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D7.4.4 - High level capacity building seminars and events

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Work package / Task:

WP7 Capacity Building and Dissemination

Task 7.5 – High level capacity building seminars and events

Short Description:

This report contains, for each event organised in the last period of the project (01/01/22021- 30/06/2022), the announcement, the Agenda, the audience a and the main outcomes of the event.

Keywords:

Awareness, dissemination, communication, seminar

Dissemination Level		
PU	Public	X
RE	Restricted to other programme participants (including Commission services and project reviewers)	
CO	Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)	

Revision History:

Revision	Date	Author(s)	Status	Description
0.1	01/12/2021	Silvia Gorni (GISIG)	1st draft	Draft
0.2	25/05/2022	Silvia Gorni (GISIG)		Updated with the events
0.5	20/06/2022	Silvia Gorni (GISIG)		Added partners contributions
1.0	22/06/2022	Silvia Gorni (GISIG)	Ready for the QA	Sent to the evaluators
1.1	28/06/2022	Roderic Molina (GISIG)	Revision after QA	Revision based on the quality evaluation comments and suggestions
2.0	30/06/2022	Silvia Gorni (GISIG)		Final version

Executive Summary

This report deals with the organisation of EO4GEO seminars/workshops with the aim to raise awareness and disseminate the project results. This issue is the 4th and final annual instalment of the deliverable D7.4 (reporting on Task 7.5 - High level capacity building seminars and events) and has as main objective the description of the EO4GEO activities performed and events organised in 2021 and in the first half of 2022.

Due to the COVID crisis, 2020 had not many occasions for the organisation of EO4GEO events (as reported in D7.4.3), so most of the foreseen events for that period were postponed. On the other hand, the last phase of the project was a very prolific period in terms of dissemination and promotional events. This report describes the announcements, the agenda and the main outcomes of a total of 16 events. A link to a dedicated page in the project website collecting the proceedings and downloadable materials for each event is available. In the Annex, the list the organisations to which the participants belong to and (whenever available) the results of the satisfaction questionnaires filled in by the attendees.

Of these 16 events, 13 were workshops in the context of important European meetings/conferences where EO4GEO project results were presented by different project partners. The other 3 were “High level capacity building workshops” organized by the project partner Nereus in the context of task 7.5.

Most of these events were virtual (online event) specially during 2021, while the rest were meetings in person with remotely connected guests. Being organized mostly virtually, more people had the opportunity to join the events. This was especially significant for the NEREUS regional events: The Azores, Podkarpackie, and Mazovia workshops.

In total, more than 880 people attended the 9 events organized during 2021 while more than 430 people attended the events organized in 2022. Attendees were mostly from universities, regional administrations, space organisations, companies, EU institutions, and research centres.

It is noteworthy that the events organized during 2021 and 2022 had the opportunity to present to the audience the results of the project, especially regarding the proposed online tools based on the Body of Knowledge and the final catalogue of developed training materials.

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Acronyms

Acronym	Description
EU	European Union
EACEA	Education, Audiovisual and Culture Executive Agency
ICT	Information and Communication Technologies
EO*GI	Earth Observation/Geospatial Information
ESA	European Space Agency
LPS	Living Planet Symposium
BoK	Body of Knowledge
OGC	Open Geospatial Consortium
API	Application Programming Interface
DG GROW	Directorate-General or Internal Market, Industry, Entrepreneurship and SMEs
DG EMPL	Directorate-General for Employment, Social Affairs and Inclusion
DG AGRI	Directorate-General for Agriculture and Rural Development
DG CLIMA	Directorate-General for Climate Action
CNES	Centre national d'études spatiales
LRAs	Local and Regional Authorities
SSS	Sector Skills Strategy
PAs	Public administrations
SMEs	Small and medium-sized enterprises

Glossary

Body of Knowledge (BoK) is the complete set of concepts and relations between them, that make up a professional domain, (in this case EO*GI BoK) and the related learning outcomes as defined by the relevant learned society or a professional association.

Education, Audiovisual and Culture Executive Agency (EACEA) manages funding for education, culture, audiovisual, sport, citizenship and volunteering.

Geographic Information (GI) is the data of a geographic location combined with non-spatial information (e.g. statistical data) and their representation as a map.

Information and communication technologies (ICT) are the infrastructure and components that enable modern computing.

Small and medium-sized enterprises (SMEs) are enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

1. Introduction

1.1. Introduction to EO4GEO

EO4GEO is an **Erasmus+ Sector Skills Alliance** gathering **25 partners from 13 EU countries**, most of which are part of the **Copernicus Academy Network**. Be they from academia, public or private sector, they are all active in the education and training fields of the space / geospatial sector. The project is also supported by a strong group of Associated Partners mostly consisting of associations or networks active in space/geospatial domain. The project started on January 1st, 2018, upon approval by the EU Education, Audiovisual and Culture Executive Agency (EACEA) and runs over four years.

EO4GEO **aims to help bridging the skills gap in the space/geospatial sector** by creating a strong alliance of players from the sector/community reinforcing the existing ecosystem and **fostering the uptake and integration of space/geospatial data and services**. EO4GEO works in a **multi- and interdisciplinary** way and applies innovative solutions for its education and training actions including: case-based and collaborative learning scenarios; learning-while-doing in a living lab environment; on-the-job training; co-creation of knowledge, skills and competencies; etc.

EO4GEO defines a long-term and sustainable strategy to fill the gap between supply of and demand for space/geospatial education and training taking into account the current and expected technological and non-technological developments in the space/geospatial and related sectors (e.g. ICT).

The strategy is implemented by: creating and maintaining an ontology-based Body of Knowledge for the space/geospatial sector based on previous efforts; developing and integrating a dynamic collaborative platform with associated tools; designing and developing a series of curricula and a rich portfolio of training modules directly usable in the context of Copernicus and other relevant programmes and conducting a series of training actions for a selected set of scenario's in three sub-sectors - integrated applications, smart cities and climate change to test and validate the approach. Finally a long-term Action Plan will be developed and endorsed to roll-out and sustain the proposed solutions

For more information on the project please visit http://www.eo4geo.eu/about-eo4geo/.

1.2. Objectives of the Work Package

In order to build a **long-term and sustainable strategy** to fill the gap between the supply of and demand for space/geospatial education and training, several actions have been foreseen which imply a progressive strategy to foster the visibility of the project itself in order to engage with specific target audiences. This Work Package includes the definition of an overall approach to Communication and Dissemination, with capacity-building activities as a key element for the dissemination of the project results and community engagement.

Community-building and consolidation is fundamental for pursuing the long-term objectives, i.e. the sustainability of the project results after its conclusion. This particular item of the strategy has been developed in close relationship with the coordinator of WP6. The basis for such sustainability started from the beginning of the project with the awareness raising activities and be consolidated throughout the project.

The work package aims at:

- **Raising awareness** on the uses of EO*GI data and information;
- **Attracting** new stakeholders interested in using EO*GI data;
- **Building capacity** to foster user uptake of Copernicus-based products and services in three sub sectors;
- **Consolidating** the EO4GEO community to build a sustainable long-term strategy;
- **Reach out** to the selected and profiled target groups and raise their awareness and understanding on the uses of EO*GI data and information;
- **Foster the dialogue** between the training/education and the space/geospatial sector and help to build a community;
- **Build a strong EO4GEO brand** which will contribute to the overall Copernicus brand identity and strengthen the recognition of the long-term Action Plan;
- **Identify and establish potential collaboration mechanisms** between the education/training and the space/geospatial industry.

The overall perspective was to **promote the EO4GEO strategy for skills development in different contexts**, towards the target groups addressed by the project dissemination. This has been done by paying attention to the specific skills and knowledge needed for the implementation of the Space Strategy for Europe.

This is a **horizontally supporting work package** that ran along the whole project duration. It was crucial as it ensures that the specific objectives and deliverables of the project have an effective outreach during the project life-time. It required that the consortium partners provide input for profiling the target groups and contribute to the dissemination activities in order to maximise outreach.

1.3. Objectives of the Task 7.5

This task deals with the organisation of 5 High-level Capacity Building events, focused to specific sectors and in relation with the best-tuned exploitation of the different learning contents produced. The High level Capacity Building Seminars are considered as internal events directly organised by the Consortium under the lead of task leader NEREUS. These seminars will be focused to specific sectors and in relation with the best-tuned exploitation of the different learning contents produced. They will be organized and structured on the basis of the gap analysis and the profile of each target audience, looking into innovative formats while adopting inter- and multidisciplinary approaches.

It is noteworthy the fact that it was decided to report also in D7.4 deliverables the results of other EO4GEO seminars/workshops organised besides well-known sectorial events in the technical sector of the project at European and National level, with the aim to raise awareness and disseminate project objectives and preliminary results to a wide target audience.

The first version of deliverable D7.4 (D7.4.1) was focused on the description of the High Level Capacity Building seminars planned for 2019. It also reported on the EO4GEO workshop at INSPIRE Conference 2018.

The second version of the deliverable (D7.4.2) reported on the first two EO4GEO High level capacity building events: The Online workshop organized by NEREUS in Nouvelle-Aquitaine, France the 07-08 October 2019 and the EO4GEO regional roll-out at the committee of the regions held the 24 October 2019 in Brussels. It also reports on the concepts for the 2 high level capacity-building workshops for 2020 and on other EO4GEO events and conferences organized during in 2019.

The third version of the deliverable (D7.4.3) delivered at the beginning of 2021 does not report on any new High Level Capacity Building seminars due to the postponed activities during the pandemic. However, it reported on two major online events have been organized during 2020. Therefore, this report just proposed the concepts for the final 3 high level capacity-building workshops postponed for 2021.

1.4. Purpose and structure of this document

The purpose of the deliverable D7.4.4 is to describe, for each event organised in 2021 and 2022, the announcement, the agenda, and whenever under the control of the EO4GEO organisation, the number of participants and the organisations they come from, and the main outcomes of the event.

The deliverable is organised in two parts: the first one (Section 2) includes the results of the last 3 High-Level Capacity Building seminars organised by NEREUS during the reporting period, while the second part (Section 3) includes the results of the EO4GEO events (directly organised or not by the Consortium) in the context of important sectoral Conferences/events, for the reported period.

2. EO4GEO High level capacity building workshops in 2021

In the frame of the EO4GEO project, NEREUS was responsible for the organization of 5 high-level capacity building seminars (Task 7.5) focused on specific sectors and in relation to the best-tuned exploitation of the different learning contents produced.

NEREUS proposed the concepts for the 3 high level capacity-building workshops for 2020, however due to the pandemic, the workshops in The Azores and in Poland were postponed for 2021. The aim of these seminars was double: on the one hand, they aimed at presenting the Sector Skills Strategy with strategic stakeholders. On the other hand, the objective was to gather input with a view to the Long-Term Action Plan and overall sustainability of the Blueprint Alliance.

In line with the network's mission to ensure a regional dimension to the project's objectives, the first workshop had to investigate the cross-sector impact of space data use in the region of the Azores. The strong maritime sector of the region gave the opportunity to the local community to discuss transversal future skills together with experts that have brought concrete experiences of the value of design thinking, creativity and soft skills.

The second and third workshops targeted to the Polish community: the first one has been organized in the Region of Podkarpackie, the second one in Mazovia region, targeted to the university community- students and academia. The first objective was to present the Sector Skills Strategy to a Polish audience and gather input from the Polish business community.

The following subsections are dedicated to each of the seminars in the context of Task 7.5 organized during 2021.

*2.1. EO*GI skills development in the Azorean coastal and maritime sector*

Date: July 2, 2021

Type of event: Online workshop

Title: EO4GEO- Skills development in Earth Observation and Copernicus User Uptake: the present and future of Coastal and Maritime sector- The Azorean case

Objectives

The objective of the workshop was to identify the current and future needs of EO*GI skills in coastal/maritime economic activities for the Azores and explore how the EO4GEOs solution can fit into the needs of LRAs, academia, companies, and other maritime stakeholders. In a nutshell, the webinar had the overall objective to promote the EO4GEO sector skills alliance and its tools towards the Member regions and universities but also to get their views on the initiative. The workshop aimed at:

- Raise awareness on the EO4GEO initiative to relevant stakeholder communities;
- Promotion of the EO4GEO tools to the Azorean audience;
- Identify current and future needs of EO products/services and human resources in ICZM (Integrated Coastal Zone Management), MSP (Marine Spatial Planning) and coastal/marine economic activities for the Azorean landscape;
- Local capacity building at regional and academic level;
- Feed-back from the Azorean EO-Marine community on the EO4GEO initiative

Participants

More than 60 participants (out of 169 registered participants) had the chance to follow the discussion and interact with high-level speakers and the EO4GEO Alliance across Europe from universities, regional administrations, space organisations, companies, EU institutions, research centres.

See Annex I for details.

Agenda

- Welcome by the Rector of University of the Azores Prof. João Luís Gaspar and Prof. Gabriela Queiroz (Vice-Rector)
- Short Introduction on the workshop's objectives by Roya Ayazi, NEREUS Secretary General and Francisco Wallenstein, The Azores region
- The integration of EO4GEO tools in The Azorean maritime ecosystem: presentations and discussion by Margarita Chrysaki, NEREUS Communication/Project officer
- Current and future EO*GI skills needed in the Azorean coastal and maritime sector (round table discussion) moderated by Margarita Chrysaki (NEREUS) & Artur Gil, (University of The Azores)
- Views by LRAs:
  a) "Current state of Marine Spatial Planning (MSP) activities in the Azores: identified needs of EO products, services and workforce" by Pedro das Neves, Regional Director of Sea Affairs;
  b) Testimonies by Antoni Jez (Podkarpackie region, PL) and Adam Sieczka (Mazovia region, PL) (NEREUS regions) that will host the next EO4GEO workshops
- Views by the Academia: "Local and regional education: new developments on the training material based on needs of the future EO*GI workforce" Ana Martins, Professor at the Ocean and Fisheries Department / OKEANOS R&D group,
- Views by the private sector: "Fostering the Azorean business ecosystem: Employers' challenges to find the right EO*GI profile in the coastal/maritime sector" by Pedro Freire da Silva, CTO of the EO Lab at Air Centre
- Case based scenarios: capacity building in using marine platforms until the final product by Marine EO specialist, Fábio Vieira, DRCT
- Discussion
- EO4GEO Solutions: Presentation and discussion BoK tools and EO tools supporting Copernicus education and training (discussion and interaction with the audience): Introduction by Margarita Chrysaki
- BoK tools by Rob Lemmens (University of Twente), Aida Monfort Muriach (Universitat Jaume I), Florian Albrecht (University of Salzburg)

- The EO4GEO Body of Knowledge and its content for Marine applications (Florian Albrecht)
- Editing BoK concepts in the Living TextBook (Rob Lemmens)
- Designing a Marine related course with Curriculum Design Tool (Aida Monfort Muriach)
- Defining a job offer using Job Offer Tool (Aida Monfort Muriach)
- Using BoK Matching Tool to find most suitable matches between job offers and curricula (Aida Monfort Muriach)

- EO tools by VITO (interaction with sentinel data, tools) by Hande Erdem, Vito Technologies
  - A visual introduction to the most relevant Copernicus datasets
  - Exploratory analysis toolset
  - Advanced use case demonstration
- Discussion with participants and conclusion (to participate in the discussion and evaluate the tools for the needs of your organization, we strongly advise you to test them in prior as it is described in the last page of the document)
- Hands-on session
  - BoK tools (Florian Albrecht)
  - EO tools (Advanced users: cases in Jupyter notebook) (Hande Erdem)
- End of the workshop

Proceedings:

http://www.eo4geo.eu/eo-gi-skills-development-in-the-azorean-coastal-and-maritime-sector/

Outcomes and impact

Key points of the presentations

The workshop was divided into two parts: in the first part of the workshop Professor GabrielQueiroz, the Vice-rector of the University of The Azores addressed the workshop and Mr. Francisco Wallenstein from the regional government introduced the region's space activities. Some of the following points had been particularly highlighted:

- the important role of regions and Public Authorities to link space with territorial and regional development challenges, address their needs and maximise the social, economic and environmental impact and contribute to the growth at a local and regional level by using Copernicus;
- Earth Observation and Copernicus play a key role in the growth of maritime activities, therefore education/training is necessary for a well-equipped workforce;
- It was emphasized that regions need to be also updated and to participate in the development of an appropriate educational framework that will provide the right skills and competencies for the future development of human resources;
- The ocean and its resources, agriculture and tourism are key strategic areas for the Regional Government of Azores, and so is the development of satellite technologies' applications with the aim to meet the economic and social needs of the Region's citizens and public administration. The Azores is a member of the Copernicus Relay network, in close collaboration with the Azores University as a member of the Copernicus Academy network. Further, the region is very active in several marine projects that promote the use of Copernicus, such as Marine EO, Copernicus in info sessions, Copernicus4regions and many others.

Next, 4 representatives from Academia, LRAs, Industry, and other maritime initiatives gave an overview of the current and future working skills needed for the Coastal/Marine Earth Observation's activities in the Azores.

The workshop was strongly supported by the regional government/regional administration of the Azores whose Regional Director of Sea Affairs, Mr. Pedro das Neves, gave a committed intervention and contributed to mobilize representatives from the public sector. He particularly stressed that the environmental topics and legal instruments are applied in the Azores (supported by MSP & sectoral policies): Coastal zone planning & management; Assessment of marine environmental status (MSFD, WFD, Habitats and Birds Directives, EIA); Natural resources management & sustainable blue economy; Nature conservation (MPA, restrictions to fisheries); Support to monitoring & surveillance of the maritime space. Given that the region promotes the sustainable use of its resources, EO products and services are key. He identified the following current and future needs in maritime activities: High spatial and temporal resolution data to deliver accurate and reliable outputs at priority maritime zones; Free and ready-to-use data to support conservation and marine management policies; Human, technical and financial resources needed; Need for validation from in situ data infrastructure and applications for satellite remote sensing, including very high resolution

Synthetic Aperture Radar (ex. oceanographic characterization, environmental monitoring, climate & seasonal forecasting).

The next 2 EO4GEO workshops will be hosted by the Polish regions in autumn 2021. Mr Adam Sieczka (Mazovia region) and Mr Antoni Jez (Podkaparckie region) who will host an EO4GEO workshop in their region shared their experiences and expectations with the audience. Both regions have a strong space industry, academia as well as an ESA BIC located in Podkaparckie. On this basis, they outlined the importance of the know-how of the EO data. In particular, the use of Copernicus from the local governments, universities and companies comes along with the provision of tools and educational material to better equip the future workforce with the relevant soft and hard skills. As a result, there is a great interest to organise the workshops in their regions to inform their user communities about the tools developed in the EO4GEO project and establish contacts with experts.

Professor Ana Martins from the University of the Azores gave an overview of the training programmes related to the Earth Observation, such as Satellite oceanography and others implemented under the Erasmus+ framework. She also outlined the important role of academia in collaborating with the private sector in view of new trends in the Earth observation sector. To quote just a few, the following EO topics are of great interest to the Azorean ecosystem: Ocean, productivity and space-time variability, relations to climate change and variability, marine pollution, development of new algorithms. Finally, Professor Martins referred to the necessity to raise awareness about the potential of the Earth Observation and Copernicus not only to the Public Authorities but also to the general public;

Mr Pedro Freire da Silva, CTO of the EO Lab at Air Centre represented the views of the industry emphasizing the employers' challenges to find the right EO*GI profile in the coastal/maritime sector. The EO Lab is a dedicated unit of the AIR Centre, located in the TERINOV Technological Park (Terceira island, Azores) and is established as ESA_LAB@Azores, a laboratory to set-up an institutional link between academia, high-tech enterprises, research institutions and European Space Agency to explore innovative applications of space technologies of observation in the Atlantic area. ESA_LAB@Azores activities also aim amongst others to attract and educate young and talented people to get involved in an accelerated space for creation, innovation and joint ventures. Taking stock from the above, he highlighted the following challenges regarding the human resources in Earth Observation: a) job post writing with an emphasis on the balance between required skills, b) EO related skills such as machine learning, aquaculture and programming skills and tools, c) training

on specific EO topics, etc. Further, he mentioned a few of the barriers that Earth Observation products meet to reach the market: a) lack of EO at sufficient temporal, spatial and spectral resolution, and at an appropriate cost, to address challenges in developing countries, b) complexity of accessing, storing and manipulating EO for non-experts, due to the technical skills and computing infrastructure required, c) lack of understanding of what types of EO can be produced and what are the benefits of its use, d) lack of experience of how to use this source of information and a 'champion' to promote its use and e) lack of the capabilities existing locally in the developing countries to produce and deliver these types of information operationally from EO, and support users in its uptake.

Mr. Fábio Vieira, (DRCT) from his experience as a Marine EO specialist, has identified amongst others the need for EO*GI skills in the Azores administration as there is a lack of human resources in these domains. Therefore, he outlined that projects such as EO4GEO and Marine EO benefit the use of EO products/tools in The Azores and empower a new generation of users (academia, public sector, private companies) with the right combinations of hard and soft skills.

In the second part of the webinar the EO4GEO partners (Rob Lemmens from Twente University, Aida Monfort Muriach from Universitat Jaume I, Florian Albrecht from the University of Salzburg and Hande Erdem from Vito technologies) presented with concrete examples the tools to the participants using marine related concepts, namely: the Bok, occupational profile tool, job offer tool, BoK matching tool and the Living Text Book. Further, a hands-on session for the BoK and EO tools took place to engage the audience with the use of these solutions and initiate the dialogue with the speakers and participants. Some positive feedback came from Professor Martins who expressed her interest to use all these tools together with her students and ensure the update on the EO4GEO solution to her university.

