



## SPATIAL DATA INFRASTRUCTURES AND EARTH OBSERVATION EDUCATION AND TRAINING FOR NORTH AFRICA



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Erasmus+ Programme  
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# Newsletter No.1

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SEED4NA has received funding from the Erasmus + CBHE under project reference number 610328-EPP-1 -2019-1-BE-EPPKA2-CBHE-JP

Dear colleagues,

We are pleased to present the first issue of the Erasmus+ SEED4NA project newsletter. The health situation caused by the worldwide COVID-19 pandemic has delayed the beginning and progress of the project. Even worse, many of our beloved passed away, among them our colleague *Prof. Dr. Mahmoud Mohamed Shendi* from Fayoum university, Egypt, who left us on the 14th of December 2020. May this first newsletter issue be dedicated to his memory.

Nevertheless, we succeeded thanks to the will of all of us, to initiate the process of collaboration and to start the scheduled plans and activities. Unfortunately, all physical meetings are postponed and moved online because of the ongoing coronavirus pandemic that still around us.

In this first newsletter issue, we start with an overview of a kick-off meeting that took place in February 2020 at KU Leuven University (Belgium) and where the official start of SEED4NA project was announced. Then, referring to the kick-off meeting decisions report, we remind the SEED4NA project objectives, aims, actions and work packages. The fourteen SEED4NA project partners from North Africa and European Union are thereafter presented with a focus on two partners in this issue. Afterwards, we bring a summary of the main project activities so far. At the end, we introduce the project activities in progress that will be included in the upcoming issue.

For the next SEED4NA project newsletter issues, we kindly invite you to submit your contributions to: [radja.kheddam@usthb.edu.dz](mailto:radja.kheddam@usthb.edu.dz)

*Editorial board*



*On behalf of the SEED4NA consortium, we would like to express our deepest condolences to the family, friends and colleagues of Prof. Dr. Mahmoud Mohamed Shendi from Fayoum university, Egypt.*

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- SEED4NA objectives
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- SEED4NA activities
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  - ⇒ Task 1.3
  - ⇒ Task 5.3
- SEED4NA activities in progress...

## SEED4NA PROJECT KICK-OFF MEETING

The official start of Erasmus + Capacity Building in Higher Education (CBHE) project SEED4NA was held on January 15th 2020, but it was inaugurated on February 18th , 2020 in KU Leuven, Belgium, within the frame of the first project workshop – kick-off meeting.

This 3-day meeting, hosted by the KU Leuven University at the Collegium Veteranorum, consisted of several presentations and discussions on the various activities of the SEED4NA project and on the interests and contributions of each of the project partners.

The meeting started with a warm welcome by Glenn Vancauwenberghe, coordinator of the project, and prof. Jos Van Orshoven, the dean of the Faculty of Bioscience Engineering and head of the Spatial Applications Division Leuven (SADL).

During the first day of the meeting, the partners from the involved countries (Algeria, Egypt, Morocco and Tunisia) had the opportunity to present their own organizations, the educational programs and courses they are involved in, and the local skills needs in the domains of GI, SDI and EO.



Glenn Vancauwenberghe (KU Leuven, project coordinator)

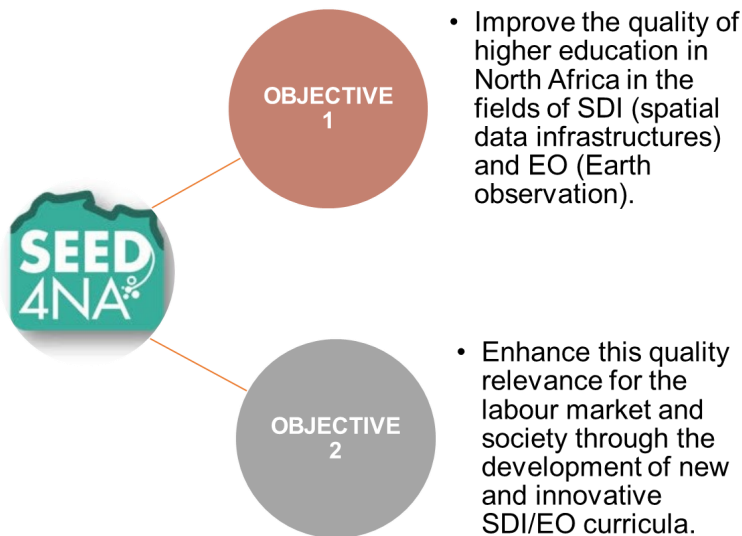
On the second day, the European partners involved in the project briefly presented their own organization, and their expected contribution to the project. Afterwards, dedicated sessions were organized presenting the objectives, tasks and deliverables of the various work packages, followed by discussions on key challenges, risks and relevant approaches for each work package.

