International Astronautical Federation News

01/2025 (January 2025)

IAF President's Welcome

Dear IAF Friends,

Astronautics is off to a fantastic start in 2025 with several landmark missions, launches and scientific discoveries.

I am delighted to share some exciting IAF updates with you. Our Federation community continues to grow as we now span **81 countries** and count **563 organization**s as members - up from 77 countries and 513 members last year. This remarkable growth underscores the global appeal and impact of our shared mission to connect all space people. Today you can explore the latest news and contributions from IAF members on the dedicated page in this IAF Newsletter.

It is also my honor to announce the newly elected Incoming IAF President, **Gabriella ARRIGO**, Director of the International Affairs Directorate at the Italian Space Agency (ASI). Gabriella will assume the IAF presidency in 2026.

During the last Bureau Meeting in Milan, we also welcomed four new officers: **Amal ALBINALI** (Kingdom of Bahrain National Space Science Agency – NSSA): IAF Vice President for Education and Workforce Development; **Samaddin ASADOV** (Space Agency of the Republic of Azerbaijan – Azercosmos): IAF Vice President for Science and Academic Relations; **Enrico PALERMO** (Australian Space Agency): IAF Vice President for Space Agency Relations; **David SPENCER** (American Astronautical Society – AAS): IAF Vice President for the IAF Global Networking Forum.

We are thrilled to have these esteemed leaders on board and look forward to their valuable contributions to the IAF Bureau.

We invite you to the **IAF Spring Meetings on 25–27 March 2025 in Paris, France** at the New CAP Conference Centre. The annual meetings are a wonderful opportunity to come together with IAF leaders and focus on key activities. The International Programme Committee (IPC) will convene as they finalize the selection of technical sessions and IP presentations for the **76th International Astronautical Congress (IAC 2025),** to be held in **Sydney, Australia, from 29 September to 3 October 2025.**

Preparations are also in full swing for the **Global Space Exploration Conference (GLEX 2025)**, scheduled for **7–9 May 2025 in New Delhi, India**. The interest in the GLEX 2025 Call for Abstracts has been unprecedented, with a record-high 1,275 abstract submissions from 57 countries! With the largest-ever exhibition planned, GLEX 2025 will be the perfect venue to connect with industry leaders, government officials, and space agencies from around the globe.

Do not miss the start of registration for GLEX 2025 and IAC 2025! To ensure a smooth preparation process and seamless participation, please mark you calendars with the IAF important dates, which highlights key deadlines and milestones.

We look forward to seeing you soon at one of our upcoming events!

Clay MOWRY
IAF President

Connecting @ll Space People

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IAF MEMBERS' CORNER

OUR LATEST PUBLICATIONS

- IAF HIGHLIGHTS 2024
- GLEX 2025 SPONSORSHIP AND EXHIBITION OPPORTUNITIES
- IAC 2024 HIGHLIGHTS
- IAC 2025 CALL FOR PAPERS

IMPORTANT DATES & Deadlines:

- Deadline for IAC 2025 Call for Plenary Programme: 7 February 2025
- Deadline for IAC 2025 Call for Special Sessions and Interactive Presentations: 7 February 2025
- Deadline for IAF Emerging Space Leaders (ESL) Grant Programme Application: 14 February 2025
- Deadline for IAC 2025 Call for Abstracts: 28 February 2025
- Deadline for IAC 2025 Call for IAF GNF Sessions: 18 April 2025
- IAF Symposium: 11 February 2025
- IAF Spring Meetings: 25 – 27 March 2025
- GLEX 2025: 7 – 9 May 2025
- IAC 2025: 29 September – 3 October 2025

THE IAF SYMPOSIUM

UNITED NATIONS
Office for Outer Space Affairs

On the occasion on the **62nd Session of the Scientific and Technical Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, the International Astronautical Federation** (IAF) is organizing the **IAF Symposium** on **11 February 2025** in **Vienna, Austria**.

The theme of the IAF Symposium, "Space - Indispensable on the Agenda of Policymakers, Public, and Nations" highlights the integral role of space in addressing global challenges and driving innovation. However, ensuring that political decision-makers, the public, and emerging countries are actively engaged in the space debate is crucial for fostering collaboration, securing support, and building a truly inclusive global space community. In essence, space embodies a global concern that intertwines politics, public interest, and national ambitions. Balancing space exploration with ethics and sustainability will determine how humanity navigates this vast frontier.

The programme of the IAF Symposium features three panels to explore how to bridge gaps and engage diverse stakeholders in shaping the future of space.

Panel A - **"How to Engage Political Decision-Makers in the Space Debate?"**

In an era where space exploration is rapidly advancing, engaging leaders in the space debate is crucial for shaping policies, funding, and public interest. This panel will delve into best practices, experience and ideas to involve decision-makers in meaningful discussions about space.

Panel B - **"How to Secure General Public Support for Space?"**

The public plays a pivotal role in supporting space activities, from funding large-scale projects to advocating for international cooperation. This panel will discuss effective ways to engage the public through education, outreach, and storytelling to highlight space's tangible benefits.

Panel C - **"How to Embrace Emerging Countries in the Global Space Endeavour?"**

This panel will focus on integrating emerging countries into the global space ecosystem, emphasizing capacity building, knowledge sharing, and collaborative projects. By addressing challenges and opportunities, panelists aim to chart a path toward inclusive growth in the space sector.

THE IAF SPRING MEETINGS 2025

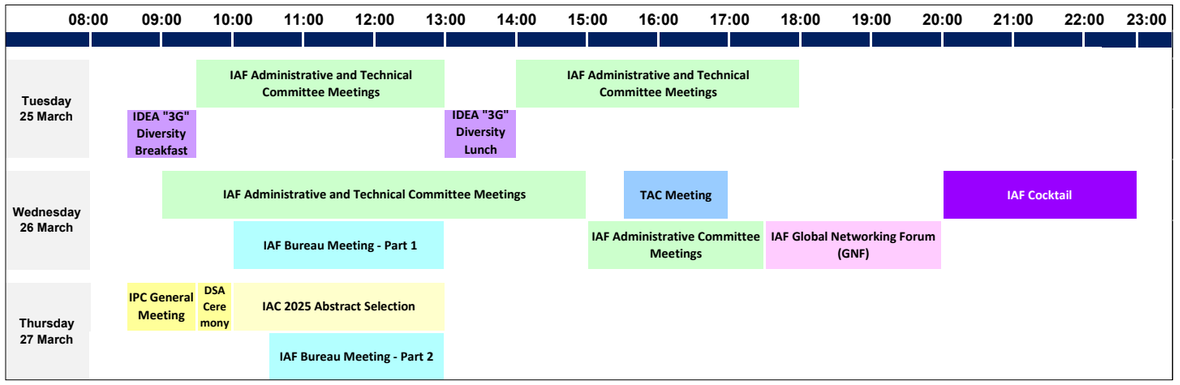
Spring Meetings 2025

As usual, the bloom of 2025 begins with the **IAF Spring Meetings**, where the IAF's expanding community comes together to reconnect and collaborate. Over three days of engaging activities, the programme will feature IAF Bureau meeting, IAF Administrative and Technical Committee meetings, IAF Global Networking Forum (GNF) Sessions, IDEA 3G Diversity presentations.

The International Astronautical Federation is pleased to invite all of you to its Spring Meetings taking place in Paris, France, from **25-27 March 2025** in New CAP Conference Centre.

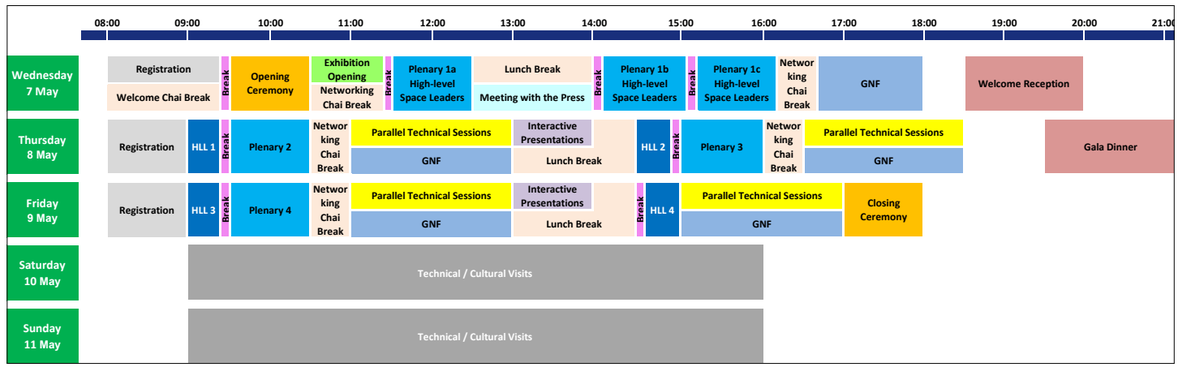
For more information,
please visit the website

IAF Spring Meetings 2025 at a Glance



THE GLOBAL SPACE EXPLORATION CONFERENCE (GLEX 2025)

GLEX 2025 at a Glance



Organized by the International Astronautical Federation (IAF), hosted by Indian Space Research Organisation (ISRO) and co-hosted by the Astronautical Society of India (ASI) from 7 to 9 May 2025, **GLEX 2025** is designed to encourage the sharing of programmatic, technical and policy information, as well as collaborative solutions, challenges, lessons learnt, and paths forward among all nations with the desire to explore space.

The interest in the Global Space Exploration Conference (GLEX 2025) Call for Abstracts has been massive, resulting in a record-high number of **nearly 1300 abstract submissions from 57 countries!**

Selected authors will have an unprecedented chance to present their groundbreaking findings, network with global leaders and experts from space exploration, and explore potential collaborations that can propel their work to new heights!

The IAF offers a comprehensive and detailed roadmap designed to guide authors through every step of the preparation process for GLEX 2025, ensuring a seamless and efficient experience. This structured plan includes clear milestones and actionable steps to support selected authors in achieving success during the event.

We are excited to announce that Sponsorship and Exhibition bookings for Global Space Exploration Conference (GLEX 2025) in New Delhi, India are open!

This gathering is the perfect opportunity to showcase your organization's commitment to the future of space exploration. With a world-class and biggest ever exhibition planned, the GLEX 2025 is the perfect place for you to engage with key industry players, government agencies, and space agencies from around the world.

Do not miss out on the opportunity to make your mark at GLEX 2025. Whether you are interested in Sponsorship or securing an Exhibition booth, we offer a wide range of options to fit your goals and showcase your expertise to a global audience.

To explore all the exciting opportunities available, please download the GLEX 2025 Sponsorship & Exhibition Prospectus and contact us at spon-exh@glex2025.org to secure your place today.

GLEX 2025 registration is about to be launched soon; stay tuned to our website and social media! If you have any questions, please contact glex2025@iafastro.org.