Outcomes- Final Remarks

After the presentation of the tools, member regions had the opportunity to discuss with the developers what is the lack of skills in the Earth observation/Geoinformation activities of their organisations; to what extent the proposed online tools and training materials fit their expectations; how to use the tools in their specific cases and policies; evaluate which are the specific tools that might correspond to the specific cases mentioned by PAs and how they could make the best out of them. To this end, the following points were highlighted by most of the participants:

- Considering the resource limitations of the Azorean public administration and given that the monitoring obligations are a competence of the local authorities, it is encouraged to develop low cost Copernicus based products and highly effective methods of Earth Observation. Moreover, the use and conservation of the maritime space, as well as its legal requirements of exploration and monitoring, is a true barrier for the local communities. For this reason, EO*GI skills expertise is needed in the areas of coastal management, the development of dynamic modelling tools, based also on remote sensing data and the mitigation of the effects of climate change.
- Each sector –Public Administration, Academia and private- plays a distinct but complementary role in the uptake of Copernicus to better tackle this challenge. The EO4GEO solution is expected to support this uptake by developing innovative approaches and tools for the needs of these sectors.

Feedback from the participants

18 feedback questionnaires were collected. The webinar was mainly attended by participants from the university. As main motivation for participating in the event, the attendance expressed their interest in having more information on the Copernicus topic. The majority of the participants evaluated very positively the organisational aspects of the event. Also, the content was very well received.

Overall grading of the webinar (from 1 (poor) to 5 (very good)) was of 4.5.

*2.2. Shaping the future workforce of the space / geospatial sector in Poland: EO*GI Skills needed & EO4GEO solutions - 1*

Date: 21st October 2021, Podkarpackie

Type of event: virtual workshop

Title: Tackling the needs of the Polish business community: an overview of EO4GEO tools

Objectives

The workshop has the overall objective to promote the EO4GEO sector skills alliance towards the relevant Polish business but also to get their views on the initiative. Thus, it will introduce the

participants to the EO4GEO sector skills alliance, present and debate the Sector Skills Strategy with particular focus on local and regional authorities and end users. In a nutshell:

- Identify the right EO*GI occupational profile for the Polish business community;
- Current and future needs in EO*GI educational training for business activities/administrations;
- Raise awareness on the EO4GEO initiative to relevant stakeholder communities;
- Promotion of the EO4GEO tools to the Polish audience;
- Feed-back from the Polish community on the EO4GEO SSS.

Participants

More than 120 registered participants had the chance to follow the discussion and interact with high-level speakers and the EO4GEO Alliance across Europe from universities, regional administrations, space organisations, companies, EU institutions, research centres.

See Annex I for details.

Agenda

- Welcome by Podkarpackie region by Anna Huk – Member of the Board of the Podkarpackie Region
- Short Introduction on the workshop's objectives by Roya Ayazi, NEREUS Secretary General
- Short Introduction on the EO4GEO project & tools by Margarita Chrysaki, Comm/Project officer (NEREUS)
- Current status of EO*GI sector in the business community: new developments, challenges and solutions
    - Testimony by The Azores region that hosted an EO4GEO workshop in 2021 by Professor Ana Martins, The University of The Azores
    - A presentation of the space/geospatial business activities in region: new trends and technological developments by Podkarpackie regional representatives by Mr. Jacek Kubrak – CEO of the Podkarpackie Innovation Centre

- Meeting the needs of the public and private sector: exploring the know-how of EO*GI data in Poland:

- Current and future skills needed for a business to remain competitive in the changing market/economy views by the private sector, the regional authorities and the academia;
    - Mr Jakub Dzik – Vice-Director of Security and Crisis Management Department of Podkarpackie Voivodship Office
    - Mr Jakub Ryzenko - Head of Crisis Information Centre, SRC PAS
    - Michał Pilecki- Polish Space Agency
    - Mr Kamil Obłodecki - Exatel (communication technologies)
    - Mateusz Maślanka - Business Development Lead in Poland, Satim company
    - Prof. Andrzej Majka, Head of the Department of Aerospace Engineering, Rzeszów University of Technology

- EO4GEO Solutions: Presentation (discussion and interaction with the audience)

- Introduction;

- BoK tools by Rob Lemmens (University of Twente), Aida Monfort Muriach (Universitat Jaume I), Florian Albrecht (University of Salzburg)
    - The EO4GEO Body of Knowledge and its content for applications in agriculture, forestry and regional planning
    - Editing BoK concepts in the Living TextBook
    - Defining a job offer using Job Offer Tool
    - Using BoK Matching Tool to find most suitable matches between job offers and curricula

- EO tools by VITO (interaction with sentinel data, tools) by Hande Erdem (VITO)
    - A visual introduction to the most relevant Copernicus datasets and derived products
    - Exploratory analysis toolset
    - Data processing tools

- Discussion with participants and conclusion

Proceedings:

http://www.eo4geo.eu/eo4geo-high-level-capacity-building-workshop-podkarpackie-mazovia/

Outcomes and impact

Key points of the presentations

The workshop was divided into two parts: in the first part of the workshop Ms Anna Huk, Member of the Board of the Podkarpackie Region, from the side of the regional government addressed the workshop and introduced the region's space activities as well as the need for activities regarding skills capacity building. Moving on some of the following points had been particularly highlighted on what are the current and future working skills needed for the business activities in Poland. Key stakeholders from Academia, LRAs, Industry, and the Polish Space Agency gave an overview of the current and future working skills needed for the Earth Observation/Geo-Information activities at a regional and national level shared with the audience:

Mr. Jacek Kubrak (CEO of the Podkarpackie Innovation Centre, Mr Jakub Dzik (Vice-Director of Security and Crisis Management Department of Podkarpackie Voivodship Office), and Mr Jakub Ryzenko (Head of Crisis Information Centre, SRC PAS) emphasized that the use of EO data and GIS solutions in crises management situation such as flooding is of particular importance to the regional and local authorities in Poland. The USeEO Project funded by ESA serves as an example to develop and validate a set of customized EO derived information products to support the different stakeholders working in the resilience sector in Poland, and verify the utility and benefits resulting from the use of these products;

Mr Michał Pilecki from the Polish Space Agency highlighted that the Sat4Envi project focused on building capabilities of public administration. Through the project implementation, data from Copernicus and other missions are accessible to Poland's public administration entities to be applied in their activities related to environmental protection, area development and planning, development of urbanization and transport networks, and to private entities to create commercial services. Moreover, as part of the National Satellite Information System, integration of satellite data currently dispersed within many entities (which will allow for the effective provision of services based on this data), and digitization of procedures, will reduce significantly regulatory and administrative burdens;

From the side of the business sector, Mr Kamil Obłodecki (Exatel communication technologies) and Mr. Mateusz Maślanka (Business Development Lead in Poland, Satim company) outlined the need

for R&D orientation & lack of product commercialization, stronger emphasis on business approach in space projects (based on market demands analyses);

From the side of Academia, Prof. Andrzej Majka (Head of the Department of Aerospace Engineering, Rzeszów University of Technology) identified skills, important in the process of EO*GI skills development of public and private sector staff, such as analysing business requirements; defining software architecture; providing technical documentation; creating data models; executing feasibility study; managing database; migrating existing data; operating relational database management system; performing (big) data analysis; administering ICT system, and reporting analysis results.

In the 2nd part of the workshop, the EO4GEO partners showcased to whom these tools and training material, namely: the Bok, occupational profile tool, job offer tool, BoK matching tool and the Living Text Book are addressed, how they can use them and what are the benefits.

Outcomes- Final Remarks

The main outcome of this first workshop was that common areas of competence & skills required for the business sector in the EO*GI are the following: photogrammetry, space data, processing, optical engineering, space mission planning, software development for space missions, consultancy related to space operations, Interdisciplinary skills, multitasking, ability to process information, problem solving skills, ability to process and display information. Overall, the EO4GEO tools were viewed positively for use by the Polish partners.

Feedback from the participants

21 feedback questionnaires were collected. The webinar was mainly attended by participants from the public administration (more than 50%). Most of the participants evaluated very positively the organisational aspects of the event (more than 90% rated it as “excellent”). Also the content was very well received.

Overall grading of the webinar (from 1 (poor) to 5 (very good)) was of 4.6.

*2.3. Shaping the future workforce of the space / geospatial sector in Poland: EO*GI Skills needed & EO4GEO solutions - 2*

Date: 22nd October 2021, Mazovia

Type of event: virtual workshop

Title: EO*GI skills development and capacity building in the Polish education

Objectives

The workshop has the overall objective to promote the EO4GEO sector skills alliance towards the relevant Polish academic community but also to get their views on the initiative. Thus it will introduce the participants to the EO4GEO sector skills alliance, present and debate the Sector Skills Strategy with particular focus on local and regional authorities and end users. In a nutshell:

- Identify the right EO*GI occupational profile for the Polish business community;
- Current and future needs in EO*GI educational training for business activities/ administrations;
- Raise awareness on the EO4GEO initiative to relevant stakeholder communities;
- Promotion of the EO4GEO tools to the Polish audience;
- Feed-back from the Polish community on the EO4GEO SSS.

Participants

More than 120 registered participants had the chance to follow the discussion and interact with high-level speakers and the EO4GEO Alliance across Europe from universities, regional administrations, space organisations, companies, EU institutions, research centres.

See Annex I for details.

Agenda

- Welcome by Mazovia region by Adam Struzik, Marshal of the Mazowieckie Voivodeship
- Short Introduction on the workshop’s objectives by Roya Ayazi, NEREUS Secretary General

- Short Introduction on the EO4GEO project & tools by Margarita Chrysaki, Comm/Project officer (NEREUS)
- Current status of EO*GI field in Academia: Science, Education and Training: Can the current education meet the new trends in EO*GI job market?
    - A presentation of the Earth Observation/Geoinformation training programmes/activities in Poland;
        - Sc.D., Ph.D. Eng. Piotr Wężyk associate professor of University of Agriculture in Krakow
        - Sc.D., Ph.D. Eng. Przemysław Kupidura, associate professor of Warsaw University of Technology
        - Kinga Gruszecka , Polish Space Agency
- Round table discussion with Academia and students on the skills gap between supply and demand of education and training in the EO*GI sector
- EO4GEO training offers By Eva-Maria Missoni-Steinbacher (University of Salzburg) and Markus Kerschbaumer (Spatial Services)
- EO4GEO Solutions: How students and professors can use the EO4GEO tools for their benefit (discussion and interaction with the audience)
- Hands-on session
    - EO4GEO Body of Knowledge tools by Rob Lemmens (University of Twente), Aida Monfort Muriach (Universitat Jaume I), Florian Albrecht (University of Salzburg)
    - EO tools
        - EO data processing using Jupyter Notebook and OpenEO Datacubes by Hande Erdem (VITO)
- Discussion with participants and conclusion

Proceedings:

http://www.eo4geo.eu/eo4geo-high-level-capacity-building-workshop-podkarpackie-mazovia/

Outcomes and impact

Key points of the presentations

The 2nd workshop was also divided into two parts: in the first part of the workshop Mr. Adam Struzik, Marshal of the Mazowieckie Voivodeship, from the side of the regional government addressed the workshop and introduced the region's space activities as well as the need for activities regarding skills capacity building. Next, some of the following points had been particularly highlighted on what are the current and future working skills needed for the educational activities in Poland. Key stakeholders from Academia, and the Polish Space Agency gave an overview of the current and future working skills needed for the Earth Observation/Geo-Information activities at a regional and national level shared with the audience:

Professors Piotr Wężyk (associate professor of the University of Agriculture in Krakow), and Przemysław Kupidura (associate professor of Warsaw University of Technology) gave an overview of the Earth Observation/Geoinformation training programmes in Poland and the structure of the courses on Remote Sensing / Geomatics / Photogrammetry. Moreover, they made a reference to the Sat4envi project focused on the preparation, organization and conducting of trainings for public administration relevant to a series of topics, such as Urban planning, Agriculture, Roads, Water management, Forestry, Environment, Emergency management, National heritage;

Ms Kinga Gruszecka from the Polish Space Agency referred to the Agency's educational in space technology, space career, and the participation of Polish entities in space missions and experiments, addressed to all age groups. In future terms, the Agency will develop GovSatCom on-line training based on the ENTRUSTED project efforts; trainings for public administration working with EO (stationary); Conferences enabling the exchange of experience and knowledge.

In the 2nd part of the workshop, the EO4GEO partners facilitated a hands-on session (EO4GEO Body of Knowledge tools by Rob Lemmens (University of Twente), Aida Monfort Muriach (Universitat Jaume I), Florian Albrecht (University of Salzburg)) and presented the EO tools: EO data processing using Jupyter Notebook and OpenEO Datacubes (Hande Erdem (VITO)). Further, they presented the new trends in the EO*GI job market and the EO4GEO approach to Training Offers.

Outcomes- Final Remarks

Following the presentation of the EO4GEO solution, a debate was facilitated by the organisers on how these educational tools can be incorporated into the institutions' working processes. Overall, the reaction from the regional government and academia was very positive towards these developments and underlined the need to continue and create similar initiatives. However, some of

them noted that a few of the tools such as The BoK Annotation Tool (BAT) and The BoK Matching Tool (BMT) are more challenging to understand and use them.

Feedback from the participants

7 feedback questionnaires were collected. Almost all the collected questionnaires came from people from the public administration (almost 70%). The rest were from private companies or SMEs.

All feedback questionnaires evaluated positively (good or excellent) the organisational and content aspects of the webinar.

Overall grading of the webinar (from 1 (poor) to 5 (very good)) was of 4.3.

3. Other EO4GEO events in 2021 and 2022

The final years of the project have been still marked by the impacting COVID crisis. However, the planned final three high-level seminars, postponed from 2020, finally have been organized in 2021, as reported in chapter 2.

In addition, in 2021-2022, 13 other EO4GEO events have been organised in the context of important European Conferences/events in the Spatial Information sector, where EO4GEO has been widely presented and discussed:

- Week of GI-Education for the Future
- EXPANDEO 2021
- AGILE 2021
- EARSeL
- ISPRA: Workshop: EO4GEO opportunities for Earth Observation and Geoinformation skills improvement
- Slovenian INSPIRE DAY
- Building SDI Education Curricula fit for the Future
- 10 Years of CTNA (National Technological Cluster of Aerospace)
- LIVING PLANET SYMPOSIUM 2022
- ISPRS Congress 2022
- AGILE 2022
- EXPANDEO 2022
- ASITA 2022

In the following sections of this chapter are presented the announcements, the number of participants, the agenda, the link(s) to the proceedings and the main outcomes of these events.

3.1. Week of GI-Education for the Future

Date: 25–28 January 2021

Type of event: Online

Title: The Week of Geospatial Information (GI)-Education for the Future

Objectives

The Week of GI-Education for the Future aimed to bring together teachers, experts, practitioners and students to present and discuss recent advances in GI-education and think about GI-education for the future. The Week of GI-Education for the Future highlighted the challenges and opportunities of GI-education in preparing the workforce of the future. Actors and organizations involved or interested in GI-education were invited to participate in this event to learn more about innovative practices, collaborative efforts and anticipating future skills needs, and to share their own experiences and thoughts on GI-education for the future.

The Week of GI-Education for the Future was organized within the framework of four Erasmus+ projects in the geospatial domain: EO4GEO – Towards an innovative strategy for skills development and capacity building in the space geoinformation sector (http://www.eo4geo.eu); GEOBIZ – Business driven problem-based learning for academic excellence in geoinformatics (http://geobiz.eu); SEED4NA – SDI and EO Education and Training for North Africa (http://seed4na.eu); and SPIDER – Open Spatial Data Infrastructure Education Network (https://sdispider.eu).

Participants

165 participants

Agenda

Session 1: Challenges and approaches for bringing higher education closer to market needs *(Monday 25 January)*

Speakers:

Maria Vittoria D'Inzeo (European Commission – DG Defence Industry and Space); Milva Carbonaro (GISIG – EO4GEO Project Coordinator); Željko Bačić (University of Zagreb – GEOBIZ Project Coordinator); Jan Schulze Althoff (Bochum University of Applied Sciences – SPIDER Project Coordinator); Glenn Vancauwenberghe (KU Leuven – SEED4NA Project Coordinator); Sven Casteleyn (Universidad Jaume I)

Session 2: New and innovative forms of business-academia cooperation in GI-education: a problem-based learning approach *(Tuesday 26 January)*

Speakers: Branko Bozic (University of Belgrade); Danny Vandenbroucke (KU Leuven); Ander Östman (Novogit); Mirza Ponjavić and Almir Karabegović (GAUSS); Andreas Wytzisk (Bochum University of Applied Sciences)

Session 3: Innovative and open methods in teaching and learning on GI and Spatial Data Infrastructures: from curriculum design to classroom implementation *(Wednesday 27 January)*

Speakers: Glenn Vancauwenberghe (KU Leuven); Hrvoje Tomić (University of Zagreb); Barbara Hofer (University of Salzburg); Tomáš Řezník (Masaryk University); Frederika Welle Donker (TU Delft); Niina Käyhkö (University of Turku)

Session 4: Innovative GI-education through collaboration in and between different parts of the world *(Thursday 28 January)*

Speakers: Joep Crompvoets and Markéta Potůčková (EuroSDR); Carlos Granell Canut (Universitat Jaume I); Mejdi Kaddour and Noureddine Aribi (University of Oran 1); Serena Coetzee (University of Pretoria); Ann Johnson and Nicole Ernst (GeoTech Center); Ali Mansourian (Lund University)

Anouncement page

http://www.eo4geo.eu/the-week-of-gi-education-for-the-future/

Proceedings:

http://www.eo4geo.eu/the-week-of-geospatial-information-gi-education-for-the-future/

Outcomes and impact

The Week of GI-Education for the Future resulted in an exchange of knowledge and experiences and enhanced alignment between four ongoing Erasmus+ projects in the field of geographic information. As a result of the event, experts from other projects participated in the revision of the EO4GEO Body of Knowledge, and other outputs of the EO4GEO project, such as the teaching materials and tools were used in the other projects.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.2. EXPANDEO 2021

Date: June 17, 2021

Type of event: Virtual (European Association of Remote Sensing Companies (EARSC) 's annual conference)

Title: EO4GEO session - "Balancing the skills between industry workforce and training"

Objectives

The European Earth observation and geographical information sector is growing rapidly, creating more business opportunities, and employing an increasing number of people. This development is driven by increasing investments in governmental space programmes to match with the continuous digitalisation of the economy and the effort towards sustainable growth as Earth observation and geographical information are crucial to address key societal challenges such as climate change, natural disasters, or border control. This rapid development results in an increased demand for qualified personnel to enable the growth of high value, innovative and knowledge-based businesses and adapt to challenging technological changes. However, recruiting a skilled workforce often comes with challenges such as:

- A discrepancy between the offer of training and education and the skills required by professional organisations, resulting in a lack of skilled workforce,
- The lack of a specialised training platform,
- The lack of information about EO*GI careers opportunities among students and youth...

The objective of this webinar was to highlight how the challenges in terms of skills and training in the Earth Observation and Geographic information (EO*GI) sector can be addressed. To this effect, several stakeholders from the EO*GI sector shared their experience about the needs and challenges to recruit a skilled workforce and continuously update the employees' skills. This high-level discussion has been followed by a demonstration of a set of tools designed to facilitate the way HR departments operate during the recruitment of a qualified workforce. The participants got insights about the EO*GI skills needs in Europe and how companies from different sizes address the topic. They also have learnt about how dedicated HR companies tackle the challenges related to the skills gap in the sector and about tools and initiatives tailored to facilitate the hiring process in various organisations types.

Participants

Not disclosed. EXPANDEO has >800 participants during the event session

Registered for the workshop were 100.

Agenda

Moderator: Dimitris Papadakis, Cofounder of Evenflow

- Setting the scene on Europe's skills needs in the EO*GI sector by Maria Vittoria D'inzeo, Policy Officer at DG DEFIS, European Commission
- Recruitment and skills challenges in a large company in the EO*GI sector by Nico Bernhard, Senior Recruiter from Planet
- Recruitment and skills challenges in a medium-sized company in the EO*GI sector by Ronan McEvoy, Operations Manager at Icon Group
- Perspective from an HR Company dedicated on space and geoinformation skills by Jason Maroothynaden, UK director from HE Space
- Live poll
- Panel discussions – All speakers
- A set of tools based on a Body of Knowledge to improve the recruitment process by Sven Casteleyn, Associate Professor at UJI
- Using the tools in a company to recruit a new employee, practical demo by Giacomo Martirano, CEO at EPSIT
- Live poll
- Open floor for questions to the speakers

Proceedings:

http://www.eo4geo.eu/expandeo-2021/

https://preview.inwink.com/earsc-expandeo-fire/session/0fcf800e-d8a9-eb11-94b3-501ac5921410

Outcomes and impact

Speakers discussed the strategic topic of skills development and addressed some of those challenges such as the increased demand for qualified personnel within the EO*GI sector to enable the growth of high value, innovative and knowledge-based services.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.3. AGILE 2021

Date: June 8, 2021

Type of event: Virtual (24th AGILE Conference 2021)

Title: Bodies of Knowledge - Using concept maps for teaching and knowledge sharing in Geo-information and Earth Observation with innovative web tools

Objectives

To introduce participants to the methodology of using concept maps, the EO4GEO Body of Knowledge (BoK) is demonstrated. In the workshop we showed and discussed the wide range of BoK-related applications, enabling and enhancing spatial-visual-conceptual navigation and learning from BoK content. We also invited participants as experts to improve the concepts in the BoK. The participants learned to create their own concept area and reuse existing concepts. In addition, they learned how to use the concepts in an ecosystem of web-based tools. The workshop was also used to (1) show concept-based teaching and (2) to discuss potential applications of the BoK, beyond profile, job and curriculum development, (e.g., in research and project applications) and (3) to explore different concept map visualisations.