The third and final day of the meeting fully focused both on the overall and quality management of the project.



Joint photo of the SEED4NA kick-off meeting participants (Leuven, February 20th, 2020)

## SEED4NA PROJECT OBJECTIVES



*The most tangible results of SEED4NA project will be a set of new and/or updated courses on SDI, EO and related topics in each of the partner countries, provided by the different partner HEIs (High educational institutions)*

## SEED4NA PROJECT AIMS AND ACTIONS

- 1 Develop the required knowledge, skills and competencies on SDI & EO within partner universities
- 2 Help introducing modern SDI & EO courses in engineering and agriculture/forestry studies
- 3 Implement supporting relevant vocational training programs
- 4 Help partner universities to support the development of SDI in their country
- 5 Promote a European approach to SDI & EO

### WP1 - PREPARATION

**T1.1** – Current status at partner universities

**T1.2** – Current status of learning material from program countries

**T1.3** – Requirement analysis

**T1.4** – Specification of project curriculum.

### WP2 - DEVELOPMENT

**T2.1** – Development of project curriculum

**T2.2** – Vocational education training courses development

**T2.3** – SDI & EO lab equipment purchase/ installation

**T2.4** – Training of teachers.

## SEED4NA PROJECT WORK PACKAGES

Work Package 1 - PREPARATION

Work Package 2 - DEVELOPMENT

Work Package 3 - DEVELOPMENT II

Work Package 4 - DISSEMINATION & EXPLOITATION

Work Package 5 - MANAGEMENT

Work Package 6 - QUALITY

## SEED4NA PROJECT PARTNERS

SEED4NA project partners are fourteen. They are presented in the following table.

European union (EU) countries	<b>P1</b>	KATHOLIEKE UNIVERSITEIT LEUVEN KULEUVEN, Leuven, Belgium
	<b>P2</b>	HOCHSCHULE BOCHUM (HSBO), Bochum, Germany
	<b>P3</b>	UNIVERSITEIT TWENTE (UT), Enschede, Netherlands
	<b>P4</b>	UNIVERSITY OF ZAGREB (UNIZG)– Faculty of Geodesy, Zagreb, Croatia
	<b>P5</b>	NOVOGITA B, Jonaker, Sweden
North Africa (NA) countries	<b>P6</b>	ALEXANDRIA UNIVERSITY (AU), Alexandria, Egypt
	<b>P7</b>	FAYOUM UNIVERSITY (FU), Fayoum, Egypt
	<b>P8</b>	IBN ZOHR UNIVERSITY (UIZ), Agadir, Mo- rocco
	<b>P9</b>	HASSAN II INSTITUTE OF AGRONOMY & VE- TERINARY MEDICINE (IAV), Rabat, Morocco
	<b>P10</b>	CARTHAGE UNIVERSITY (UCAR), Carthage, Tunisia
	<b>P11</b>	UNIVERSITY OF JENDOUBA (UJ), Jendouba, Tunisia
	<b>P12</b>	REGIONAL CENTER OF REMOTE SENSING OF NORTH AFRICA STATES (CRTEAN), Tunis, Tunisia
	<b>P13</b>	ORAN1 UNIVERSITY (UORAN1), Es Senia, Al- geria
	<b>P14</b>	UNIVERSITY OF SCIENCE AND TECHNOLO- GY HOUARI BOUMEDIENE (USTHB), Algiers, Algeria

