With the support of the Erasmus+ Programme of the European Union Sector Skills Alliances N° 591991-EPP-1-2017-1-IT-EPPKA2-SSA-B

D6.6 - Final conference and endorsement of the Action Plan

Author(s)/Organisation(s):

- Beatrice Malnati (EIT Climate-KIC)
- Stefka Domuzova (EIT Climate-KIC)
- Kevin Ramirez (EIT Climate-KIC)

Work package / Task:

WP6 - Developing a long-term Action Plan

Task 6.5 – Endorsing the Action Plan: EO4GEO conference

Short Description:

Report of the EO4GEO final conference “Shaping the EO*GI skills of the future” held in Brussels and online on the 17th and 18th of May 2022.

Keywords:

Space Geoinformation education and training; demand survey; technological and non-technological trends; Copernicus

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	01/06/2022	Stefka Domuzova	First draft	Structure
0.2	06/06/2022	Beatrice Malnati	Second draft	Review of content and minor changes
1.0	07/06/2022	Stefka Domuzova	Ready for the QA	Review of content
1.1	16/06/2022	Stefka Domuzova	Review after QA	Implementation of suggestions by QA reviewer
2.0	28/06/2022	Stefka Domuzova Kevin Ramirez	Final version	Final review

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1. Introduction

1.1. EO4GEO project

EO4GEO is an **Erasmus+ Sector Skills Alliance** gathering **25 partners** and supported by a strong group of Associated Partners[1] **from 16 EU countries**. Most of them are part of the **Copernicus Academy Network** from academia, public or private sector, and are all active in the education and training fields of the space geoinformation sector. The Associated partners mostly consist of associations or networks active in the space geoinformation domain. The project started on January 1st, 2018, upon approval by the EU Education, Audio-visual, and Culture Executive Agency (EACEA) and runs over 54 months.

EO4GEO **aims to bridge the skills gap in the space geoinformation sector** by creating a strong alliance of players from the EO*GI community reinforcing the existing ecosystem and **fostering the uptake and integration of space geoinformation 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 geoinformation education and training considering the current and expected technological and non-technological developments in the space geoinformation and related sectors (e.g., ICT). The strategy is implemented by: creating and maintaining an ontology-based Body of Knowledge (BoK) for the space geoinformation 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 teaching/learning units directly usable in the context of Copernicus and other relevant programmes and conducting a series of training actions for a selected set of scenarios in three sub-sectors - integrated applications, smart cities and climate change - to test and validate the approach. Finally, a long-term Action Plan is being 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

Work package 6 (WP6) aims to develop the necessary mechanisms required to ensure the long-term sustainability of the EO4GEO alliance, whose main components are illustrated in the figure below, and the current and future outcomes emerging from its operation. This would allow a sustainable and systematic collaboration between all the actors involved in education and training throughout all the parts of the space geoinformation value chain.

[1] 49 associated partners as of 28th February 2022

Further developments identified by the 5 Working Groups	New outputs to be developed (after the project end)
WHAT to do in details after the project end	

Sector skills strategy (SSS) in Action (Vision, mission, goals, 5 strategic objectives, 15 specific objectives of the space/geospatial sector)	Long-term action plan • Governance model (of the Alliance) • Business plan (of the Alliance) • Mainstreaming, impact and multiplication approach (of the ecosystem) • Maintenance and roll-out plan (of the ecosystem)
WHAT to do for the EO*GI sector and WHY	HOW to sustain the ecosystem

11 project outputs already developed (during the project lifetime)
HOW to enable the EO4GEO approach from business processes and curricula to training offers, leveraging the Body of knowledge

EO4GEO Alliance (Entity whose value proposition is to play a leading role in the implementation of the Sector skills strategy)
WHO will sustain the ecosystem

This approach integrates the outputs and different results developed along the EO4GEO project as well as new ideas proposing alternatives and scenarios to manage the current and future developments of EO4GEO as an Alliance.

The objective of the work package is to present a coherent action plan that would facilitate the future operation of the Alliance by exploring options for its governance and financial sustainability. Therefore, suitable avenues were identified for the uptake and mainstreaming of the proposed activities hence enhancing its impact in the short, middle, and long term.

In addition, WP6 is grounded on the Sector Skills Strategy in Action (SSS) and on the complementary activities carried out by five Working Groups established to identify detailed actions enabling the achievement of the five Strategic Objectives of the SSS, namely:

- **Strategic Objective 1**: To set up a skills intelligence mechanism to identify the skills and competences required and provide feedback on the evolving sector needs
- **Strategic Objective 2**: Reinforce cooperation among stakeholders from the academic, private, and public sectors on skills development and requirements
- **Strategic Objective 3**: To set-up a mechanism for helping and guiding candidate learners in their skilling, upskilling, and reskilling efforts
- **Strategic Objective 4**: To facilitate and stimulate a more integrated approach to skills development across different value chains
- **Strategic Objective 5**: Encourage citizens' engagement, citizens' science practices and hands-on activities enhancing the inclusion/recognition of EO*GI applications' value in everyday aspects of life.

The following are some of the main objectives of the work package:

- To define possible long-term governance structures and mechanisms for the Alliance
- To identify the financial resources needed to execute the Action Plan and the possible sources of funding
- To find mechanisms for mainstreaming the activities, maximising their impact, and creating multiplier effects
- To highlight how the project outputs can be rolled out and maintained in a systematic way after the project lifetime
- To embed in a unique long-term action, plan the key aspects needed to sustain the project outputs from the day after the project closure up to 10 years and beyond

1.3. Objectives of Task 6.5

One of the main aims of Work Package 6 is to investigate and illustrate different alternatives **to multiply and mainstream the outputs of the project and maximise its impact.** This entailed mapping different stakeholder groups who are likely to benefit from the use of the project outputs as well as preparing the necessary communication and dissemination tools to effectively reach out to those organisations. In addition, we also targeted stakeholders coming from non-space sectors to promote the use of EO*GI data. This process started by raising awareness of both the availability and the potential of the use of open EO*GI data as well making emphasis on the need to train, reskill and upskill Europe's work force. In this context, the aim of **Task 6.5 'Endorsing the Action Plan: EO4GEO conference'** was to create the right space for dialogue and discussion about the results of the space geoinformation sector skills alliance, in the context of a hybrid conference. The event, which took place in Brussels in May 2022, was supported and by representatives of the broader education/training and space geoinformation industry, but also by the Copernicus programme and other relevant European actors.

1.4. Purpose and structure of the document

The purpose of the document is to report in detail the content and main takeaways of the EO4GEO final conference, as well as to illustrate the endorsement of the Long-Term Action plan by the project's stakeholders.

The report will therefore be structured in the following manner: *Section 2* will provide an overview of the purpose of the conference, *Section 3* will illustrate the detailed agenda of the event, *Section 4* will explain the promotion of the event, *Section 5* will elaborate on the feedback received through a post-event questionnaire, *Section 6* will discuss the endorsement received regarding the future of the Alliance, finally *Section 7* will discuss the way forward.

2. *"Shaping the EO*GI skills of the future"* conference: purpose and framework

The conference "Shaping the EO*GI skills of the future" took place as a final event, marking the end of the Blueprint project EO4GEO. The aim of the conference was to gather a broad and diverse group of EO*GI stakeholders from academia, public and private sector, in order to showcase the work and the results of the project focused on identifying and bridging the skills gaps in the EO*GI sector, while simultaneously paving the way towards post-project collaboration and creation of the EO4GEO Alliance. This includes gathering opinions and support from the stakeholders present at the conference – both in person and online.

To support the above goals, EO4GEO partnered with the European Vocational Skills Week 2022 organised by DG EMPL of the European Commission, of which the conference was nominated a partner event. Accordingly, all the promotional materials contained the branding of the EU initiative.

Fig. 1: Official banner of the European Vocational Skills Week 2022

The conference was followed up by a two-day project meeting allowing the project consortium to make sure that the views expressed by the stakeholders and the outcomes of the discussions were taken into consideration, and that the plans for the future of the project are aligned to them.

Fig. 2: Group picture of the EO4GEO consortium at the Final Conference in Brussels, 2022

3. Agenda and organisation of the conference

3.1 Agenda overview

The event was organised in **3 sessions** taking part over two days.

(i) ***EO4GEO Sector Skills Alliance: way forward*** – was focused on the future of the EO4GEO Alliance. The idea of this session was to grant an open floor for project partners and invited academics and representatives of the private, public sector and other institutions to participate into an interactive and open discussions regarding the skills gaps in the sector and the means that the EO4GEO Alliance could use to tackle them. The session culminated with a panel discussion with representatives from the European Space Agency, the European Commission and European Education and Culture Executive Agency.

(ii) The session *"**Need for new EO*GI skills**"* aimed at looking at the current policy context of skills development in the EO*GI sector and of already existing initiatives aimed at bridging the existing skills gap. In the third and final part of this session there was a presentation of the role of the EOGEO activities in filling these gaps and showcasing of examples from users of the project's results sharing their experience.