THE 76TH INTERNATIONAL ASTRONAUTICAL CONGRESS (IAC 2025)

BE INVOLVED IN IAC 2025

Be an active part of the 76th IAC in Sydney and submit your proposal for a plenary, session or abstract.

You find more information on the below links:

How to Engage in the IAC Guide

IAC 2025 Call for Papers

Plenary Programme

IAF Global Networking Forum

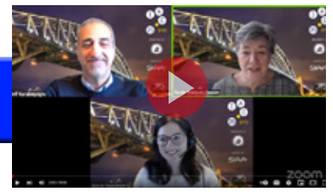
Technical Programme

THE IAC 2025 CALLS DEADLINES!

- 7 FEBRUARY
- 28 FEBRUARY
- 18 APRIL
- 7 FEBRUARY

FOR MORE INFO PLEASE READ THE GUIDE "How to Engage in the IAC"

Watch the IAC 2025 Technical Programme Fireside Chat Webinar
to master the art of abstract preparation:



The theme “Sustainable Space: Resilient Earth” will shape the 76th International Astronautical Congress (IAC 2025), taking place from 29 September to 3 October 2025 in Sydney, Australia. IAC 2025 is hosted by Space Industry Association of Australia (SIAA) together with two co-hosts - Australian Space Agency and NSW Government.

The International Astronautical Congress has been organized by the International Astronautical Federation two times prior in Australia, most recently in 2017 with the 68th IAC in Adelaide and before that the 49th IAC in Melbourne 1998. The IAF is delighted to return once again to this captivating continent in Oceania and to bring the IAC to the beautiful harbour city, Sydney. SIAA has already proven to be an excellent host and the 76th IAC vows to be an outstanding event.

Stay on track with our **important dates and deadlines** to ensure a smooth preparation for IAC 2025. Do not miss out on the key milestones - plan ahead and be part of this extraordinary global event!

By 7 February 2025 submit your proposal for **Plenary or Highlight Lecture proposal.**

Plenary Events and Highlight Lectures are among the most prestigious events at IAC, drawing attention to innovative topics, breakthrough research, and cutting-edge technological advancements. Present your ideas to a large, engaged audience during the five days of the Congress.

Plenary Events and Highlight Lectures Submission Forum:

IAC 2025 Plenary Programme Selection Criteria:

Contact: iacplenary@iafastro.org

By 7 February 2025 submit your **Special Session proposal.**

The purpose of Special Sessions is to stimulate a forum for focused discussion on new and innovative topics. Of particular interest are proposals that address the congress theme and multidisciplinary research or topics different from traditional space-related topics.

Submit Your SpS Proposal:

SpS Submission Guidelines:

Contact: SpS@iafastro.org

By 28 February 2025 submit your **Abstract for Technical Session or Interactive Presentation**.

Authors are invited to submit an abstract regarding an original, unpublished paper that has not been submitted in any other forum. Papers can be submitted for either formal oral presentation or interactive presentation.

Abstracts must be submitted online and shall fit into one of the following IAC Categories:

A. Science and Exploration – Systems sustaining missions, including life, microgravity, space exploration, space debris and Search for Extra-Terrestrial Intelligence (SETI)

B. Applications and Operations – On-going and future operational applications, including earth observation, communication, navigation, human space endeavours and small satellites

C. Technology – Common technologies to space systems including astrodynamics, structures, power and propulsion

D. Infrastructure – Systems sustaining space missions including space system transportation, future systems and safety

E. Space and Society – Interaction of space with society including education, policy and economics, history and law, space security and sustainability, space arts, planetary defence and NEO, emerging space ecosystems.

Submit Your Abstract:

IAC 2025 Call for Papers Brochure:

Contact: support@iafastro.org

By 18 April 2025 submit your IAF Global Networking Forum (GNF) proposal.

The IAF Global Networking Forum (GNF) is a one-of-a-kind platform offering all IAF Members and future Members the chance to showcase innovations and address the most pressing topics in space. Sessions are tailored thematically and span across three durations: 30, 45, and 60 minutes.

IAF GNF Proposal Form:

IAF GNF FAQs:

Contact: gnf@iafastro.org

THE IAF GLOBAL SPACE LEADERS SUMMIT

For the first time ever the International Astronautical Federation made history by organizing the **IAF Global Space Leaders Summit,** gathering the largest group of space leaders represented by **60 heads of space agencies and offices from all over the world**. The inaugural session of the IAF Global Space Leaders Summit took place on 15 October 2024 in Milan, Italy, during the 75th International Astronautical Congress (IAC 2024).

This landmark event provided a unique opportunity for global space leaders from established space nations and emerging space countries to unite and discuss critical issues on neutral grounds and in a cooperative spirit.

The theme of this summit - "Space Capabilities for Sustainability on Earth" – focused on the critical role space technology plays in safeguarding our planet for future generations. Through the lens of space, we gained new insights into protecting our environment, mitigating and adapting to climate change, and fostering sustainable practices.

In recognition of the leadership demonstrated by the participants, the International Astronautical Federation presented the unique IAF Global Space Leader’s Pin specially designed for this event. This pin, featuring a moonstone, symbolizes excellence in leadership and is engraved with a unique serial number to honour the leader's esteemed role in the space sector.

The International Astronautical Federation expressed its gratitude to the Italian Space Agency (ASI) for their support in hosting this pivotal event.

As the legacy of the event, the IAF Global Space Leaders Summit **FINAL REPORT** with the synopsis of the 60 statements from the global space leaders has been published on the IAF website.

Affirming the crucial need for such a platform collaboration, and following the success of the inaugural session, the **next edition of the IAF Global Space Leaders Summit** has already been announced. It will take place on **30 September 2025 in Sydney, Australia**, in conjunction with the **76th International Astronautical Congress (IAC 2025)**.

THE IAF LOGBOOK

Championing Global Space Advocacy

The International Astronautical Federation (IAF) is pursuing its steady efforts as a pioneering space advocacy body, representing the collective voice of the global space community and fostering collaboration among stakeholders worldwide.

Through the **IAF Logbook**, you can explore the extensive engagements of the International Astronautical Federation (IAF) in advancing space advocacy worldwide. Launched in 2024, the IAF Logbook builds upon the Federation's longstanding global presence, capturing its active participation in key international events and discussions in addition to flagship International Astronautical Congress and IAF Global Conferences organized annually by IAF.

Inspired by the tradition of captains recording significant milestones during their journeys, the IAF Logbook offers a detailed chronicle of the Federation’s external activities. It highlights the involvement of IAF governance as speakers and contributors at major global forums, showcasing their efforts to address critical issues and foster collaboration within the space community.

While the IAF Logbook begins a new era of documentation in 2024, it reflects decades of IAF’s advocacy work, connecting diverse stakeholders and ensuring the most pressing topics in space remain at the forefront of global conversations. Join us in discovering how the IAF continues to shape the future of space cooperation.

2024

January	February	March
16th European Space Conference ISRAEL SPACE WEEK THE 19TH Ilan Ramon International Space Conference UNITED NATIONS Office for Outer Space Affairs	UN environment assembly UNITED NATIONS Office for Outer Space Affairs	ANTALYA DIPLOMACY FORUM
April	**May**	**June**
SPACE SYMPOSIUM IADC Inter-Agency Space Debris Coordination Committee 中国航天大会 2024	Chang'e 6 Moon Mission 2024 impact'24	UNITED NATIONS Office for Outer Space Affairs
July	**August**	**September**
		5th SELM Space Economy Leaders Meeting G20 BRASIL 2024
October	**November**	**December**
	COP29 Baku Azerbaijan AIR Summit	BSEL

THE IAF COMMITTEE BRIEFS 2024

Read about the latest developments and trends in space right now, and learn more about the IAF Committees and their upcoming projects.

The IAF Committees are the backbone of the Federation and powerful sources of knowledge. They are composed of members from all over the world in different space fields, who discuss and anticipate the evolution of space activities.

Please find the list of the IAF Committee Briefs below:

- IAF Astrodynamics Committee
- IAF Commercial Spaceflight Safety Committee (CSSC)
- IAF Committee on Planetary Defence and Near-Earth Objects (NEOs)
- IAF Space Security Committee
- IAF Earth Observations Committee (EOC)
- IAF Enterprise Risk Management Committee (ERMC)
- IAF Human Spaceflight (HSF) Committee
- IAF Materials and Structures Committee
- IAF Space Communications and Navigation Committee (SCAN)
- IAF Space Operations Committee
- IAF Space Propulsion Committee
- IAF Space Systems Committee
- IAF Space Transportation Committee

Enjoy this reading and do not hesitate to reach out to us in case you are interested in knowing more about an IAF Technical Committee at support@iafastro.org.

THE IAF INDUSTRY RELATIONS COMMITTEE WHITE PAPER

New IAF Industry Relations Committee White Paper: “Space Sustainability: A View from the Global Space Industry”

The International Astronautical Federation (IAF) is proud to announce the release of our latest white paper, Space Sustainability: A View from the Global Space Industry. Developed by the IAF Industry Relations Committee (IRC), this document highlights the pivotal role the global space industry plays in advancing sustainable practices and ensuring the long-term viability of space activities.

The Role of the Space Industry

As the primary driver of technological innovation, the space industry plays a pivotal role in advancing space sustainability. By integrating responsible practices across all mission phases, design, manufacturing, development, and operations, the industry complements and enhances government-led initiatives.

However, achieving sustainability in space is not without its difficulties. The white paper candidly explores the complexities of this transition, from the significant investments required to the challenges posed by geopolitical tensions and market fluctuations.

Collaborative Solutions for a Sustainable Future

The white paper emphasizes the importance of collaboration and global coordination in overcoming these obstacles. International organizations such as the IAF play a crucial role in fostering dialogue and partnerships among diverse stakeholders, including commercial enterprises, government agencies, academia, and NGOs.

Through its platform, the IAF facilitates discussions to address risks, uncover opportunities, and develop strategies that balance economic growth with environmental responsibility. The result is a roadmap for a resilient and inclusive future for space exploration and utilization.

Why It Matters

As space activities expand, the need for sustainable practices becomes ever more urgent. By recognizing the challenges and proactively addressing them, the space industry can ensure that outer space remains a shared resource for generations to come.

This white paper serves as both a call to action and a blueprint for the future, highlighting the essential steps toward building a space enterprise that is responsible, inclusive, and sustainable.

Learn More: Access the Full White Paper ☞

THE IAF FLAGS AND PINS ARE BACK FROM SPACE!

The IAF flags and pins carried by China's first reusable & returnable technology experimental satellite Shijian-(Practice)-19 are back from space. The Handover ceremony was held at the Hangzhou Center of the China Academy of Space Technology.