### WP 3- DEVELOPMENT II

- T3.1** – Localisation of curriculum
- T3.2** – Implementation of local curricula
- T3.3** – Running courses to students
- T3.4** – Evaluation of implementation

### WP4 - DISSEMI- NATION & EXPLOITA- TION

- T4.1** – Development of a Communication and Dissemination plan
- T4.2** – Dissemination of project results
- T4.3** – VET courses execution
- T4.4** – Project exploitation and sustainability

### WP5 - MANAGEMENT

- T5.1** – Project management structure establishment
- T5.2** – Project coordination, administration and monitoring
- T5.3** – National stakeholder coordination

### WP6 - QUALITY

- T6.1** – Development of a Quality plan
- T6.2** – Evaluation of progress and results
- T6.3** – Monitoring success indicators.



## PRESENTATION OF EU PARTNERS

### KU LEUVEN

KATHOLIEKE UNIVERSITEIT LEUVEN (KU LEUVEN)  
Leuven, Belgium

KU Leuven ([www.kuleuven.be](http://www.kuleuven.be)) founded in 1425, is one of Europe's oldest universities. It is an institution for research and education with international appeal.

KU Leuven is dedicated to education and research in nearly all fields. Its fifteen faculties offer education, while research activities are organized by the departments and research groups. These faculties and departments, in turn, are clustered into three groups: Humanities and Social Sciences, Science, Engineering and Technology (SET), and Biomedical Sciences.



KU Leuven

*SEED4NA Project Office is established at KU Leuven, which is in charge for the overall management of the project, including all financial and administrative task and duties (T1.4, T3.4, WP5, T5.1 and T5.2).*

### GI and SDI Science & Technology at KU Leuven

#### **Research**

Departement of Earth & Environmental Sciences

#### **Research-based Education**

- Faculty of Bioscience Engineering -> MSc./

PhD Agro- and Ecosystems Engineering

- Faculty of Science -> MSc./PhD Geography

#### **Research based services to society**

- Spatial Applications Division Leuven (SADL)

- Public Governance Institute

### SADL

- SADL is one of the about 70 R&D divisions of the KU Leuven.

- Its mission is to transfer academic knowledge to society through policy support studies based on spatial analyses and the development of geo-ICT application and databases.

- SADL conducts applied research, offers consultancy and provides training in geomatics at large and GIS, SDI, EO and geo-ICT in particular.

### Public Governance Institute

- The KU Leuven Public Governance Institute is an internationally oriented and interdisciplinary research institute that focuses on different aspects of public governance.

- Both fundamental and applied research are part of their activities, with special attention for theory, empirical research and practice.

- As part of its research cluster on the management of information, performance and finance, the Institute is dealing with various aspects and challenges related to the use of geo-data for policies and (e-)service delivery.

## PRESENTATION OF NA PARTNERS



UNIVERSITY OF SCIENCE AND TECHNOLOGY HOUARI  
BOUMEDIENE (USTHB), Algiers, Algeria

The University of Science and Technology Houari Boumediene (USTHB/[www.usthb.dz](http://www.usthb.dz)) is located in Bab Ezzouar city, 15 km from Algiers, Algeria. The university was designed by Brazilian architect Oscar Niemeyer and was inaugurated in 1974.

USTHB is one of the largest university in Algeria with more than 50000 students and 3000 teachers. It has eight faculties: Mathematics, Physics, Chemistry, Biology Sciences, Civil Engineering, Electronics and Computer Science, Mechanical Engineering and Process Engineering, and Earth Sciences and Territorial Planning. On the plan of research, there are 52 laboratories activating in various fields.

USTHB collaborates with western universities. Agreements exist between the faculties and their counterpart in European union and other countries for the purpose of training and research. A number of Arab and African student receive grants to study in the USTHB. USTHB has participated in several European



Aerial image of USTHB ([www.usthb.dz](http://www.usthb.dz))

projects in TEMPUS program. It was the first Algerian establishment to coordinate an Erasmus+ project: [www.anlmed.com](http://www.anlmed.com).

Faculty of Electronics and Computer science, Faculty of Biology and Faculty of Earth Science and Territorial Planning of USTHB are involved in Erasmus+ SEED4NA project.

