 2020 Twinning project: MD 16 ENI OT 01 19
Improving Spatial Data Services in the Republic of Moldova following EU standards

TWMD-2-211-02

**Cost Report of NSDI implementation,
maintenance and development in Moldova**
- ver. 1.0 -



Agency for Land Relations and Cadastre
of the Republic of Moldova

48 Serghei Lazo str MD-2005 Chisinau
www.arfc.gov.md

Subject: Questionnaire Cost Assessment NSDI Moldova

Dear

Moldova is embarking on the development of a National Spatial Data Infrastructure (NSDI). A NSDI Cost Recovery Model will be developed. This requires identification of all costs and benefits of NSDI. For this purpose this questionnaire has been developed. The focus of this questionnaire is on costs as being made by stakeholders and spatial data providers.

Your answers are needed for the creation of a NSDI Strategy for Moldova.

The questions concern general questions and questions on spatial data sets, metadata, services & portal, applications, legal & finance and on coordination & management,

We would be please to find your reply before

Yours sincerely,



EU ENI 2020 Twinning project: MD 16 ENI OT 01 19
Improving Spatial Data Services in the Republic of Moldova following EU standards

TWMD-2-211-02

Methodology for NSDI Benefits identification in Moldova



EU ENI 2020 Twinning project: MD 16 ENI OT 01 19
Improving Spatial Data Services in the Republic of Moldova following EU standards

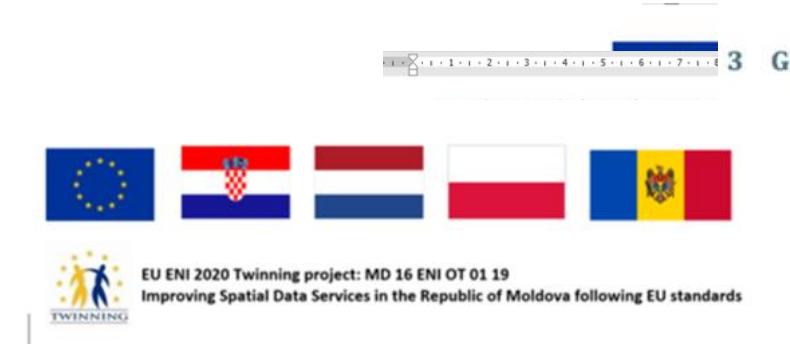
TWMD-2-223-01

Benefits Report

Ostvareni rezultati

Komponenta 3:

- ❑ Katalog podataka za A-D konverziju
- ❑ Smjernice za:
 - A-D konverziju,
 - georeferenciranje,
 - specifikacije podataka,
 - modeliranje podataka,
 - za harmonizaciju,
 - stvaranje i održavanje metapodataka.
- ❑ TS za geoportal NIPP-a + Podrška u razvoju
- ❑ Pilot projekt
- ❑ Izvješće o tehnološkom okviru



TWMD-3-342-01

Methodology guide for creation and maintenance of metadata based on Technical Guidance for the implementation of INSPIRE dataset and service metadata based on ISO/TS 19139:2007

October 18 - 22, 2021

3 GEORI

class Country profile CROATIA

address. It is recommended to use an email address of the organisation instead of a personal email address. Optional elements in this class include: phone and address.

- Role- this is mandatory element encoded with `gmd:role/gmd:CI_RoleCode`. It points to the value "pointOfContact" of [ISO 19139] code list `CI_RoleCode`. https://standards.iso.org/iso/19139/resources/gmxCodeLists.xml#CI_RoleCode.

Mandatory elements are:

- Organisational name- `gmd:organisationName`
- E-mail address- `gmd:address`
- Role with default value "Point of Contact"- `CI_RoleCode`.

Example of encoding Metadata point of contact using class `CI_ResponsibleParty`:

```
<gmd:contact>
  <gmd:CI_ResponsibleParty>
    <gmd:individualName gco:nilReason="missing">
      <gco:CharacterString/>
    </gmd:individualName>
    <gmd:organisationName>
      <gco:CharacterString>State Geodetic Administration</gco:CharacterString>
    </gmd:organisationName>
    <gmd:positionName gco:nilReason="missing">
      <gco:CharacterString/>
    </gmd:positionName>
    <gmd:contactInfo>
      <gmd:CI_Contact>
        <gmd:phone>
          <gmd:CI_Telephone>
            <gmd:voice gco:nilReason="missing">
              <gco:CharacterString/>
            </gmd:voice>
            <gmd:facsimile gco:nilReason="missing">
              <gco:CharacterString/>
            </gmd:facsimile>
          </gmd:CI_Telephone>
        </gmd:phone>
        <gmd:address>
          <gmd:CI_Address>
            <gmd:deliveryPoint gco:nilReason="missing">
              <gco:CharacterString/>
            </gmd:deliveryPoint>
          </gmd:CI_Address>
        </gmd:address>
      </gmd:CI_Contact>
    </gmd:contactInfo>
  </gmd:CI_ResponsibleParty>
</gmd:contact>
```



Table 5. Abbreviations

Abbreviations		O	N
item name	description	obligation (mandatory/optional)	maximum occurrence

Ostvareni rezultati

Komponenta 3:

- ☐ Katalog podataka za A-D konverziju
- ☐ Smjernice za:
 - A-D konverziju,
 - georeferenciranje,
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 - modeliranje podataka,
 - za harmonizaciju,
 - stvaranje i održavanje metapodataka.
- ☐ TS za geoportal NIPP-a + Podrška u razvoju
- ☐ Pilot projekt
- ☐ Izvješće o tehnološkom okviru



EU ENI 2020 Twinning project: MD 16 ENI OT 01 19
Improving Spatial Data Services in the Republic of Moldova following EU standards

Document No. TWMD-3-311-01

Technical Specification - NSDI Metadata Geoportal

December 23, 2020



licensed packaged
integral solution

in source geospatial
nagement of vector
spatial data. It has
user management,
spatial Consortium
standards, namely

Ostvareni rezultati

Komponenta 4:

- ☐ Skripta za obuku
- ☐ 35-satni online trening
“Uvod u IPP i QGIS” (preko
100 sudionika)
- ☐ Komunikacijski plan u
sektoru NIPP-a
- ☐ Izvješće o edukacijskim
programima vezanim uz
teme NIPP-a na
sveučilištima
- ☐ Studijska putovanja u
Hrvatsku i Poljsku



Predstojeće aktivnosti



Zaključak

- Razvojni put DGU-a:
 - Od primatelja do pružatelja pomoći
 - Od juniora do senior partnera
 - Podrška MVEP (twinning kao način unaprijeđena rada institucija i jačanje međunarodne suradnje)
- Twinning projekt:
 - Ocijenjen najboljim u Moldovi od strane DEU
 - Rezultati projekta već ugrađeni u procese korisničke institucije (ALRC)



Zahvaljujem na pažnji!



sanja.zekusic@dgu.hr