



NEWSLETTER #4

July 2025



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Dear Reader,

Welcome to ASTRAIOS newsletter #4!

We are about to kick off the final six months of the project. This doesn't mean that things are slowing down – quite the contrary! Our partner International Space University hosted our Space Bootcamp in Strasbourg in February this year, and I'm happy to report that all participants agreed it was a big success. The first online lecture course is being finalised and will feature some of the same topics that were discussed during the Bootcamp. This course will soon be available on our new [YouTube channel](#) with links also available through our [website](#).

We held our third and last peer-to-peer learning workshop on ESG practices in the space sector in May. This has been a huge effort over the past two years to engage with companies around Europe and beyond and help them share their experience and best practices – not only in the space sector but in the wider business landscape. The results will be collected into a book at the end of this year.

Our [website](#) has received a new update this spring to help showcase all our project results and [outreach material](#). The YouTube channel features our new ASTRAIOS [Knowledge Hub](#) webinar series, as well as the two [Info Sessions](#) for students and young professionals wishing to enter the space sector.

The final six months will see all the remaining initiatives being finalised; two Massive Open Online Courses for Copernicus and Galileo users will be launched at the [EASN Conference](#) in Madrid in October, and a podcast series on the success stories from the two missions will be published. We are currently weighing our options to organise a project final event as well – stay tuned for more information!

OUR PARTNERS



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01.01.2023



36 months



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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.

- ***Now Available on the website and Zenodo***

[D2.2 Applications, services and supporting technologies](#)

[D3.2 Analysis report of geographical gaps & student mobility characteristics](#)

- ***Soon to be Published!***

D2.5 European boot camp to bring European students/entrepreneurs together and be trained in transferable training skills

D2.6 MOOC on soft skills and new way of working

D2.8 Workforce demand evolution and distribution

D3.1 Analysis report of skills demand and capabilities across sector





Trends and Challenges

This task is currently developing a series of MOOCs designed to strengthen soft skills and introduce new ways of working, helping students, researchers, and entrepreneurs navigate today's evolving professional landscape. The aim is to broaden their career opportunities and enhance their employability by fostering key interpersonal and leadership abilities. The courses cover a wide range of topics including project management, organization, dependability, attention to detail, cultural intelligence, inclusive communication, EDI in STEM, leading diverse teams, collaboration & teamwork, adaptable communication, empathy, and leadership & team management. Each MOOC features short video lectures offering participants practical insights and tools to thrive in diverse, international, and interdisciplinary environments.



MOOC on Leadership and Team Management: What distinguishes a great leader from a simple manager?



Trends and Challenges

Additionally, our partners at the International Space University (ISU) successfully hosted its first European Space Bootcamp, organised in February 2025 as part of the ASTRAIOS project activities. The three-day intensive programme brought together Master’s students, PhD candidates, and early-career professionals from across Europe and beyond. The Bootcamp focused on developing transferable soft skills critical for leadership and innovation in the space sector. Participants engaged in expert-led sessions and hands-on workshops covering leadership, collaboration, communication, project management, innovation, and entrepreneurship. Highlights included talks on managing cultural diversity, project leadership, knowledge transfer from academia to industry, and strategies for startup success. The Bootcamp provided an invaluable platform for learning, networking, and personal growth, with participants reporting high satisfaction and renewed motivation to pursue leadership roles in the space industry.



European Space Bootcamp Roundtable: Leadership Skills for Science and Innovation



European Space Bootcamp Talk/Workshop: Communicating to Inspire – Building Bridges with Industry



Trends and Challenges

As we move into the final phase of the ASTRAIOS project, Task 2400 has made significant progress in advancing ESG awareness and practices targeting the adequacy between curricula and industry needs across the space ecosystem.

Throughout 2024 and early 2025, project partner AZO completed the goal of organising three Environmental, Social and Governance (ESG) Peer-2-Peer Learning Workshops together with a wide range of European companies, to capture how they implement ESG practices and foster innovation, sustainability and increase EU competitiveness in Space and beyond. To further obtain the state of the companies' ESG trends, challenges and opportunities, actors involved; activities, actions implemented and their impact, institutional and regulatory frameworks available; impacts; lessons learnt; as well as best practices, AZO conducted 1-to-1 interviews with ten companies. As a result, innovative ESG practices and lasting challenges emerged, mapping out the current ESG landscape with real-world insights: including difficulties in cross-departmental collaboration, data management for sustainability reporting, and the lack of standardised frameworks. Likewise, the ASTRAIOS ESG entrepreneur community highlighted best ESG practices, such as the use of real-time emissions monitoring with satellite data, AI-driven ESG tools, initiatives to support employees' well-being and retention as well as training programmes to embed ESG culture internally.