Participants

15 AGILE conference visitors

Agenda

PLENARY

- An evolving Body of Knowledge for the EO*GI domain and how it could link to other vocabularies and BoK's (Danny Vandenbroucke -KU Leuven, SADL)
- Software Platform and Tools (Sven Casteleyn, UJI - Rob Lemmens, University of Twente)
- An interoperable framework for training (material) development – the example of the EO4GEO summer school (Barbara Hofer, Stefan Lang, Eva Missoni-Steinbacher – PLUS)

Teaching with the Living Textbook

- Learning from our Students via Learning Analytics
- Teaching and learning with the Living Textbook (Rob Lemmens, University of Twente)
- AGILE 2021 - EO4GEO - Living Textbook

The first (plenary) part of the workshop contained presentations and demos of the methodology. The second part provided tracks for hands-on experiences and discussions, with the options: (1) Teaching with the Living Textbook and using learning analytics, (2) Contribute to the EO4GEO BoK and use the EO4GEO ecosystem of tools, (3) Explore and discuss enhanced visualisations and structures of concept maps. Main points of discussion in the breakout sessions were shared in a final wrap-up round.

Proceedings:

http://www.eo4geo.eu/agile-conference-2021/

Outcomes and impact

This workshop focused on the creation and use of concept maps in teaching and applications of knowledge sharing in the domain of Geo-information and Earth Observation. It shared experiences with several open web-based tools, including the Living Textbook, developed by the University of Twente and other open tools developed by Universidad Jaime I within the EO4GEO project.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.4. EARSeL

Date: June 9, 2021 (online)

Type of event: 40th EARSeL Symposium 2021

Title: EARSeL EO Education workshop

Objectives

The EO Education workshop was focused on the current and future EO educational activities in Europe. The main aim of the workshop was to share experience and to stimulate discussion on the EO education future needs. The workshop was dedicated to everyone interested in Education, Training, Skills Development and Capacity Development in the Earth Observation and Geo-information sector. As part of the workshop, the participants were invited to join the interactive session: "Contribute to the EO4GEO Body of Knowledge - Enhancing content on image classification methods for monitoring the built environment". The session was dedicated to generating content for the Body of Knowledge (BoK), collaboratively. The focus was on describing skills for BoK concepts. People could acquire skills that represent their ability to apply knowledge and use know-how to complete tasks and solve problems. The skill description in the BoK are meant to be used as learning outcomes of training actions, as skill requirements in job offers, and as tasks of business processes.

Participants

Registered for the workshop: 72, participated around 60.

Agenda

- "EO4GEO Towards an innovative strategy for skills development and capacity building in the space geo-information sector supporting Copernicus user uptake"
    - Introduction to EO4GEO by Milva Carbonaro (*GISIG*)
    - Presentation of GeoInformation and Earth Observation Body of Knowledge (BoK) by Marc Olijslagers (*KU Leuven*)
    - BoK platform & tools by Sven Casteleyn (*Universitat Jaume I*), Rob Lemmens (*University of Twente*)
    - An interoperable framework for training development – the example of the EO4GEO summer school on Intelligent Earth Observation by Stefan Lang and Barbara Hofer (*University of Salzburg, Austria),* Maria Andrzejewsk and Zbigniew Szkop (*Grid Warsaw, Poland*)

- How to sustain and further develop skills for EO and GI: towards a Sector Skills Strategy in Action by Danny Vandenbroucke (*KU Leuven*), Monica Miguel Lago (*EARSC*) and Kevin Ramirez (*Climate-KIC*)

- "EO College – State of the art, lessons learned & roadmap for the next years" by Robert Eckardt, Nesrin Salepci, Kai Heckel, Carsten Pathe, *Friedrich-Schiller-University Jena, Germany*
  "Satellite imagery: use cases in teacher training", Olek Jasiak, *ESERO – Poland, Copernicus Science Centre*.
  Discussion over coffee
- HANDS-ON SESSION
- "From Space into the Classroom – Earth Observation and Space Missions Applied in a Curriculum-Oriented Way" Claudia Lindner, Andreas Rienow, *Ruhr University Bochum, Germany (45 min)*
  "EO tools: Introduction to data processing using OpenEO and Terrascope" by Hande Erdem, Jeroen Dries (*VITO*) and "EO4GEO Body of Knowledge (BoK) tools" by Sven Casteleyn, Aida Monfort (*Universitat Jaume I*) Rob Lemmens (*University of Twente*) *(50 min*
- *Part for EO experts to work on BoK concepts:*
  "Contribute to the EO4GEO Body of Knowledge – Enhancing content on image classification methods for monitoring the built environment" by Florian Albrecht (*PLUS*) / Markus Kerschbaumer and Kristyna Mechurova (*SPASE*)

Proceedings:

http://www.eo4geo.eu/earsel-eo-educationworkshop/

Outcomes and impact

The EO education resulted in an exchange of knowledge and experiences related to the EO educational activities in Europe. As a result of the event, the participants learned about the outcomes of the EO4GEO project such as the teaching materials and tools as well as participated in the revision of the EO4GEO Body of Knowledge. The main outcome was to share experience and to stimulate discussion on the EO education future needs.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.5. ISPRA: Workshop: EO4GEO opportunities for Earth Observation and Geoinformation skills improvement

Date: September 22, 2021

Type of event: Virtual

Title: EO4GEO opportunities for Earth Observation and Geoinformation skills improvement

Objectives

The objective of this workshop was to highlight how some of the current challenges in terms of skills and training in the Earth Observation and Geographic information (EO*GI) sector can be addressed using EO4GEO Tools and resources. To this effect, several stakeholders from the EO*GI sector shared their experience with resources on space-geoinformation, developed in the context of the EO4GEO Blueprint project. The project and its overall aims were presented along with demonstrations of real use-cases where the project's outputs were used to solve workforce challenges or support up-skilling.

Participants

The event was attended by 79 participants.

See Annex for more detail

Agenda

- *Welcome, Luca Guerrieri (ISPRA)*
- The EO4GEO approach to skill needs in the EO*GI sector, Milva Carbonaro (EO4GEO)
- The set of tools based on the Body of Knowledge, Sven Casteleyn(Universidad Jaime I)
- Using the EO4GEO training materials during an academic summer school, Barbara Hofer (University of Salzburg)
- *Live poll, Luca Guerrieri (ISPRA)*
- A training framework developed to facilitate up-skilling and re-skilling of local administration workforce (4regions), Valerio Tramutoli (University of Basilicata)
- *Live poll, Luca Guerrieri (ISPRA)*
- Using the tools in a company to recruit a new employee, practical demo, Giacomo Martirano (EPSIT)
- *Live poll, Luca Guerrieri (ISPRA)*

- *Open floor for questions to the speakers, Luca Guerrieri (ISPRA)*
- Recap and lesson learnt, Danny Vandenbroucke (EO4GEO)

Proceedings:

http://www.eo4geo.eu/eo4geo-opportunities-for-earth-observation-and-geoinformation-skills-improvement/

Outcomes and impact

The participants learn about tools tailored to set up learning paths and training materials, with practical examples devoted to train students and people entering the labour market, to re-skill and/or up-skill staff in public administrations and to facilitate the hiring process in private organisations. Additionally, participants get insights on the variety and richness of training that can be offered to their workforce. This is also an opportunity for training providers to understand how they can collaborate with the project and make use of the existing resources to develop their training offer.

Feedback from the participants

In total 25 participants responded on the questionnaire and the results of these evaluations were positive. Most participant were from the university/research domain. All participants rated very positively the organisational aspects (60%). Regarding the content and covered topics, 52% of the audience rated them with the highest grade. 72% of respondents considered the workshop useful and rated it as “very good” (5 in a scale from, 1 to 5)

3.6. Slovenian INSPIRE DAY

Date: November 16, 2021

Type of event: Online

Title: EO4GEO - INNOVATIVE GEO-EDUCATION

Objectives

- Presentation of the activities currently being carried out according to the INSPIRE directive
- Acquaintance with the experience and knowledge of spatial data managers
- Discussion of future challenges

- Discussion on the further development and implementation of the INSPIRE directive, in which direction the national spatial data infrastructure will be developed and what are the new perspectives for the use of INSPIRE
- Presentation of the EO4GEO project – improving the state and knowledge in the field of the use of geospatial information by providing freely accessible knowledge bases, tools and other materials
- Ensure long-term cooperation in the alliance by selecting appropriate institutions

Participants

The event was attended by 60 participants.

Agenda

- Login to the online event
- Introductory greetings (Georgi Bangiev, Director-General, Directorate for Spatial Planning, Construction and Housing, MOP; Tomaž Petek, Director General of the Surveying and Mapping Authority RS)
- NEW PERSPECTIVES INSPIRE TODAY AND TOMORROW
    - Are we ready for a common digital ecosystem for environment and sustainability? (Tomaž Petek, Director General of the Surveying and Mapping Authority RS)
    - INSPIRE in Slovenia (Uroš Mladenovič, Matej Sotlar, Surveying and Mapping Authority RS)
    - EuroGEO, Horizon Europe and the Environmental Observation Community (Jean Dusart, Environmental Observations Sector, Directorate-General for Research and Innovation, European Commission)
- Questions, debate
- SPATIAL INFORMATION MANAGEMENT EXPERIENCE
    - Presentation from the Slovenian Wather Agency (Urška Kušar, Slovenian Water Agency)
    - Nature conservation information system LIFE NarcIS (Rok Havliček, Slovenian Environment Agency)
    - The Location Interoperability Framework Observatory (LIFO): state of play and possible usages (Massimo Pedroli, Deloitte Consulting)
- Questions, debate

- EO4GEO – INOVATIVE GEO-EDUCATION
    - EO4GEO: a Sectoral Strategy for skills development in the Space Geoinformation sector (Carbonaro Milva (GISIG))
    - EO4GEO Training Actions – Hands on experience from the courses (Markus Kerschbaumer (SpaSe), Gabriele Leoni (ISPRA), Greger Lindberg (GIB), Andreas Kazantzidis (UPAT))
    - Environmental intelligence in Space and on Earth (dr. Domen Mongus (UM FERI), dr. Tomaž Rotovnik (Skylabs))
- Questions, debate
- CONCLUSIONS

Proceedings:

http://www.eo4geo.eu/slovenian-inspire-day/

http://www.geoportal.gov.si/slo/novice/392/7-inspire-dan

Outcomes and impact

During the presentations, the key contents of the EO4GEO project were presented. The implementation of the project strategy is based on an ontology-based Body of Knowledge, a set of BoK-based innovative tools, a series of curricula and a portfolio of training models, a series of learning actions and a Long-term Action Plan.

One of the important building blocks of the project are training actions which were carried out in three sub-sectors, Integrated Applications, Smart Cities and Climate Change. The contents of three training actions were presented, namely Landslide affecting Cultural Heritage, Urban heat islands and Air quality monitoring and management.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.7. Building SDI Education Curricula fit for the Future

Date: January 20, 2022

Type of event: Online Workshop

Title: Building SDI Education Curricula fit for the Future

Objectives

The workshop 'Building SDI Education Curricula fit for the Future' showcased two initiatives on supporting the design of education curricula dealing with Spatial Data Infrastructures (SDI) and related topics.

- The Open SDI Curriculum Toolkit developed by the SPIDER project aims to support trainers, teachers and students in developing and implementing curricula on SDI and/or open data in which learning outcomes, teaching and learning activities and assessment methods are fully aligned. The Toolkit provides an easy-to- use overview of well-developed learning outcomes and effective teaching and assessment methods for all core concepts of open SDIs.
- The Curriculum Design Tool (CDT) developed by the EO4GEO project allows users to create, edit and find educational offers in the field of Earth Observation and Geographic Information. The modularity of the tool allows to create educational offers at different levels of granularity, from an entire study program to a single lecture or lesson.

During the workshop, participants had the opportunity to explore and test both tools, which are both built around the core topics to be covered in current and future SDI Education. The identification and definition of these core concepts is strongly related to the ongoing development of a Body of Knowledge for the space/geospatial sector. During the workshop, ideas on and proposals for new concepts and associated learning outcomes were be presented to and reviewed by the participants

Participants

approximately 50 participants

Agenda

14:00 – 14:10 Welcome and introduction (Ali Mansourian – Lund University)

14:10 – 14:30 Introducing the SPIDER Open SDI Curriculum Toolkit (Carsten Keßler – Bochum University of Applied Sciences)

14:30 – 14:50 EO4GEO: Introduction of the EO*GI Body of Knowledge & Demonstration of the Curriculum Design Tool (Marc Olijslagers - KU Leuven & Sven Casteleyn - Universitat Jaume I)
14:50 – 15:20 Interactive session 1
15:20 – 15:30 Break
15:30 – 15:45 New and emerging topics in the SDI domain (Glenn Vancauwenberghe – KU Leuven)
14:45 – 16:15 Interactive session 2
16:15 – 16:30 Summary and next steps

Proceedings:

http://www.eo4geo.eu/building-sdi-education-curricula-fit-for-the-future/

Outcomes and impact

During the workshop, feedback was collected on the relevance and usability of both tools, as well as suggestions on how both tools could be further improved and how the integration between the two tools could be strengthened. The workshop also resulted in suggestions and proposals for new concepts to be included in the EO4GEO Body of Knowledge.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.8. 10 Years of CTNA (National Technological Cluster of Aerospace)

Date: May 6, 2022 , Tito (PZ) / Matera (Italy)

Type of event: meeting in person with some remotely connected guests

Title: 10 Years of CTNA (National Technological Cluster of Aerospace)

Objectives

The event was organized by the Lucanian Aerospace Cluster (CLAS ETS) to celebrate the 10th anniversary of the National Aerospace Technology Cluster (CTNA). The event was an important occasion for all the companies and research institutes of the Basilicata Aerospace System, which boasts internationally recognized skills both in the field of Earth Observation and Natural Risk

Mitigation and in the aeronautical sector, to share their experiences and enhance their commitment in the sector and to discuss what can still be done.

Participants

about 100-150 participants

Agenda

SALUTI

• Gelsomina Pappalardo - Direttore CNR/IMAA
• Ignazio Marcello Mancini - Rettore UNIBAS
• Vito Bardi - Presidente Regione Basilicata

SPAZIO E TERRITORIO TRA PASSATO, PRESENTE E FUTURO

• Cristina Leone - Presidente CTNA
• Docu-Video Gregory Alegi - “La storia dell’aerospazio in Italia”
• Antonio Colangelo - Presidente CLAS ETS
• Remo Pertica - Presidente Distretto Tecnologico Ligure SIIT
• Valerio Tramutoli - “Da SPACE4GLOBE a EO4GEO”
• Bruno Versini - COO e-Geos
• Massimo Comparini - CEO Thales Alenia Space Italia

Proceedings:

http://www.eo4geo.eu/10-years-of-ctna/

Outcomes and impact

Prof. Valerio Tramutoli discussed a presentation on the UNIBAS contribute to aerospace sector describing its past, present and future activities in terms of education/training and research. In this context he presented the EO4GEO project and its main goals with a greater emphasis on one of the main outputs of the project, the body of knowledge (BoK). The importance of this product was underlined by taking as an example its use in a real application such as the Summer School “Introduction to Satellite Remote Sensing” organized by UNIBAS and held in Potenza in June 2021. Together with the BoK, all the other tools developed within the project and based on it were presented and discussed. Once again the “call for experts” was shared and UNIBAS future activities based on EO4GEO outcomes were presented

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.9. LIVING PLANET SYMPOSIUM 2022

Date: May 26, 2022, Bonn (Germany)

Type of event: Special Session during LPS

Title: *Space Capacity Building in the XXI Century*

Chair: Dr Stefano Ferretti, ESA

Objectives

New technological advances as we face them in the boosting Earth observation sector require adequate skills to utilize and valorise the enormous potential residing in EO data, tools, and services for finding answers to the major societal challenges along with possible solutions. The schemas for leveraging capacity building and training activities are manifold; including formal education programmes adopting innovative training elements to multi-stakeholder engagement, involving citizens, regional actors and industry involvement; thus, turning mere 'users' to responsible actors in a co-creative process.

Participants

30 participants

Agenda

- Copernicus4regions - How interregional best-practice and knowledge sharing contributes to space capacity building > Roya Ayazi | NEREUS aisbl | Belgium
- Citizen science for assuring safe drinking water in a flood-affected region > Dr. Anas Abdul Aziz | CSIR - National Institute of Oceanography, Regional Centre Kochi | India
- Summer schools engaging mixed audiences – case-based training for the EO*GI sector > Prof. Dr. Stefan Lang | University of Salzburg | Austria
- The rise of public-private partnerships as a tool for sustainable development: Lessons learned from the NICFI Tropical Data Program > Pooja Pandey | Planet Labs

- Assessing Earth Observation maturity at country level > Eleftherios Mamais | Evenflow SRL | Belgium
- Stakeholders' engagement as a tool to foster capacity building in the New Space Economy > Alessandro Paravano | Politecnico di Milano | Italy

Proceedings:

https://express.converia.de/frontend/index.php?page_id=18446&v=List&do=15&day=3997&ses=20819#

Outcomes and impact

Making a strong case for innovative training activities embedded in joint initiatives such as the EO4GEO Alliance and the Pact for Skills in general, to stimulate the effective implementation of a multi-actor and inter-sectoral (academia / industry / authorities) capacity building model for space and related technologies in the rapid growing EO*GI domain.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.10. ISPRS Congress 2022

Date: June 6-11, 2022 - Nice (France)

Type of event: International conference

Title: International Society for Photogrammetry and Remote Sensing XXIV ISPRS Congress: "Imaging today, foreseeing tomorrow"

INTEGRATING CONCEPTS OF ARTIFICIAL INTELLIGENCE IN THE EO4GEO BODY OF KNOWLEDGE

R. Lemmens, S. Lang, F. Albrecht, E. Augustijn, C. Granell, M. Olijslagers, C. Pathe, C. Dubois, M. Stelmaszczuk-Górska

Objectives

The ISPRS Congress is the leading forum where classical and emergent topics related to photogrammetry, remote sensing, and spatial information sciences are discussed. It continues the unique tradition of gathering scientists, educators, and engineers from multiple domains and more than 100 countries. It promotes cross-fertilization between topics and communities, public and private sectors. Technical Sessions are the main core of the Scientific Program of the Congress. They correspond to a wide range of topics, which are incorporated in the present orientations of the five ISPRS Technical Commissions (TC) and all their Working Groups (WGs). One of the TC is ISPRS Commission 5 – Education and Outreach within which the session “ISPRS Scientific and Educational & Capacity Building Initiatives” is organized. Within this session as well as “Semantic approaches for processing data and SDSS”, the EO4GEO project was presented in the form of an oral presentation entitled “Integrating Concepts of Artificial Intelligence in the EO4GEO Body of Knowledge” presented by R. Lemmens (University Twente) and a poster and associated pre-recorded presentation entitled “Body of Knowledge for the Earth Observation and Geoinformation Sector – A Basis for Innovative Skills Development” presented by M. Stelmaszczuk-Górska (Friedrich Schiller University Jena).

Participants

130 participants

Agenda

7.06.2022, • Semantic approaches for processing data and SDSS • RISSO 7
Chair : M. MADDEN (University of Georgia), N. SPANNO (Politecnico di Torino)
In Context
• Integrating Concepts of Artificial Intelligence in the EO4GEO Body of Knowledge
> R. LEMMENS (University of Twente)

8.06.2022, • Poster Session 5 - 8th June - Poster 2020/2021 • BALCONY - AGORA 2 - ZONE A
• Body of Knowledge for the Earth Observation and Geoinformation Sector – A Basis for Innovative Skills Development
> M. STELMASZCZUK-GÓRSKA (Friedrich-Schiller University Jena)

Detailed agenda of the event is available at: https://www.isprs2022-nice.com/

Proceedings:

http://www.eo4geo.eu/isprs-congress-2022/

https://isprs2022.stream-up.tv/media-505-integrating-concepts-of-artificial-intelligence-in-the-eo4geo-body-of-knowledge

Both presentations were published also as scientific papers:
R. Lemmens, S. Lang, F. Albrecht, E. Augustijn, C. Granell, M. Olijslagers, C. Pathe, C. Dubois, M. Stelmaszczuk-Górska, 2022. Integrating Concepts of Artificial Intelligence in the EO4GEO Body of Knowledge, International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS Archives) (accepted).

Stelmaszczuk-Górska, M., A., Aguilar-Moreno, E., Casteleyn, S., Vandenbroucke, D., M. Miguel-Lago, Dubois, D., Lemmens, R., Vancauwenberghe, G., Olijslagers, M., Lang, S., Albrecht, F., Belgiu, M., Krieger, V., Jagdhuber, T., Fluhrer, A., Soja, M. J., Mouratidis, A., Persson, H. J., Colombo, R. & G. Masiello (2020): "Body of Knowledge for the Earth Observation and Geoinformation sector – A Basis for Innovative Skills Development", ISPRS Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences.

Outcomes an impact

Dissemination activities of the project work may result in joining new interested parties to the Network of the EO4GEO BoK Experts as well as the EO4GEO Alliance and the Pact for Skills, thus contributing to the effective implementation of the sectoral skills strategy.

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.11. AGILE 2022

Date: June 14-17, 2022 - Vilnius (Lithuania)

Type of event:

Title: Updating and using the EO4GEO Body of Knowledge for (AI) concept annotation

Objectives

The EO4GEO Body of Knowledge (BoK) serves as a vocabulary for the domain of geoinformation and earth observation, supporting the annotation of online resources. The paper presented how the BoK is designed, maintained and improved. We discussed how the BoK content can be extended, using the example of integrating artificial intelligence (AI) concepts and showed how annotation is done by adding persistent concept identifiers in the metadata of training materials. This platform allows us to share online information with clarified semantics. A prolonged use necessitates the incentivisation of an active expert community and a further adoption of infrastructure standards.