(iii) During third and final session "***Recognising and addressing skills gaps in the EO*GI sector***" the discussion was centred around the different skills gaps as perceived in different domains: public, private, regional and citizens science. A lively panel with representatives of these fields and of the European Commission concluded the event.

A recording of the event as well as the presentations of the speakers are available on the EO4GEO website, while their expertise and short bios can be found in Annex I.

3.2 Detailed agenda of the conference

Day 1: 17th May 2022 (Tuesday) (10.00 - 16.00 CEST)

Morning session: EO4GEO Sector Skills Alliance: way forward (10.00-12.00 CEST) ***Interactive and open with invited stakeholders***	
10:00 - 10:10	**Welcoming statement** – Vytaute Ezerskiene, Project Officer, EACEA
10:10 – 10:30	**Lessons learnt from the EO4GEO Alliance and the steps forward** – Danny Vandenbroucke, EO4GEO scientific coordinator, KU Leuven
10:30 – 11:00	Uptake of EO4GEO results and open discussion on the way forward
11:00 - 11:15	COFFEE BREAK
11:15 - 11:30	Wrap-up of open discussion on the way forward
11:30 – 12:00	**Panel discussion** and closing remarks (Moderator: Danny Vandenbroucke)
12:00 - 13:00	LUNCH BREAK
Afternoon session: Need for new EO*GI skills (13.00-16.00 CEST)	
13:00 - 13:15	**Opening statement** - Julie Fionda - Deputy Head of Unit, Skills and Qualifications, DG Employment, European Commission
I. Policy context	
13:15 - 13:30	**Skills supporting the growth of the space ecosystem** - Maria Vittoria D'Inzeo - Policy Officer, DG DEFIS, European Commission
13:30 - 13:45	**Green skills to support Europe's green transition -** Solveig Zophoniasdottir- Learning Services Orchestrator, EIT Climate-KIC
II. Initiatives and activities addressing EO*GI skills building	
13:45 - 14:00	**ESA skills-building and educational activities on Earth Observation** - Natacha Callens, ESA Academy Administrator, European Space Agency
14:00 - 14:15	**Market needs influencing the EO*GI skills of the future –** Chiara Solimini, Space Downstream Market Officer - European Union Agency for the Space Programme
14:15 - 14:30	**EO needs for monitoring of land policies** - Rene Colditz, Policy Officer at DG CLIMATE ACTION, European Commission
14:30 - 14:45	**EO*GI skills building in international context –** Robert Eckardt - Project Coordinator 'EO College & EO Connect', Friedrich Schiller University Jena; EOTEC DevNet

III.	EO4GEO addressing the EO*GI skills gap
15:10 - 15:30	**EO4GEO: addressing the skills gap in the EO*GI sector -** Danny Vandenbroucke - EO4GEO scientific coordinator, KU Leuven
15:30 - 15:45	**Testimonials session on the use of EO4GEO tools -** Eugenia Sarafova - Senior Assistant Professor, Sofia University & Juan José Sáenz de la Torre - Head of Communications, Predictia
15:45 - 16:00	**Closing remarks**

Day 2: 18th May 2022 (9:00 – 12:40 CEST)

Morning session: Recognising and addressing skills gaps in the EO*GI sector (9.00-12.40 CEST)	
9:00 - 9:20	**A welcome note and introduction to the EO4GEO Alliance and its role in EO*GI skills building** - Milva Carbonaro, EO4GEO project coordinator, GISIG
9:20 - 9:40	**Skills development demands in the private EO*GI sector** - Babs Dumont - HR Director, Geographic Information Management NV
9:40 - 10:00	**Skills development demands in the public EO*GI sector** – Ingrid Vanden Berge – General manager, National Geographic Institute of Belgium
10:00 – 10:20	**Need for EO*GI skills in local and regional governments** - Francisco Wallenstein - Chairman of the Board of Directors RAEGE Azores Association
10:20 - 10:40	**Citizen science in the EO*GI sector**- Linda See - Senior Research Scholar, International Institute for Applied Systems Analysis
10:40 - 11:20	COFFEE BREAK
11.20 - 11.40	**A new look at IoT: the Interrelationships of Things in the EO*GI sector** – Anna Spiteri - Managing Director, Integrated Resources Management Co.Ltd.
11:45 - 12:30	**PANEL DISCUSSION – Identifying and addressing skills gaps in the domain of EO*GI**
12:30 - 12:40	**Closing remarks**

4. Promotion of the event, registration, and attendance

The event was promoted through a targeted email campaign aimed at key stakeholders and European projects in the EO*GI field, social media campaigns on Twitter and LinkedIn, as well as through dedicated presentations to groups of potential attendees, such as the Copernicus Relays and Copernicus Academy members. More information was timely published and updated on the EO4GEO website.

Fig. 3: Event banner publicised on Twitter and Linkedin

161 people had registered through the Eventbrite platform to attend remotely and could access the discussion through videoconference system integrated with MS Teams. Attendees were able to follow and take part in the conference and the discussions both online and at the venue – where the attendance had to be limited to 40 people due pandemic-related restrictions in place.

On the first day of the conference, 81 of the 161 registered attendees participated online, while 40 participated in person. Of these, 7 were online speakers and 5 were in person speakers.

On the second day of the conference, 76 of the 161 registered attendees participated online, while 40 participated in person. Of these, 7 were online speakers and 2 were in person speakers.

Overall, the conference registered a participation of 124 individual attendees.

5. Feedback

An online questionnaire was distributed at the end of the conference, in order to gather feedback and evaluate the level of satisfaction with its content and organisation.

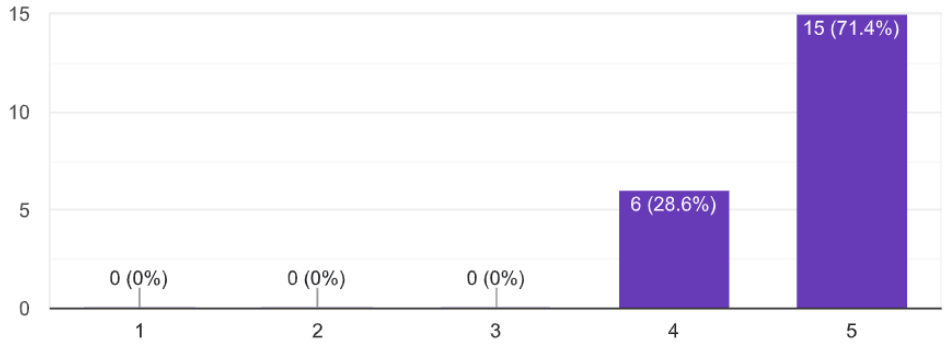
The results presented herein are based on 21 respondents, who were asked to which degree they agree to each of the proposed statements (1 being 'not at all' and 5 being 'completely'). Being able to examine the feedback of 21 participants is still considered to be a sufficient sample to gather a general understanding of the public's impressions.

Below, the most relevant feedback is presented. It testifies that both the Final Conference and the EO4GEO project received very positive overall feedback by the attendees.

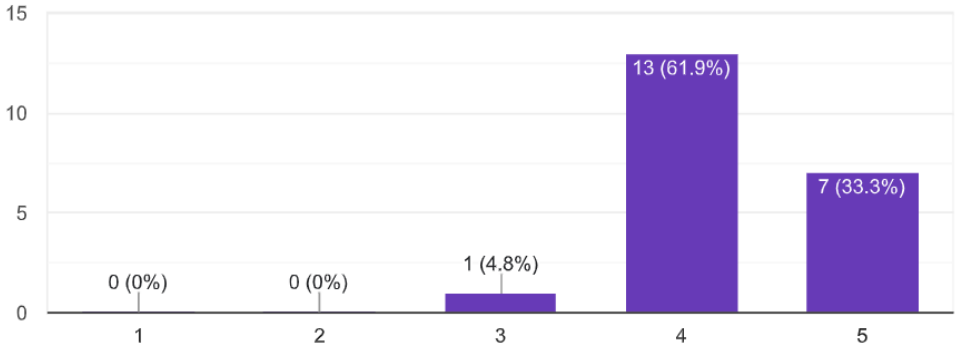
The integral quality assessment of the EO4GEO final conference is available at the end of the document as Annex II.