USTHB is the task lead of T4.2 in this project.

**SD/GI/EO Science at USTHB****Research**

Image Processing and Radiation lab., Faculty of Electronics and Computer Science

**Research-based Education****Faculty of Biology Sciences:**

- ◆ MSc. ⇒ Plant Ecology and Environment
- ◆ MSc. ⇒ Biological Oceanography and Marine Environment
- ◆ MSc. ⇒ Ecosystem Protection
- ◆ MSc. ⇒ Bio-diversity and Plant Ecology

**Faculty of Earth Sciences and Territorial Planning:**

- ◆ MSc./PhD ⇒ Geophysics
- ◆ MSc./PhD ⇒ Geography and Territorial Planning

## SEED4NA PROJECT ACTIVITIES

*As all planned physical project meetings have been switched on virtual mode until further notice, it was considered interesting to organize more regular (bi-weekly/monthly) e-meetings to better inform the partners about the status of the different project activities.*

### Task 4.1 Development of a Communication and Dissemination Plan

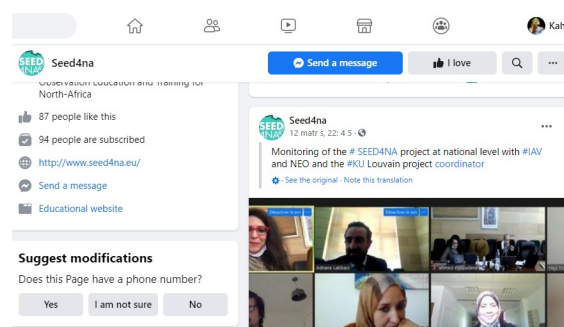
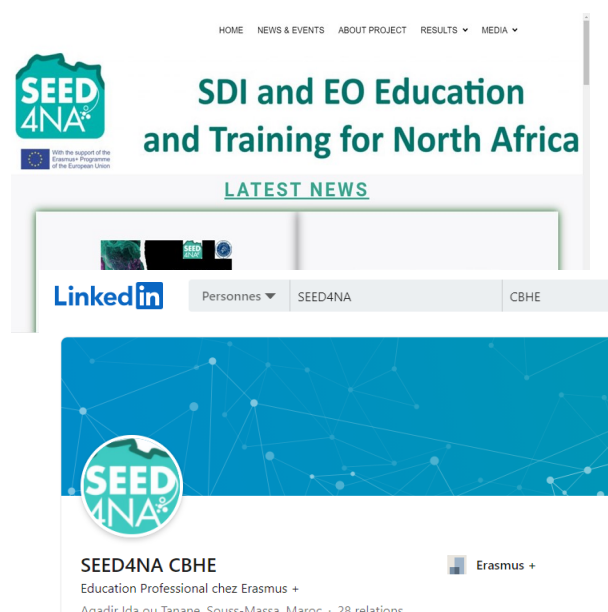


Two online progress meetings have been initiated by the task 4.1 leader (UNIZG) on April 27th, 2020 and May 11th, 2020, with other partners involved in this task (UIZ, IAV, UCAR, USTHB) to discuss the development of a communication and dissemination plan of the project.

First of all, in order to select a SEED4NA project logo, task group T4.1 has created a Google questionnaire with three logo proposals selected among seven received, and asked all partners to choose their preferred logo. The questionnaire was opened till June 18th, 2020. The vote result has been communicated on June 24th, 2020. Since then, the

winning logo is visible on all documents, presentations and dissemination tools related to the project.

Thereafter, materiel related to SEED4NA project visual identity, website and social networks has been successfully implemented by a team work from the UIZ partner. The project website is [www.seed4na.eu](http://www.seed4na.eu) where all information, latest news and events related to SEED4NA project are available.



Further, all activities and successes achieved in the next two years will be disseminated through the website as papers, newsletters and other media content.

SEED4NA project is also active on social networks: Facebook, Twitter, Linkedin and Instagram (@seed4na). By using social networks to disseminate project results, a largest number of students, teachers and stakeholders over NA and EU countries will follow the SEED4NA project progress during the next two years.