Participants

30 participants

Agenda

GI education, learning and training Chair: Darius Popovas

- *Updating and using the EO4GEO Body of Knowledge for (AI) concept annotation. (Rob Lemmens, Florian Albrecht, Stefan Lang, Sven Casteleyn, Martyna Stelmaszczuk-Górska, Marc Olijslagers, Mariana Belgiu, Carlos Granell, Ellen-Wien Augustijn, Carsten Pathe, Eva-Maria Missoni-Steinbacher and Aida Monfort Muriach.)*
- Showcase of Active Learning and Teaching Practices in Spatial Data Infrastructure (SDI) Education. (Frederika Welle Donker, Bastiaan Van Loenen, Carsten Keßler, Natalie Küppers, Mark Panek, Ali Mansourian, Pengxiang Zhao, Glenn Vancauwenberghe, Hrvoje Tomić and Karlo Kević.)
- Teaching geoinformatics: challenges and opportunities. (Evelyn Uuemaa and Alexander Kmoch.)
- The 5*S Community Education Project. (Conor Cahalane)

Proceedings:

https://doi.org/10.5194/agile-giss-3-44-2022

https://agile-giss.copernicus.org/articles/3/44/2022/agile-giss-3-44-2022.pdf

Outcomes and impact

The following paper was presented at the AGILE 2022 conference 14-17 June, Vilnius, Lithuania:

Lemmens, R., Albrecht, F., Lang, S., Casteleyn, S., Stelmaszczuk-Górska, M., Olijslagers, M., Belgiu, M., Granell, C., Augustijn, E.-W., Pathe, C., Missoni-Steinbacher, E.-M., and Monfort

Muriach, A.: Updating and using the EO4GEO Body of Knowledge for (AI) concept annotation, AGILE GIScience Ser., 3, 44, https://doi.org/10.5194/agile-giss-3-44-2022, 2022.

https://agile-giss.copernicus.org/articles/3/44/2022/

The paper was presented in a session on GI education, learning and training. The presentation resulted in a lively discussion in which the participants asked how the EO4GEO BoK was further maintained beyond the project. It was also discussed how experts have been participating in the creation of new concepts and how they collaborate. Further, the authors explained how the BoK makes use of standards and how it can be connected to other BoKs. The audience was generally impressed with the web interfaces through which the BoK is accessible (Living Textbook and BoK platform and ecosystem of tools).

Feedback from the participants

For this event no feedback forms were distributed among the participants

3.12. EXPANDEO 2022

Date: June 14-15, 2022, Brussels (Belgium) & online

Type of event: (European Association of Remote Sensing Companies (EARSC) 's annual conference)

Title: EO4GEO participated at the session "Getting there" – Developing the necessary capacity among different stakeholders

Objectives

EXPANDEO, the European Association of Remote Sensing Companies Annual Conference is the event where the European Earth Observation companies get the chance to learn about different market opportunities in different sectors while growing their business through networking and other interactive sessions. This year EXPANDEO had the great pleasure to host the FIRE Forum 2022 again!

The **FIRE Forum 2022** brought together key representatives from six user communities key sectors – agriculture, energy, infrastructure, marine, raw materials and urban development, EO service

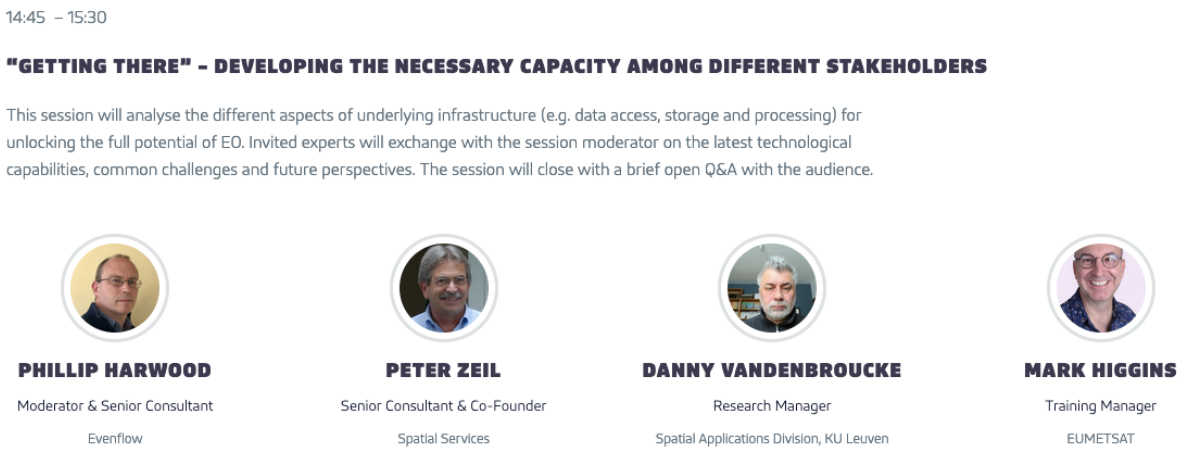
providers and institutional actors to discuss the “Now and Tomorrow” of Earth Observation in Europe. Discussions were based upon findings from the first and second round of FIRE Focus Group events, as well as the first FIRE Forum which took place last June 2021.

Participants

Not disclosed EXPANDEO reached aprox 500 participants in Brussels and online during the two days event

Agenda

This session analysed the different aspects of underlying infrastructure (e.g. data access, storage and processing) for unlocking the full potential of EO. Invited experts exchanged with the session moderator on the latest technological capabilities, common challenges and future perspectives. The session ended with a brief open Q&A with the audience.



Proceedings:

https://expandeo.earsc.org/

EXPANDEO & the FIRE Forum 2022: 6 Developing the necessary capacity among different stakeholders

Outcomes and impact

This session highlighted key dimensions of capacity building an essential aspect when considering the optimal uptake of EO in the different FIRE sectors. The session moderator discussed with invited

experts on topics such as institutional capacity, skills availability in the workforce and best practices from recent projects.

Speakers:

- Peter Zeil, Senior Consultant & Co-Founder, Spatial Services
- Danny Vandenbroucke, Research Manager, Spatial Applications Division, KU Leuven
- Mark Higgins, Training Manager, EUMETSAT

Feedback from the participants For this event no feedback forms were distributed among the participants

3.13. ASITA2022

Date: June 21, 2022, Genoa (Italy)

Type of event: hybrid event (in Italian)

Title: Space Economy and Blue Growth: verso l'applicazione dei dati satellitari all'economia del mare e alla crescita blu (Space Economy and Blue Growth: towards the application of satellite data to the sea economy and blue growth)

Objectives

The Space Economy refers to the value chain that, starting from research, development and deployment of enabling space infrastructures, leads to the generation of innovative products and services and represents one of the most promising development trajectories of the world economy for the coming decades.

The Genoa Blue District fulfils the mission of supporting Genoa's vocation as a leader in the blue economy by dynamising the convergence between local processes and scientific, technical and entrepreneurial resources for the creation of skills, research, technology transfer, green and digital-driven innovation in the blue economy.

This workshop was proposed by the Blue District and the GISIG Association, with the aim of presenting to the Geo-information and Earth Observation community the results of the EO4GEO project and examples of significant studies and applications realised by organisations, companies

and research institutes, with the aim of stimulating discussion and the sharing of ideas and proposals on possible applications of Copernicus data and services in the blue economy, blue growth and coastal zone management and related training needs.

Participants

42 participants, in presence or online (see Annex for details)

Agenda

- Una strategia condivisa per lo sviluppo delle competenze nel campo dell'Osservazione della Terra e dell'Informazione Geografica: la proposta dell'Alleanza EO4GEO (Milva Carbonaro, GISIG)
- Le nuove opportunità di business legate alla Space Economy (Anilkumar D. Dave, Space Economy advisor)
- Verso il servizio di ground motion nazionale nel Piano della Space Economy: applicazioni in ambito costiero (Luca Guerrieri, Gabriele Leoni, ISPRA)
- Programmi satellitari e applicazioni in ambito costiero (Laura Candela, Agenzia Spaziale Italiana)
- Indicatori e analytics dall'osservazione della Terra per la crescita blu: casi d'uso (Massimo Zotti, Planetek Italia s.r.l.)
- Open standard for data-driven space economy (Lanfranco Marasso, Engineering Ingegneria Informatica S.p.A.)
- Impiego di immagini satellitari Sentinel-2 per la derivazione delle batimetrie costiere in Liguria (Lorenza Apicella, CNR-IMATI)
- Space Economy nell'ecosistema dei Poli per l'innovazione regionale (SIIT, TICASS/Polo EASS, DLTM)

Proceedings:

http://www.eo4geo.eu/space-economy-and-blue-growth-workshop/

Including presentations, video of the sessions and interviews to some of the speakers

Outcomes and impact

During the workshop, the key contents of the EO4GEO project were presented, together with examples of application in different application areas.

Important keywords of the Workshop have been: the Space Economy and the development and opportunities at European level; the skills and competences considered as key factors for the development of the Space Economy; the strategic combination of Space Economy and Blue Economy at national level; the spill-over effects on the territory from the European dimension to the national and regional dimension.

Feedback from the participants

12 feedback questionnaires were collected. Half of the participants that filled in the questionnaire were from the private sector. Most of them rated positively the organisational aspects (58%) even if the workshop had technical issues at some points. Regarding the content, expertise of the speakers and covered topics, the workshop was evaluated positively. The participants expressed their interest to follow the EO4GEO activities and results.

4. Conclusions

The year 2021 has been still characterised by the COVID crisis, that had significant impact on face-to-face events. The dissemination actions of the EO4GEO project were also still affected, and all the workshops have been held in remote mode. The three high level seminars organised by NEREUS in The Azores and in Poland also took place online. In 2022 it was possible to return to a kind of normality, organising events in presence or in a hybrid way.

In 2021, the EO4GEO project has been widely presented in the three seminars in The Azores and in Poland and in six other online events.

More than 880 people attended these events, addressed to stakeholders from the EO*GI sector; teachers, experts, practitioners and students; everyone interested in Education, Training, Skills Development and Capacity Development in the Earth Observation and Geo-information sector; LRAs, academia, companies, and other maritime stakeholders; the business community; the academic community.

In 2022, the EO4GEO project has been widely presented in seven other events in presence (or hybrid).

More than 430 people attended these events, addressed to trainers, teachers and students; companies and research institutes of the Aerospace System; citizens, regional actors and industry; scientists, educators, and engineers; key representatives from user communities key sectors – agriculture, energy, infrastructure, marine, raw materials and urban development, EO service providers and institutional actors; Geo-information and Earth Observation community.

The overall events results can be summarized as following:

- an exchange of knowledge and experiences and enhanced alignment between four ongoing Erasmus+ projects in the field of geographic information.
- outputs of the EO4GEO project, such as the teaching materials and tools are used in other projects.
- share of experience about the needs and challenges to recruit a skilled workforce and continuously update the employees' skills.
- a demonstration of a set of tools designed to facilitate the way HR departments operate during the recruitment of a qualified workforce.
- to share experience and to stimulate discussion on the EO education future needs.
- the participants learned about the outcomes of the EO4GEO project such as the teaching materials and tools as well as participated in the revision of the EO4GEO Body of Knowledge.
- an opportunity for training providers to understand how they can collaborate with the project and make use of the existing resources to develop their training offer
- feedback was collected on the relevance and usability of the tools, as well as suggestions on how the tools could be further improved
- suggestions and proposals for new concepts to be included in the EO4GEO Body of Knowledge.

Regarding the 3 High level capacity building events, the organisation of the NEREUS regional events/workshops contributed significantly to the discussion on capacity building, skills development and further action at regional and local levels. Firstly, regions had the chance to learn from each other, cooperate, and share best practices in the education/training sector for the EO*GI sectors. Secondly, a pooling of resources amongst regions helped them also to identify the weaknesses and strengths regarding the uptake of the EO*GI data and the needed workforce resources/skills to

advance their daily work. Thirdly, through the events' presentations, regional partners were motivated and inspired to look into model projects and define and refine educational strategies to build other projects (e.g. INTERREG projects) with the objective to continue the EO4GEO legacy.

Another point to be highlighted is that given the pandemic, the last three workshops were organised virtually. As a result, more participants had the chance to follow the presentation and interact with the experts, and most importantly test the tools as most of the project activities concerning the implementation of the tools were almost finalised. The Azores, Podkarpackie, and Mazovia are regions with a strong space programme and strategy, including the development of many educational programmes and courses related to the Earth Observation/Geoinformation sectors. However, the main challenge is to address the right people within the administration to mobilise resources for the uptake of Copernicus and provide them with training based on the topics of priority for their region. From the side of the industry, the EO4GEO solution is expected to support this uptake and interdisciplinarity by developing and updating continuously innovative approaches and tools for their business processes. One of the key approaches to the lack of skills on the uptake of Copernicus is a strong cooperation and complementary amongst the Public and Private sectors, and academia. Consequently, the key role of training initiatives such as the EO4GEO is to continue to raise awareness at all levels for the better use of Copernicus and the advancement of EO*GI soft and hard skills.

As final remarks, at the end of the project we can say to be fully satisfied about the targets reached for the set of indicators established for Task 7.5 at the beginning of the project to measure the success of dissemination activities, as it is demonstrated by the numbers collected, also from previous deliverables, detailed in the table below:

Indicator	**Target**	**Achieved**
Number of participants (Number of attendees in EO4GEO events)	50 x event	94 (2728 participants in 29 events from the beginning of the project)
Number of seminars and events	2 x year (6)	29 events in total
Feedback from participants.	80 % satisfied	75 % satisfaction for the final year(s))

ANNEX I – Participants and quality evaluation statistics

First part of the Annex is dedicated to the evaluation questionnaires received from the 3 high level capacity building seminars. The second part is related to the rest of events participated or organized by EO4GEO where feedback satisfaction questionnaires were distributed.

High level capacity building seminar:
EO*GI skills development in the Azorean coastal and maritime sector

(ref. chapter 2.1)

Participants

N.	Organisation
1-2	Açores
3	Africa
4-9	AIR Centre
10	Atlantic International Research Centre
11	Azores
12	Azores Govermnent
13	Azores Mission Structure for Space
14	Azores University
15	Brandenburg
16	Brittany Region
17-18	Ca' Foscari University of Venice
19	Calivian Essential Paint
20	Câmara Municipal de Sesimbra
21	CEMIE-Oceano
22	Central University of Rajasthan
23	Centro de Biotecnologia dos Açores
24	CIIMAR
25	Consultor
26	CROGIS
27	Department of Geoinformatics, University of Salzburg
28	Dept. Oceanography and Fisheries / University of the Azores
29	DGF
30	Direção Regional dos Recursos Florestais
31	Dirección General Marítima

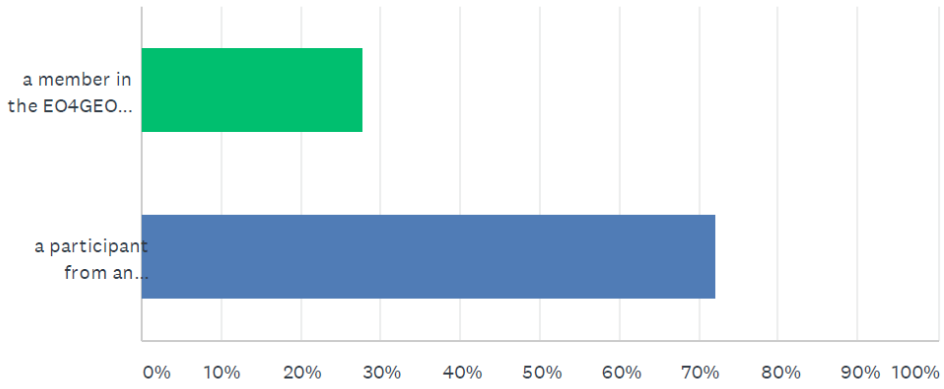
32	Dominion University Ibadan
33	DRAM
34	DROTe/Government
35	DRRF-GRA
36	Education sector
37	EFCA
38	EIT Climate-KIC
39	Enschede
40	EU
41	EUSPA - European Space Programme Agency
42	Faculdade de Ciências da Universidade de Lisboa
43	Faculdade de Ciências da Universidade do Porto
44	Faculty of Geodesy University of Zagreb
45	Faial
46	FAO PERU
47	FCT
48	FCUP
49	Federal University of Rio de Janeiro
50	Fiji Locally Managed Marine Area Network (FLMMA)
51-52	Freelance
53	G B Pant National Institute of Himalayan Environment Almora India
54-55	Georg-August-Universität Göttingen
56	GISIG
57	gopa infra
58	Governorate
59	Greater Accra (AA)
60	Head
61	IHCantabria
62-63	IIT KHARAGPUR, India
64-65	IMAR/OKEANOS - Universidade dos Açores
66	Independant
67	Independent Consultant/Nepal
68-69	India
70	Institute of Marine Sciences, University of Chittagong, Bangladesh
71	Instituto de investigação em vulcanologia e avaliação de riscos
72	IUE
73	IUM
74	IVAR - Instituto de Investigação em Vulcanologia e Avaliação de Riscos

75-77	Kerala State Disaster Management Authority
78	Köln University of Applied Sciences
79	Labgeo
80	Laboratório Nacional de Energia e Geologia, I.P.
81	LAMCE/COPPE/UFRJ
82-86	LNEG - Laboratório Nacional de Energia e Geologia
87-90	Marshal Office of Mazowieckie Voivodeship
91	Maynooth University
92	Michigan State University
93	Minesto
94	Nanjing university
95	National Centre for GeoComputation, Maynooth University, Ireland
96	National Chung Cheng University
97	National laboratory of Energy and Geology
98	National Research Council - Institute for applied mathematics and information technologies
99	NCSCM
100-103	no company
104	NUIG
105	Oceanic sounds&soudings. Technical services to defy challenges and sensing the pelagos
106	Okeanos
107-108	Pacific Blue Foundation
109	Partnership for Observation of the Global Ocean
110	Pedro Resendes
111-112	Planetek
113	Podkarpackie Region
114	Ponta Delgada
115-116	Portugal
117-118	Portugal Space
119	Regional Fund for Science and Technology
120	Regione del veneto sede di Bruxelles
121-122	Regione Veneto
123	Satellogic
124	Self employed
125	Sfax
126-127	Simbiente Açores Lda; Cibio/Inbio Açores
128-130	Spatial Services
131	SRAAC-DROTE
132	Taipei

133	Tanta University
134	TEKEVER
135	Telangana
135	TUN
137-138	UAç/CBA/Ponta Delgada
139	Uc
140	UFRN/RN
141	Universidad de Alicante
142	Universidad Nacional Federico VIllarreal
143-144	Universidade do Algarve
145-153	Universidade dos Açores
154	Universidade Federal do Rio de janeiro
155	Università degli Studi di Milano Bicocca
156-158	University of Antioquia
159	University of Basilicata
160	University of Bremen
161	University of Coimbra
162	University of the Aegean
163	University of Tolima
164	University of Trento
165	University of Twente - ITC
166	Vito
167	WAVE
168	WSB University
169	wuhan university

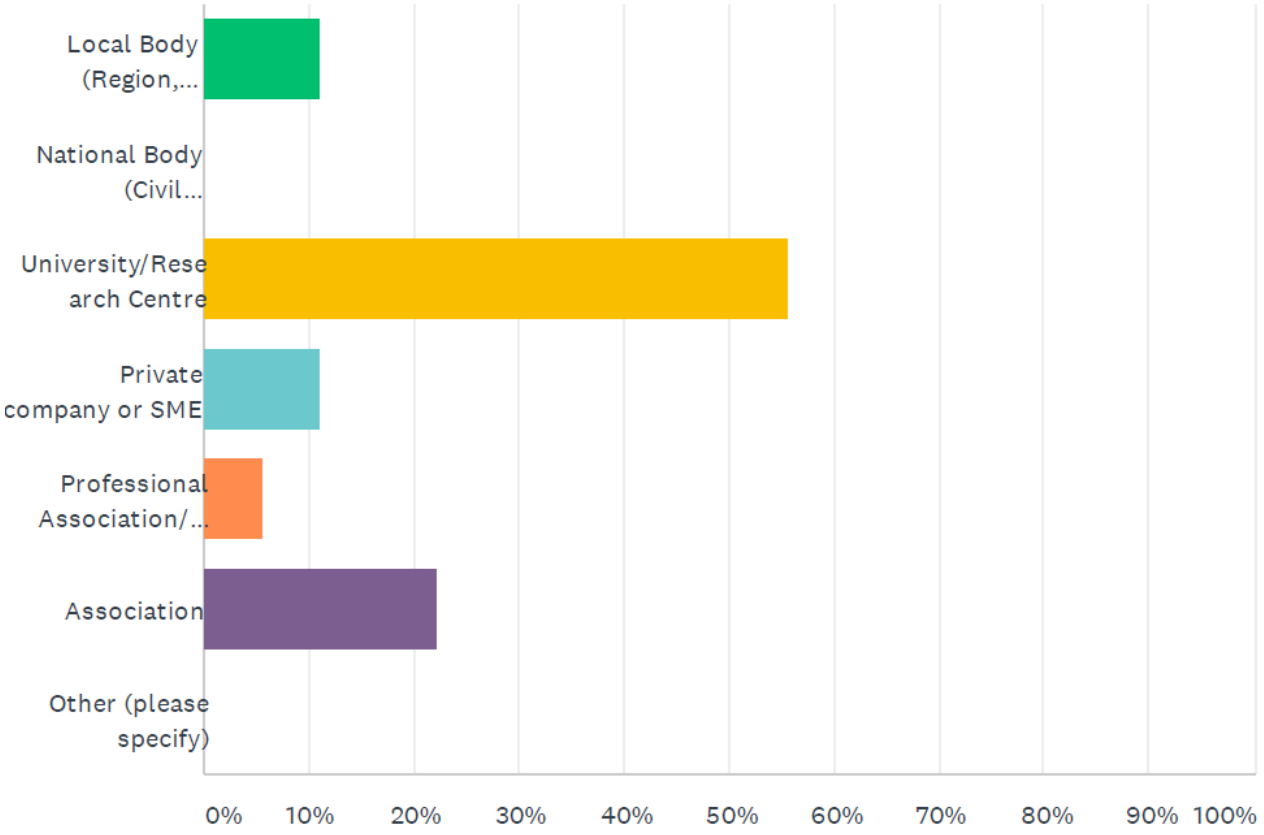
Quality evaluation

You are:



ANSWER CHOICES	RESPONSES
a member in the EO4GEO Consortium	27.78%
a participant from an organisation not involved in EO4GEO Consortium	72.22%

If (2), select the category that better fits with you



ANSWER CHOICES	RESPONSES
Local Body (Region, Province, Municipality, Regional Env. Agency...)	11.11%
National Body (Civil Protection...)	0.00%
University/Research Centre	55.56%
Private company or SME	11.11%
Professional Association/Professional	5.56%
Association	22.22%
Other (please specify)	0.00%

What is your motivation to take part in this WEBINAR?