Li Daming, Vice President of IAF and President of China Academy of Space Technology, delivered 15 IAF flags, 117 IAF pins, piggyback certificates, and notarized certificates to IAF Executive Director Christian Feichtinger and IAF Special Advisor Elena Feichtinger.

The Shijian(Practice)-19 satellite is the first reusable & returnable technology experimental satellite developed by the Chinese Academy of Space Technology. The satellite was launched from Jiuquan Satellite Launch Center on 27 September 2024 and successfully recovered from Dongfeng Landing Site on 11 October 2024. Under the coordination of CSA, Shijian(Practice)-19 satellite carried 117 IAF pins and 15 flags. The payload successfully completed the in-orbit flight test. This launch is IAF's first direct participation in a major China’s space project, which is of great significance for promoting and advancing international cooperation in space.

THE IAF CUBESAT COMPETITION

Status update of the international winners of the two editions of the Space Universities CubeSat Challenge, organized by the International Astronautical Federation in cooperation with the Chinese Society of Astronautics (CSA).

Pursuing its mission to foster the Next Generation, the International Astronautical Federation (IAF) and its Space Universities Administrative Committee (SUAC) launched in 2019 the IAF CubeSat Competition to provide a platform where student teams from IAF member universities can win free launch opportunities to present their innovative ideas and gain attention internationally.

The last two editions, called “Space Universities CubeSat Challenge (SUCC)”. held in cooperation with the Chinese Society of Astronautics (CSA), allowed four student teams (two local and two international) to win a free launch to be operated by the China Academy of Launch Vehicle Technology (CALT).

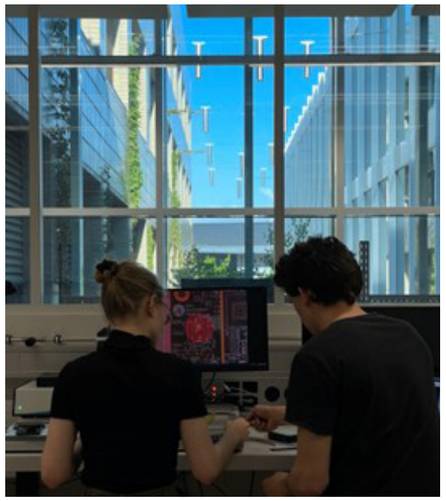
The two international student teams winners participated at the 75th International Astronautical Congress (IAC 2024) held last year in Milan, Italy, to provide the SUAC Committee with an updated status of their mission’s preparation.

Assisted by the IAF Secretariat, they have intensified their coordination with the supporting team in China to deal with Interface Control Document (ICD), export regulations, and satellite deployer, as well as to get familiar with the launcher features.

Please find below their major achievements:

The EPFL Spacecraft Team and its CHESS CubeSat

from the École Polytechnique Fédérale de Lausanne (Switzerland)



The EPFL Spacecraft Team is responsible for the development and management of the 3U CubeSat Mission CHESS, which will measure the chemical composition of Earth's exosphere. The satellite hosts two scientific payloads, a mass spectrometer from the University of Bern and a GNSS receiver from ETHZ. Since winning the SUCC 2.0 award at the IAC in Baku in 2023, the team has made significant progress and is now in the final design stages of the satellite. A major milestone was the successful preliminary design review held in December 2023, during which the satellite's configuration was defined.

Furthermore, the first engineering models of the Electrical Power System, On-Board Computer, and X-Band Module were developed, and initial tests have been conducted successfully. Another focus was placed on the development of the ground segment, where the UHF antenna is now operational on the roof of EPFL and the X-Band antenna is being manufactured.

At the IAC in Milan, the team had the opportunity to further discuss the satellite's launch in China and present the mission to the SUAC. These conversations focused on clarifying launch requirements, timelines, and any technical questions that could influence the final stages of the development.

The upcoming task for the team is finalizing the design of the satellite through the further prototyping and testing of subsystems. The next major milestone is the critical design review in 2026, where the satellite’s design is fixed and phase C is concluded.

The UVigo SpaceLab Team and its BIXO CubeSat

from the University of Vigo (Spain)

The BIXO CubeSat, led by UVigo SpaceLab, is designed to study the bacterial communication process in spaceflight conditions.

The Team has marked significant progress across several technical fronts:

Satellite Antennas:

The procurement process for the UHF antenna from ISISpaces has been initiated, with expected delivery within a six-month window. In the realm of S-band communications, two antenna designs have been developed, with three prototypes for each. These are currently undergoing anechoic chamber testing for characterization, which will allow comparison with simulation data. Among them, one S-band antenna model has already been successfully tested, showing very promising results, and has been selected as the final design for the BIXO mission's S-band antenna.

Ground Station Inauguration:

This year saw the inauguration of the ground station, which featured the operational debut of the mission control center and the fully refurbished S-band parabolic antenna. Additionally, efforts are now underway to incorporate a UHF antenna, further expanding the station’s communication capabilities.

Biological Payload Advancements:

Extensive viability testing has been conducted on lyophilized cultures to identify the most suitable samples. The cultures that demonstrated the best results have subsequently been integrated into the onboard microfluidic system. Additionally, the third iteration of the payload’s measurement hardware has been designed and manufactured.

Commercial Subsystems Functional Testing:

The team has successfully received the TOTEM and TRISKEL systems, with the picoEPS and solar panels scheduled for delivery next year. Initial physical and functional tests on the TOTEM have begun in a clean room environment, utilizing a protective container designed for safeguarding the engineering model during funcionality tests.

Satellite Attitude Control:

A new version of the magnetorquer modeling has been developed to more accurately reflect real-world conditions, considering sensor noise, external disturbance torques, and other relevant factors. In addition, the control algorithm has been improved to increase accuracy.

2U Satellite Structure Developments:

Following the testing of the second prototype of the 2U satellite structure, several improvements have been identified and implemented into the third prototype. This upgraded prototype is scheduled to be delivery this week.

FlatSat and FrontEnd Updates:

Minor improvements have been identified and incorporated into the FlatSat setup, reflecting the iterative learning and development process. The FrontEnd is undergoing redesign to incorporate insights gained from previous model, with plans to fabricate an updated version.

WELCOME TO THE IAF NEW MEMBERS!

We warmly welcome the IAF new members that were accepted and joined the IAF Community in 2024! Congratulations on joining the world's largest international space organization. Being an IAF Members means to have access to the Federation's outstanding network of 563 member organizations from 81 countries, including the leading space agencies, corporations, space societies, research institutes, universities, associations, and museums worldwide. As an IAF Member, you are part of a global community that advances new technologies and space-based applications, discusses policy matters, and promotes awareness about how space benefits life here on Earth. Together, we engage all space actors, to grow our sector and foster cooperation while pursuing our goal of Connecting @ll Space People.

If your organization is interested in becoming an IAF member please get in touch with the IAF Secretariat at membership@iafastro.org

THE IAF NEW MEMBERS IN 2024:

Advanced Space	Space Industry
Aerospace Valley	Associations and Professional Societies
AGH University of Krakow	Universities
AIPAS – Association Of Italian Space Enterprises	Associations and Professional Societies
Akula Tech	Space Industry
ALATYR	Space Industry
Alpha Impulsion	Space Industry
Angelantoni Test Technologies Srl	Space Industry
Armenian Aerospace Agency	Space Agencies / Space Offices
ASELSAN	Space Industry
Astra-Terra Ltd.	Space Industry
BIOSEC SOLUTIONS LIMITED	Space Industry
Boryung Corporation	Space Industry
Budapest University of Technology and Economics	Universities

Center for Space Commerce and Finance	Associations and Professional Societies
Czech Aerospace Research Centre	Research and Development Organisation
Ecosmic s.r.l.	Space Industry
Edge Aerospace	Space Industry
EllipSpace	Space Industry
EURO2MOON	Associations and Professional Societies
Everlight Space	Space Industry
Exobotics Ltd	Space Industry
Faculty of Electrical Engineering and Information Technology of Slovak University of Technology in Bratislava	Universities
FOSSA Systems	Space Industry
Fundación Cydonia	Space Industry
Ghalam	Space Industry
Gran Sasso Science Institute	Universities
HAVELSAN	Space Industry
Indian National Space Promotion and Authorization Centre (IN-SPACe)	Space Agencies / Space Offices
Indian Space Association (ISpA)	Associations and Professional Societies
Intella S.r.l.	Space Industry
International Alliance of Aerospace Information Industry Ltd.	Associations and Professional Societies
Ionosphere institute	Space Industry
iSaisei Corporation	Space Industry
KazSat	Space Industry
Korea Electrotechnology Research Institute	Research and Development Organisation
Korea Testing Laboratory	Research and Development Organisation
Malaysia Space Industry Consortium (MASIC)	Associations and Professional Societies
MARS Exploration Pvt Ltd	Space Industry
MISI - MOROCCAN INITIATIVE FOR SPACE INDUSTRY	Associations and Professional Societies
Moonshot Space	Space Industry
Nara Space	Space Industry
Oman National Space Center, Advanced Technology and AI	Space Agencies / Space Offices
Open Lunar Foundation	Research and Development Organisation
Orienspace Technology	Space Industry
Philippine Space Agency (PhilSA)	Space Agencies / Space Offices
PIESAT Information Technology Co.,Ltd.	Space Industry
Polish Space Industry Association	Associations and Professional Societies
Qosmosys	Space Industry
Rakia Mission	Space Industry
Russian Academy of Sciences	Research and Development Organisation
Sant'Anna School of Advanced Studies	Universities
SARsatX	Space Industry
SATELIOT	Space Industry
Science Malta	Research and Development Organisation
SETI Institute	Research and Development Organisation
Shenzhen MagicCubeSat Technology Co., Ltd.	Space Industry
Space Centre Australia	Space Industry
Space Entrepreneurship Institute	Research and Development Organisation
Space Products and Innovation (SPiN)	Space Industry
Spacely Chile	Space Industry
Starbound Space Solutions	Space Industry
STARS International University	Universities
Swissmem	Associations and Professional Societies
TRANSPACE TECHNOLOGIES PVT LTD	Space Industry
TY-Space Technology (Beijing) Ltd.	Space Industry
UNIO Enterprise GmbH	Space Industry
University of Padua	Universities
Vast	Space Industry
VENTURI SPACE	Space Industry
Wenchang International Aerospace City Administration	Space Industry

NEWS!

AEM
AGENCIA ESPACIAL MEXICANA

The Mexican Space Agency organized the Fifth Congress on Space Activities in Mexico.

Carlos Duarte, Mexican Space Agency

The Fifth Congress on Space Activities (CONACES 2024) was held in Matamoros, Tamaulipas, from November 7-10, 2024. This event marked a significant milestone in the development of space activities in the region. With over 30,000 participants from various countries, including Mexico, the United States, Chile, Colombia, Pakistan, Czech Republic, and Russia, the congress featured 143 technical sessions and 13 keynote speeches. Notable speakers included Kathryn Lueders, Starbase General Manager from SpaceX and Rodolfo Neri Vela, Mexico's first astronaut. Located 10 miles from Starbase, Matamoros is a border city of Mexico with Brownsville, Texas. This fact, encouraged the participation in CONACES 2024 of many space organizations from the USA, fostering binational collaboration in space.