5.1 Feedback on the conference

1. **Interest and relevance of the topics covered:**

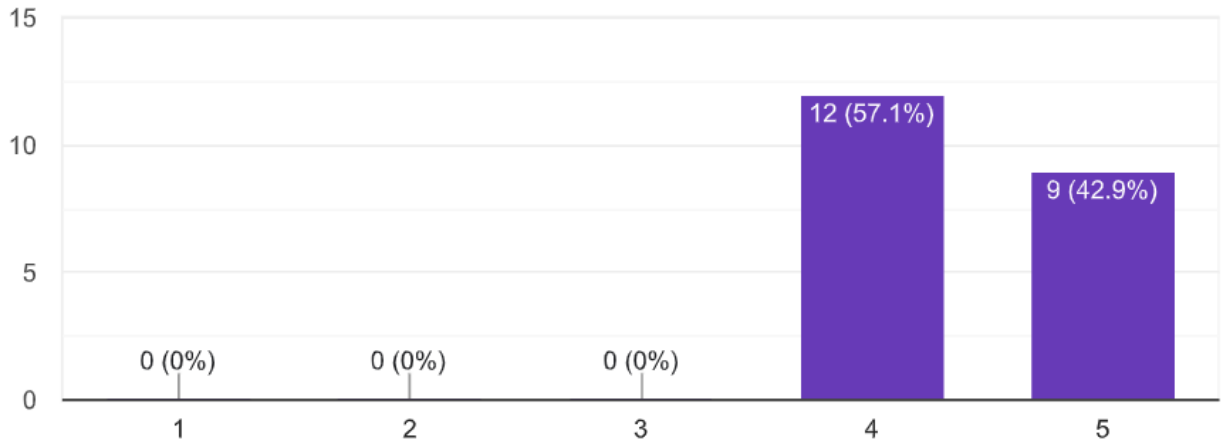


2. **"The conference met my expectations."**

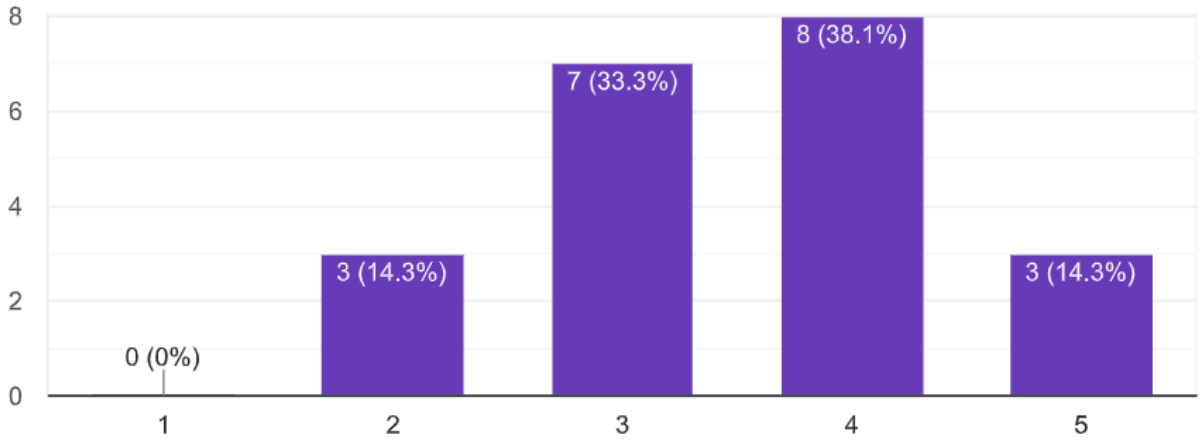


5.2 Feedback on the EO4GEO project

1. "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."



2. "The EO4GEO project will probably contribute to career development in my organization."



6. Endorsement of the future of the Alliance

The work and outputs of EO4GEO were endorsed throughout the conference, through panel discussions with exponents of the field, as well as by involving all the attendees directly through a survey.

Two panel discussion served as the platform to discuss the achievement of the Alliance. The first panel discussion took place during the first day of the conference, on 17th May 2022, and involved the project partners and some of its key stakeholders. The second panel took place during the second day of the conference, on 18th May 2022, and involved experts, regional authorities and policy makers involved in different areas of EO*GI sector value chain. A three-part survey delivered on Mentimeter was used to gather the inputs from the public.

The next three subsections offer an overview of the discussions held during the respective panels.

6.1 Panel discussion (17th May) – Sector Skills Alliance way forward

The first panel discussion[2] was moderated by Danny Vandenbroucke, the Scientific coordinator of EO4GEO. The discussion aimed at obtaining feedback on the project in general and understanding the *stakeholder's* perspective about *its results and future evolution as the EO4GEO Alliance*. Three panellists participated in the discussion: Natacha Callens (ESA - Academy's Training and Learning), Maria Vittoria D'Inzeo (DG DEFIS) and Emanuele Barreca (DG COMP).

During this session, the moderator Danny Vandenbroucke briefly mentioned the main outputs of the project such as the development of the Body of Knowledge and the trainings resources and invited the panellists to share their feedback and discuss potential synergies.

Natacha Callens from the ESA was the first to take the word and expressed genuine appreciation for the work of the Alliance. In particular, Natacha Callens was impressed by the concept of the Body of Knowledge, and also endorsed the development of the curricula and training, due to their importance to fill the skills gap in the sector. After highlighting the clear synergies with EO4GEO, Ms. Callens closed her intervention by showing interest in a further partnership between EO4GEO and the European Space Agency, which has been offering trainings in Earth Observation for the past 30 years. In particular, Ms Callens suggested that it is important to avoid repetitions in the work, but to find complementarities instead.

Maria Vittoria D'Inzeo from DG DEFIS also praised EO4GEO's work and said to be pleased to be able to collaborate with the Alliance. In fact, according to Maria Vittoria D'Inzeo, EO4GEO's outputs highly resonate with the European Commission's policy strategy on Earth Observation. Like Callens, D'Inzeo also praised the BoK and the curricula, and showed interest for the maintenance of these outputs in the future, so that they can be updated as the market expands. Maria Vittoria D'Inzeo also praised the holistic overview granted by the Sector Skills Strategy developed by the EO4GEO Alliance.

Finally, Emanuele Barreca (DG COMP) extended the conversation to the field of space in general

[2] Link to the panel discussion (17th May): https://www.youtube.com/watch?v=VUrOPsk4oBs&ab_channel=EO4GEO

and argued that the outputs of EO4GEO are extremely useful to understand the sector and its barriers. EmanueleIn particular, Manuele Barreca stated that the outcomes of the project are relevant for both the short term and the long-term development of the sector. As for the short term, it was argued that the tools such as the BoK and the curricula are useful in the present and should be made even more accessible to the players in the space field. As for the long term, it was argued that stronger connections should be made with other sectors influenced by space, in order to fully exploit synergies through interdisciplinarity.

Overall, the feedback received by the stakeholders was very positive and confirmed the relevance of the project. More collaboration with the ESA and the EC is therefore expected in the future of the Alliance, in order to fully exploit synergies.

6.2 Panel discussion (18th May) – Identifying and addressing skills gaps in the domain of EO*GI

The EO4GEO final conference concluded with a panel discussion[3] moderated by Inese Suija-Markova, the Managing Director of the Latvian Institute for Environmental Solutions. The discussion aimed at Identifying and addressing skills gaps in the domain of EO*GI, and featured four panellists: Simon Kay (EC, DG Clima), Linda See (International Institute for Applied System Analysis), Francisco Wallenstein (RAEGE Azores Association) and Anna Spiteri (Integrated Resources Management Co. Ltd). Together, the panellists engaged in a discussion about EO*GI skills that touched upon several different points, from the importance of making the field more appealing, to the need to reskill and maintain human capital.

Early in the conversation, the importance of EO*GI skills for policy making was discussed. In this regard, Francisco Wallenstein stressed the need for concrete applications for EO*GI tools. This view was shared by Simon Kay, who claimed that policy makers tend to be very focused on abstract figures, while there is indeed a need for concrete actions. Quoting his words regarding climate policy: 'Policy makers need to understand when, what and when.' (Simon Kay, 2022)

The importance of interdisciplinary education and training for EO*GI skills was also addressed. Anna Spiteri strongly praised the study of geography, as it is an extremely valuable discipline to understand the interrelationship of things. Simon Kay debated that while Geography indeed offers pertinent knowledge in the field for EO*GI, it is not enough alone, and need to be supported with blended education from other disciplines. Linda See agreed with the need for more interdisciplinarity, and advocating for courses that integrate different skills, instead of being rigidly focused on one topic.

Linda See also brought up an interesting point when saying that the reskilling should be a joint effort of both Universities and Public/Private organizations. Indeed, while it is true that Universities have the responsibilities to build well-rounded interdisciplinary courses, it is also true that schools alone cannot provide all the skills and knowledge that are needed to cope with today's increasing demand for refined EO*GI skills. For this reason, it is also important that both public and private organizations take the responsibilities or training their own employees, as they cannot expected to reskill on their own without guidance. This last point is particularly important, and highlights the relevance of projects

[3] Link to the panel discussion (18th May): https://www.youtube.com/watch?v=RQE1Mj3CCkw

like EO4GEO, which collaborate with both Universities and public/private organizations, in order to work together on the reskilling and upskilling of the European workforce in the field of EO*GI.

