



NEWSLETTER #3

January 2025



Mari Kolehmainen

ASTRAIOS Coordinator
Project Officer, European
Science Foundation

Dear Reader,

Welcome to ASTRAIOS newsletter #3!

We have now entered the third and final year of ASTRAIOS, which will be a whirlwind of activities and initiatives!

Our website is being regularly updated to showcase all deliverables and outreach material from the first two years, including the 1-page country factsheets on space skills and workforce for all EU-27 countries and the UK. Our database of space related curricula in the EU and the UK can now be accessed through the project website and will soon be updated to allow users to submit degree programmes not currently listed. We will share the news once this feature is available.

The project was featured in multiple European space events last year, including the International Geoscience and Remote Sensing Symposium (IGARSS), Industry Space Days at ESTEC, COSPAR 45th Scientific Assembly, the IAC in Milan, and Space Tech Europe in Bremen.

The final year will see numerous initiatives being developed; we are in the process of recording lectures and training materials for Copernicus and Galileo users, and success stories from the two missions will be recorded into a series of podcasts. New outreach material has been produced to help students enter the space sector with concrete steps to reach their career goals, the leaflets are available on our [outreach page](#). Registration is now open for our Bootcamp fostering innovation and leadership in the space sector will be hosted at the International Space University in Strasbourg in February, secure your place through this [link](#). Stay with us for our ASTRAIOS webinar series, which will launch in early February!

OUR PARTNERS



LET'S CONNECT HERE!

🕒 01.01.2023 🕒 36 months

🌐 <https://astraios.eu>

✉ info@astraios.eu



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101082636



Funded by the European Union



Our Latest Progress

ASTRAIOS Deliverables from the first two years - Now Available Online!

A set of the ASTRAIOS finalized deliverables is now accessible online! This comprehensive collection provides valuable insights into the European and UK space sector's evolving landscape, addressing key areas such as education, workforce skills, and industry trends.

[D1.1 Structured data set of HEIs and other institutions/organizations and offered space-relevant curricula/courses](#)

[D1.2 European Space Sector Skills Taxonomy](#)

[D1.3 EU Space Sector Demographics Database](#)

[D2.1 Overview of the trends and challenges for the European space industry](#)

[D2.3 Space Sector Soft Skills Report](#)





Trends and Challenges

Task T2300 is progressing smoothly. Planned actions on distribution of surveys on the soft skills, mobility was successfully done during the following events:

- The SECESA Conference, Strasbourg ISU, France, September 2024
- The IAC Conference, Milan, Italy, October 2024

Online Surveys on soft skills, student mobility was open until November 2024. Likewise, during the conferences, surveys were distributed physically to the participants. In total 200 feedback were collected.

Analysis from surveys Data collected were used to create the scope of the Bootcamp on the soft skills.

The results from these surveys were instrumental in shaping the scope of the bootcamp, providing valuable insights into the critical gaps in soft skills training identified by participants. The feedback emphasized the need for targeted workshops and activities that focus on communication, teamwork, adaptability, and leadership, which are often overlooked in traditional educational paths. These findings guided the design of the bootcamp curriculum, ensuring it addressed the specific needs and interests of attendees while fostering a balanced development of both technical and soft skills.





Trends and Challenges

In relation to the task on workforce demand, evolution and distribution, a quantitative survey was undertaken to collect feedback from the European industry.

The survey aimed to analyse the current state and forecast future trends of the EU-27 space industry's workforce. By gathering detailed data on workforce demographics, skills, and mobility, we seek to align education with industry needs, identify skill gaps, and enhance strategic workforce planning across the European space sector.

This survey was structured into three main pillars, each focusing on different aspects of the workforce in the space industry: (1) Workforce Demographics and Geographical Distribution (2) Skills, Knowledge, and Abilities (3) Mobility and Career Development.

The ASTRAIOS space workforce trends survey was distributed by e-mail to the members of SME4Space as well as to all individual members of Flanders Space and promoted on the ASTRAIOS website and social media accounts.



The Space Tech Expo Europe in Bremen provided a good opportunity to give exposure to the ASTRAIOS project and to explain the purpose of the workforce survey to individual visitors of the SME4SPACE booth. A QR-code was prepared to provide quick access to the ASTRAIOS space workforce trends survey. Visitors who left their contact details received a written reminder of the info they had received about ASTRAIOS.