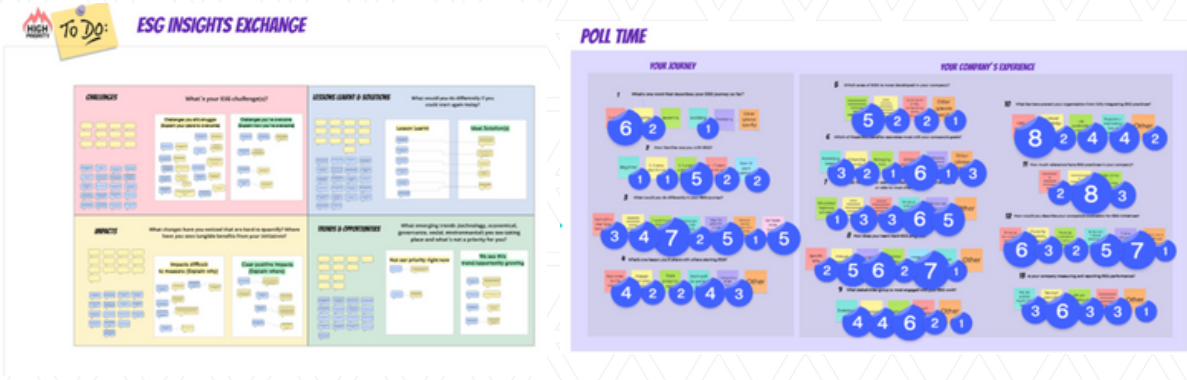
These findings will be consolidated into the ASTRAIOS ESG Best Practices Book, which will be completed by the end of 2025, as one of the project's final key outputs to inform and inspire ESG strategies across the European space industry and policies.

As the ASTRAIOS project comes to an end, the AZO team will focus on finalising the ESG Best Practices Book, which will become decisive in the future of space industrial landscape and EU policies. In the coming months, workshop participants and project partners will be contacted to help consolidate the information and provide remaining inputs. The outcome of these exchanges will be outlined in the final Book targeted at decision-makers, research institutions and practitioners in the EU working in Space. The Book will be completed by December 2025 and published early 2026.

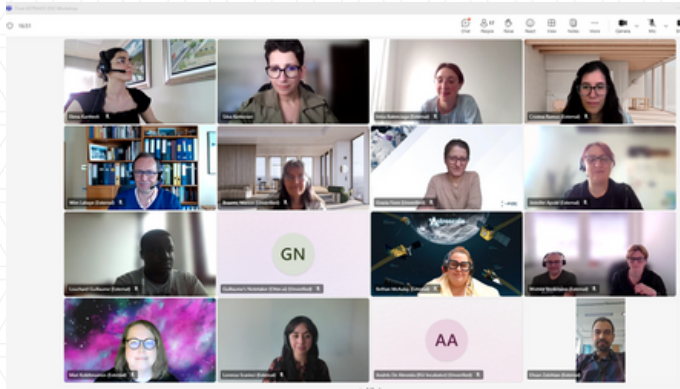


Trends and Challenges

On 28th of May, ASTRAIOS hosted the third and final ESG Peer-to-Peer Learning Workshop, bringing together professionals from across the space and other industry sectors. Participants engaged in a conversation regarding different Environmental, Social and Governance practices targeting the adequacy between curricula and space industry through collaborative activities, sharing real-world experiences, and highlighting not only the challenges they face, but also the impact, lessons learnt, trends and opportunities emerging in the ESG landscape.



The online gathering has a core interactive activity entitled “Reflect, React, and Relate”, a collaborative space, where participants engaged with real quotes and insights gathered from previous interviews and workshops. Discussions highlighted several key topics: the need for stronger cross-departmental engagement, smarter data management, and collaboration with external partners to facilitate the burden of ESG implementation. Companies also emphasised the importance of expanding ESG accountability globally and identified valuable opportunities in knowledge sharing across sectors and the strategic alignment of ESG with long-term business goals.