Anna Spiteri also argued that it is crucial to always include stakeholders at any level into the conversation. In fact, EO*GI skills are not only needed for the sake of the Earth Observation community itself, but they benefit other communities too. In Spiteri's experience, too often EO*GI was considered a distinct field, with no clear overlapping with policymaking. It is for this reason that it is now important to actively work to enlarge the conversation and engage with a variety of stakeholders from different fields. Therefore, EO4GEO's future Alliance will also need to put the appropriate efforts to scan through, gather, and unite a vast array of stakeholders with interest and contributions in the EO*GI field.

6.3 Interactive Session: Endorsement questions to the attendees

Three questions were asked to the attendees during the conference to understand their position regarding skills development and attitudes towards the EO4GEO Alliance. Below, the questions are presented together with all the anonymous answers received through Mentimeter. The answers, which appeared on the screen in real-time during the conference, were discussed live during the sessions.

Question 1: What do you see as the most important challenge in skills development for the sector of Earth Observation?

The first question was asked after the presentation of the ESA Academy Administrator Natacha Callens, who discussed the role of skills in supporting the growth of the space ecosystem. The public was therefore asked to reflect on what are the main challenges in skills development in the sector.

Below the individual answers are shown, clustered by theme:

Theme	Individual answer
Connections	- Connecting all the tech and scientific fields into one umbrella and demonstrating it in an easy-to-understand way to the users - To bring the technical skills to nontechnical interested people. - Collaborative work, no duplications - Efficient global coordination of available resources - To bring together all the stakeholders, avoiding fragmentation - Being able to connect EO technology, quality, and purpose - To coordinate efforts and pull expertise by key stakeholders together
Education	- Need to educate the general public. - Content of study program for geography teachers will include subject on the topic of RS - Bridge the gap between educational programmes and EO - Integration of new technologies in the curricula - Having open resources to use at your own pace and having open access to tools. - Teaching the EO*GI basis and at the same time leading our students

	toward advanced EO*GI applications, methods, developments - Students should be able to program, as this is necessary when seeking for individual data analysis solutions
Skillset creation	- Keeping track of and teaching the broad multi-disciplinary skillset inherit to the sector. - To set up the sector skills mechanism (inc. trends observatory tech, political...etc) - Formulating a skillset that is searchable
Awareness	- Making a broader audience aware of the possibilities/need for EO (so that they will be motivated to start learning about it). - Involving actors from outside of the EO*GI sphere.
Trends	- Being in line with new tech developments - Monitor technological and policy trends - Keep track of new trends and developments

In a nutshell, it is possible to identify at least five separate challenges to skills development in the Earth Observation field:

1. **Connections:** Bringing together all the stakeholders, in order to avoid fragmentations and coordinate efforts.
2. **Education:** Ensuring the education of the general public, with a specific focus on the application of tools and integration of new technologies in the curricula.
3. **Skillset creation:** The importance to have the correct skillset, which should be extensive, multi-disciplinary and searchable.
4. **Awareness:** Raising awareness on the importance of EO*GI in order to ultimately enlarge the audience and to include actors that do not gravitate in the usual sphere of influence of EO*GI, but who belong to other linked yet different field.
5. **Trends:** The need to be in line with trends and development and maintaining a satisfactory level of novelty and modernity in order to keep up with an ever-changing environment.

Below, a word cloud created based on the frequency of the terms mentioned in each answer, gives a visual overview of the opinion of the audience.

Fig. 4: A word cloud created based on the frequency of the terms mentioned in the answers

Question 2: Where do you see potential contribution from your organization (ex. use BoK, trainings, testing tools)?

The second question aimed at understanding the potential future contribution and commitment of each participating organisation.

Differently from the other questions, the answers were not anonymous but were linked with each organization, as listed below in alphabetical order.

Organization	Commitment
DevNet	Link to EOTEC
EARSC	Contributing to the Alliance networking, dissemination, market, policy intelligence gathering
EIT Climate-KIC	Exploit deeper interaction with green skills
EPSIT	Support to Alliance overall management
EUROGI	Address and shape out target marketing for school pupils to find careers in the EO*GI sector. U Tartu - support mapping out regional education and skills demand
FSU Jena	Content on Remote Sensing (especially Radar), Training Sessions, Sample Data
GIB	Case based trainings, EST, green infrastructure
GIM	Add more HR expertise
GISIG	Use of the tools with an integrate and complementary approach
IIASA	Tools for citizen science; information about opportunities, e.g. , our PhD training program, advertising internships
ISPRA	Case based trainings
KU Leuven	Lead BoK developments, prepare new proposals, set-up training services. Institution Bok could be inserted in the curricula for several related courses
PLUS	Structure (re learning objectives, constructive alignment etc.) the teaching material, courses, modules to make them interchangeable for joint educational programmes.
ROSA	Use BoK, Trainings

Spatial Services	Testing and using the tools created within EO4GEO
Uni Jena	Maintaining and improving the EO4GEO BoK
Uni Twente	Maintaining and improving the BoK platform
Universidad Jaime I	Keep the BoK, BoK platform and BoK tools online. Support future revisions of the BoK. Contribute to new proposal writing.
University of Patras	New content on Earth Observation (training actions, sample data), Case based trainings for citizens, stakeholders, students and school pupils.
University of Salzburg	Creation and maintenance of Training Materials, support to the alliance in general
Vito	Trainings and webinars

Question 3: Can you provide some ideas on how skills development can support growth in the EO*GI domain?

The third and final question draws back to the theme of the conference, that is skills development.

Below, the individual answers are clustered by theme:

Theme	Individual answer
Education	- Internships might be very effective - Create new knowledge - Harmonisation of eLearning strategies with formal (academic) education with focus on Practical skills - Development of international double/joint degree programme - In-Company training - Development of interdomain curricula - Actively offering upskilling training to alumni of for example geography courses (providing them with newer technical skills). Just not sure who can provide these. - EO skill since from school programs will help to create a wide favourable environment especially in public administrations - Skills (soft and hard) in the EO*GI domain are the key factors. Self-learning like MOOCs could be a feasible way to go.
Novelty	- Skills for developing and delivering new products and services (commercial and non-commercial) - Generation of new services - Generation of new products - Creative problem solutions - New tools get used and provide revenue - New policies can be addressed

When considering how can skills development support growth in the EO*GI domain, the answers appear to fall into two categories: education and novelty.

The answers appear to be in line with the one of Question 1, in which respondents stated that some of the main challenges of developing skills in the Earth Observation sector include developing the correct education and following the new trends.

It is therefore clear that, in order to support the EO*GI domain, the challenge of education and novelty need to be overcome.

7. Conclusions and way forward

The EO4GEO final conference served as a great platform for professionals working in the Earth Observation and Geographic Information domain to meet and discuss the growing need of skills in the sector. After two days of discussions, presentations, testimonials, and panels with various stakeholders, it was concluded that the EO4GEO project has provided adequate methods and tools to assess the skills gap in the EO*GI sector.

Nonetheless, as concluded during the panel discussion held with the experts, it remains undoubtful that the lack of adequate EO*GI skills is a wide and systematic issue that can only be tackled through a consistent and coordinated commitment of all the interested parties. Here is where the EO*GI Alliance will play a role to continue the legacy of the project and to put its results and conclusions in practice towards ensuring a workforce with the right skills, in the right place, at the right time.

Annexes:

Annex I - Short biographies of speakers (in order of intervention)

The list below includes all the speakers of the event who are external to the EO4GEO consortium. The event included also interventions from Vytaute Ezerskiene (the project officer), Milva Carbonaro (the project coordinator) and Danny Vandebroucke (the scientific coordinator).

1. Julie Fionda (DG EMPLOYMENT)

Julie Fionda has a background in Economics and is currently Deputy Head of Unit in the DG Employment, Skills and Qualifications Unit. She was in 2014-2018 Member of the Cabinet of Marianne Thyssen, Commissioner for Employment, Social Affairs, Skills and Labour Mobility. Prior to joining the European Commission, Julie worked in the UK administration on regional development and social inclusion initiatives.

2. Maria Vittoria D'Inzeo (DG DEFIS)

Maria Vittoria D'Inzeo graduated from the Diplomatic Academy of London in 2011. Since then she has worked in the field of international relations. In 2017 she joined the Space Research unit at the European Commission. She is in charge of topics related to research in the frame of the Union Research and Innovation framework programme, in particular for aspects relating to opportunities in support of the competitiveness and growth of the EU space ecosystem, education and skills.

3. Solveig Zophoniasdottir (EIT Climate-KIC)

Solveig Zophoniasdottis is the Co Lead of Education & Learning Services Lead at Climate KIC at Climate-KIC. As an experienced project leader, process designer and facilitator, Ms. Zophoniasdottirs works with clients to unfold potential in businesses, educational programs and the people within them.