Trends and Challenges

After the 2nd workshop organized on 25 April 2024 dedicated on Environmental, Social, Governance (ESG) Peer to Peer learning, with the participation of 9 companies, our partner, AZO, has collected and analysed the constructive feedback to draft the first preliminary conclusions and identify the level of involvement and impact that companies have in the space sector along the entire value chain. In addition, AZO has invited all workshop participants to a 30-minute peer-to-peer interview to understand in detail their involvement in ESG initiatives, gaps, trends, opportunities and changes observed in the company when implementing and promoting these practices.

A total of 6 interviews have been conducted.

The next and last **Workshop** will be organised in 2025.





Gap Analysis and Recommendations

In November 2024, ISU organized an Equality, Diversity and Inclusion (EDI) workshop for Master’s students. Representatives from SES, Airbus, and DLR led the interactive sessions. The objective was to present the current state of EDI (Equity, Diversity, and Inclusion) in the space sector across Europe, highlighting the significant gaps and varying approaches between EU countries.

The workshop concluded that it is crucial to establish a unified approach to EDI within the space sector. The most important takeaway was the need to prioritize connectivity between EDI organizations across Europe by creating a unique European network that would serve as an umbrella under which all EDI organizations could operate effectively. Additionally, ISU organized meetings with the SGAC-EDI group, who shared their extensive experience and analysis reports collected over the past years. This collaboration is set to continue in 2025.

Surveys on EDI were distributed during the numerous events, specifically during the the SECESA Conference, Strasbourg ISU, France, September 2024, The IAC Conference, Milan, Italy, October 2024, and the above-mentioned EDI Workshop, Strasbourg ISU, France November 2024.





Gap Analysis and Recommendations

As Part of the work done for analysing the existing gaps, a specific attention and analysis of **Geographical Gaps and Student Mobility Characteristics** has been completed during 2024 with the submission of the relevant deliverable report. The report evaluates space related education across the EU-27 and the UK, focusing on geographical disparities and student mobility. Based on desktop research, ASTRAIOS outputs, LinkedIn Talent Insights, and surveys, the analysis highlights the concentration of space education programmes in Western Europe, especially in France, Germany, and the UK, while Eastern and Southern Europe remain underrepresented.

This imbalance drives brain drain as students move to established hubs. Despite mobility programmes like ERASMUS, barriers such as language, finances, and limited opportunities persist. Student mobility is influenced by curriculum appeal, economics, and culture. To address these challenges, targeted recommendations are planned to be further developed within the ASTRAIOS project.

To specifically provide an outlook to the LinkedIn Talent Insights data analysis, the extracted and related information was based on which country the recent graduates were in 12 months ago, and what country they are in now, mainly checking on the mobility of fresh graduates.

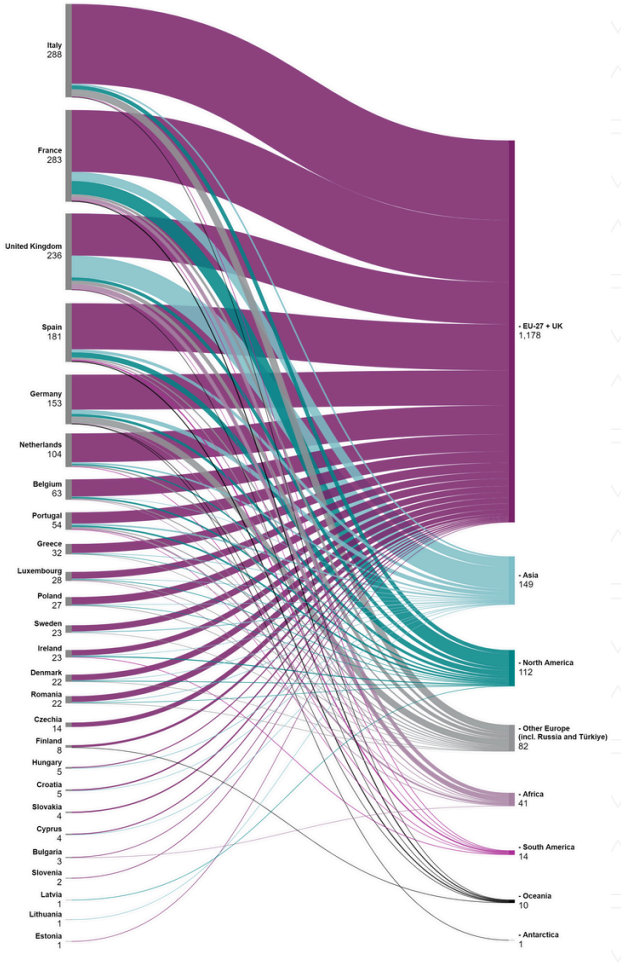
Sankey diagrams have been created for 26 EU countries and the UK to help the analysis showing the flow of movement and brain gain/drain trends. The diagrams presented in the following page not only show intra-European mobility but also provide a deeper understanding about international brain gain and drain dynamics within the space sector.