	RESPONSES
	To network and learn more
	Researcher in the field of EO/GI
	Get better knowledge of EO and its community in the Azores
	Organiser
	Learn how to monitor ocean data
	Estou a desenvolver trabalhos nesta área (principiante)
	My great interest in being able to learn more about Earth sciences, reinforce knowledge that I did not know much yet and above all learn more about geographic information tools such as EO4GEO
	Part of Copernicus relay programme at Ireland
	I am currently conducting research on the mapping of HABs and this webiner will serve as an introduction to this scope
	Member of NEREUS interested in promoting the use of EO in education
	Interested in the topics
	Earning knowledge and skill.
	Research
	For regional planing and monitoring

Organizational aspects (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL
1 – Organisation of the webinar on behalf of the organising institution (e.g. registration platform, contact with the organizer, proper communication about training details)	0.00% 0	0.00% 0	11.11% 2	38.89% 7	50.00% 9	18
2- Functionality of used conference tool and software (video, sound, other technical aspects, ...)	0.00% 0	5.56% 1	0.00% 0	50.00% 9	44.44% 8	18
3- Possibility to exchange and interact with the speakers and other participants	0.00% 0	0.00% 0	22.22% 4	27.78% 5	50.00% 9	18
4 – Do you have any suggestions or recommendations for improvements of organizational aspects?	15.38% 2	15.38% 2	15.38% 2	15.38% 2	38.46% 5	13

General structure and content of the webinar (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
5- In my opinion the structure of the webinar was logical and well organized	5.56% 1	5.56% 1	0.00% 0	44.44% 8	44.44% 8	18	4.17
6 – Interest and relevance of the covered topics	0.00% 0	11.11% 2	11.11% 2	33.33% 6	44.44% 8	18	4.11
7 - Expertise of the speakers	0.00% 0	5.56% 1	5.56% 1	22.22% 4	66.67% 12	18	4.50
8 - Clarity of the speakers in presenting their contents	0.00% 0	0.00% 0	0.00% 0	55.56% 10	44.44% 8	18	4.44
9 – Usefulness of the webinar for your work/activities	0.00% 0	5.56% 1	16.67% 3	22.22% 4	55.56% 10	18	4.28
10- The webinar met my expectations	5.56% 1	0.00% 0	11.11% 2	27.78% 5	55.56% 10	18	4.28

Expected impact of the EO4GEO project (.From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
11 – The EO4GEO project will probably contribute to career development in your organisation	11.11% 2	0.00% 0	22.22% 4	27.78% 5	38.89% 7	18	3.83
12 – The EO4GEO project involves a diversity of stakeholders in space/geospatial activities	0.00% 0	5.56% 1	16.67% 3	22.22% 4	55.56% 10	18	4.28
13 – The EO4GEO project will most likely reduce the gap between what education and training is currently provided and what knowledge, skills and competences are required by the labour market.	0.00% 0	0.00% 0	22.22% 4	33.33% 6	44.44% 8	18	4.22

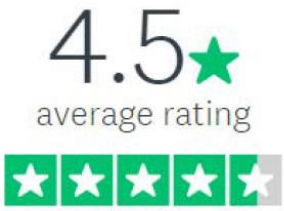
Evaluation of the section "Tools for EO4GEO" (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
14 – Level of discussion and interaction	5.56% 1	0.00% 0	27.78% 5	33.33% 6	33.33% 6	18	3.89
15- Clarity of the demonstration of the EO4GEO tools	0.00% 0	5.56% 1	16.67% 3	38.89% 7	38.89% 7	18	4.11
16- Do you think you will use the Occupational Profile Tool for your organisation?	5.88% 1	0.00% 0	47.06% 8	17.65% 3	29.41% 5	17	3.65
17- Do you think you will use the Job Offer Tool for your organisation?	5.88% 1	0.00% 0	29.41% 5	35.29% 6	29.41% 5	17	3.82
18- Do you think you will use the Curriculum Design Tool for your organisation?	5.88% 1	5.88% 1	35.29% 6	23.53% 4	29.41% 5	17	3.65
19- Do you think you will use the BoK Matching Tool for your organisation?	5.88% 1	0.00% 0	35.29% 6	35.29% 6	23.53% 4	17	3.71
20- Do you think you will use the Living Text book for your organisation?	0.00% 0	0.00% 0	50.00% 8	18.75% 3	31.25% 5	16	3.81

Evaluation of the section "Tools for EO4GEO": Will you attend to the training webinars on integrated applications, smart cities and climate change(one or all)?

ANSWER CHOICES	RESPONSES
Yes	77.78%
No	22.22%

Overall grading of the webinar (from 1 (poor) to 5 (very good))



General evaluation: Would you recommend a next EO4GEO webinar to a friend/colleague of yours?

ANSWER CHOICES	RESPONSES	
Yes	88.89%	16
No	0.00%	0
If "No", please motivate and indicate suggestions to improve the organization or the content of the webinars:	11.11%	2

General evaluation: Would you like to have more information on the EO4GEO initiative and results (eg. Opportunities to be involved in etc).

ANSWER CHOICES	RESPONSES	
Yes, please provide your e-mail address	86.67%	13
No, please motivate:	26.67%	4

High level capacity building seminar:
Shaping the future workforce of the space / geospatial sector in Poland: EO*GI Skills needed & EO4GEO solutions – 1 Podkarpackie

Ref. Chapter 2.2

Participants

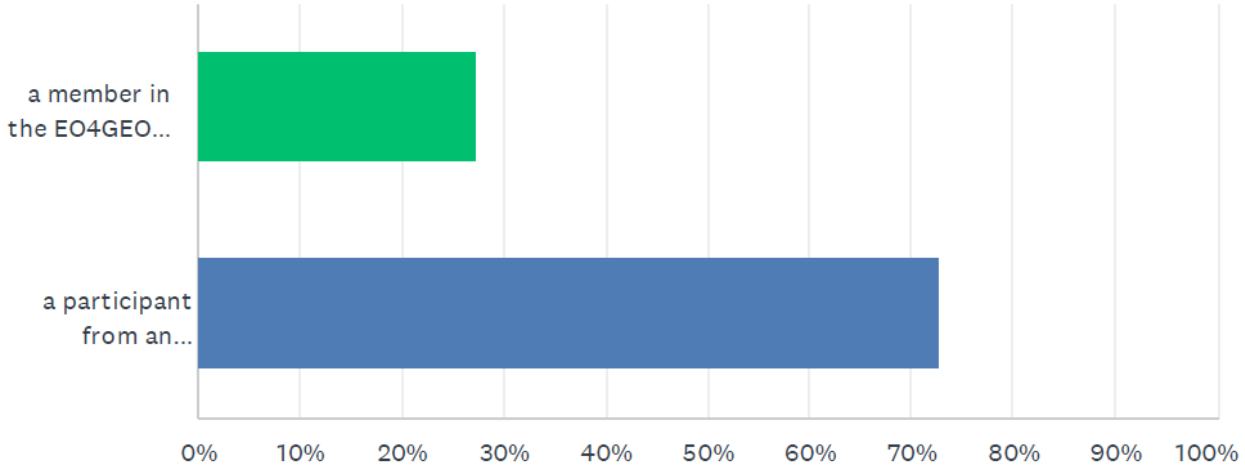
N.	Organisation
1-3	Astri Astri Polska sp. z o.o.
4	Biuro tłumaczeń AZ
5	brak
6-8	Cetrum Badań Kosmicznych PAN
9	Comarch S.A.
10-11	Department for Geoinformatics Z_GIS, University of Salzburg
12	Department of Primary Education, National & Kapodistrian University of Athens
13	DROTe
14	Državna geodetska uprava
15	Epsilon Italia srl
16-17	Exatel
18	Forest district Tuszyma
19	GISIG Association
20	Gopa-Infra
21	Head Office of Geodesy and Cartography
22	HyperView
23-24	Institute of Geodesy and Cartography
25	Karpacka Państwowa Uczelnia w Krośnie
26	Komenda Wojewódzka Państwowej Straży Pożarnej w Rzeszowie
27	KW PSP Rzeszów
28	Lasy Państwowe
29	Libero professionista
30-31	Małopolski Urząd Wojewódzki
32	Małopolski Urząd Wojewódzki w Krakowie
33-36	Marshal Office
37-39	Marshal Office of Mazowieckie Voivodeship
40-44	Marshal Office of Podkarpackie Region
45	Marshal Office of the Lubuskie region
46	Medicalabc
47	Młopolski Urząd Wojewódzki

48	MUW
49	Nadleśnictwo Brzozów
50	Nadleśnictwo Cisna
51	Nadleśnictwo Krasiczyn
52	Nadleśnictwo Ustrzyki Dolne
53	National Water Authority
54	none
55	Orbify
56	PBPP w Rzeszowie
57	PCZK Nisko
58	PIG-PIB
59-63	Podkarpacki Urząd Wojewódzki w Rzeszowie
64	Podkarpackie Innovation Centre
65-66	Podkarpackie Biruo Planowania Przestrzennego
67-68	Podkarpackie Region
69-72	Polish Space Agency
73-74	POLSA
75	PWSTE in Jaroslaw
76	Rzeszow Regional Development Agency RARR
77	Rzeszow University of Technology
78	Satellogic
79-80	SATIM Monitoring Satelitarny Sp. z o.o.
81	Space Research Centre of the Polish Academy of Sciences
82-83	Spatial Services
84	Statistics Tunisia INS
85	Teqbridge Limited
86	The State of Forest
87	The State of Forestry, Lesko District
88	Trakya University
89	UMWM
90-91	UNEP/GRID-Warsaw Centre
92-93	Universidade dos Açores
94	Universitas Gadjah Mada
95-96	Universitat Jaume I
97	University of Twente
98-99	urząd marszałkowski województwa lubuskiego
100-104	Urząd Marszałkowski Województwa Podkarpackiego
105-107	Urząd Marszałkowski Województwa Wielkopolskiego
108	VITO

109	Warmińsko-Mazurski Urząd Wojewózki w Olsztynie
110	Warsaw University of Technology
111	Wielkopolski Urząd Wojewódzki w Poznaniu
112	Wojewódzkie Centrum Zarządzania Kryzysowego w Łodzi, Łódzki Urząd Wojewódzki
113	Wojewódzkie Wielkopolskie z siedzibą Urzędu Marszałkowskiego Województwa Wielkop
114	WSIiZ Rzeszów

Quality evaluation

You are:



ANSWER CHOICES	RESPONSES
a member in the EO4GEO Consortium	27.27%
a participant from an organisation not involved in EO4GEO Consortium	72.73%

If (2), select the category that better fits with you

ANSWER CHOICES	RESPONSES
Local Body (Region, Province, Municipality, Regional Env. Agency...)	36.36%
National Body (Civil Protection...)	27.27%
University/Research Centre	18.18%
Private company or SME	9.09%
Professional Association/Professional	9.09%
Association	4.55%
Other (please specify)	4.55%

What is your motivation to take part in this WEBINAR?

	RESPONSES
	I participated in a panel discussion next day and was attracted by agenda
	Very interesting
	Interest in issues discussed
	seminar topic
	seminar topic
	I am interested in educating staff for the needs of the growing EDC market
	Presenting our EO4GEO research
	find a new job
	knowledge
	to deep my knowledge
	Getting to know what EO4GEO has to offer & how it addresses educational needs
	GIS is my specialisation.
	Know which are the interests and needs in terms of skills by the Polish stakeholders
	Importance to Education and Research
	Present the tools and explain to potential users
	Get to know and get to know the opinions of people from a larger group on the topic in question
	Interested in the topics
	Very interesting topics

Organizational aspects (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5
1 – Organisation of the webinar on behalf of the organising institution (e.g. registration platform, contact with the organizer, proper communication about training details)	0.00% 0	0.00% 0	0.00% 0	9.52% 2	90.48% 19
2- Functionality of used conference tool and software (video, sound, other technical aspects, ...)	0.00% 0	0.00% 0	0.00% 0	28.57% 6	71.43% 15
3- Possibility to exchange and interact with the speakers and other participants	0.00% 0	0.00% 0	0.00% 0	38.10% 8	61.90% 13
4 – Do you have any suggestions or recommendations for improvements of organizational aspects?	26.67% 4	0.00% 0	6.67% 1	20.00% 3	46.67% 7

General structure and content of the webinar (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
5- In my opinion the structure of the webinar was logical and well organized	0.00% 0	0.00% 0	0.00% 0	14.29% 3	85.71% 18	21	4.86
6 – Interest and relevance of the covered topics	0.00% 0	0.00% 0	0.00% 0	33.33% 7	66.67% 14	21	4.67
7 - Expertise of the speakers	0.00% 0	0.00% 0	0.00% 0	9.52% 2	90.48% 19	21	4.90
8 - Clarity of the speakers in presenting their contents	0.00% 0	0.00% 0	0.00% 0	14.29% 3	85.71% 18	21	4.86
9 – Usefulness of the webinar for your work/activities	0.00% 0	0.00% 0	19.05% 4	19.05% 4	61.90% 13	21	4.43
10- The webinar met my expectations	0.00% 0	4.76% 1	9.52% 2	28.57% 6	57.14% 12	21	4.38

Expected impact of the EO4GEO project (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
11 – The EO4GEO project will probably contribute to career development in your organisation	0.00% 0	5.56% 1	38.89% 7	27.78% 5	27.78% 5	18	3.78
12 – The EO4GEO project involves a diversity of stakeholders in space geoinformation activities	0.00% 0	0.00% 0	21.05% 4	26.32% 5	52.63% 10	19	4.32
13 – The EO4GEO project will most likely reduce the gap between what education and training is currently provided and what knowledge, skills and competences are required by the labour market.	0.00% 0	5.56% 1	11.11% 2	50.00% 9	33.33% 6	18	4.11

Evaluation of the section "Tools for EO4GEO" (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
14 – Level of discussion and interaction	0.00% 0	0.00% 0	15.79% 3	36.84% 7	47.37% 9	19	4.32
15- Clarity of the demonstration of the EO4GEO tools	0.00% 0	5.26% 1	5.26% 1	31.58% 6	57.89% 11	19	4.42
16- Do you think you will use the Occupational Profile Tool for your organisation?	7.14% 1	0.00% 0	21.43% 3	35.71% 5	35.71% 5	14	3.93
17- Do you think you will use the Job Offer Tool for your organisation?	7.14% 1	7.14% 1	14.29% 2	28.57% 4	42.86% 6	14	3.93
18- Do you think you will use the Curriculum Design Tool for your organisation?	13.33% 2	13.33% 2	20.00% 3	26.67% 4	26.67% 4	15	3.40
19- Do you think you will use the BoK Matching Tool for your organisation?	7.14% 1	7.14% 1	14.29% 2	42.86% 6	28.57% 4	14	3.79
20- Do you think you will use the Living Text book for your organisation?	6.67% 1	13.33% 2	6.67% 1	46.67% 7	26.67% 4	15	3.73

Evaluation of the section "Tools for EO4GEO": Will you attend to the training webinars on integrated applications, smart cities and climate change(one or all)?

ANSWER CHOICES	RESPONSES
Yes	75.00%
No	25.00%

Overall grading of the webinar (from 1 (poor) to 5 (very good))

1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
0.00% 0	0.00% 0	0.00% 0	40.00% 8	60.00% 12	20	4.60

General evaluation: Would you recommend a next EO4GEO webinar to a friend/colleague of yours?

ANSWER CHOICES	RESPONSES	
Yes	95.00%	19
No	5.00%	1
If "No", please motivate and indicate suggestions to improve the organization or the content of the webinars:	0.00%	0

General evaluation: Would you like to have more information on the EO4GEO initiative and results (eg. Opportunities to be involved in etc).

ANSWER CHOICES	RESPONSES
Yes, please provide your e-mail address	77.78%
No, please motivate:	22.22%

High level capacity building seminar:

*Shaping the future workforce of the space / geospatial sector in Poland: EO*GI Skills needed & EO4GEO solutions – 2 Mazovia*

Ref. Chapter 2.3

Participants

N.	Organisation
1	AIOFAR
2-3	Astri Polska sp. z o.o.
4	brak
5	Centrum Badań Kosmicznych PAN

6-7	CloudBest
8	Comarch S.A.
9	Departament Cyfryzacji, Geodezji i Kartografii Urząd Marszałkowski Województwa M
10-11	Department for Geoinformatics Z_GIS, University of Salzburg
12	Department of Primary Education, National & Kapodistrian University of Athens
13	Državna geodetska uprava
14	Epsilon Italia srl
15	Fundacja "SpaceShip"
16	GISIG
17	Gopa-Infra
18	HEAD OFFICE OF GEODESY AND CARTOGRAPHY
19	HyperView
20	IGIK
21-22	Institute of Geodesy and Cartography
23	Karpacka Państwowa Uczelnia w Krośnie
24	KomendaWojewódzka Państwowej Straży Pożarnej w Rzeszowie
25	KW PSP Rzeszów
26	Luxonis
27-29	Małopolski Urząd Wojewódzki w Krakowie
30-33	Marshal Office
34-39	Marshal Office of Mazowieckie Voivodeship
40	Marshal Office of the Lubuskie region
41-43	Marshal Office of the Podkarpackie Region
44	MoND
45-46	MUW
47	Nadleśnictwo Ustrzyki Dolne
48-50	none
51	Office of the Marshal of the Mazowieckie Voivodeship in Warsaw
52	Orbify
53	Państwowa Wyższa Szkoła Techniczno - Ekonomiczna w Jarosławiu
54	PBPP w Rzeszowie
55-56	PGW WP RZGW Rzeszów
57-60	Podkarpackie Biuro Planowania Przestrzennego
61	Podkarpackie Centrum Innowacji
62	Podkarpackie spatial planning office
63	Poland
64-67	Polish Space Agency
68	Politechnika Waszawska

69	PWSTE n Jarosław
70	Regionalny Zarząd Gospodarki Wodnej w Rzeszowie
71-72	Rzeszow University of Technology
73-74	Satellogic
75-76	Spatial Services
77	Stadt Zurich
78	Statistical Office in Rzeszów, Center of Regional and Transborder Studies
79-82	The Office of the Marshal of the Mazowieckie Voivodeship in Warsaw
83	The State of Forest
84	Trakya University
85-86	UMWM w Warszawie
87-88	UNEP/GRID-Warsaw Centre
89	Universitas Gadjah Mada
90	Universitat Jaume I
91	University of Agriculture in Krakow, Poland
92	University of Salzburz
93	University of Twente
94	UPWr
95-96	Urząd Marszałkowski Województwa Lubuskiego
97-105	Urząd Marszałkowski Województwa Mazowieckiego
106-111	Urząd Marszałkowski Województwa Podkarpackiego
112-114	Urząd Marszałkowski Województwa Wielkopolskiego
115	VITO
116	Warmińsko-Mazurski Urząd Wojewózki w Olsztynie
117-118	Warsaw University of Technology
119	Wielkopolski Urząd Wojewódzki w Poznaniu
120	WODY POLSKIE
121	Wody Polskie RZGW Rzeszów
122	Wojewódzkie Centrum Zarządzania Kryzysowego w Łodzi, Łódzki Urząd Wojewódzki

Quality evaluation

You are:

ANSWER CHOICES	RESPONSES
a member in the EO4GEO Consortium	28.57%
a participant from an organisation not involved in EO4GEO Consortium	71.43%

If (2), select the category that better fits with you

ANSWER CHOICES	RESPONSES
Local Body (Region, Province, Municipality, Regional Env. Agency...)	42.86%
National Body (Civil Protection...)	28.57%
University/Research Centre	0.00%
Private company or SME	28.57%
Professional Association/Professional	0.00%
Association	0.00%
Other (please specify)	0.00%

What is your motivation to take part in this WEBINAR?