## SEED4NA PROJECT ACTIVITIES

### Task 1.3 Requirement Analysis

Requirement analysis related to national stakeholders in NA partners has been discussed many times during the organized project e-meetings.

A comprehensive questionnaire has been prepared by the T1.3 task group (FU) based on the previous experience gathered in the BESTSDI project. The purpose of this survey is to detect needs and expectations from representatives of main stakeholder groups: other HEIs, governmental institutions, business enterprises, professional associations, and users of SDI/EO data. For this purpose, the questionnaire has been disseminated to an identified list of stakeholders (50–100) asking them to reply to it.

In an effort to achieve a higher response rate, questionnaire has been provided bilingually (in English and French). The questionnaire was developed online (on Google) 1st October 2020. Latest statistics of requirement analysis questionnaire as of 25th January 2021, the type of interviewed stakeholder, and other results have been presented by Mahmoud A. Abdelfattah (FU) on WP1 results and findings e-meeting initiated by KULEveun and held on February 25th, 2021.

Based on the results and findings of this survey, existing courses in NA universities will be revised, and new courses on SDI, EO and related topics tailored to the identified needs and requirements will be developed.

*Number of interviewed stakeholder for each NA partner*

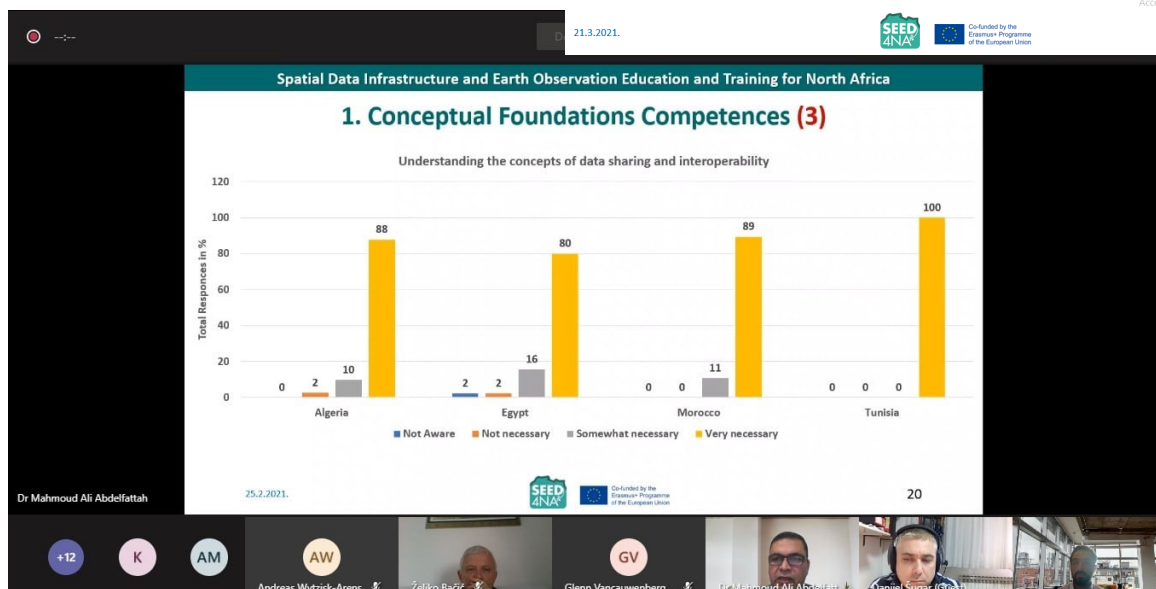
#### Spatial Data Infrastructure and Earth Observation Education and Training for North Africa

##### Latest statistics of requirement analysis questionnaire used for the analysis

Country/language	English questionnaire	French questionnaire	Total
Morocco	25	22	47
Egypt	45	0	45
Algeria	15	26	41
Tunisia	1	14	15
<b>Total</b>	<b>86</b>	<b>62</b>	<b>148</b>

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*An overview of M. A. Abdelfattah's presentation during the WP1 e-meeting, February 25th, 2021.*



## SEED4NA PROJECT ACTIVITIES

### Task 5.3 National Stakeholder Coordination

#### A Brief Survey of EO/GI in Algeria

On March 11th, 2021 a project coordinator initiated a 2nd monthly SEEDNA stakeholder engagement meeting mainly devoted to task 5.3 (National Stakeholder Coordination). During this e-meeting, Mejdî Kaddour (UORAN1), the task lead of T5.3, presented "*a brief survey of Earth observation (EO) and Geographic information (GI) in Algeria*".