The event aimed to foster dialogue and collaboration in the space sector, emphasizing sustainability. It also provided educational experiences for young attendees through a mobile planetarium and science museum. The congress highlighted the potential of space to transform lives and encouraged the development of future scientists and engineers. The support from local and state governments, as well as partnerships with institutions like SpaceX and the Mexican Space Agency, was crucial for the event's success.

AIP | Empowering Physical Scientists

AIP's 2025 Research Agenda: Advancing the Physical Sciences

AIP's mission as a federation of scientific societies is to advance, promote, and serve the physical sciences for the benefit of humanity. We pursue that mission by advancing the success of our Member Societies and by engaging in research and analysis to empower positive change in the physical sciences.

The launch of AIP's first annual research agenda marks a key milestone in realizing our renewed vision, six years ahead of our 2031 centenary. This research agenda addresses major areas of interest of the physical sciences community as we engage in new research at the nexus of history, policy and culture.

Throughout 2025, AIP's team of expert social scientists, historians, librarians, and archivists will undertake projects aligned with this agenda. We invite the broader physical sciences community — including the space science, engineering and technology community — to collaborate with us.

For this inaugural AIP research agenda, we are focusing on five major topics. These include social science research to understand and best support the needs and interests of the next generation of scientific society leaders. We plan to explore a century of breakthroughs in quantum science and technology and examine issues and trends in the U.S. government physical science workforce. We will also pilot approaches to track and report on Climate, Atmospheric, Oceanic Science and Meteorology degree programs at U.S. institutions.

Visit aip.org to learn more and to engage with us on this transformative initiative. Together, we can shape the future of the physical sciences.

Inside Akula Tech's Plan to Enable Smarter, Faster Access to Space Solutions

Akula Tech is a leading innovator in the space and defence sector, specialising in AI-powered, software-defined smart satellites, and autonomous technologies. These advanced technologies address diverse challenges, delivering real-time insights for disaster management, security, environmental monitoring, infrastructure management, resource optimization, and more. With instant data accessibility, trusted autonomy, and adaptive intelligence, Akula Tech ensures operational superiority. Leveraging cutting-edge manufacturing and rapid production capabilities, they have reduced delivery timelines from 2–3 years to just 6–8 months, revolutionising the industry and enabling mission-critical solutions essential for national security and global resilience.

In the past year, Akula Tech's innovations have been widely recognised by the industry. They were nominated as finalists for the Start-Up of the Year 2024 at the Space Connect Awards, and the Emerging Technology Award at Avalon 2025. The passionate engineers behind the company's success were also rightly recognised. Nishq Ravindranath, their Chief AI Officer, was awarded AI Leader of the Year at the Australian AI Awards 2024 whilst their founder, Preetham Akula, was named as Entrepreneur of the Year at the 2024 Victorian International Education Awards. Their team has also doubled in size, with esteemed advisors like Professor the Hon. Greg Hunt and Brandon Vayda joining to advance Akula Tech's vision.

Looking ahead to 2025, Akula Tech is set to make their vision a reality. Starting with launching their first space mission in Q1, Project NEXUS - an AI-powered data processing unit demonstrating real-time data processing and advanced on-orbit capabilities – and ending the year with a hosted payload mission in Q4, further enhancing satellite applications across diverse industries.

Their first event of the year, Avalon Australian International Airshow (25-30 March), will unite global players within the industry. Akula Tech's participation is proudly supported by the Victorian government. The winner of the Innovation Pitch Fest Awards will also be announced at the event, where Akula Tech is proud to be pitching as finalists. Connect with the team by visiting them at booth #1M16.

As Akula Tech advances satellite technology, they remain dedicated to building systems that are intelligent, adaptable, and resilient, ensuring a safer, more connected world. Akula Tech is not just redefining space; they're shaping the future.

Visit their website: https://www.akulatech.com/

ArkEdge Space

ArkEdge Space: Advancing Sustainable Space Exploration Through Micro-Satellite Innovation

ArkEdge Space is proud to contribute to the global space community as a comprehensive integrator of micro-satellite innovation, delivering impactful advancements rooted in sustainability and collaboration.

- **Micro-Satellite In-Orbit Demonstration:**

  Our 6U satellite bus system, designed for multi-purpose use, reduces production costs and accelerates deployment timelines, enabling sustainable satellite constellations. Following the deployment of AE1b from the International Space Station in November 2024 and the operational launch of AE1c and AE1d in January 2025, we have initiated in-orbit operations for three of our planned seven satellites, demonstrating diverse orbital deployment capabilities.

- **Accelerating Satellite Constellation Development:**

  Selected for the JAXA Space Strategy Fund Initiative, we are developing 50kg class satellite constellations equipped with advanced sensors to enhance maritime domain awareness (MDA) and modernize maritime safety using technologies such as VDES for two-way communications and satellite relays.

- **Lunar Navigation Satellite Systems (LNSS):**

  Another JAXA-funded project focuses on creating infra-structure for lunar exploration and the emerging lunar economy, fostering sustainable lunar activities and international collaboration.

- **Global Partnerships for Sustainability:**

  Through collaboration with emerging space nations, we integrate satellite data to provide tailored solutions that address diverse challenges. At COP29 in Baku, we showcased a geospatial platform that combines satellite data and IoT inputs to address climate related issues. Additionally, we provide customized geospatial platforms designed to help users to solve industry-specific challenges effectively.

These milestones highlight our mission to bridge technological innovation and societal benefit, shaping a sustainable future for space exploration.

Astroscale

Astroscale Japan Inc. ("Astroscale Japan"), a subsidiary of Astroscale Holdings Inc. ("Astroscale"), the market leader in satellite servicing and orbital sustainability, has been selected to develop in-space refueling technologies under Japan's Cabinet Office-led "Key and Advanced Technology R&D through Cross Community Collaboration Program" (K Program), promoted by the Japan Science and Technology Agency. The five-year project has a total budget of up to JPY 12 billion.

The K Program supports R&D of key technologies critical to Japan's global competitiveness. Astroscale Japan was selected under the "Refueling Technology Contributing to Satellite Life Extension" initiative and will develop and demonstrate in-space refueling technologies for prepared satellites.

Leveraging its proven Rendezvous and Proximity Operations technologies, Astroscale Japan will demonstrate chemical propellant refueling in low Earth orbit and conduct ground verification for various propellants. The project aims to scale solutions to geostationary orbit and refueling for electric propulsion systems.

This initiative reinforces Astroscale's commitment to a circular economy in space through on-orbit servicing, guided by the principles of Reduce, Reuse, Repair, Refuel, and Remove. Refueling plays a pivotal role in extending satellite lifetimes, reducing new launches, and increasing mission flexibility by overcoming fuel constraints.

AXIOM SPACE

Axiom Mission 4 Crew's Training Underway

Axiom Space has partnered with India, through the Indian Space Research Organisation (ISRO), Poland, with European Space Agency (ESA) support, and Hungary to send three national astronauts to the International Space Station on Axiom Mission 4 (Ax-4) this spring.

The assigned Ax-4 crew consists of Commander Peggy Whitson, Pilot Shubhanshu Shukla from India, Mission Specialist Sławosz Uznański from Poland, and Mission Specialist Tibor Kapu from Hungary.

Recently, the assigned crew completed training with international partners in Germany and Japan. ESA and the Japan Aerospace Exploration Agency (JAXA), along with the Japan Manned Space Systems Corporation (JAMSS), provided astronaut training to ensure the assigned Ax-4 crew is adept at functioning within the space station's multinational environment.

By completing this training, the assigned Ax-4 crew is more prepared to navigate the demands of living and working on station to ensure mission success.

Axiom Space Accelerates Axiom Station Assembly

Axiom Space announced that it is revising Axiom Station's module sequence to enable its commercial space station to become an independent orbital platform as early as 2028.

Revising the order in which modules will attach to the International Space Station allows Axiom Station to operate as a free-flyer about two years earlier than planned, supporting customer needs as well as national objectives – preparing the International Space Station for a U.S. deorbit vehicle and decommissioning station by the end of this decade.

The on-orbit assembly sequence will start with the Payload Power Thermal Module (AxPPTM), followed by Habitat 1 (AxH1), an airlock, Habitat 2 (AxH2), and finally the Research and Manufacturing Facility (AxRMF).

The result – free-flight capability after the launch and berthing of PPTM, allowing Axiom Space to add modules once Axiom Station has separated from the ISS.

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azercosmos

Azerbaijan's Strategic Impact on Global Space Sustainability.

Azerbaijan is actively enhancing its role in technology development, making a significant contribution to sustainable development efforts. Through innovation and international collaboration, the country is making progress in developing solutions that ensure safety for future generations.

The year 2024 became historic for Azerbaijan: the country proudly hosted the 29th Conference of the Parties to the UN Framework Convention on Climate Change (COP29). This event became a platform for discussing climate issues demonstrated the importance of space technologies in monitoring and mitigating the effects of climate change.

The Space Agency of the Republic of Azerbaijan - Azercosmos acted as the initiator and organizer of the "Space challenges in the fight against climate change: Summit of Space Leaders", which became an important stage in the promotion of international cooperation in the field of space research. This summit attracted space leaders, including Executive Director of the IAF Christian Feichtinger, providing a unique opportunity to exchange real experience and build new partnerships between developed and developing countries.

As a result of the summit, the leaders of about 20 global space agencies approved the "Pledge Document for Expanding Space-Based Climate Initiatives"

Through collaborative projects and innovative technologies on sustainable practices, Azercosmos bridges the gap between space exploration and sustainable development on Earth.

One of the five elements depicted in the COP29 logo this year - the universe, serves as a reminder that our shared future demands innovative solutions and collective efforts, building harmony with space, ensuring resilience and sustainability for the next generations to come.

AEB BRAZILIAN SPACE AGENCY

The Brazilian Space Agency (AEB) plays a pivotal role in advancing Brazil's space sector, fostering knowledge, innovation, and international collaboration. Through the AEB Escola platform, the Agency offers free courses to everyone, providing access to knowledge about the space for future generations of scientists and engineers. Most of the courses are offered in Portuguese; however, partnerships such as the collaboration with the Limitless Space Institute, aim to inspire and cultivate a passion for space exploration across nations. More info here.