Trends and Challenges

The results from the survey 'Workforce Demand Evolution and Distribution' have been collected and documented in a new deliverable D.2.8 under this same title (Workforce Demand Evolution and Distribution). This deliverable contains three major sections. In the first section, a quantitative analysis of the survey results is presented and commented. In the second section, skills demand for the workforce has been analysed through two key methodologies: the analysis of job adverts and the analysis of CVs. In the third section, an assessment of workforce demand evolution and geographical distribution has been carried out integrating also socioeconomic implications on European countries, regions and space industry sectors. Drawing from a combination of surveying, data analysis, and case studies, it is evident that the sector faces both significant opportunities and structural challenges.

The WP2500 team identified these by means of a set of questions which were raised, such as: (1) Is there a distinct retiring space generation and related succession concerns? (2) Can we discern geographic talent moves out of or inside Europe? (3) Could the space sector suffer from sectorial brain drain (people moving to other sectors)? It is interesting to note that the talent management in the sector will always be connected to the economic health of the sector, more particularly the profitability in the private sector, where SME's could offer an important number of job opportunities. This has led to a number of highly interesting qualitative conclusions which may further stimulate the debate about talent retention policies in the space sector.

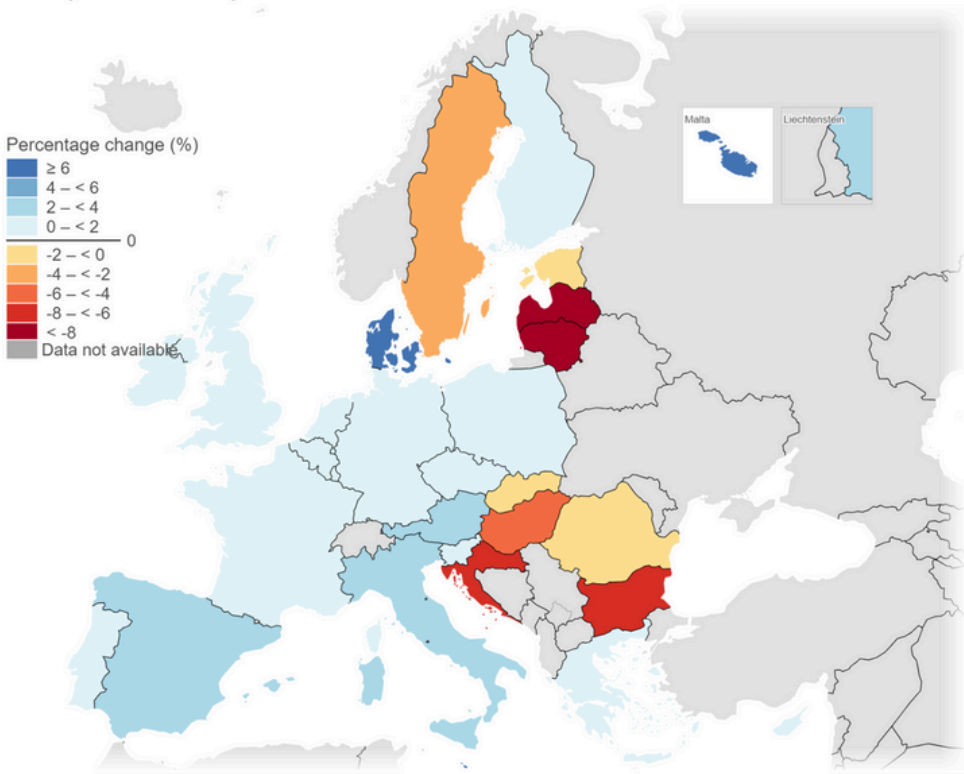


Trends and Challenges

The D.2.8 Workforce Demand Evolution and Distribution document is being evaluated internally and will become available after approval as a public document. We hope the conclusions will feed the debate about talent retention and the relation with company profitability in the sector.

Percentage change in space workforce

09 May 2024 - 08 May 2025



Data sourced from LinkedIn Talent Insights

Administrative boundaries: © EuroGeographics © OpenStreetMap
Cartography: Eurostat – IMAGE, 05/2025

Percentage change in space workforce by country

This map shows geographic overview of space workforce growth/ decline per country measured over a period of one year. This map doesn't show potential country – internal regional developments.