RESPONSES
Obtaining information on the possibilities of using tools to prepare investment documentation
speaker
increasing of the knowledge regarding tools and skills EO/GI
Very interested in knowing how EO/GI is treated by the academies and how EO4GEO can support
GIS is my specialisation.
education

Organizational aspects (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5
1 – Organisation of the webinar on behalf of the organising institution (e.g. registration platform, contact with the organizer, proper communication about training details)	0.00% 0	14.29% 1	14.29% 1	14.29% 1	57.14% 4
2- Functionality of used conference tool and software (video, sound, other technical aspects, ...)	0.00% 0	14.29% 1	14.29% 1	28.57% 2	42.86% 3
3- Possibility to exchange and interact with the speakers and other participants	0.00% 0	0.00% 0	0.00% 0	28.57% 2	71.43% 5
4 – Do you have any suggestions or recommendations for improvements of organizational aspects?	50.00% 2	0.00% 0	0.00% 0	0.00% 0	50.00% 2

General structure and content of the webinar (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
5- In my opinion the structure of the webinar was logical and well organized	0.00% 0	0.00% 0	0.00% 0	14.29% 1	85.71% 6	7	4.86
6 – Interest and relevance of the covered topics	0.00% 0	0.00% 0	0.00% 0	14.29% 1	85.71% 6	7	4.86
7 - Expertise of the speakers	0.00% 0	0.00% 0	0.00% 0	14.29% 1	85.71% 6	7	4.86
8 - Clarity of the speakers in presenting their contents	0.00% 0	0.00% 0	0.00% 0	14.29% 1	85.71% 6	7	4.86
9 – Usefulness of the webinar for your work/activities	0.00% 0	0.00% 0	28.57% 2	14.29% 1	57.14% 4	7	4.29
10- The webinar met my expectations	0.00% 0	0.00% 0	14.29% 1	28.57% 2	57.14% 4	7	4.43

Expected impact of the EO4GEO project (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
11 – The EO4GEO project will probably contribute to career development in your organisation	0.00% 0	0.00% 0	33.33% 2	50.00% 3	16.67% 1	6	3.83
12 – The EO4GEO project involves a diversity of stakeholders in space geoinformation activities	0.00% 0	0.00% 0	0.00% 0	50.00% 3	50.00% 3	6	4.50
13 – The EO4GEO project will most likely reduce the gap between what education and training is currently provided and what knowledge, skills and competences are required by the labour market.	0.00% 0	0.00% 0	0.00% 0	83.33% 5	16.67% 1	6	4.17

Evaluation of the section "Tools for EO4GEO" (From 1 (totally disagree/poor) over 3 (perhaps/good) to 5 (agree entirely/excellent). Blank = I don't know)

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
14 – Level of discussion and interaction	0.00% 0	0.00% 0	0.00% 0	71.43% 5	28.57% 2	7	4.29
15- Clarity of the demonstration of the EO4GEO tools	0.00% 0	0.00% 0	14.29% 1	42.86% 3	42.86% 3	7	4.29
16- Do you think you will use the Occupational Profile Tool for your organisation?	0.00% 0	0.00% 0	42.86% 3	42.86% 3	14.29% 1	7	3.71
17- Do you think you will use the Job Offer Tool for your organisation?	0.00% 0	0.00% 0	50.00% 3	50.00% 3	0.00% 0	6	3.50
18- Do you think you will use the Curriculum Design Tool for your organisation?	0.00% 0	28.57% 2	42.86% 3	28.57% 2	0.00% 0	7	3.00
19- Do you think you will use the BoK Matching Tool for your organisation?	0.00% 0	14.29% 1	28.57% 2	57.14% 4	0.00% 0	7	3.43
20- Do you think you will use the Living Text book for your organisation?	0.00% 0	14.29% 1	28.57% 2	57.14% 4	0.00% 0	7	3.43

Evaluation of the section "Tools for EO4GEO": Will you attend to the training webinars on integrated applications, smart cities and climate change(one or all)?

ANSWER CHOICES	RESPONSES
Yes	85.71%
No	14.29%

Overall grading of the webinar (from 1 (poor) to 5 (very good))

1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
0.00% 0	16.67% 1	0.00% 0	16.67% 1	66.67% 4	6	4.33

General evaluation: Would you recommend a next EO4GEO webinar to a friend/colleague of yours?

ANSWER CHOICES	RESPONSES
Yes	100.00%
No	0.00%
If "No", please motivate and indicate suggestions to improve the organization or the content of the webinars:	0.00%

General evaluation: Would you like to have more information on the EO4GEO initiative and results (eg. Opportunities to be involved in etc).

ANSWER CHOICES	RESPONSES
Yes, please provide your e-mail address	80.00%
No, please motivate:	20.00%

Dissemination event:

ISPRA: Workshop: EO4GEO opportunities for Earth Observation and Geoinformation skills improvement

Ref Chapter 3.5

Participants

N.	Country	Organisation
1	Tunisia	African Association for Geospatial Development
2	Italy	Agenzia Regionale per la Protezione dell'Ambiente Basilicata
3	Italy	AMFM GIS Italia
4	Italy	Arpa Molise
5-6	Germany	bavAIRia e.V.
7-8	Italy	CNR
9	Italy	Comune di Lucca
10	Italy	Consultant
11	Italy	Delta APS
12	Germany	Department of Geography - Research Group for Earth Observation Heidelberg University of Education
13	Italy	Digital Innovation Hub Vicenza
14	Italy	DISAFA
15-16	Belgium	EARSC
17	Denmark	EIT Climate-KIC
18-19	Italy	Epsilon Italia srl
20	Italy	ERSAF-Regione Lombardia
21	France	Eurisy
22	Croatia	Faculty of Geodesy
23	Italy	Gecosistema
24-27	Italy	GISIG
28	Germany	Heidelberg University of Education
29	Germany	HFT Stuttgart
30	France	ICube-SERTIT
31	Tunisie	IngÃ©nieur Environnement
32	France	International Space University
33	Italy	Ismea
34-44	Italy	ISPRA
45	Italy	Istituto Nazionale di Geofisica e Vulcanologia
46-47	Belgium	KU Leuven
48	Greece	Laboratory of Atmospheric Physics - University of Patras
49	Ireland	Maynooth University
50	Bulgaria	Mozaika
51-54	Italy	none
55	Estonia	Phasegrowth
56	Portugal	Portugal Space
57	Italy	Propria
58	Italy	Regione Veneto

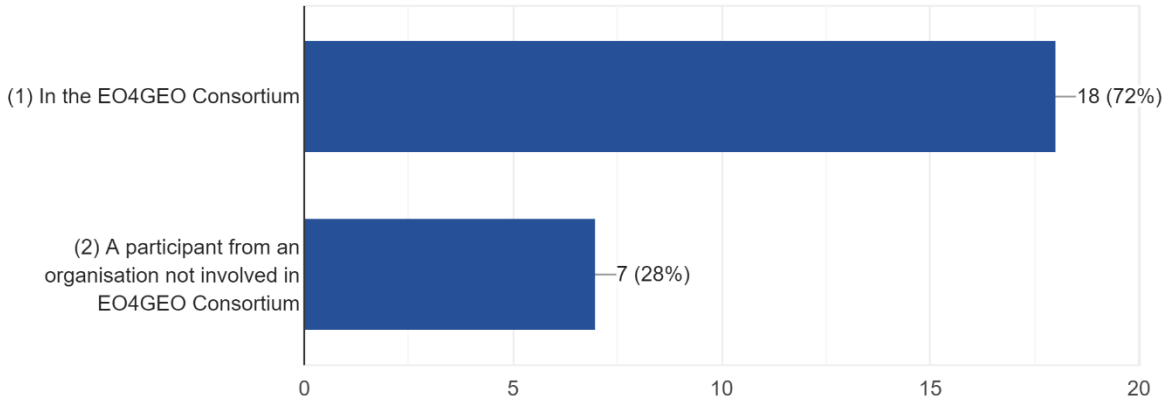
59	Italy	Rfi
60	Romania	Romanian Space Agency
61	UK	RSPSoc/University of Worcester
62	Austria	Spatial Services
63	Italy	UK Research and Innovation- UKRI
64	Polska	UNEP/GRID-Warszawa
65	Germany	Uni Hohenheim
66-67	Italy	UNITO
68-69	Spain	Universidad Jaime I
70	Italy	Università degli Studi di Firenze
71	Italy	Università di Trento
72-73	Italy	University of Basilicata
74	Germany	University of Jena
75	LAtvia	UNIVERSITY OF LATVIA
76	Italy	University of Pavia
77-78	Austria	University of Salzburg
79	Belgium	VITO

Quality evaluation

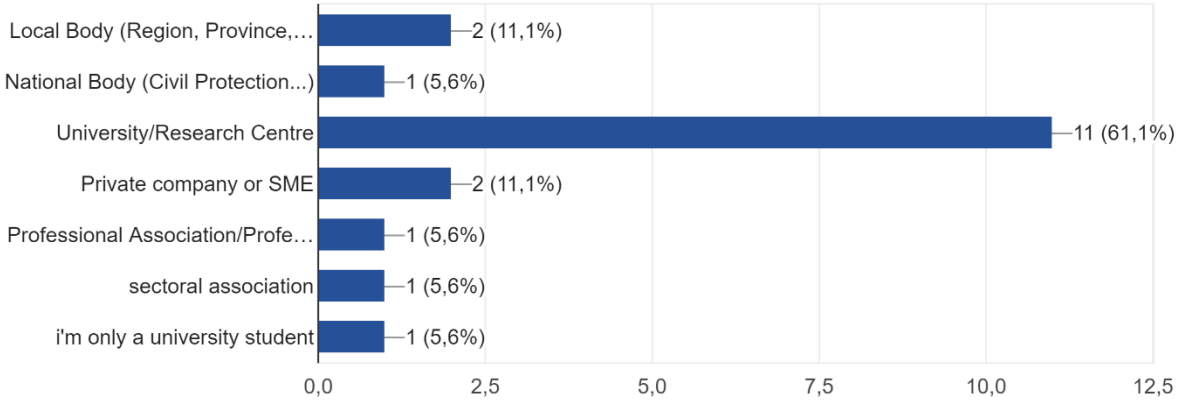
The workshop attendants were asked to evaluate the workshop with a questionnaire. In total 25 participants responded on the questionnaire and the results of these evaluations were positive.

The following graphics show the average values of the answers. Not everyone answered all the questions.

You are

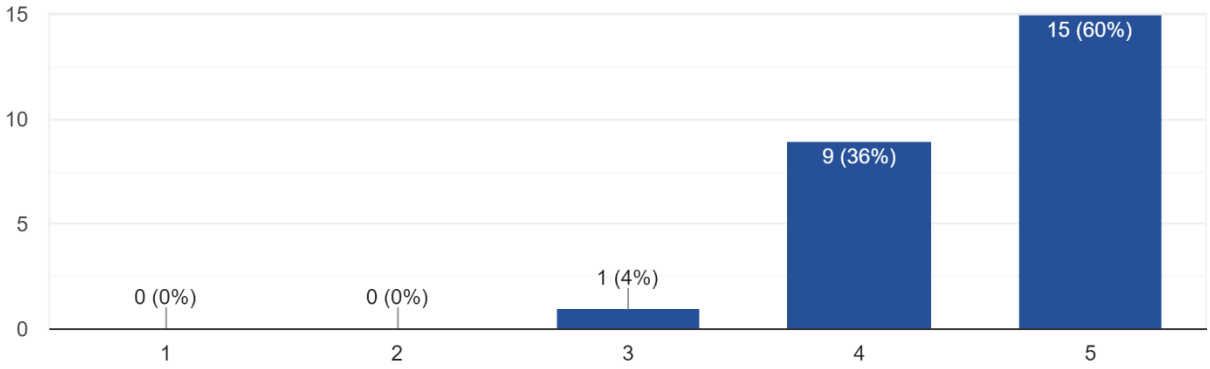


If (2), select the category that better fits with you

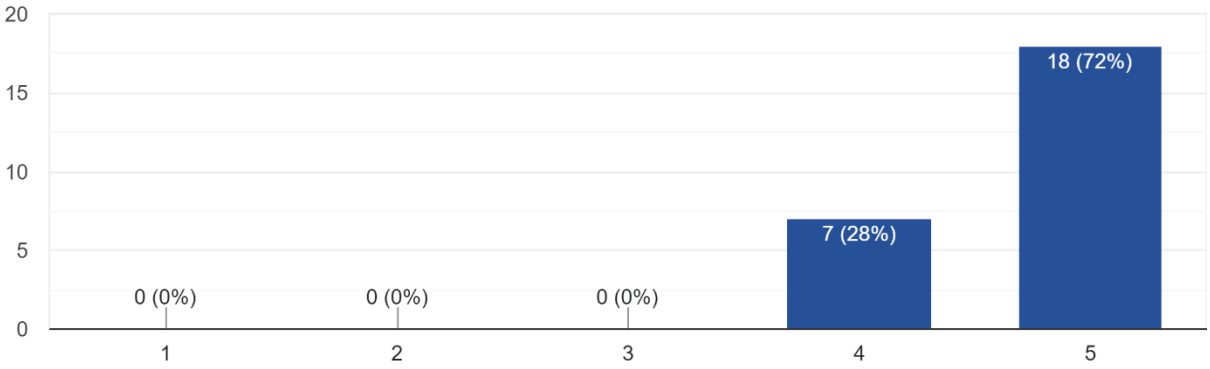


Organizational aspects

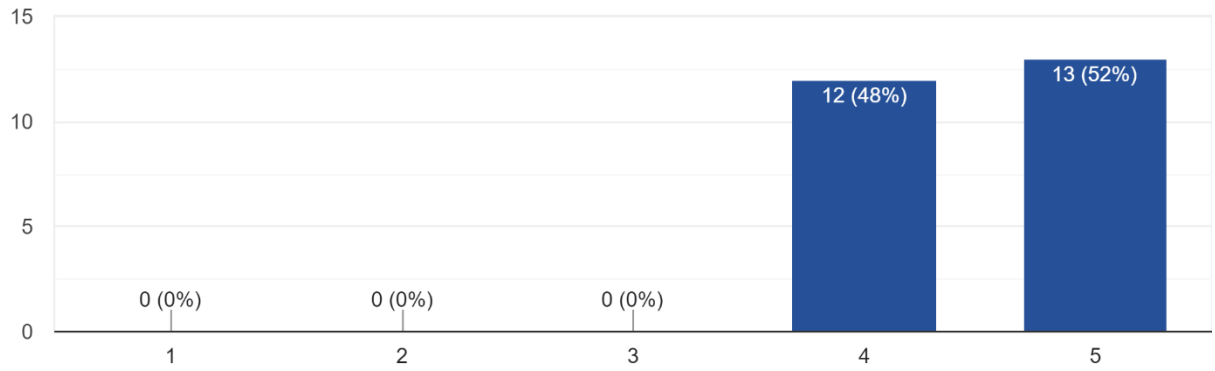
Organisation of the workshop on behalf of the organising institution (e.g. registration platform, contact with the organizer, proper communication about training details).



Functionality of used conference tool and software (video, sound, other technical aspects).



Possibility to exchange and interact with the speakers and other participants.

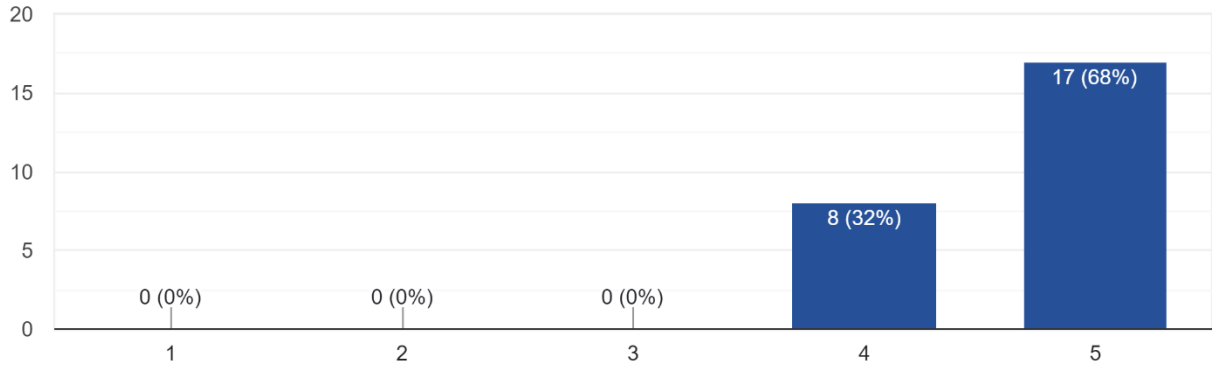


Do you have any suggestions or recommendations for improvements of organizational aspects?

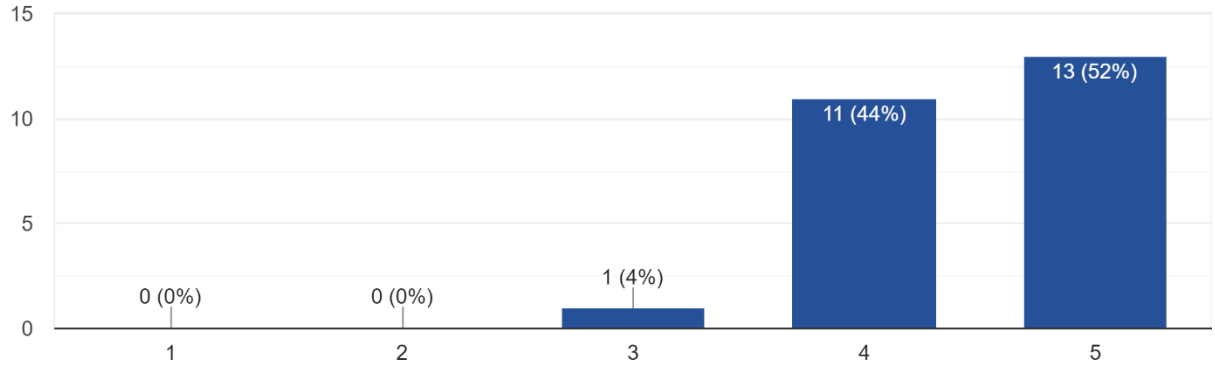
- The registration information was sent in Italian (fine, but maybe not for everyone)
- maybe expand a little bit the duration to allow more discussions
- highlight the food for thoughts to stimulate Qs
- Not for a two-hour event, but think about breakout rooms and use of e.g. mural for having more interaction and ideas from participants

General structure and content of the workshop

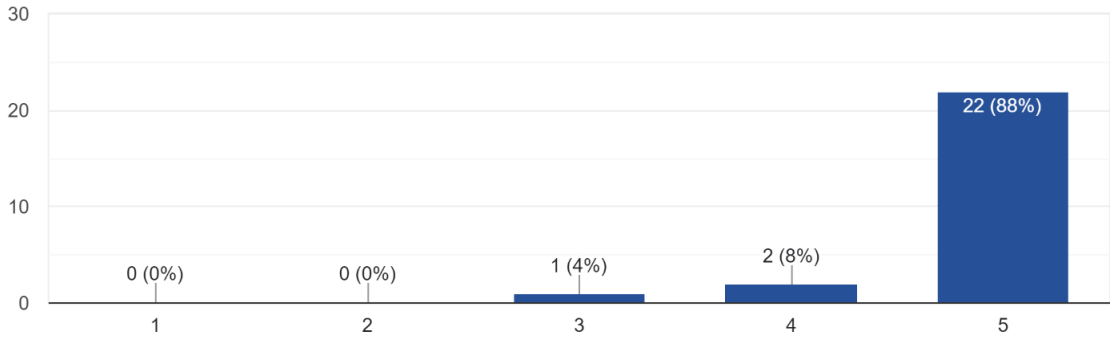
In my opinion the structure of the workshop was logical and well organized.



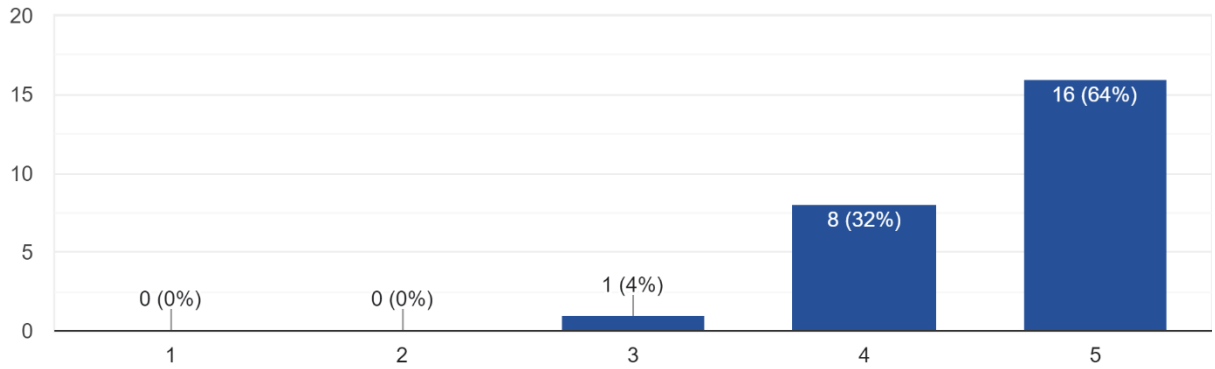
Interest and relevance of the covered topics.



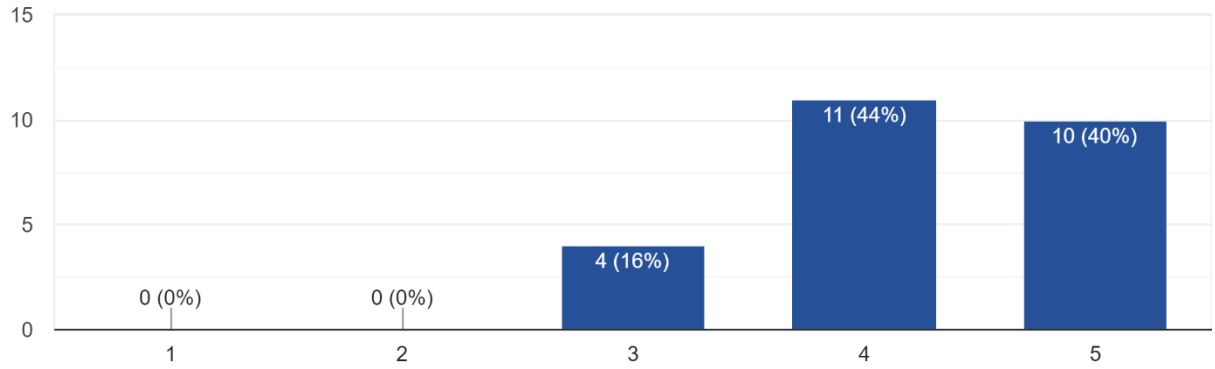
Expertise of the speakers.