4. Natacha Callens (ESA)

Natacha Callens graduated with a PhD in Physics awarded by the Université Pierre et Marie Curie (France) and the Université Libre de Bruxelles Belgium).
She has worked for the ESA Education Office since 2009. After developing and coordinating for several years some ESA hands-on programmes, including the Fly, Drop and Spin Your Thesis! programmes, she is now in charge of the ESA Academy's Training and Learning Programme and the operationof the Training and Learning Facility.

5. Chiara Solimini (EUSPA)

Chiara Solimini has joined EUSPA recently, and she is supporting the Market Development Department on the Environment, Climate and Biodiversity market segments and on transversal Copernicus user's uptake activities. Before joining EUSPA, Chiara Solimini worked in the Earth Observation sector for more than 15 years, with focus on Earth Observation communication, marketing, product and business development. Chiara Solimini holds a Master degree in Environmental Engineering and a PhD in GeoInformation.

6. René Colditz (DG CLIMATE)

René R. Colditz studied geography with minors in geology and computer science at the University of Würzburg, Würzburg, Germany, and the University of Texas, Austin, TX, USA. He received the Diplom (M.Sc.) degree in geography and the Ph.D. degree in geography and remote sensing from the University of Würzburg, in 2004 and 2008, respectively. From 2004 to 2007, he was a Scientific Employee with the German Aerospace Center (DLR), Wessling, and a member of the Remote Sensing Unit, University of Würzburg. From 2007 to 2017, he was a Senior Scientist with the National Commission for the Knowledge and Use of Biodiversity (CONABIO), Mexico City, Mexico. His main research interests included time-series generation and analysis and classification of time series for land-cover mapping and update. Since 2017 he has been with DG Climate Action of the European Commission. His main activities encompass policy design and policy implementation related to emission reductions and enhanced removals from Land Use, Land Use Change and Forestry (LULUCF), including the geospatial implementation of the existing legal framework, setting of Forest Reference Levels for EU Member States, and developing the new EU Forest Strategy.

7. Robert Eckardt (EOTEC DevNet)

Robert Eckardt is the coordinator of the education initiatives 'EO College' and 'EO Connect' at the University of Jena, Germany. Since 2011, he is the coordinator of the DLR project "SAR -EDU"- Remote Sensing Education Initiative for Microwave Remote Sensing. He is also a Co-Founder and CEO of 'ignite education'.

8. Eugenia Sarafova (Sofia University)

Eugenia Sarafova has a PhD in Remote Sensing and after more than 10 years in the corporate world she started her academic career in Sofia University, where she teaches courses related to Geospatial technologies and innovations. She is the owner of Pixel Company - geographic innovations studio - a Copernicus Relays member from Bulgaria.

9. Juan José Sáenz de la Torre (Predictia)

Juan José is Head of Communications at Predictia, a spin-off company with over 10 years of experience in applying Big Data and Artificial Intelligence to climate, meteo & remote sensing data. Predictia works both for public and private institutions like FAO, IPCC, Iberdrola... and takes part in research projects in Horizon Europe, Copernicus and other EU-funded programmes.

10. Babs Dumont (Graphic Information Management NV)

Babs Dumont is HR director of GIM. She studied Bio-Engineering at the KULeuven and started at GIM as GIS analyst, after that project management and now HR. Babs spent my whole prof career in the geospatial business and knows the challenges of finding and keeping the right staff on board in this high tech and fast evolving market.

11. Ingrid Vanden Berghe (National Geographic Institute of Belgium)

Ingrid Vanden Berghe studies soil sciences at the agricultural engineering faculty of KULeuven. After obtaining her engineering degree she was in research for a few years and then joined the public service. She is head of the NGI since more than 20 years and is a member of the board of several scientific institute. She is also the co-chair of the United Nations committee of experts on global geospatial information management.

12. Francisco Wallenstein (RAEGE Azores Association)

Within the scope of his functions, Francisco Wallenstein represents the Azores Government in the NEREUS and Copernicus Relays networks. He has a PhD in Marine Biology and, after ten years' experience in research on coastal ecosystems and five years' experience as a Project Officer in the Fisheries and Science & Technology Departments of the Regional Government of the Azores, in 2017 he became a Board Member of the Azores Mission Structure for Space and Chairman of the Board of RAEGE Açores, a R&D entity that uses space-based technologies.

13. Linda See (International Institute for Applied System Analysis)

Dr Linda See is a Senior Research Scholar in the Novel Data Ecosystems for Sustainability Research Group in the Advancing Systems Analysis Program at the International Institute for Applied Systems Analysis (IIASA). Prior to that she was an academic in the School of Geography at the University of Leeds teaching in the areas of GIS and Geocomputation. Her current area of research is the exploration of synergies between citizen science, Earth Observation and geographic information.

14. Anna Spiteri (Integrated Resources Management Co. Ltd.)

Anna Spiteri is a leader in Public Participatory GIS (PPGIS), evaluator, reviewer, and observer in Copernicus Space programme since 2002. Ms. Spiteri has a multi-disciplinary educational background: Geography from London University & Aero Space survey in geomorphology from ITC, Twente, The Netherlands, followed by other post graduate courses in hydrology in Brussels, & remote sensing applications for the Mediterrean at Ispra, and recently Community based mapping from Colorado university.

Partner & WorkPackage leader in 16 EU sponsored international research projects. Writer of several project proposals specializing in (1) international cooperation activities, (2) design of customized multi-actor communication pathways & strategies, (3) frameworks for crowdsourcing and (4) Gender Action Plans.

15. Simon Kay (DG CLIMA)

Dr Simon Kay is a Geographer with a long experience in the application of EO-GI to European Policy, starting in the 1990's with the technical reform of the Common Agricultural Policy to area-based payments, through to today's needs for climate policy design to increase climate ambition. He is today Deputy Head of Unit in DG Climate Action C3 "Low Carbon Solutions (III): Land Economy & Carbon Removals", and thus deeply involved in the vision for a climate neutral land use sector under the Fit for 55 package proposal of 2021.

Annex II - Quality Assessment of the Final Conference

"Shaping the EO*GI skills of the future" - Quality Assessment of the Final Conference

21 responses

Publish analytics

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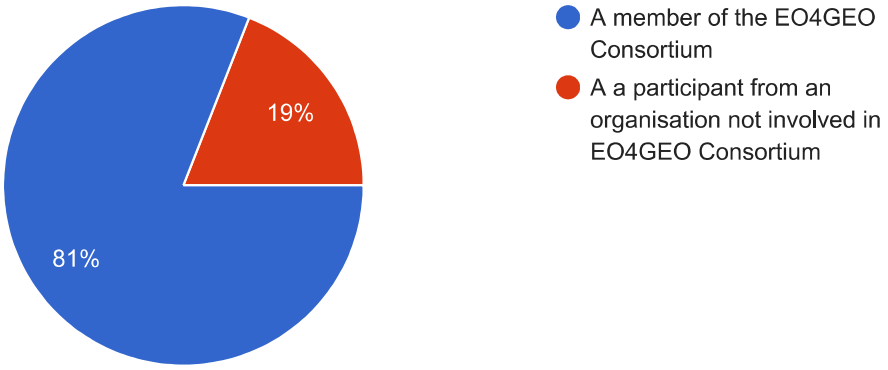

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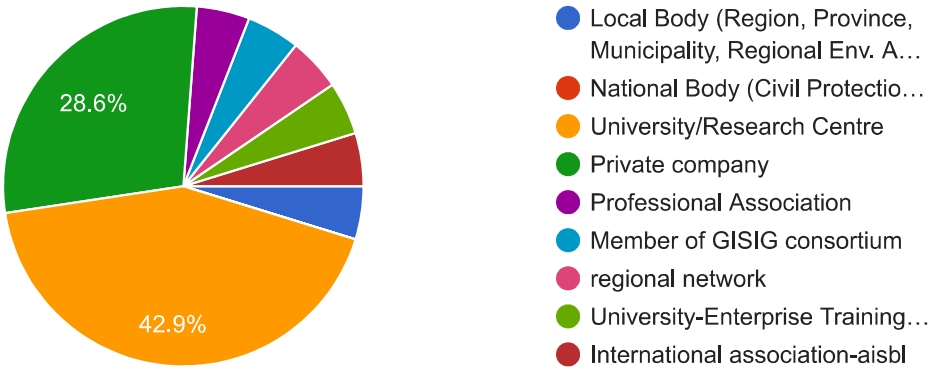

What is your motivation to take part in this conference?

21 responses

To get to know the next steps and the future of the EO4GEO Alliance

Understand the latest innovations and project results

Member of consortia

Invited to present on citizen science

Up to date with new skills in geodesy and geoinformatics

Looking for possibilities to direct cooperation.

Member of the Consortium

member of EO4GEO

my organisation is a member of the consortium, exchange with other partners, comprehensive overview on views and outcomes of the project

I am part of the consortium and I have worked on the project over the years, so it is logical to take part in the final event

Our organisation is a member of the EO4GEO project.