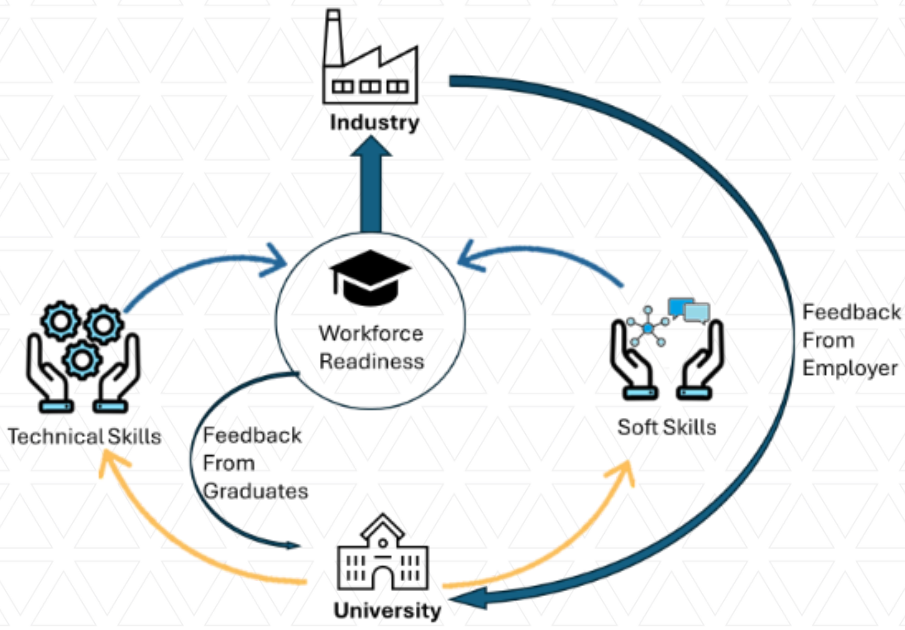


Gap Analysis and Recommendations

Over the past six months, WP3000 has made significant progress across multiple fronts. The team updated the Higher Education database, adding over 900 new degree programmes, and over 4,400 companies.

Additionally, the draft of the Deliverable D3.1 on Skills Demand and Capabilities across the space sector has been completed and is undergoing final reviews and once finalized, it will be published soon on the project website.

Within this report we offer a detailed snapshot of space education and workforce readiness across the EU and UK, drawing on data from academic reviews, employer surveys, and mobility trends. It highlights persistent gaps in both technical and soft skills, mismatches between education and industry needs, and regional imbalances—while also identifying the rising demand for innovation—and sustainability-related skills. The report outlines practical recommendations for educators, industry leaders, and policymakers to help shape a future-proof talent pipeline and ensure Europe’s continued leadership in space. Here is a depiction of the University curriculum reform cycle addressed in the report.



University Curriculum Reform Cycle



Outreach and Development of New Educational Materials

As part of its mission to inspire and support the next generation of space professionals, the ASTRAIOS project is launching a series of Info Sessions aimed at students, early-career researchers, and young professionals across Europe.

These engaging online events highlight academic, training, and career opportunities in the rapidly evolving space sector, while offering participants direct access to insights from experts, researchers, and experienced professionals.

During the past months, the ASTRAIOS project team has organized two online info sessions, during which it has introduced students and young professionals to the vast opportunities within the space sector, emphasizing its innovation, challenges, and financial prospects. This will in turn foster collaboration between universities, research institutions, and industry players to strengthen Europe's space workforce.

Specifically, these webinars aimed to:

- Raise awareness about careers in the space sector and its growing opportunities.
- Introduce students, young professionals, and researchers to EU-funded mobility and research programs, enhancing cross-border academic exchanges within the EU-27 and the UK.
- Support career development by providing information on offered degree programs, funding, scholarships, and training opportunities in space-related fields within the EU-27 and the UK.
- Demonstrate how interesting, challenging and financially attractive careers in the space sector can be.
- Encourage participation in space research initiatives by showcasing the sector's challenges, innovations, and impact.



Outreach and Development of New Educational Materials

Unlock your future in space! watch these info sessions to explore exciting career paths, discover funding and mobility opportunities across the EU, and connect with top experts and industry leaders shaping the future of space research and technology.

Whether you're a student, researcher, or aspiring space professional, this is your greatest source of information from the practitioners themselves to help you take one giant leap toward an exciting and rewarding career in the space sector!

The Info Session are recorded and uploaded on the official [ASTRAIOS YouTube channel](#) for wider dissemination. You may watch them here!





Outreach and Development of New Educational Materials

Through the ASTRAIOS Project, we meet amazing people who followed different paths, and ended up working with space. They share how curiosity, passion, and bold choices shaped their journeys. Whether you love technology, design, or exploring new ideas, there's a place for you in the space world.