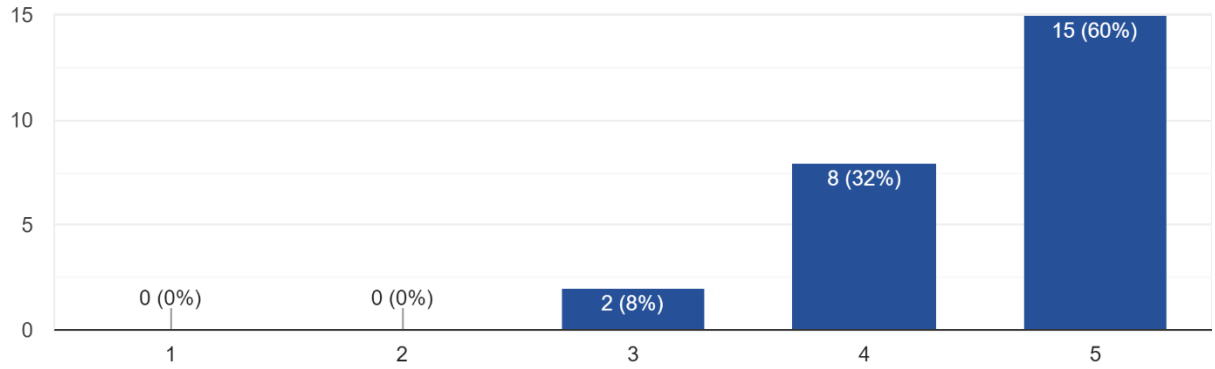
Clarity of the speakers in presenting their contents.



Usefulness of the workshop for your work/activities.

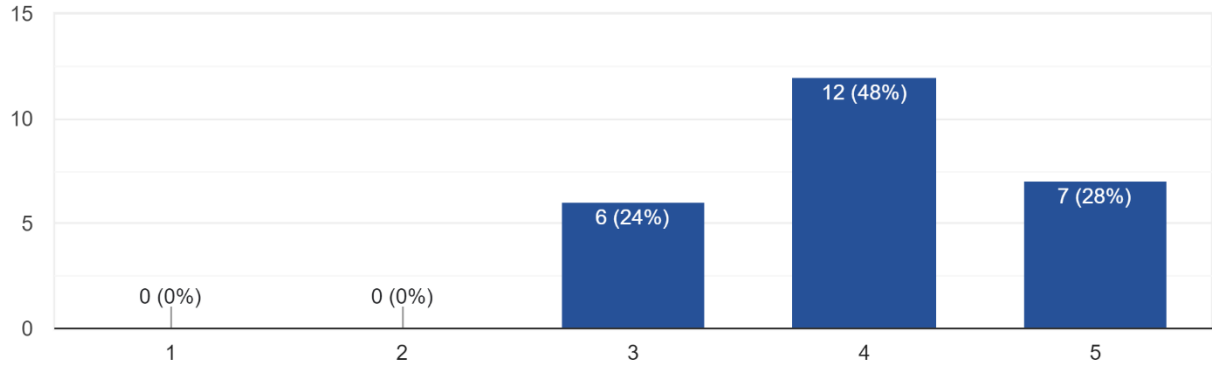


The workshop met my expectations.

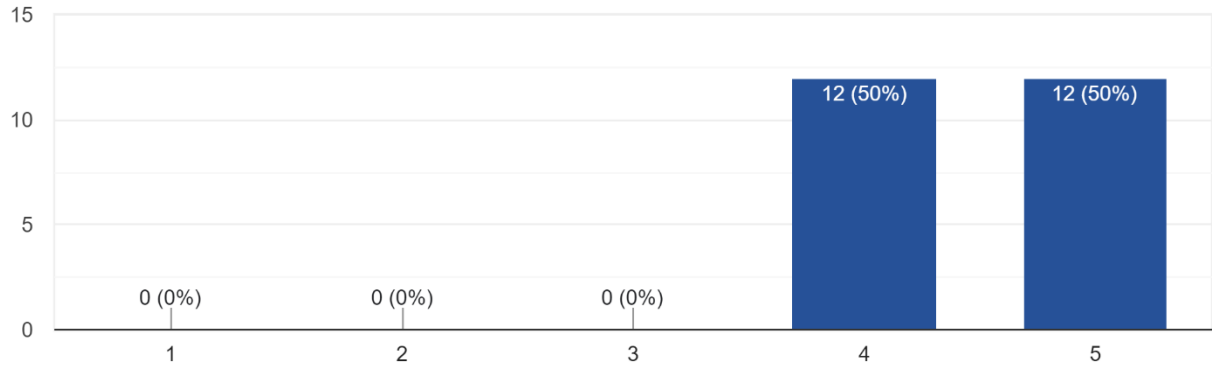


Expected impact of the EO4GEO project

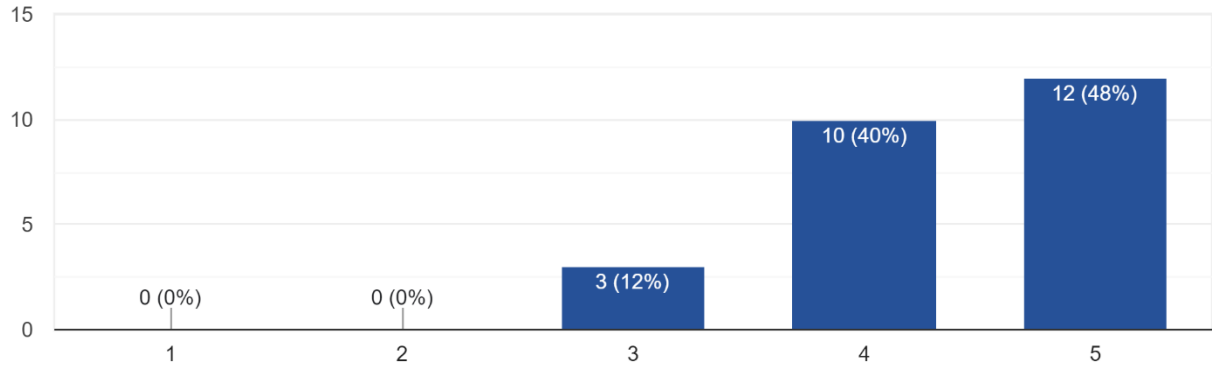
The EO4GEO project will probably contribute to career development in your organisation.



The EO4GEO project involves a diversity of stakeholders in space geoinformation activities.

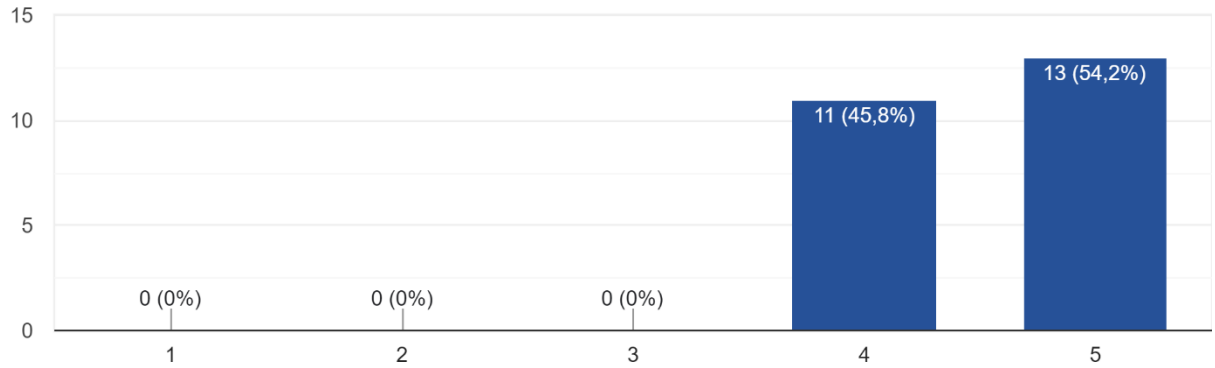


The EO4GEO project will most likely reduce the gap between what education and training is currently provided and what knowledge, skills and competences are required by the labour market.

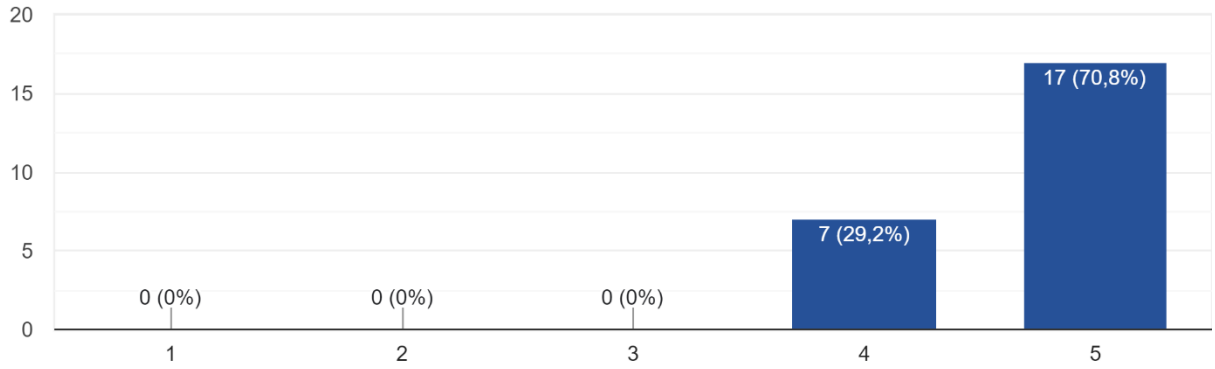


Evaluation of the sections

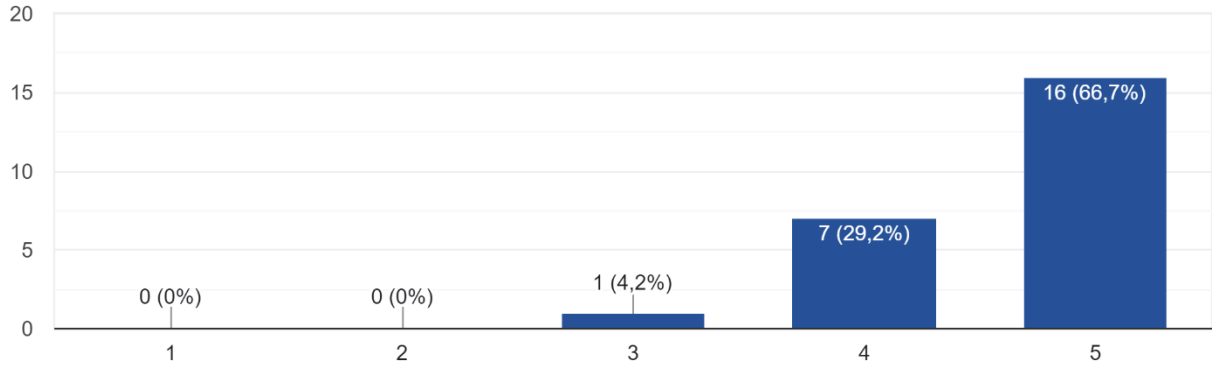
The EO4GEO approach to skill needs in the EO*GI sector.



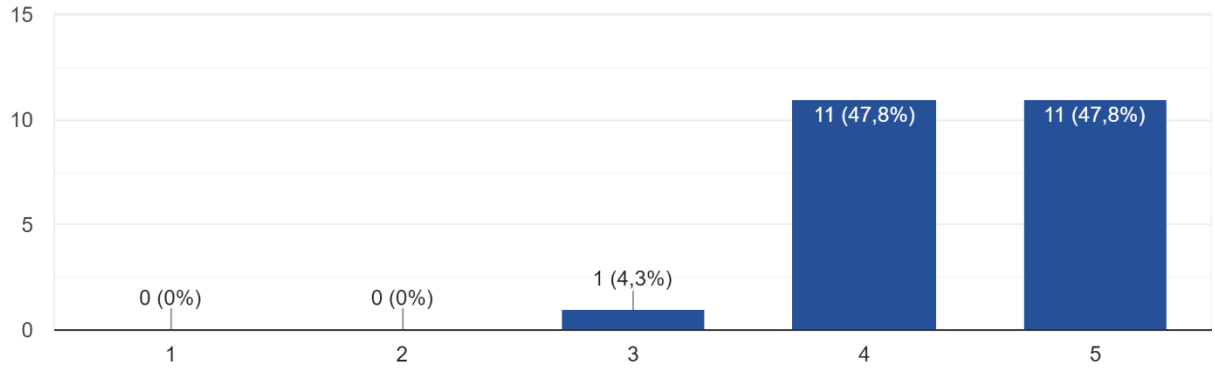
The set of tools based on the Body of Knowledge.



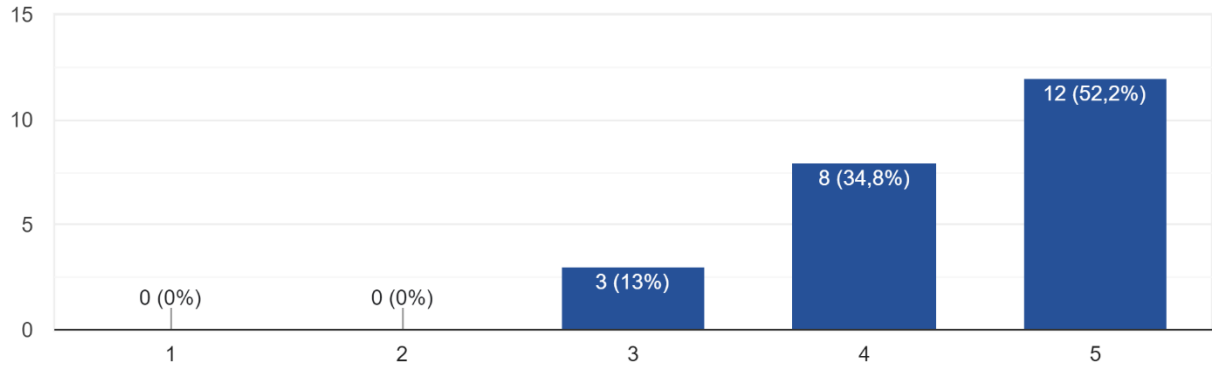
Using the EO4GEO training materials during an academic summer school.



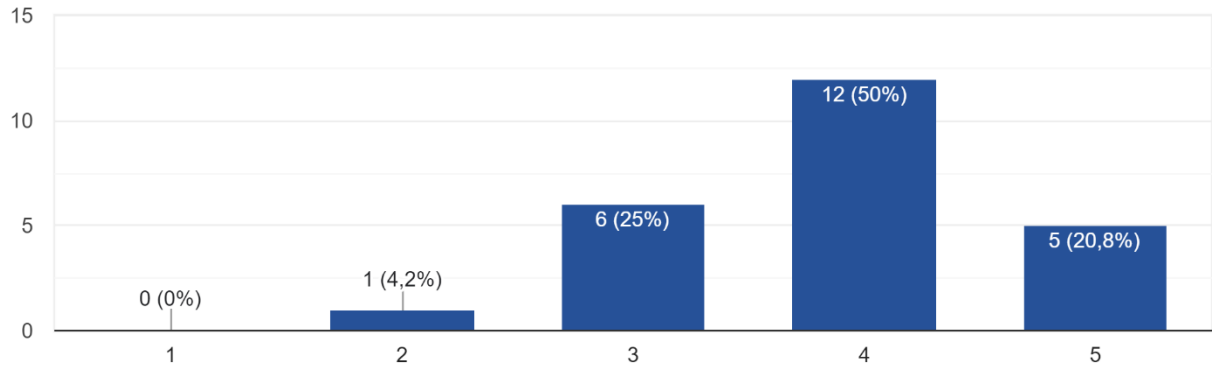
A training framework developed to facilitate up-skilling and re-skilling of local administration workforce (4regions).



Using the tools in a company to recruit a new employee, practical demo.

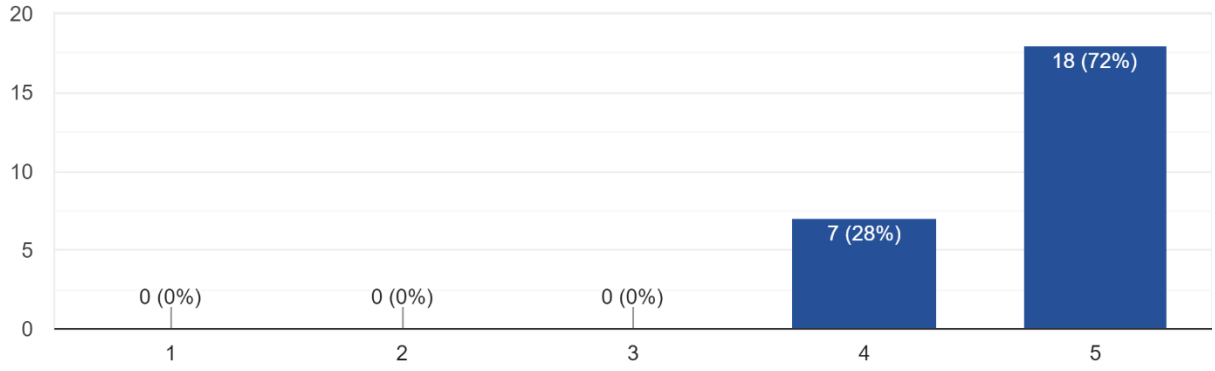


Do you think you will use the BoK Matching Tool for your organisation?

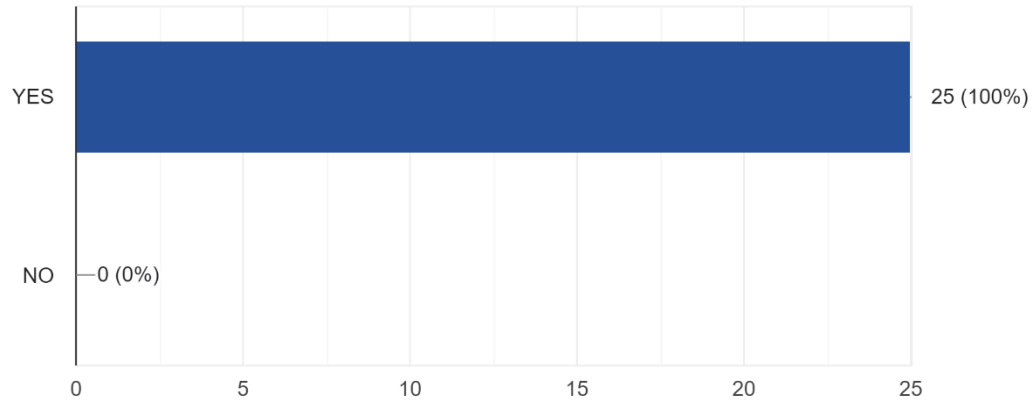


Overall grading of the event

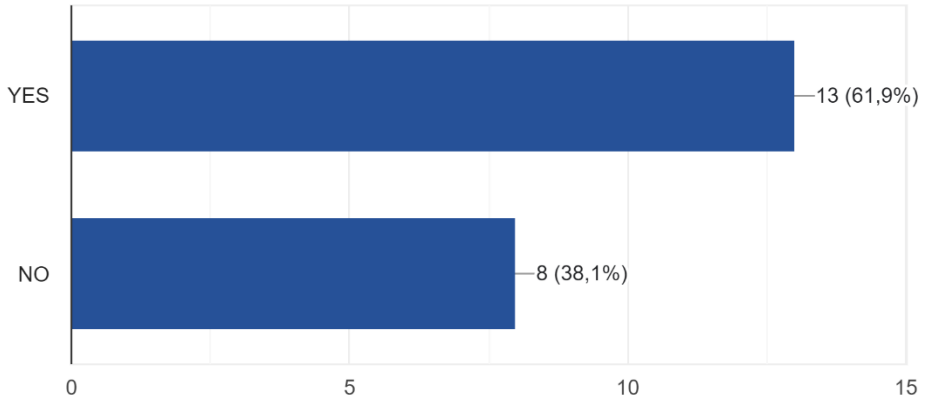
from 1 (poor) to 5 (very good)



Would you recommend a next EO4GEO event to a friend/colleague of yours?



Would you like to have more information on the EO4GEO initiative and results (eg. opportunities to be involved in etc)?



If “No”, please motivate:

- part of the team
- I am already in the Consortium :-)
- I'm already project partner
- I'm already in the mailing list
- already in the list
- Already partner

Dissemination event:
ASITA 2022

Workshop Space Economy and Blue Growth: verso l'applicazione dei dati satellitari all'economia del mare e alla crescita blu (Space Economy and Blue Growth: towards the application of satellite data to the sea economy and blue growth).