This is the final conference, very interested in the discussions

member of the EO4GEO Consortium

Project partner - interested to hear external views on education issues

Specific interest

Natural, being a partner of such a huge project for so many years

Get to understand the impact that our EO4GEO project will potentially have on skills development in the EO*GI sector

I am working on GIS and trying to implement the use of EO information into our daily projects.

The quality speeches by key institutional and private stakholders

project partner

Interest on skills development for the industry

Organisational aspects

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

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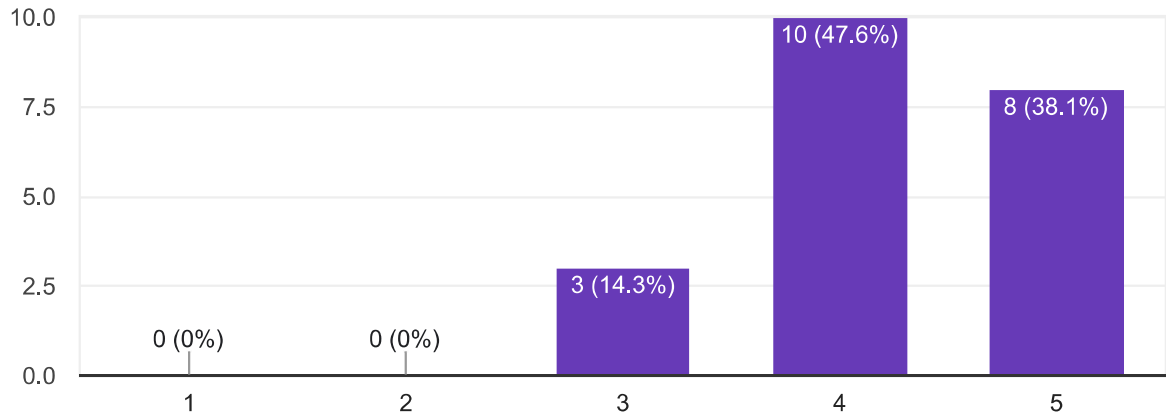

Functionality of used conference tool and software (video, sound, other technical aspects, ...)

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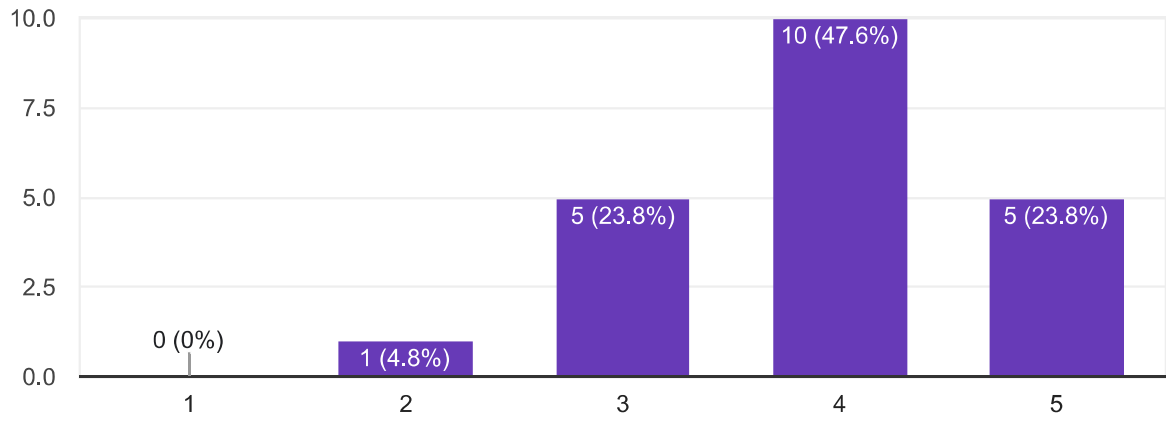

Possibility to exchange and interact with the speakers and other participants

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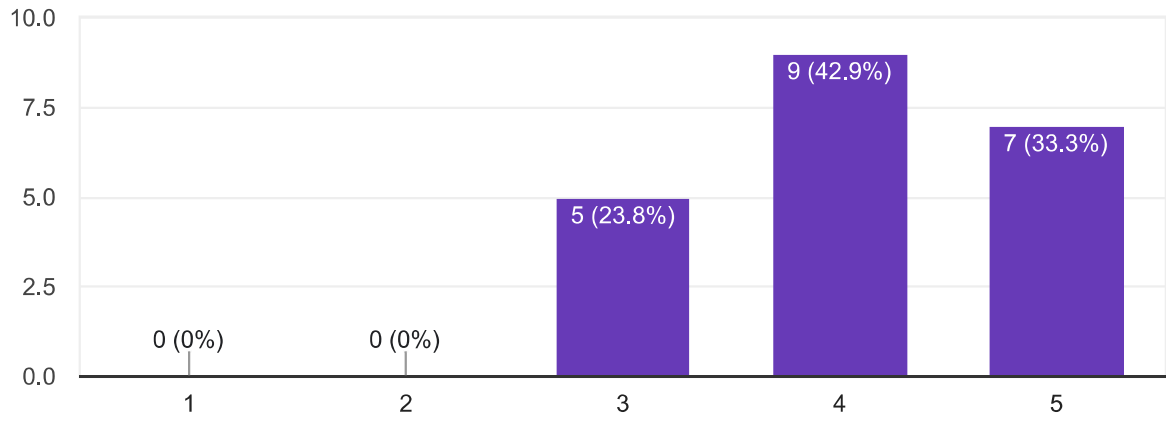

Do you have any suggestions or recommendations for improvements of organisational aspects?

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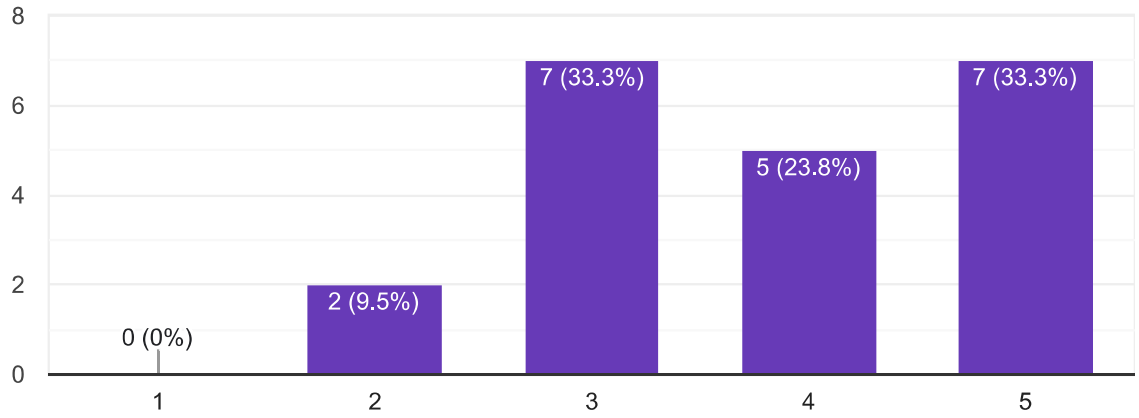

General structure and content of the conference

In my opinion the structure of the conference was logical and well organised

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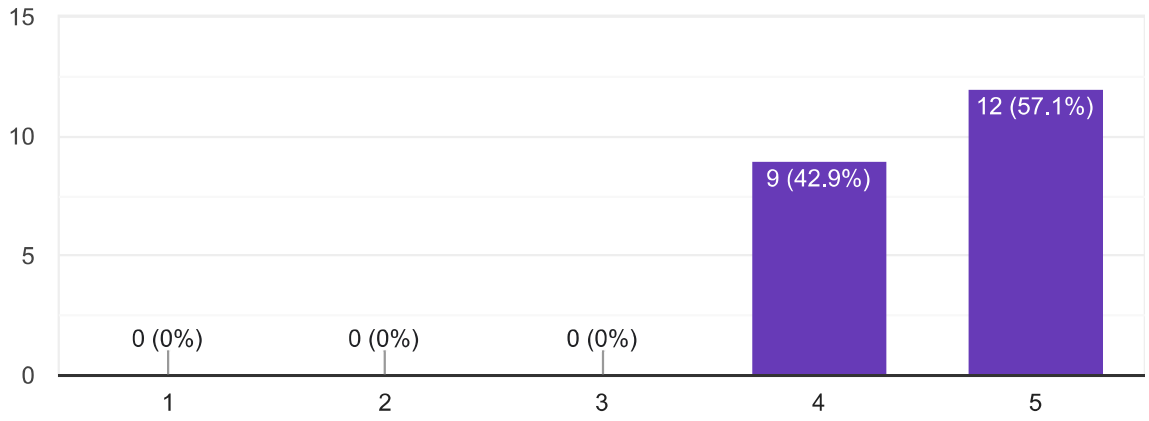