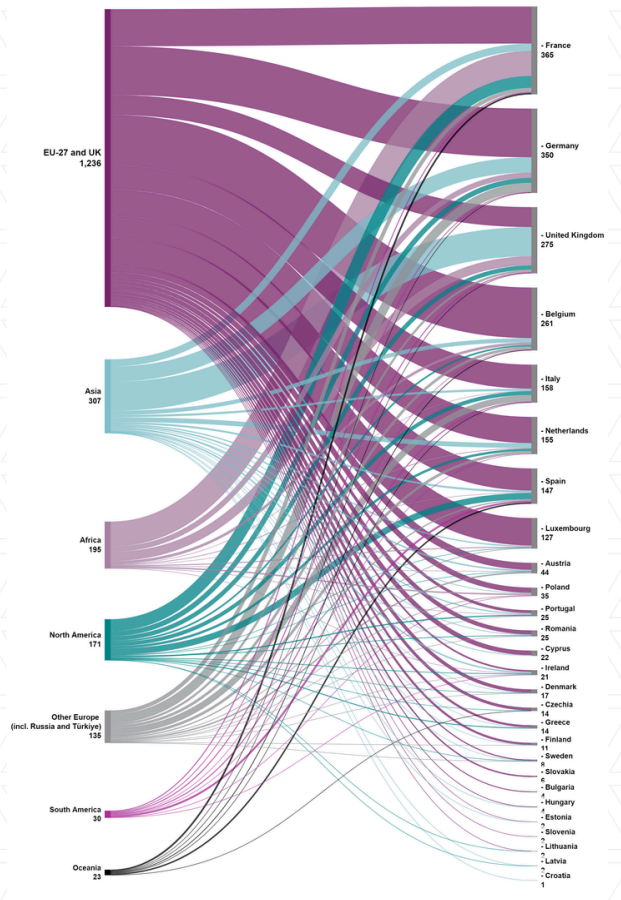
Gap Analysis and Recommendations

To specifically provide an outlook to the LinkedIn Talent Insights data analysis, the extracted and related information was based on which country the recent graduates were in 12 months ago, and what country they are in now, mainly checking on the mobility of fresh graduates.

Sankey diagrams have been created for 26 EU countries and the UK to help the analysis showing the flow of movement and brain gain/drain trends. The diagrams presented in the following page not only show intra-European mobility but also provide a deeper understanding about international brain gain and drain dynamics within the space sector.



Workforce Migration Outwards Internationally



Workforce Migration Internationally Inwards to Europe and UK



Outreach and Development of New Educational Materials

The ASTRAIOS consortium, specifically the University of Twente team, is working on developing the materials for the MOOCs dedicated to AI and machine learning for agriculture applications. Initial drafts are planned to be ready during the first quarter of this year.

Moreover, the Technical University of Crete will undertake the creation of MOOCs on possible topics, such as: Galileo New Services, GNSS for Essential Climate Variable Monitoring, Natural Hazard Detection using Space Geodetic Techniques, and Centimeter-Level Position Accuracy Using Smartphones.

The Technical University of Crete team is in the process of drafting the documentation material which will accompany the videos for these MOOCs. First drafts are due close to the end of January.