AEB has also strengthened its ties with Brazilian universities, supporting the development and launch of educational

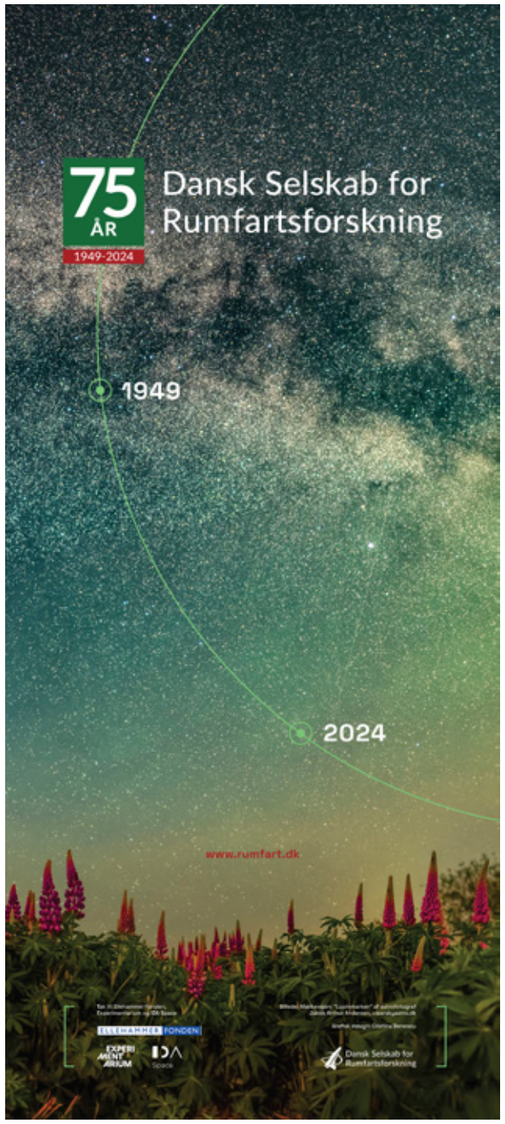
satellites and conducting impactful research for the benefit of the country. For example, the AlfaCrux mission, developed in collaboration with the University of Brasília (UnB), is an educational and technological demonstration mission in orbit designed to give students and teachers hands-on experience in the entire process of developing and operating a space mission. Find more here.
On the global stage, AEB maintains a consistent presence at the International Astronautical Congress (IAC), showcasing Brazil's progress in space technology and fostering international cooperation. In 2024, Brazil proudly hosted the Space Economy Leaders Meeting, facilitating dialogue between the G20, invited delegations, and the Brazilian aerospace industry, underscoring the nation's commitment to integrating space technology into economic development. Looking ahead to 2025, AEB will host the BRICS Heads of Space Agencies Meeting and prepares for its participation at COP30.

As the entity responsible for coordinating Brazil's Space Policy, AEB focuses on leveraging the space sector to improve societal well-being. By driving technological innovation, supporting sustainable development, and promoting education, AEB exemplifies the Brazilian Space Program's efforts to ensure that the benefits of space technology reach all segments of society.

75th anniversary of the Danish Astronautical Society

The Danish Astronautical Society was founded on September 20th 1949 and celebrated its 75th anniversary in 2024. Erling Buch Andersen was the first president of the Danish Astronautical Society. Vice president Leo Hansen represented Denmark at the very first IAC in 1950 in Paris, where he together with representatives of space societies from France, Spain, Argentina, Germany, Austria, Great Britain and Sweden signed a document with the decision to found the International Astronautical Federation at the next IAC in London in 1951.The Danish Astronautical Society hosted the IAC in 1955.

The celebration of the 75th anniversary took place in "Experimentarium", a science center in Hellerup, north of Copenhagen.The event started with the president's welcome speech, welcome drinks and a festive trumpet fanfare (Te Deum by Marc-Antoine Charpentier) played live by two professional musicians. Then Finn Willadsen, engineer and former vice president of the Danish Astronautical Society, gave a brief flyby over the history of space flight. After this Mathilde Saltoft Schou, bachelor in geophysics and space technology from the Danish Technical University gave a lecture about the "Earthshine" experiment, which was part of the Danish ESA astronaut Andreas Mogensen's Huginn mission. Finally, Nadja Albertsen, PhD, doctor and health anthropologist, gave an exciting insight into her one-year stay at the Concordia research station in Antarctica as an employee of ESA. After that, everyone was ready to go to the restaurant, where there were culinary delights, roll-ups, an exhibition with articles through time, and there was a lot of conversation and mingling. Hopefully, the participants brought back some good memories from the day. The event was supported by the Ellehammer Foundation and IDA Space.



Discover Eurisy via its new initiatives bridging Space & Society.
As we welcome the new year, we are thrilled to invite you to join the Geospatial Tools for Cities Focus Group, part of the Smart Cities marketplace of the European Commission. This dynamic platform brings together city representatives, companies, smart city stakeholders, and space experts to discuss how space solutions can support smart city development.

Eurisy continues to organize a variety of national and topical events that highlight the potential of satellite technologies. On February 26th, we will host a national workshop on Disaster and Risk Management with EUSPA in Barcelona.

Are you an educator interested in enhancing your digital, environmental and geospatial competencies? Join the GEO-Academy Winter School for a 5-day programme! Erasmus+ funding opportunities are available! GEO-Academy Winter School 2025 Website

Find out more about Eurisy initiatives on its social media and website https://www.eurisy.eu/

EURO2MOON

EURO2MOON is a Luxembourg-based non-profit organization established to promote the sustainable exploration and utilization of lunar resources, in order to position Europe as a leader in the emerging cis-lunar economy. Founded at the IAC 2021 in Dubai, EURO2MOON serves as a collaborative platform for European industrials and research organizations to exchange about the technologies and services essential for the upcoming lunar industrialization and to demonstrate those technologies together.

The association's primary objectives include initiating a European industrial ecosystem focused on the sustainable exploration of lunar resources, motivating European institutions to increase funding on this topic, representing industrial members across various domains, and creating a platform for exchange to discuss and provide recommendations for a common industrial roadmap. To better frame the activities, EURO2MOON is organized in four Working Groups: Communication, Market & Business, Power & ISRU and Sustainability.

EURO2MOON membership is open to industrials and research organizations within the European Union or the member states of the European Space Agency. Currently the association counts 11 members (ispace EUROPE, Airbus, ESRIC, ANRT, Arthur D.Little, Yokogawa, Air Liquide, OHB, OffWorld, CEA and M2M Solutions), all contributing with their expertise to the collective vision of a sustainable lunar exploration.

Through these collaborative efforts, EURO2MOON seeks to establish a strong industrial ecosystem that supports the development of new European service capabilities for lunar resources exploration.

EURO2MOON officially became a member of the IAF at IAC Milan last Oct. and started to expand its reach by signing a collaboration agreement with Japan's Lunar Industry Vision Council (LIVC) and was represented in several events during the year, including the IAF Spring Meetings, the Space Resources Week and ESA Space4Inspiration.

The association is growing and we are looking for new members to promote together the Space Resources topic in Europe. Join us at secretariat@euro2moon.com!

IAC Milan 2024

IAF Spring Meetings 2024

SpaceCert.org | European Space Foundation | Co-funded by the European Union

European Rover Challenge 2025 registration

The 2025 edition of the **European Rover Challenge** introduces **SpaceCert**, an innovative certification designed to recognize excellence in space & robotics. Developed as part of the ERC's mission to support future engineers, SpaceCert provides participants with an industry-recognized credential that highlights their technical skills, teamwork, and innovation, enhancing their employability.

The ERC, an international event combining a Mars rover competition, a space industry conference, and a STEM exhibition, invites student teams from technical universities worldwide to design and develop their own rover! These designs must meet technical requirements and execute tasks inspired by real NASA and ESA missions. Successful designs qualify for the finals, where approximately 25 teams will compete on a geologically accurate Marsyard in Krakow, Poland.

With the introduction of SpaceCert, the ERC provides additional value to participants by formally acknowledging their expertise and project accomplishments. The SpaceCert project is co-funded by the European Union. **For more information on SpaceCert, visit** spacecert.org

ERC 2025 in a nutshell:

- Registration: **Open and free until February 28, 2025**, **at** roverchallenge.eu;
- Finals: August 29–31st, 2025
- Location: Krakow, Poland
- Host University: AGH University of Krakow

gei CONSULTING

Architecture of Cities in the Space Age
New Cities for a New World
Tumaco Smart City Port

Located at latitude 1.76°N on Colombia's Pacific coast, Tumaco Smart City Port is an alternative urban development project that incorporates space technologies, smart systems, and sustainability concepts aligned with the United Nations Sustainable Development Goals (SDGs). These goals include reducing poverty and hunger, creating decent jobs, and promoting sustainable progress.

This project addresses the future global food supply needs by leveraging the region's favorable tropical climate to develop a world-class food industry. It aims to position Tumaco as a strategic export hub, connecting Colombia, Venezuela, and Ecuador with the rest of the world, contributing to peace and human development through regional economic strengthening. In this initiative, the application of space technologies serves as a driver for building sustainable cities for future generations.

The project is led by the Colombian company GEI Consulting, a member of the IAF, and is being developed with private sector participation. The private sector contributes the concepts and requirements under which the city will be designed in all its aspects.

If you are interested in participating in this initiative, please write to info@gei.consulting.

BDLI German Aerospace Industries Association

Germany's space industry, renowned for its cutting-edge technology and innovative solutions, is set to shine at two of the most prestigious global aerospace events in 2025: the Paris Air Show and the International Astronautical Congress (IAC) in Sydney. Organized by the German Aerospace Industries Association (BDLI), these appearances will showcase Germany's contributions to advancing space exploration, satellite technology and sustainable aerospace solutions as well as future launcher solutions.

At the Paris Air Show, attendees can explore the latest technological achievements from German companies, ranging from groundbreaking satellite systems to innovative launcher technologies, including LSIs, SMEs and startups. As a global hub for aerospace innovation, Germany's presence emphasizes its commitment to international collaboration and leadership in space technology.

Later in the year, the German pavilion at the IAC in Sydney will highlight the industry's pivotal role in addressing global challenges through space exploration. Visitors will experience demonstrations of Germany's advancements in Earth observation, climate monitoring, and deep-space missions, emphasizing sustainability and cutting-edge innovation.

BDLI takes pride in organizing and curating these showcases, fostering meaningful exchanges between industry leaders, researchers, and policymakers. As the voice of Germany's aerospace sector, BDLI is committed to strengthening international partnerships and driving forward the future of the space industry.

We warmly invite you to visit the German pavilions at both events to discover the technological excellence and visionary projects shaping the future of space. Let's connect and collaborate to advance space innovation for the benefit of humanity.