Interest and relevance of the covered topics

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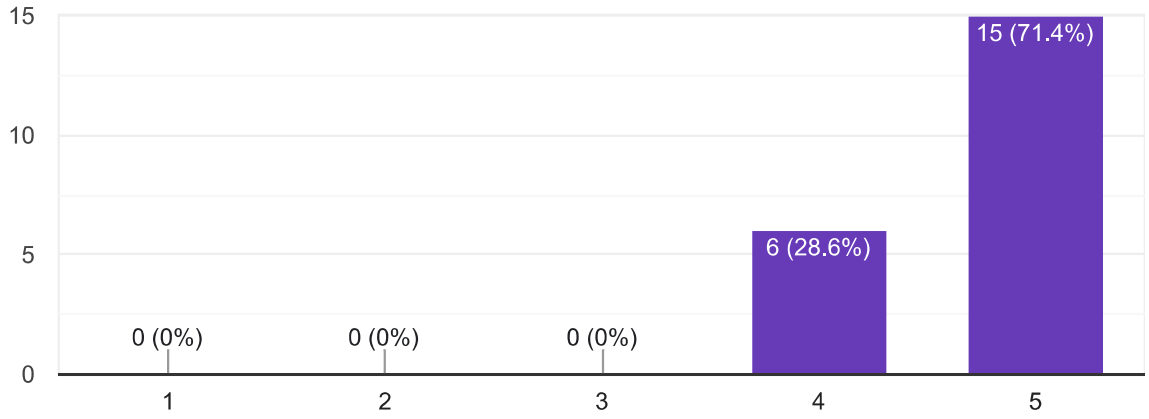

Expertise of the speakers

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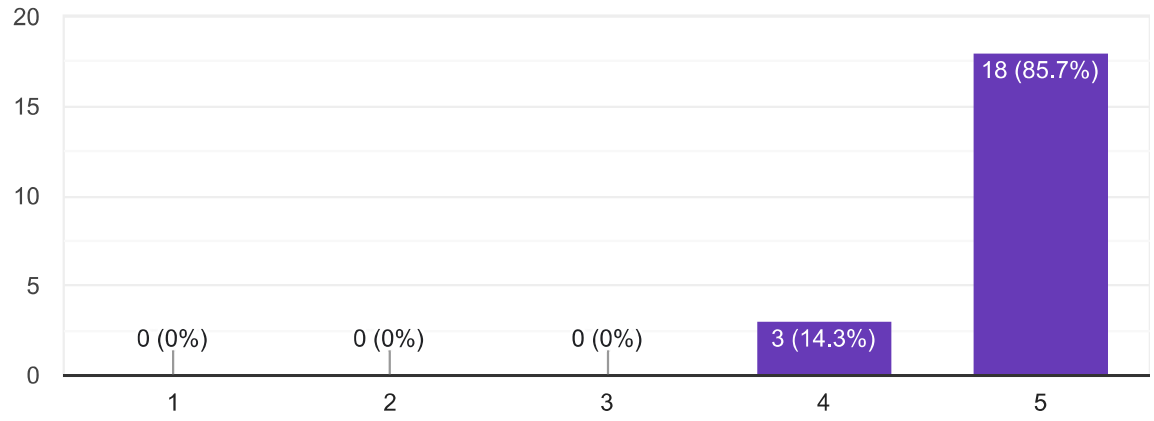

Clarity of the speakers in presenting their contents

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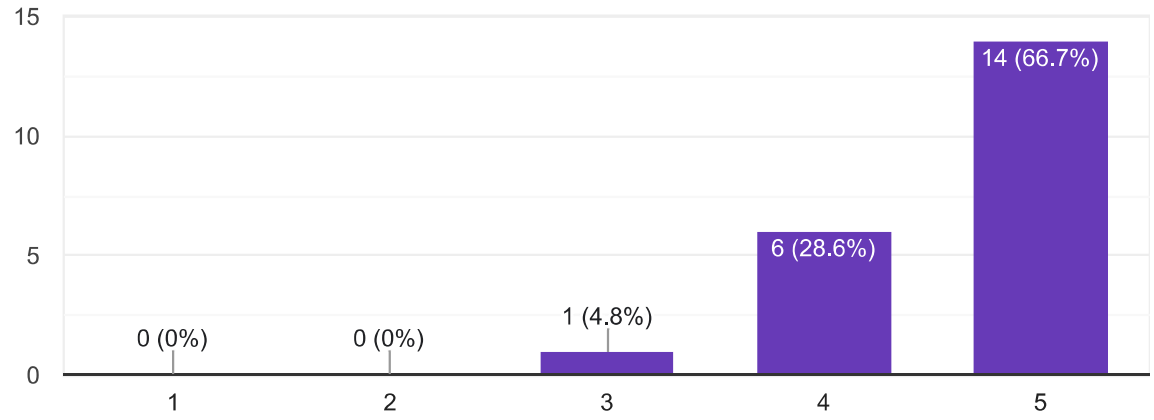

Usefulness of the conference for your work/activities

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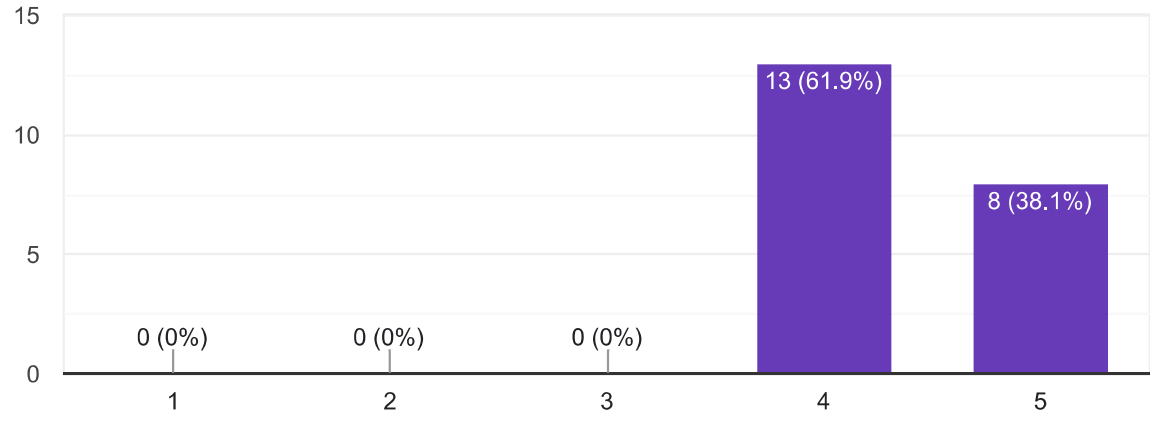

The conference met my expectations

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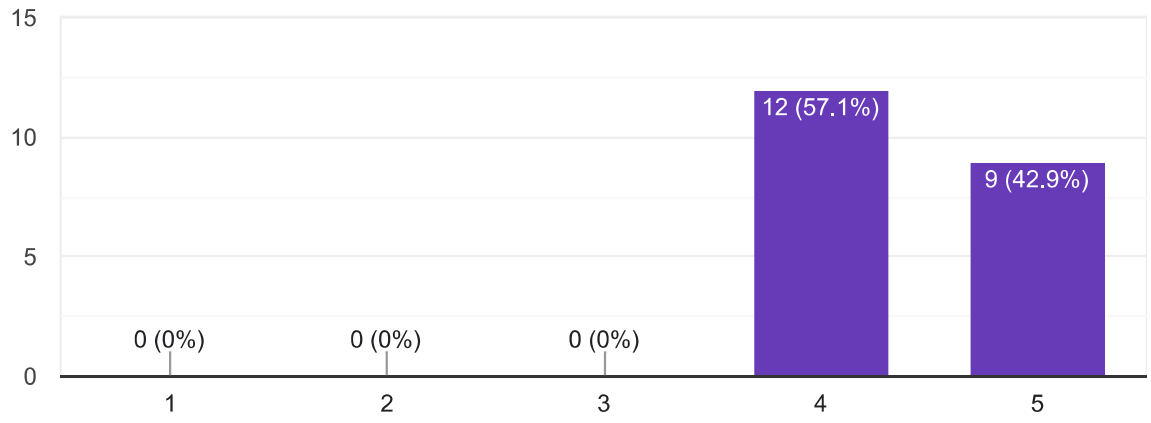