A series of webinars are underway to be organized during 2025 to cover various topics. ASTRAIOS Webinar Series are setting of on February 7, 2025 with the first one entitled “GeoXR: Its Characteristics and Uses”

Another webinar on Remote sensing the atmosphere using space geodetic techniques is planned to be organised and the date and time to be announced soon.



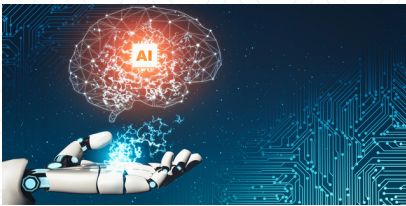
News and Events



ASTRAIOS was highlighted in two news articles published in the EASN’s periodic newsletters in 2024. You may find here the [Issue #3 2024](#) and [Issue #4 2024](#) articles.



The ASTRAIOS project participated and was exhibited at Space-Comm Expo Scotland, September 11 and 12, 2024 at the Scottish Events Campus (SEC), Glasgow. On September 11, our partners from the Space Skills Alliance were keynote speakers within the session on “Navigating the Future – Skill Development and Educational Outreach”.



The ASTRAIOS team had the pleasure of presenting at the 1st International Workshop on AI for Space Safety & Sustainability. The workshop was organized by the International Institute on AI for Space Safety and Sustainability (AI4S) from June 24-25, 2024, Glasgow, UK.



ASTRAIOS was represented by its partner, SME4SPACE, at this year’s Industry Space Days (ISD), which took place at ESA/ESTEC (Noordwijk, The Netherlands) on 18 – 19 September 2024.

On September 25-27, 2024, ASTRAIOS successfully participated in the 11th International Systems & Concurrent Engineering for Space Applications Conference at the International Space University, Strasbourg, France. A poster presentation was done during the networking and coffee break sessions, during which our partner from the International Space University welcomed all interested participants and provided more insights about our project.



News and Events



ASTRAIOS participated in the Space Technologies and Applications Interest Group meeting at the 14th EASN International Conference, represented by its partners from the Technical University of Crete. A presentation was also given and the ASTRAIOS foremost progress and outcomes to date were shared during the 14th EASN International conference within the dedicated session on European Policy Actions in the Field of Aviation & Space.



The Space Tech Expo Europe in Bremen is perhaps the most important gathering of space subsystem and service supply in Europe. It is really the event of the European space SME's. As these companies constitute an important part of the space industry with a high economic and societal impact, it is a good place to interact with the human capital of the space industry.



We are pleased to share that the ASTRAIOS talk by our colleague Heidi Thieman at the Space Universities Network Annual Meeting is now online!

The presentation focused on the space education and training research that ASTRAIOS has been working on for the past one and half years.

You may view and watch this interesting talk [here](#).



The ASTRAIOS consortium was pleased to participate and be represented at different locations and via a dedicated interactive presentation on "The Role of first degrees in encouraging students to enter the space Sector: Analysis by the ASTRAIOS project" at the IAC2024 from 14-18 October, in Milan.



News and Events

The ASTRAIOS project is running a survey currently open gathering very concise information on career paths - with only 8 questions! Participate and help in shaping the future of Space education and policy!
Take the Survey here: [EUSurvey - Survey](#)



JOIN US



A Round-table will be organized by our partners FDC (SpaceY) "Measures to foster the development of skilled workforces in the European space sector" within the Munich Satellite Navigation Summit 2025.

Date: 28 March 2025

Location: Alte Kongresshalle, Am Bavariapark 14, 80339 Munich, Germany (Hybrid event)

The European Union has introduced several initiatives, including the SPACE4GEO partnership and the Space Career Launchpad, to address the skills gap in the space sector. The EU Space Strategy for Security and Defence (EU SSSD) underscores the urgency of upskilling and reskilling to meet growing industry demands. This round-table will explore critical questions: What skills are most in demand? How effective are current EU mechanisms for skills development? What additional measures are needed to bridge the gap between job supply and demand? By engaging academia and the industry, we aim to shape actionable solutions for the sector. Learn more and register here: <https://www.munich-satellite-navigation-summit.org/register>



OUR PARTNERS



LET'S CONNECT HERE!

 01.01.2023  36 months

 <https://astraios.eu>

 info@astraios.eu  

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101082636



Funded by the European Union