These stories are here to inspire you to dream bigger and maybe start your own adventure beyond Earth!

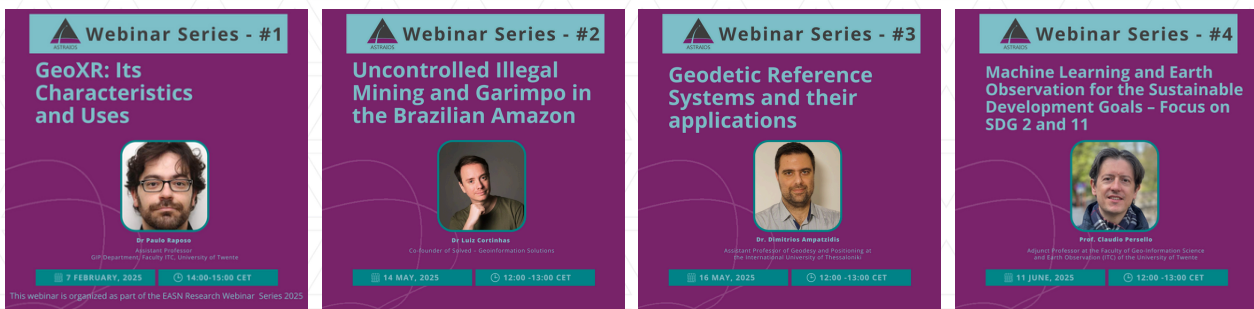




Outreach and Development of New Educational Materials

WP4000, particularly Task 4200, is playing a key role in advancing the project's objective to enhance existing training materials and develop new ones, addressing the gaps identified in earlier work packages between the supply and demand for space-related education and training. During the reporting period, the University of Twente and Technical University of Crete teams have been actively designing new educational resources and training courses—including webinars, MOOCs, and tutorials—to support skill development in the use of Earth Observation (EO) and Positioning, Navigation, and Timing (PNT) data to address critical societal challenges, such as food security.

As part of this initiative, the teams launched the ASTRAIOS webinar series, which currently includes four recorded sessions covering various topics. These webinars have been or will soon be published on the [ASTRAIOS YouTube channel](#). An additional series of eight webinars is planned, focusing on topics such as air quality and digital twin technologies.



In parallel, the team is developing structured MOOCs and training materials on different topics and levels, which are currently being prepared for recording. These modules include Introduction to Earth Observation Data and Machine Learning for Agriculture Applications, among others.



Outreach and Development of New Educational Materials

Simultaneously, the team at the Technical University of Crete, has made significant progress in developing educational content focused on next-generation GNSS applications. Our team has designed six MOOCs, covering a range of topics including Galileo services, GNSS-based climate monitoring, navigation in GNSS-denied environments, GNSS remote sensing for natural hazards, smartphone-based centimeter-level positioning, and gaps in GNSS education. Each course will be comprised of video lectures, quizzes and exercises.



All these developed materials will have a strong scientific impact by enhancing the quality of education in the EO and PNT domains, strengthening industry skills, and boosting Europe's competitiveness in the space sector.

As a follow-up, the team will finalize the development and recording of the remaining MOOCs and training materials, ensuring alignment with industry needs and educational standards. The upcoming webinars will be delivered according to the planned schedule, with continued publication on the ASTRAIOS YouTube channel.



News and Events

ASTRAIOS was highlighted in two news articles published in the EASN's periodic newsletters in 2025. You may find here the **Issue #1 2025** and **Issue #2 2025** articles.



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.



On February 5-6, 2025, ASTRAIOS participated in IGNITE SPACE 2025, a key event that brought together space industry experts, policymakers, and researchers at the National Space Centre, Leicester.

The event provided an opportunity to connect with leading stakeholders, exchange ideas, and explore the latest developments in the aerospace sector. Discussions covered sustainable space practices, cross-sector partnerships, and innovation-driven growth, highlighting the challenges and opportunities shaping the future of space exploration and technology.



ASTRAIOS took the stage at Space-Comm Expo 2025 in London on March 11, contributing to an important panel discussion on the global workforce challenges facing the space sector.