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

The Hong Kong Polytechnic University hosted Aerospace Innovation Research Summit and establishes Research Centre for Low Altitude Economy to support national development

On 19 Nov 2024, The Hong Kong Polytechnic University (PolyU) hosted the Aerospace Innovation Research Summit (AIR Summit) on campus, bringing together political and business leaders, researchers, and industry professionals from the aerospace technology and innovation sectors. The Summit featured five thematic parallel sessions, focusing on: "Exploring How Entrepreneurs Harness Research Outcomes to Seize Space Economy Opportunities", "Low Altitude Economy Development in Hong Kong", "Engineering–LEO Satellites and Rockets", "Space Exploration: Technology and Science", and "Commercialising Space".

Dr Christian FEICHTINGER, Executive Director of the International Astronautical Federation had also participated in the AIR Summit as a keynote speaker, with the topic "The International Astronautical Federation Connecting @ll Space People"

A highlight of the Summit was the signing of Memoranda of Understanding (MoUs) between PolyU and two industry partners. PolyU signed an MoU with the Orion Astropreneur Space Academy (Hong Kong) Limited (OASA), to promote innovation and advancement of space technology, and collaborate to establish a "Space Accelerator" aimed at nurturing future talent for the NewSpace Economy and related industries. Also, PolyU signed an MoU with the Greater Bay Area Low Altitude Economy Alliance (LAEA) to collaborate on driving innovation and advancing practices in the low altitude economy, as well as promoting academic research and technology transfer.

The event attracted close to 1,000 global scholars and industry experts, with over 50 speakers sharing their insights and research findings.

MANT
Hungarian Astronautical Society

Space for the Public and for Students

The end of 2024 was packed with important events for the Hungarian Astronautical Society (MANT). In October, we organized our annual Space Day, hosted by the National Media and Infocommunications Authority in Budapest. This year's main topic was space and our environment. The representative of the Ministry for National Economy, a governmental body recently became responsible for space industry in Hungary introduced their organizational system and plans. *The Way to Space!* – this was the title of the space contest for Hungarian-speaking high-school students organized for the fourth time. Every year, the contest attracts about 100 teams from all over the country and beyond. After completing two online rounds, the five best teams competed in the final held in Budapest in November. The winners will visit ESA ESTEC in the Netherlands, thanks to the support of the Ministry of Foreign Affairs and Trade. Another major contest for high-school students, the national selection round for the ESA 2025 CanSat competition kicked off in September. We organize it for the third time, now as part of the activities of the recently established ESA European Space Education Resource Office in Hungary. The CanSat competition gradually gained extreme popularity. This year, no less than 84 teams (over 400 students) participate. We offer a wide selection of trainings, materials, and opportunites for the teams to meet in person and discuss their achievements. The launch of the best 10 CanSats will take place in April 2025.

HUMAN SPACEFLIGHT SAFETY COURSE
May 28-30, 2025
Canadian Space Agency
Longueuil, Quebec (Canada)

In modern high-tech industries accidents don't happen because the limits of human knowledge are exceeded, but because potential design, manufacturing, and organizational errors are not systematically prevented, and their risk adequately mitigated. The safety goal in a space program is to lower to a pre-defined acceptable level the risk of accidents, and to make available means and operational procedures to enhance human survival should they occur. The lack of widespread education in the field of space system safety engineering has profound effects on project team effectiveness in integrating safety in the design at minimum cost. On one side, it slows down the professional development of junior safety engineers, while on the other side it creates a sectarian attitude that isolates safety engineers from the rest of the project team. Safety then becomes an after "de facto" bureaucratic effort to demonstrate compliance. To speed up professional development, bridge the gap within the team, and prevent hampered communication and missed feedback, the entire project team needs to acquire and develop a shared culture of space system safety engineering principles and techniques. This new IAASS 3-day course, unique in its kind, will be hosted by the Canadian Space Agency (CSA) and is open to external participants. The course is based on the 2nd edition of the highly successful book "Safety Design for Space Systems" published by Elsevier. The focus of the course is on teaching how system safety engineering techniques are applied in practice. The course provides also an historical perspective on the evolution of safety goals and requirements in space programs.

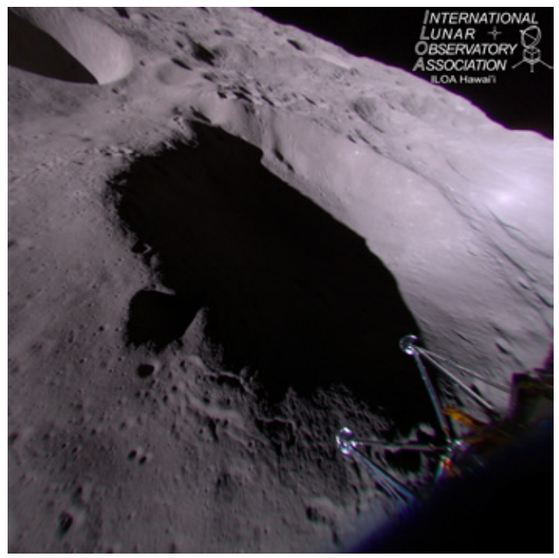
More info and registration link at: https://www.iaass.org/space-safety-events/courses-and-webinars/

INTERNATIONAL LUNAR OBSERVATORY ASSOCIATION

International Lunar Observatory Association (ILOA Hawai'i) flagship ILO-1 mission to the Moon South Pole region for observation and communications is planned to launch NET 2026, with payload and landing providers soon to be selected.

ILO-1 objectives include astronomy, Earth observation, lunar surface imaging – and commercial lunar communications, also termed 'lunar broadcasting' with affiliated Space Age Publishing Company, publisher of Space Calendar weekly. A long-term instrument capable of surviving the lunar night and direct Earth communications would allow for significant astronomy and science, publishing from the Moon, and commercial activities.

ILOA's precursor ILO-X mission, a dual camera suite, landed on the Moon 22 February 2024 aboard Intuitive Machines' IM-1 Nova-C lunar lander. The instruments captured 341 images.



Under development is the ILO-C instrument, an international project proposed by ILOA and accepted to launch aboard the Chang'E-7 lander around 2026 to Shackleton Crater ridge. ILOA is also advancing Southeast Asia and other international collaboration in this lunar mission.

Galaxy Forum India 2025 New Delhi, during GLEX 7-9 May is being planned as an GNF session, and a second Galaxy Forum India in New Delhi will occur on 12 May at SGT University (Shree Guru Gobind Singh Tricentenary University).

ILOA invites IAF members to join either / both New Delhi Galaxy Forums in May during the IAF GLEX timeframe; please contact info@iloa.org

Presentations from the successful Galaxy Forum China 2024 Hainan themed International Lunar Astronomy & Landings, and 21st Century Solar System Complete are being uploaded to www.galaxyforum.com

ispace

ispace's RESILIENCE lunar lander was launched on a SpaceX Falcon 9 rocket at 6:11:39 UTC, on Jan. 15, 2025, and was successfully deployed from the rocket at 7:44:24 UTC. On Jan. 16, 2025, at 19:40:18 UTC, at approximately 250,000 kilometers from Earth, RESILIENCE completed its first orbital maneuver, setting a course towards the Moon.

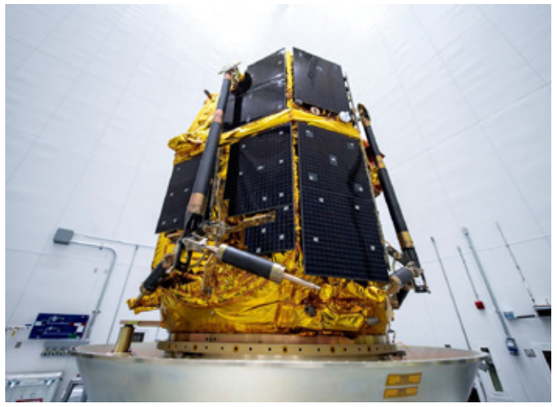
This is ispace's second mission to the Moon, named SMBC x HAKUTO-R VENTURE MOON, carrying commercial payloads and the first European lunar rover.

The payload manifest includes **water electrolyzer equipment** from Takasago Thermal Engineering Co.; a f**ood production experiment** from Euglena Co.; a **deep space radiation probe** developed by the Department of Space Science and Engineering, National Central University, Taiwan; a **commemorative alloy plate**, developed by Bandai Namco Research Institute, Inc. and modeled after "Charter of the Universal Century" from the animation Mobile Suit Gundam UC.

In addition, the lander is carrying the **TENACIOUS micro rover**, developed by ispace-EUROPE and the first from Europe to be launched to the Moon. The rover carries a payload known as the **Moonhouse** by Swedish artist Mikael Genberg.

Once on the surface, RESILIENCE will serve as a cultural artifact, carrying a UNESCO memory disk that preserves linguistic and cultural diversity.

RESILIENCE is expected to take 4-5 months to travel to the Moon, completing a list of Mission Milestones along the way. The lander will target the Mare Frigoris as a landing site, where it is expected to deploy the TENACIOUS rover. Updates will be made as mission objectives are completed.



LANDSPACE

LandSpace Successfully Conducted the ZQ-2E Y1 Launch Mission

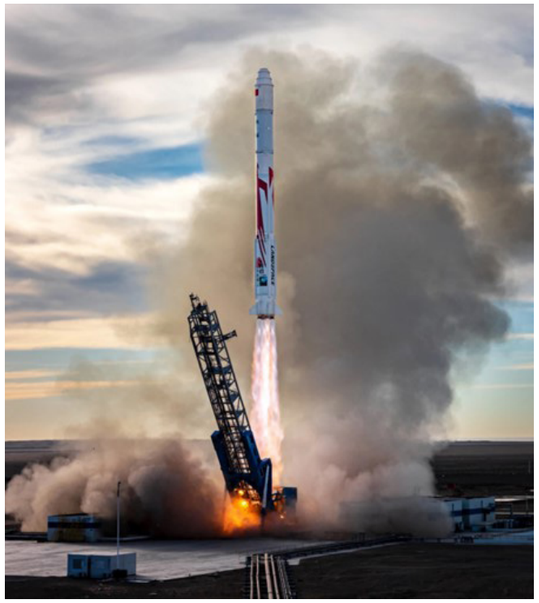
On November 27, 2024, at 10:00 AM (UTC+8), the ZQ-2E launch vehicle, the improved variant of the Zhuque-2 series, was successfully launched from the LandSpace liquid oxygen-methane vehicle launch complex at the JSLC Commercial Space Innovation Zone. The vehicle carried the Guangchuan-01 and Guangchuan-02 Techonologies demonstration satellites into their designated orbits, completing the flight mission with great success. This marks the third consecutive successful launch of the ZQ-2 series, signifying its transition to a mature, commercial and routine operational phase.

The ZQ-2E launch vehicle features a two-stage design, with both stages utilizing liquid oxygen and methane as propellants. The LV has an overall length of 47.3 meters, a body diameter of 3.35 meters, and a maximum payload fairing diameter of 3.35 meters. It has a lift-off mass of 219 tons and a lift-off thrust of 282 tons.