After underlining that the main responsible institution of EO/GI data in Algeria is the National Council of Geographical Information (CNIG), M. Kaddour introduced the main national agencies related to EO/GI data such as National Institute of Mapping and Remote Sensing (INCT), Algerian Space Agency (ASAL), National Cadaster Agency and Research Center of Astronomy, Astrophysics

bal Geospatial Information Management: Arab states (UN-GGIM Arab states committee) of which Algeria is a member.

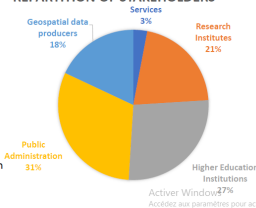
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#### Standardization Activities

- Committee of geospatial data standardization: members from IANOR (Institut Algérien de Normalisation) and CNIG (from march 2018)
- From 2018 to 2019: adoption of 35 ISO/TC 211 standards as Algerian standards

A survey was conducted on usage of standards among stakeholders: 51 responses

#### REPARTITION OF STAKEHOLDERS



[Source: Fethi Doukha, CNIG, Algerian experience in the standardization of geospatial information, seventh meeting of UN-GGIM Arab state committee, Algiers 2020]

M. Kaddour, UORAN1



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#### Overview(2) from M. Kaddour's presentation

In the second part on his talk, M. Kaddour focused both on Geospatial education/training and capacity building, and Geospatial research/development in Algeria. He also provided an overview of Algerian laboratories and research centers dealing with EO/GI.

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#### GI/EO in Academia

Institution	Curriculum
CTS	Engineer/Technician in Geomatics, Geodesy, remote sensing, spatial instrumentation
University of Setif 1, Institute of Architecture and Earth Sciences	MSc in Geomatics for architecture and urban planning
USTHB, Faculty of Earth Sciences and Land Management	MSc in Geomatics
University of Constantine, Faculty of Earth Sciences, Geography, and Land Management	BSc in Topography and Geomatics, MSc in Geomatics, MSc in Topography, Mapping and GIS
University of Tlemcen, Faculty of Earth Sciences and Geography	BSc in Topography and Geomatics, BSc. Geomatics for Urban Planning and Environment
University of Oran 2, Faculty of Earth Sciences and Geography	MSc in Geomatics

M. Kaddour, UORAN1



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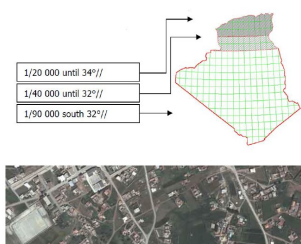
#### Overview(3) from M. Kaddour's presentation

Finally, expert recommendations concluded the presentation of M. Kaddour, among which we cite for example: "*enable the visibility and vulgarization of available GI data*", and "*strengthen cooperation and partnerships between institutions for exchange of experience and scientific expertise*".

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#### INCT: Aerial Photography

- Proper capacities for aerial missions : 2 Beechcraft KING AIR airplanes acquired in 1996 and 2011
- Very high resolution: 0.05 to 1.00m in RGB and near-infrared.
- Scales: 1/4000, 1/20 000; 1/40 000, 1/50 000, 1/60 000, 1/75 000



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M. Kaddour, UORAN1



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#### Overview(1) from M. Kaddour's presentation