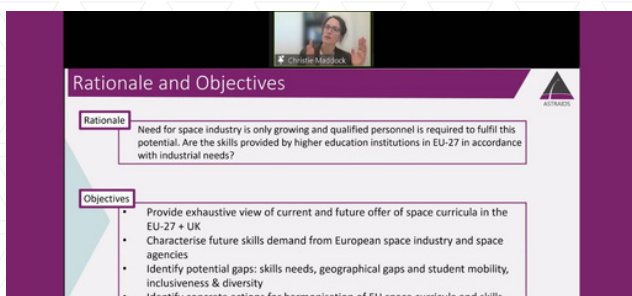
ASTRAIOS
 Analysis of Skills, Training, Research
 and Innovation Opportunities in Space

News and Events

ASTRAIOS was delighted to take part in the 4th edition of the Women in Aerospace-Europe (WIA-Europe) Symposium, a premier event dedicated to advancing diversity, knowledge, and leadership within the aerospace sector.

On Thursday, 15 May, from 13:00 to 14:00 CET, ASTRAIOS contributed in Event 4: Space Education in Europe – WIA-Europe Partners and Scholarships. This session explored the current landscape of space education across Europe, shedding light on career development opportunities, specialized master’s programmes, and exclusive scholarships available to WIA-Europe members.

WIA-EUROPE SYMPOSIUM 2025



ASTRAIOS organized a very interesting round-table, entitled “Measures to foster the development of skilled workforces in the European space sector” during the Munich Satellite Navigation Summit 2025.

Key takeaways from the discussion, include that there is a growing gap in finding the right profiles with emerging skills, especially in cybersecurity and software development, in addition to a lack of up-to-date data on current skill needs and future prospects. There is a need for a clear roadmap to develop new competencies and upskill the existing workforce, and EU initiatives and projects, such as SPACE4GEO and ASTRAIOS play a crucial role in shaping a stronger, future-ready space sector.






News and Events

UPCOMING EVENTS



The ASTRAIOS will be attending the UK Space Conference 2025 taking place in Manchester on 16 and 17 July. Reach out to us to further engage, network, and exchange ideas and common research interests.



The project has secured a full paper and poster presentation entitled "Examining European Student Geographic Mobility in the Space Field – ASTRAIOS Project Insight" at the major event EUCASS 2025, taking place from 30 June till July 4 in Rome, Italy.

This event offers a platform to present ASTRAIOS insights on student mobility in space education. Our contribution focuses on longitudinal mobility analysis and its link to geographical gaps across Europe.



The ASTRAIOS project has secured an acceptance for an interactive presentation at this year's **IAC 2025 - September-October 2025, Sydney, Australia**. The accepted paper on sustainable space workforce development presents ASTRAIOS findings on future skills needs, curriculum gaps, and educational alignment strategies. Attending this event strengthens ASTRAIOS visibility and stakeholder engagement in global policy dialogues.





News and Events

UPCOMING EVENTS

The ASTRAIOS project is pleased to announce securing a dedicated session during the upcoming EASN 15th International conference, which will take place from October 14th till 17th, in Madrid. During this special session, our team will present the pivotal outcomes of the project, concluding in late 2025. The session will showcase ASTRAIOS's major achievements, featuring the **launch** of targeted open-access **MOOCs** designed to address critical skill shortages. The project's findings on geographical disparities in space education will be explored, and how they influence talent migration and regional competitiveness.

A promotional banner for the EASN 15th International Conference. It features the text 'EASN 15th International Conference' and the subtitle 'on "Innovation in Aviation & Space towards sustainability today and tomorrow"'. The dates 'OCTOBER 14-17, 2025' and location 'MADRID, SPAIN' are prominently displayed. A 'JOIN US' button is in the top right corner. The background shows a cityscape at night with illuminated buildings and a tower.

JOIN US

Save the date!
OCTOBER 14-17, 2025
MADRID, SPAIN

EASN 15th
International Conference
on "Innovation in Aviation & Space towards sustainability today and tomorrow"

The EASN Conference Series is an annual event organized by the European Aerospace Science Network (EASN), dedicated to advancing research, innovation, and collaboration in the field of aeronautics and aerospace. Bringing together experts, researchers, industry leaders, and policymakers from around the world, the conference serves as a premier platform for sharing cutting-edge scientific developments and exploring new trends, technologies, and methodologies in aerospace engineering. With a focus on fostering partnerships, enhancing knowledge exchange, and addressing the sector's most pressing challenges, the EASN Conference Series supports the growth and sustainability of the European aerospace research community and contributes to the sector's global advancement.



OUR PARTNERS



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SME4SPACE



University of Strathclyde Glasgow

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36 months



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