This launch set several records as firsts in China's aerospace history.

1. China's First Fully Subcooled Liquid Bipropellant Launch Vehicle
2. First Use of a Single-Layer Common Bulkhead Cryogenic Tank in China's aerospace history
3. Breakthrough in Manufacturing Large-Scale High-Precision Niobium Alloy Nozzle
4. First Application of Probabilistic High-Wind Load Analysis for Flight in China's aerospace history
5. 5. First Interstage Passive Cold Separation without Forward Thrusters in China's aerospace history
6. First Use of Intermittent Propellant Settling During the Coasting Phase in China's aerospace history

These advancements collectively demonstrate the techno-logical innovation and engineering capabilities achieved in the development of the ZQ-2E launch vehicle.



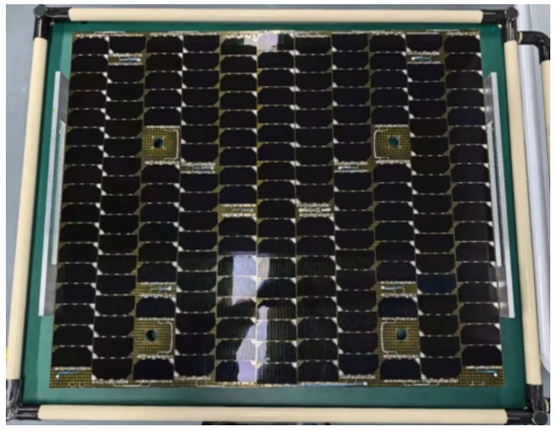
The LV's second stage incorporates a newly developed structure featuring a single-layer common bulkhead tank and an external tunnel feedline system, reducing the stage's length and overall mass. The first stage is powered by four TQ-12 liquid oxygen-methane engines operating in parallel. The second stage is equipped with a single TQ-15A vacuum engine, delivering a vacuum thrust of 85 tons. Additionally, it is outfitted with a YQ-10 auxiliary propulsion system, which supports precise attitude adjustments, terminal velocity correction, propellant settling, orbit adjustment, and deorbit maneuvers for the rocket's upper stage.

This milestone highlights LandSpace's ongoing advancements in commercial spaceflight and its growing capability to support diverse payload delivery missions.

On 13 January 2025, at 11:00 Beijing time, a JL-3 rocket lifted off from the sea off Shandong Province, China, placing the CentiSpace Space constellation 10 satellites of its first group into the planned orbit. The mission was a great success.

Of the 10 satellites, the solar arrays of the two, C0001~C0002, were produced by Shenzhen MagicCubeSat Technology Co, Ltd.(hereby as MagicCubeSat), and currently the solar array performance in orbit is superior to the design technical indicators and in good condition.

To date, MagicCubeSat and its subsidiaries have delivered power modules for more than 40 satellites, with 29 sets of typical solar arrays in orbit and stable operation. In terms of data consistency, product reliability, and stability, MagicCubeSat's products has been fully on orbit proven, leading the industry in mass manufacturing.



MagicCubeSat's Solar Panel Product Which Has Been Applied In Orbit (Credit to MagicCubeSat)

The Launching Scene of the JL-3 Rocket
(Credit to Zhaoyang Li/Lei Tian/Jiahua Li)

Mission Space

Mission Space has achieved significant milestones recently. The company was featured in Forbes, where its role in space weather forecasting was discussed, highlighting its potential to save billions and protect lives.

At CES 2025, Mission Space met with John Deere to explore how space weather monitoring could enhance agricultural technology. In addition, Gizmodo recognized the company for its pioneering efforts in real-time space weather data.

Mission Space is also collaborating with airlines and defense organizations to integrate space weather intelligence.

About Mission Space:

Mission Space helps aviation, defense, agriculture, space tech companies, and others reduce losses by up to 50% by providing mitigation plans 96 hours ahead of violent space weather events. We collect and transform solar activity data into actionable insights, critical for safeguarding assets and mitigating risks both on Earth and in space.

For more details, visit https://www.mission.space/

MOON VILLAGE ASSOCIATION

The 8th Global Moon Village Workshop & Symposium, hosted by the Luxembourg Space Agency, concluded successfully on December 2-3 in Luxembourg. With 160 participants from 22 countries, the event brought together key players in lunar exploration, including space agencies, industry leaders, and policymakers.

Exciting news was announced at the event: the Moon Village Association (MVA) has partnered with the Emirates Council for Work Relation Development to host its 2025 flagship events in Abu Dhabi. These include the International Moon Day Main Event on July 20 and the 9th Global Moon Village Workshop & Symposium in November. Abu Dhabi will also become home to the Moon Village Centre, a hub for fostering global collaboration on sustainable lunar activities.

Additionally, MVA unveiled its new partnership with SAY Communications as its official PR partner. SAY Communications, through its SAY SPACE division, will amplify MVA's mission of peaceful and sustainable lunar exploration by engaging space agencies, governments, academia, and the public with compelling narratives about the Moon's future.

MVA is also proud to welcome its newest Institutional Member, the Deep Space Exploration Laboratory (DSEL) from China, further strengthening the network of organizations committed to the peaceful and sustainable exploration of the Moon. In 2024 an MoU was signed between MVA and DSEL for cooperation in the context of the International Lunar Research Station (ILRS).

NSSA

During Space Week, the National Space Science Agency hosted a variety of local activities and events, including the 7th edition of the NASA Space Apps Challenge 2024 Hackathon. This event brought together 51 teams from various levels and age groups. Additionally, NSSA organized an inspiring lecture by Casey Swails, NASA's Deputy Associate Administrator.

Ms. Amal AlBinali, Director of Strategic Planning and Projects at NSSA, has been selected as the Vice President of Education for the IAF. This announcement was made at the 75th International Astronautical Congress held in Milan. She becomes the first Bahraini woman to hold a high-level leadership position in the federation.

Mr. Yagoob Alqassab, a senior engineer at NSSA, has been recognized as one of the Top "20 under 35" by SSIP, honoring his leadership and contributions to the space industry and the Kingdom of Bahrain.

NSSA organized the 2nd Space Forum, highlighting the significance of space laws in shaping a robust and harmonized framework at both national and international levels. The forum also addressed the challenges of the space industry and the roles in ensuring responsible and sustainable space activities. This event was held alongside the Bahrain International Airshow 2024.

NSSA's CEO also participated the World Space Leaders Summit at COP29, organized by Azercosmos, in Azerbaijan.

Space Traffic Coordination (STC) and the UN General Assembly's Fourth Committee held in New York, as well as the Turkish Aerospace and Defense Airshow held in Istanbul.

OPEN LUNAR FOUNDATION

The Open Lunar Foundation is pleased to have joined the International Astronautical Federation as a member last year. Our work focuses on developing lunar infrastructure and creating open governance frameworks for the Moon to ensure that space exploration and presence remain peaceful and sustainable. Collaborating with experts across disciplines, we advance projects such as information sharing, lunar policy development, shared infrastructure, and practical tools for responsible lunar activities.

To support our growth, we are expanding our leadership team with a Co-Executive or Executive Director. This role will help guide Open Lunar's strategy, foster partnerships, and oversee our programs as we embark on the next phase of our work. Learn more about the role and how to apply or share recommendations here: https://www.openlunar.org/blog/hiring-in-2025

For questions or suggestions, please contact us at: contact@openlunar.org

The Philippine Space Agency (PhilSA) will host the 31st Asia-Pacific Regional Space Agency Forum (APRSAF-31) on November 18–21, 2025, in Cebu, Philippines.

Jointly organized with the Government of Japan through the Japan Aerospace Exploration Agency (JAXA) and the Ministry of Education, Culture, Sports, Science and Technology (MEXT), APRSAF-31 is one of the largest space meetings in the Asia-Pacific region. APRSAF-31 comes to the Philippines amid the continuing growth of PhilSA and the increasing momentum of space activities in the country through enhanced utilization of space data, small satellite development, and international partnerships. This marks the second time that the Philippines is hosting the forum, which underscores the country's growing role in fostering stronger regional space cooperation.

APRSAF-31 will feature five working groups — Satellite Applications for Societal Benefit Working Group, Enhancement of Space Capability Working Group, Space Education for All Working Group, Space Frontier Working Group, and Space Policy and Law Working Group — along with plenary sessions, a Space Industry Workshop, and discussions on various APRSAF-led initiatives.

National space agencies, government entities, private companies, industry leaders, international and regional organizations, academia, and other professionals from over 40 countries and regions of the Asia-Pacific are expected to attend the forum.

Stay tuned for updates:

The Philippine Space Agency (PhilSA) is the central government agency of the Philippines that plans, develops, and promotes the national space program in line with the Philippine Space Policy. Created in August 2019 under Republic Act No. 11363, or the Philippine Space Act, PhilSA is an attached agency of the Office of the President of the Philippines for purposes of policy and program coordination and to ensure alignment in national policies and priorities.

RAKIA

Advancing Innovation and Collaboration, Promoting Space for All

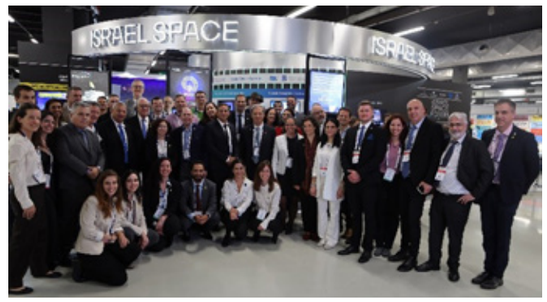
Rakia, a public benefit corporation, is dedicated to advancing Israel's space ecosystem with a special focus on human space exploration and open space for all. Through innovative initiatives and international collaborations, Rakia provides access to space for researchers, entrepreneurs, and artists to explore new ideas in microgravity conditions aboard the International Space Station (ISS).

As the founder of the Israel Space Forum, Rakia has established a collaborative platform that unites space companies, researchers, government agencies, and entrepreneurs to accelerate technological advancements and economic growth within the global NewSpace economy.

Rakia leads Space Campus IL, Israel's first student space community. This initiative connects and empowers the next generation of space professionals by partnering with universities and facilitating cutting-edge academic collaborations.

In addition to advancing science and technology, Rakia champions cultural exploration of space. Through art exhibitions, conferences, and creative initiatives inspired by its involvement in the AX-1 mission, Rakia encourages artists and cultural leaders to reimagine space as more than a scientific domain, sparking rich discussions about humanity's role in the cosmos.