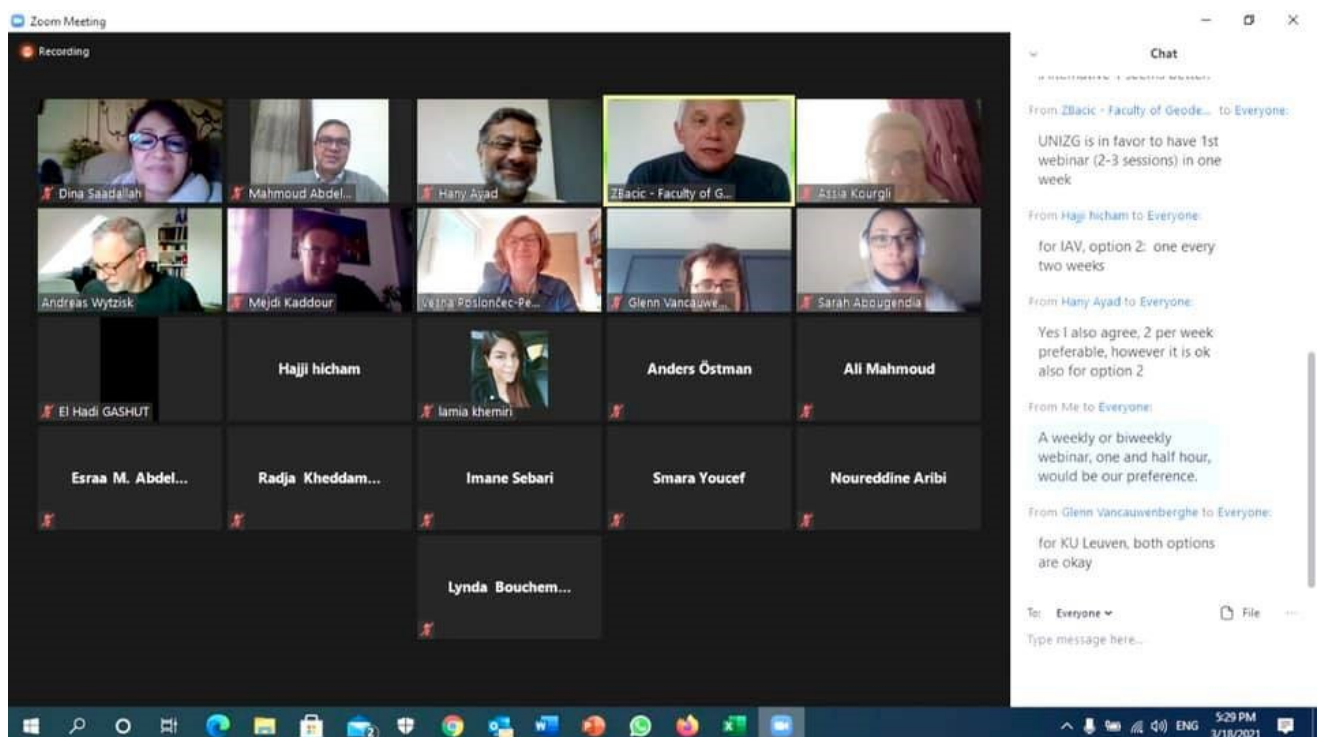
and Geophysics (CRAAG). Also, the presentation emphasized current initiatives of building a national SDI under the supervision of the CNIG starting from 2018. A first thematic layer providing geocoded addresses is planned to be deployed in 2021. After that, the standardization activities conducted by a committee of geospatial data standardization was presented followed by the activities of the United Nations Committee of Experts on Glo-

## SEED4NA PROJECT ACTIVITIES IN PROGRESS.....

The main ongoing project activities are related to WP2 (Development) and WP3 (Development II). To discuss the status of these activities, UNIZG (task lead of WP2) initiated the 4th WP2 & WP3 bi-weekly telcon on Thursday, March 18th 2021, and the agenda was:

1. Task 2.1 Curriculum design – completing information about courses to be introduced/updated (UNIZG)
2. Task 2.2 LLL courses design – Final content and release of survey (AU)
3. Task 2.3 Procurement of equipment – changes in status of tenders (FU)
4. Task 2.4 Training of teachers – Preparations for first two Pre-trainings (HSBO)

***Conclusions and decisions about these activities will be communicated in the next newsletter issue.***



*Joint photo of the 4th WP2 & WP3 bi-weekly telcon participants (March 18th, 2021)*

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**IMPRESSUM**

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