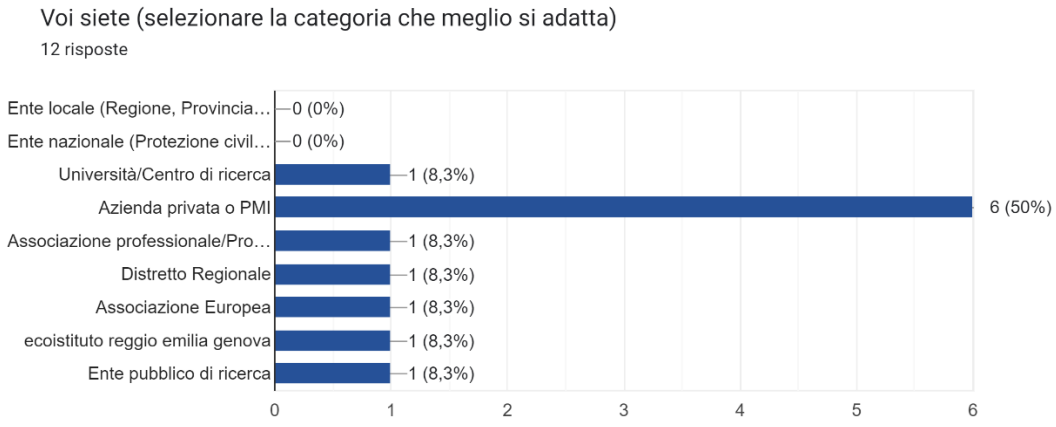
Ref. Chapter 3.13

Participants (all from Italy)

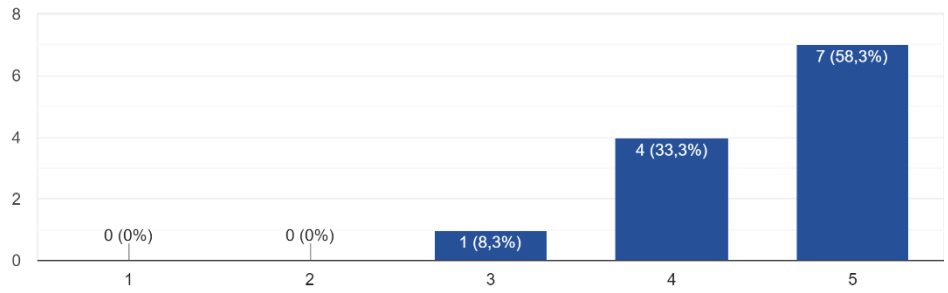
N.	Organisation
1	Agenzia Spaziale Italiana - Unità Downstream e Servizi Applicativi
2	ARPAL
3-5	CNR-IMATI
6-7	DLTM
8	Ecodrone
9	Ecoistituto Reggio Emilia - Genova
10	ENAS – Ente Acque della Sardegna
11-13	ENEA
14	ENEA (La Spezia)
15	Engineering Ingegneria Informatica S.p.A.
16	EPSILON ITALIA
17	Geologo
18-23	GISIG
24	Gruppo IREN
25-27	ISPRA
28-30	Job Centre
31	Lega Ligure delle Cooperative e Mutue
32-33	On A.I.R. srl

N.	Organisation
34	Planetek Italia s.r.l.
35-36	Politecnico di Torino
37	QTI s.r.l.
38	SGI - AM/FM GIS Italia
39	SIIT
40	Space Economy advisor
41	The Ocean Race Genova
42	Università di Genova

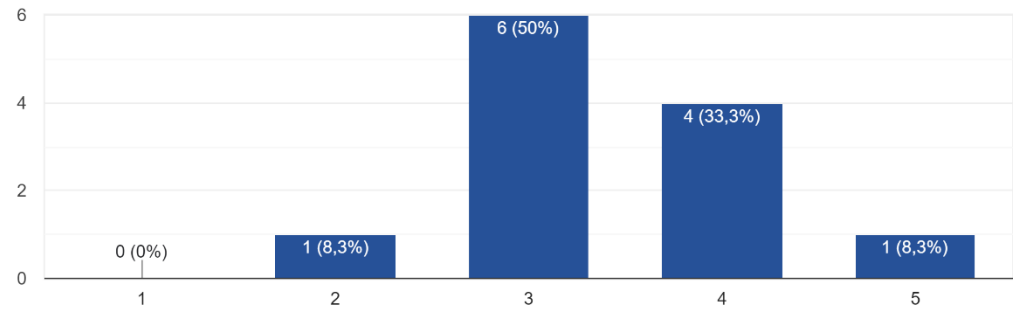
Quality evaluation



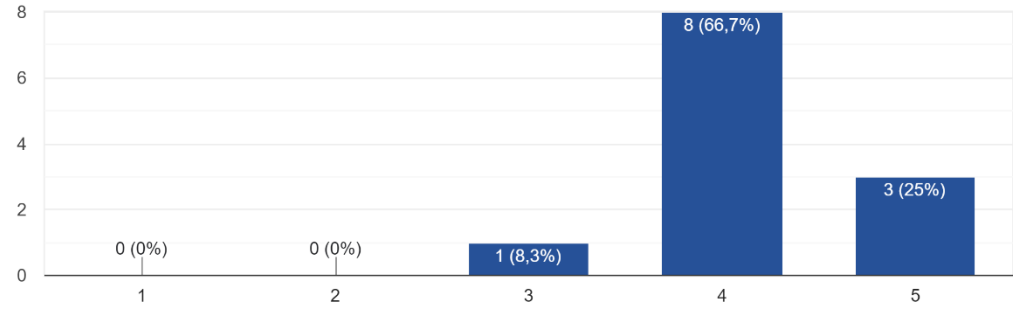
Organizzazione del workshop da parte dell'istituzione organizzatrice (ad es. piattaforma di registrazione, contatto con l'organizzatore, comunicazione corretta dei dettagli dell'evento).
12 risposte



Funzionalità degli strumenti e dei software utilizzati per l'evento (video, audio, altri aspetti tecnici).
12 risposte

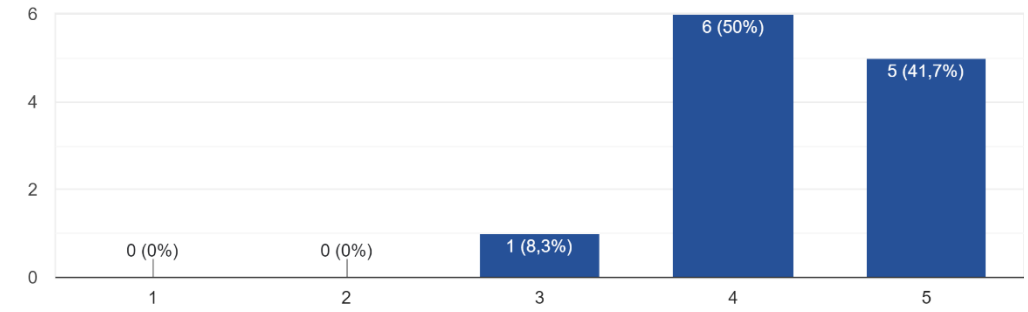


Possibilità di scambiare opinioni e interagire con i relatori e gli altri partecipanti.
12 risposte



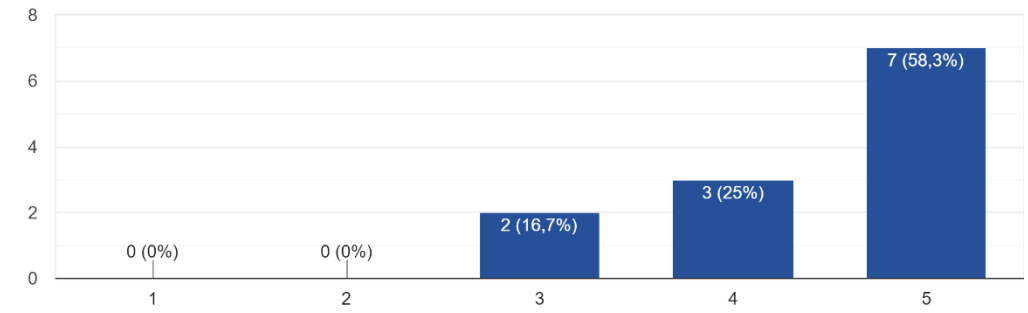
A mio parere, la struttura del workshop era logica e ben organizzata.

12 risposte



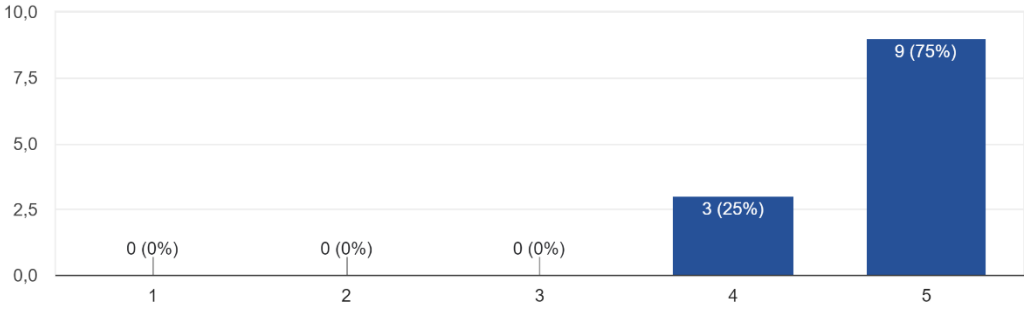
Interesse e rilevanza degli argomenti trattati.

12 risposte



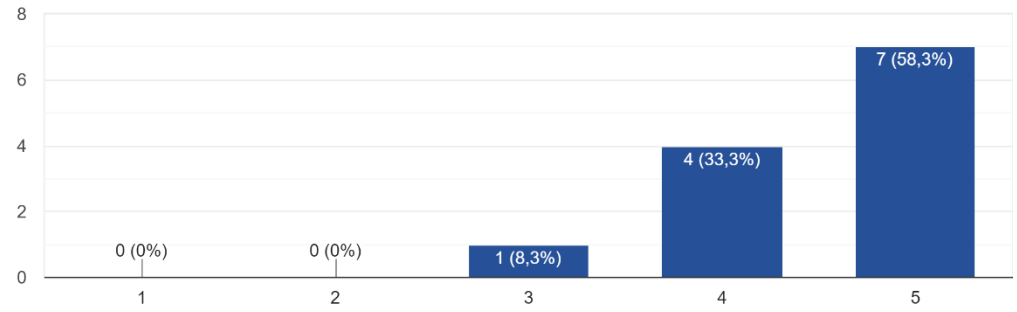
Competenza dei relatori.

12 risposte



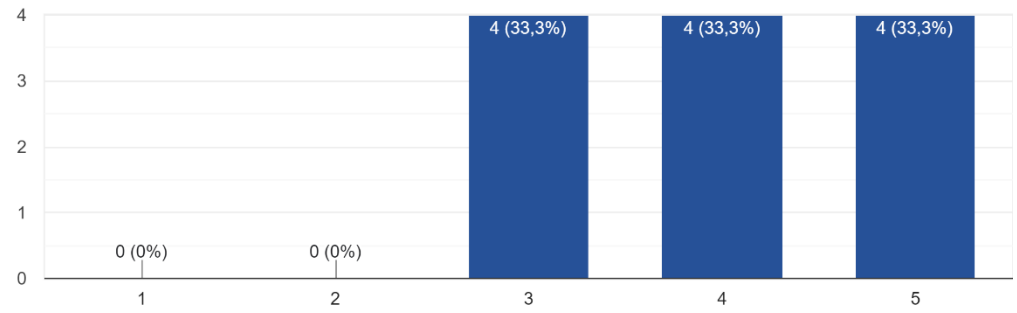
Chiarezza dei relatori nell'esposizione dei contenuti.

12 risposte



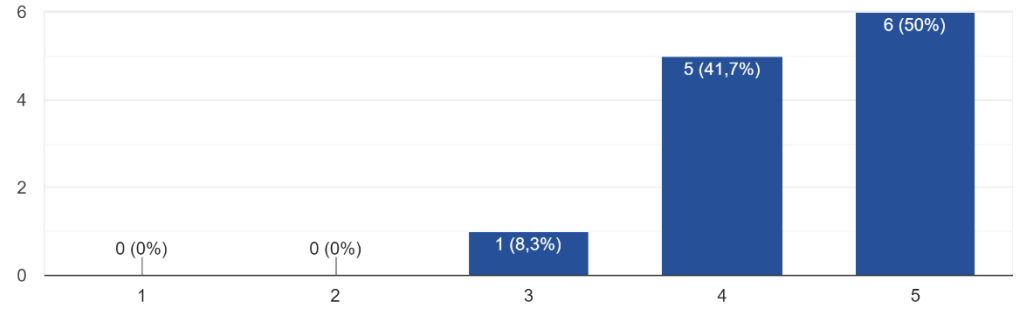
Utilità del workshop per il vostro lavoro/attività.

12 risposte



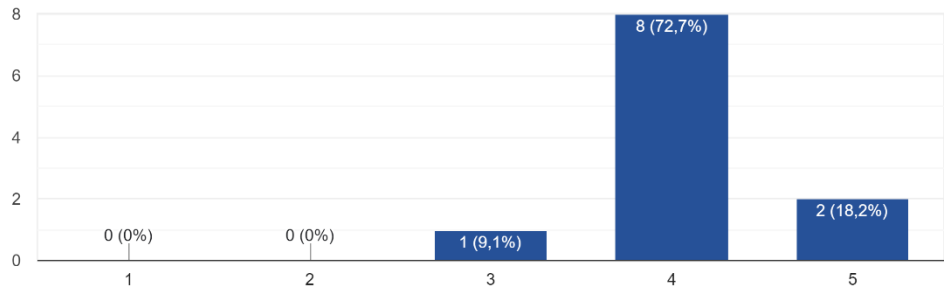
Il workshop ha soddisfatto le mie aspettative.

12 risposte



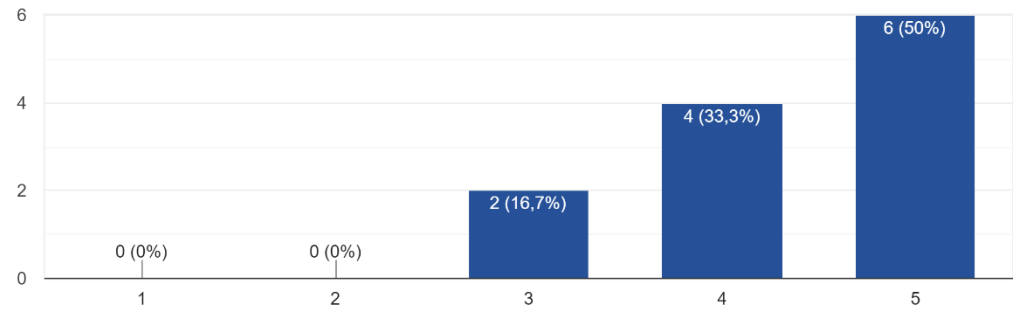
Una strategia condivisa per lo sviluppo delle competenze nel campo dell'Osservazione della Terra e dell'Informazione Geografica: la proposta dell'Alleanza EO4GEO

11 risposte



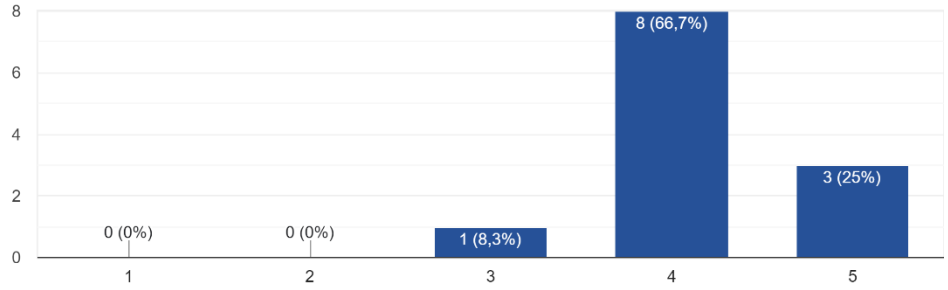
Le nuove opportunità di business legate alla Space Economy

12 risposte



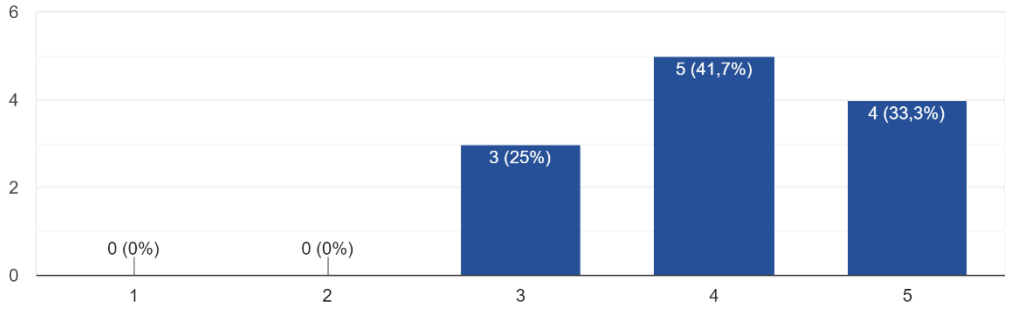
Verso il servizio di ground motion nazionale nel Piano della Space Economy: applicazioni in ambito costiero

12 risposte



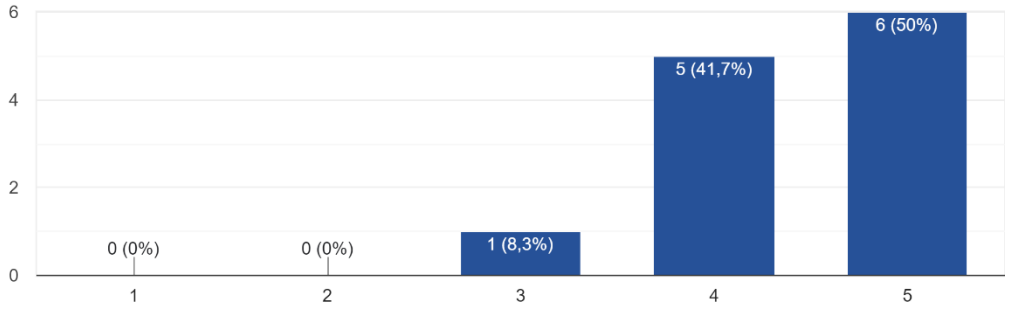
Programmi satellitari e applicazioni in ambito costiero

12 risposte



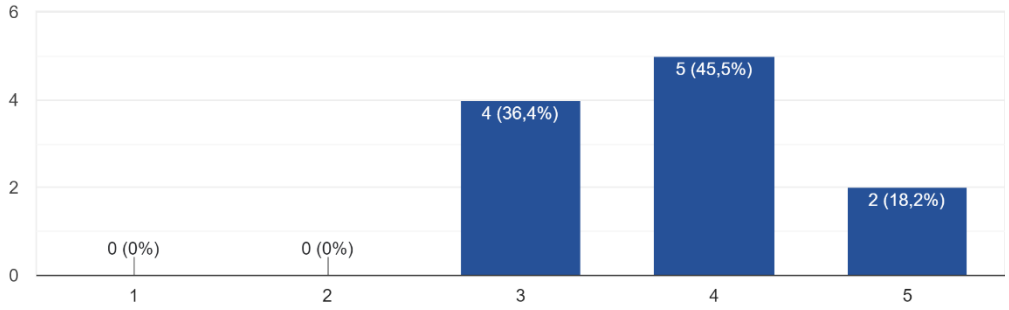
Indicatori e analytics dall'osservazione della Terra per la crescita blu: casi d'uso

12 risposte



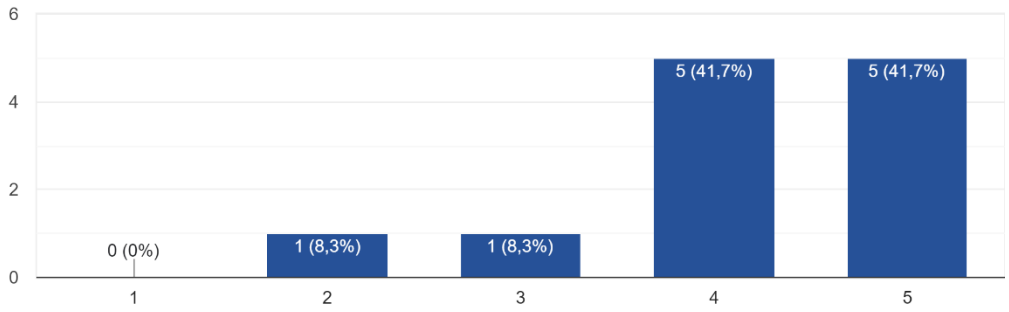
Open standard for data-driven space economy

11 risposte



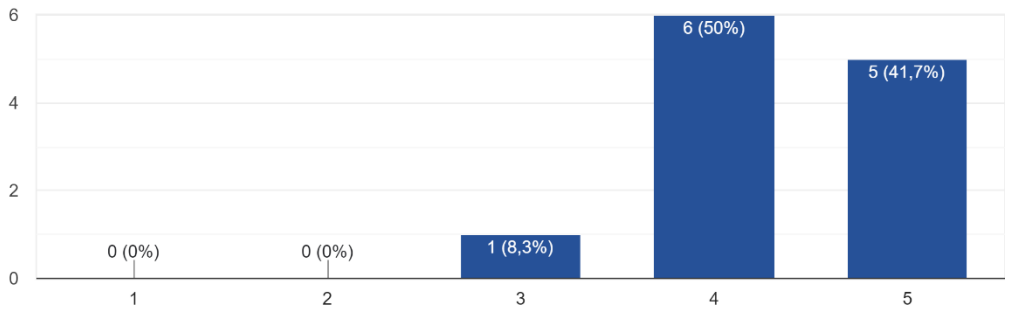
Impiego di immagini satellitari Sentinel-2 per la derivazione delle batimetrie costiere in Liguria

12 risposte



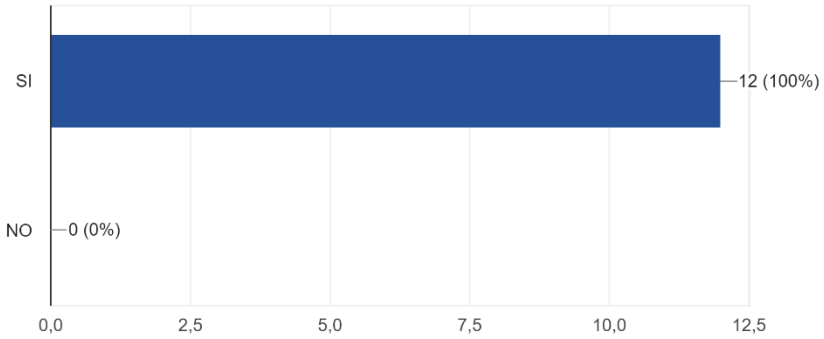
da 1 (scarso) a 5 (molto buono)

12 risposte



Consiglierestе un prossimo evento EO4GEO a un vostro amico/collega?

12 risposte



Desidera avere maggiori informazioni sull'Alleanza EO4GEO, sui risultati del progetto e su iniziative e progetti futuri (ad esempio, opportunità di coinvolgimento, ecc.)?

11 risposte