Expected impact of the EO4GEO project

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

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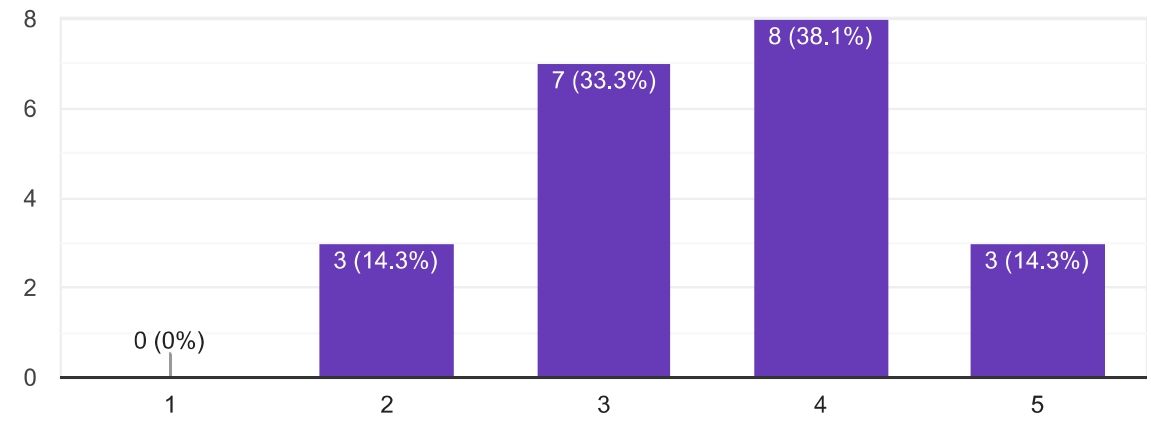

The EO4GEO project involves a diversity of stakeholders in space/geospatial activities

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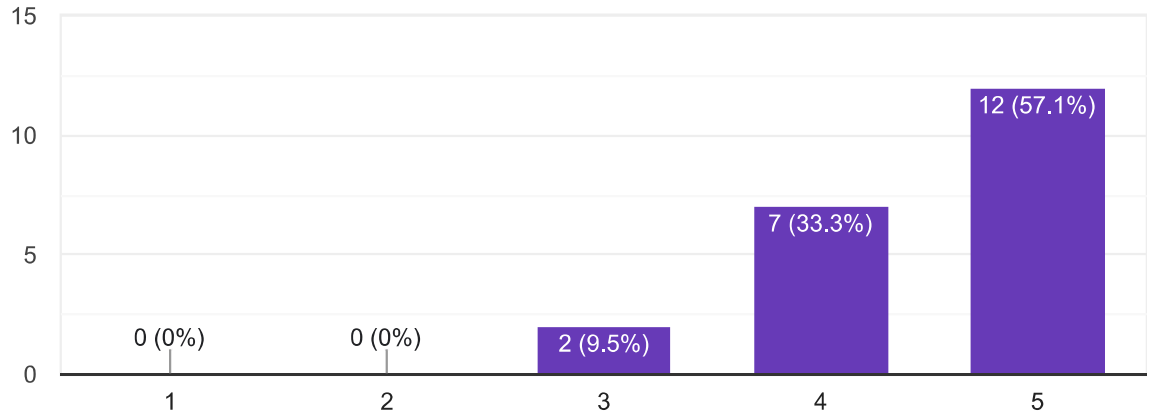

The EO4GEO project will most likely reduce the gap between what education and training is currently provided and what knowledge, skills and competences are required by the labour market.

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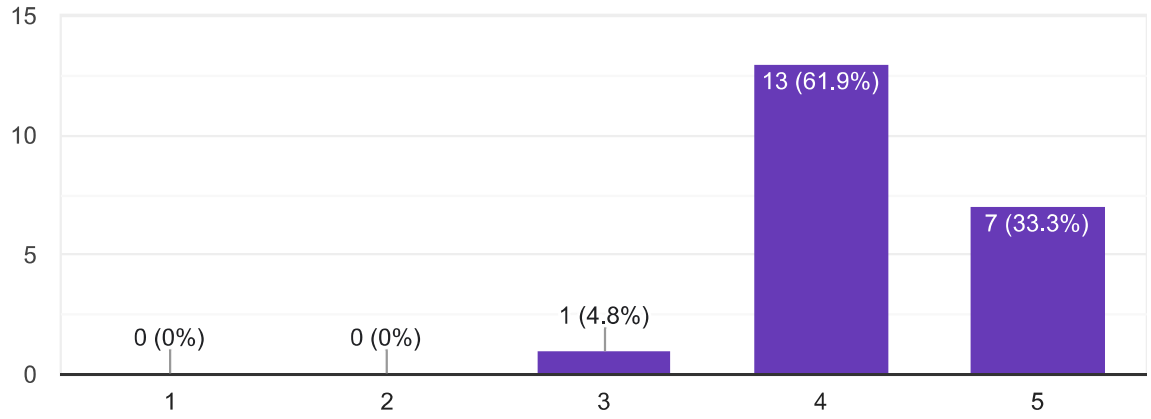

Overall grading of the conference

Please rate the conferecn

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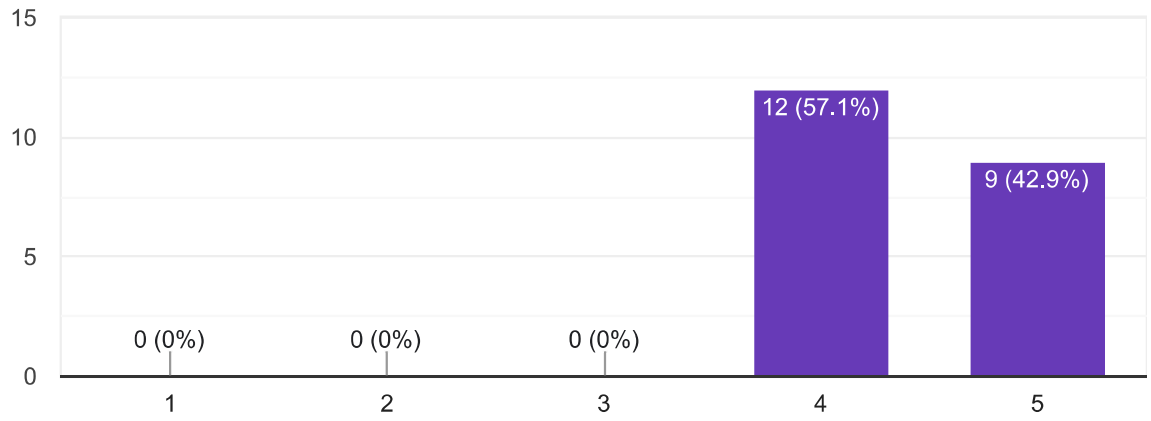

General evaluation

Would you recommend further engagements in the future with the EO4GEO Alliance to a friend/colleague of yours?

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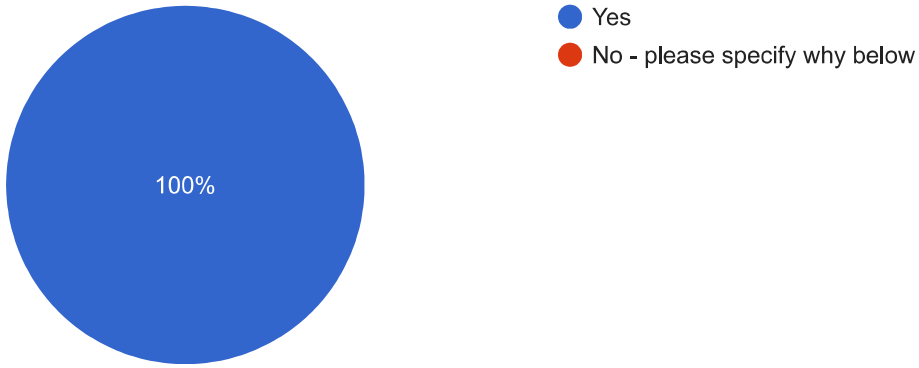

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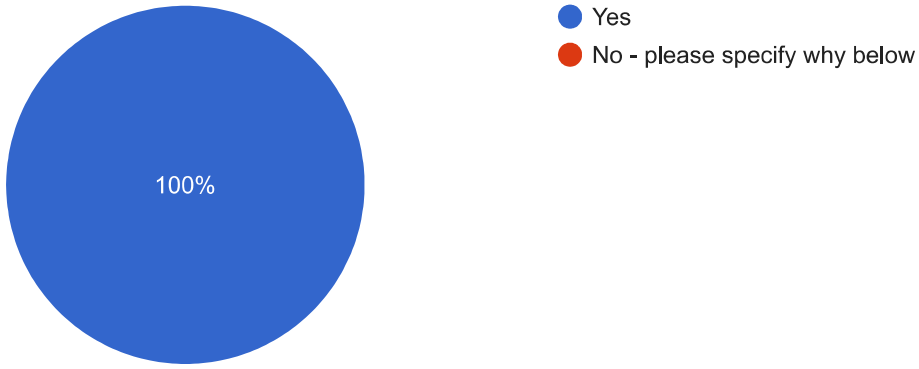

Would you like to have more information on the EO4GEO Alliance and future developments (eg. Opportunities to be involved in etc)

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21 responses