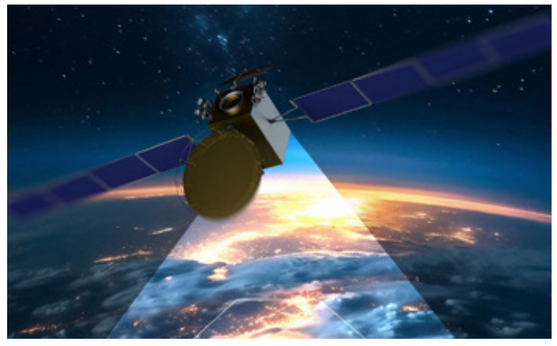
Guided by a vision to build an inclusive and dynamic space ecosystem, Rakia nurtures innovation, creativity, and collaboration while promoting peace, social responsibility, and environmental sustainability.



ReOrbit builds software-enabled satellites for secure communications. Being at the intersection of New and Old Space, ReOrbit enables space applications where efficiency, sustainability and security are critical. ReOrbit's space systems streamline data flow and support its ambition as a company: to expand universal coverage, close the digital divide around the world and benefit the environment.

Just recently, Reorbit has announced signing a Memorandum of Understanding (MoU) with Ananth Technologies, a leading aerospace and defence manufacturer in India. This collaboration aims to explore opportunities in designing and developing GEO communications satellites. The MoU, signed by ReOrbit and Ananth Technologies, outlines areas of potential collaboration that underscores a mutual commitment to advancing satellite development and deployment capabilities. The expressed interest covers potential partnerships between the parties, including Ananth Technologies incorporating ReOrbit's state-of-the-art software-enabled GEO communications satellite, as well as ReOrbit partnering with Ananth Technologies to utilise Ananth's manufacturing and AIT facilities.

You can read the full press release here: https://www.reorbit.space/news/reorbit-and-ananth-technologies-enter-into-strategic-agreement-on-geo-communications-satellites



SAMARA UNIVERSITY

The Space Research Department of Samara National Research University is pleased to announce the 19th International Summer Space School "Future Space Technologies and Experiments in Space", taking place from June 23 to July 4, 2025, in Russia's space capital: Samara City!

During two weeks participants will explore the entire process of a space mission—from its idea to nanosatellite project. The program includes lectures on topics such as orbital mechanics, challenges in motion control and navigation of small spacecraft in interplanetary missions, methods and algorithms for nanosatellite attitude determination, software development for nanosatellite microcontrollers, and much more! These lectures are delivered by the professors, researchers, and engineers behind the SamSat family—a series of CubeSats fully developed in-house and launched in 2023 and 2024.

Participants will gain hands-on experience in our department's facilities, including the nanosatellite testing center, electronic laboratory, and research spaces. Activities include conducting a live communication session with our in-orbit nanosatellite from the Mission Control Center, assembling nanosatellite subsystems using our real engineering model, and excursions to Samara University's Museum of Cosmonautics and the Rocket Engines Museum.

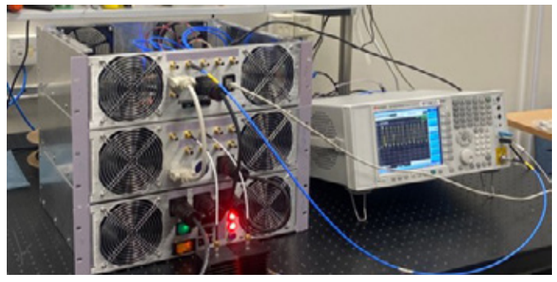
By the end of the program, participants will defend a real mission concept and receive a certificate equivalent to 3 ECTS. Join us to learn, explore new collaboration opportunities, expand your network in the space community, and experience the country that sent the first human to space!

For more information, including the registration form and participant conditions, please visit our official website at https://volgaspace.org/school-2025/. For any additional questions, do not hesitate to contact us at space@ssau.ru.

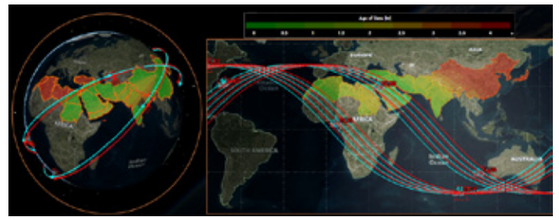
SARsatX

SARsatX: Saudi Leader in SAR and Remote Sensing Technology

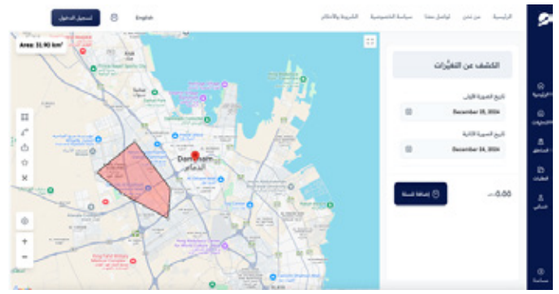
SARsatX, a Saudi space company specializing in Synthetic Aperture Radar (SAR) technology, received grant funding in 2023 to develop **SARsatX-1 (SSX-1),** an airborne X-band Synthetic Aperture Radar (SAR) payload, with the goal of repurposing it for space use. Development concluded in late 2024, with ground tests starting in January 2025 and flight tests to follow.



SARsatX is also developing the **ArabiaEye constellation,** comprising 16 small satellites (8 hyperspectral and 8 SAR) for rapid environmental response. An interactive presentation on the mission concept was given at IAC 2024 in Milan and can be accessed online here.



EarthLife, SARsatX's Value-Added Service (VAS) platform, analyzes satellite data for insights into industries crucial to Saudi Arabia's growth and sustainability. It integrates data from 3rd party providers and the planned ArabiaEye constellation. In late 2024, SARsatX conducted customer trials and market validation using an initial version of the platform as part of the Emerging Technologies Regulatory Sandbox with the Saudi Communications, Space, and Technology Commission (CST).



Finally, in January 2025, SARsatX launched its first hardware to space. We designed and delivered two optical payloads for Mission SCOT, a small satellite launched by Indian space startup Digantara. These optical systems are used for space situational awareness to track and monitor space debris.

For further information, please visit our website (https://sarsatarabia.com/en/home/) or contact us at info@sarsatarabia.com.

Space Industry Association of Australia

Australian space industry partnership opportunities

With IAC 2025 Sydney soon approaching in September this year, Space Industry Association of Australia (SIAA), the host, encourages organisations interested in exploring partnership opportunities with the Australian space industry to get in touch.

SIAA will be represented at the following space industry events and welcomes meetings with any organisations interested in pursuing opportunities with Australia and to discuss opportunities available at IAC 2025 Sydney:

- 10-13 February - Vienna, Austria (in line with UN COPUOS)
- 26-28 February - Singapore (in line with GSTCE)
- 24-28 March - Paris, France (in line with IAF Spring Meetings)
- 24-27 March - Avalon, Australia (in line with SIAA's own Southern Space 2025 and Avalon Australian International Airshow 2025)
- 7-11 April - Colorado Springs, United States (in line with 40th Space Symposium)
- 7-11 May - New Delhi, India (in line with The Global Space Exploration Conference 2025)

Please send meeting requests to Lisa Vitaris, Interim CEO | Director, IAC 2025 Sydney, Space Industry Association of Australia: lisa@spaceindustry.com.au

A limited number of tickets are available to SIAA's flagship Southern Space 2025 event on 25 March 2025 at Avalon, Australia. Southern Space 2025 is a unique opportunity to connect meaningfully with a wide range of organisations across the Australian space ecosystem in a relaxed environment prior to IAC 2025 Sydney. Register here: https://airshow.com.au/trade/program-highlights/southern-space-conference/

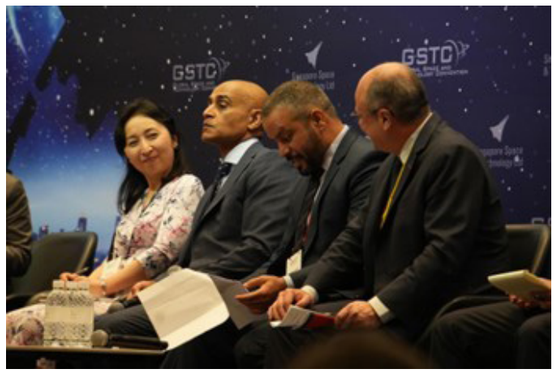
Singapore Space & Technology Ltd

Come to Asia's Biggest Space Show: GSTCE 2025

The 17th edition of the Global Space Technology Convention & Exhibition (GSTCE), organised by Singapore Space & Technology Ltd will be held in Singapore on February 26-27, 2025! With over 1,200 space leaders and innovators expected, Singapore's exceptional connectivity makes it the perfect hub for fostering international collaboration and driving space innovation.

Why You Can't Miss GSTCE 2025

Exciting Programme: Centered on 'Commercialising Space: New Frontiers in Disruptive Innovations', this edition promotes collaboration across public institutions, private enterprises, and diverse sectors. Key topics include AI, cybersecurity, maritime, smart cities, and more.



The 2024 Space Agency Dialogue featured key representatives from leading space agencies.

Space Agencies & Industry Leaders: Senior representatives from NASA, AFRL, USSF, ESA, UNOOSA, CNES, UKSA, UAESA, JAXA, GISTDA, PhilSA, MYSA, and OSTIn are expected to attend. Be sure to join the engaging discussions and inspiring panels!

Government Involvement: Supported by Singapore's statutory boards and attended by ambassadors, GSTCE fosters meaningful connections. We are honoured to welcome Mr Gan Kim Yong, Singapore's Deputy Prime Minister and Minister for Trade and Industry, as the Guest of Honour.

The 2024 event saw delegates in deep discussions and networking.

Larger Exhibition & Networking Spaces: Held at the iconic Marina Bay Sands, GSTCE 2025 provides additional space to showcase the latest global technologies. Uniting professionals from across the globe, the event offers unparalleled opportunities for networking and collaboration.

Register **by February 26th** to avoid higher onsite rates. For more information or to register, visit: www.space.org.sg/gstce

AGH

We are excited to announce the 8th edition of the **VIIIth Space Resources Conference - Path to Lunar Sustainability**, taking place from **May 21-23, 2025, in Kraków, Poland**. This prestigious event will bring together scientists, practitioners, students, industry professionals, and space enthusiasts from across Europe and around the world.

The conference will feature a series of thematic sessions covering a broad range of topics related to modern space technologies, including emerging fields such as New Space. Experts will share insights into the latest advancements in space exploration, sustainable lunar resource utilization, and the technological innovations driving the space industry forward. Additionally, the sessions will explore the interdisciplinary connections between space science and other fields, such as the humanities, highlighting the broader impact of space technologies on society and the environment.

We invite all those passionate about the future of space exploration, lunar sustainability, and cutting-edge space technologies to join us for this exciting opportunity to engage in thought-provoking discussions and shape the future of space resources.

Date: May 21-23, 2025
Location: Kraków, Poland
Registration:
https://systemcoffee.pl/?lang=en&go2rej=1&kid=1710

Website: www.spaceconf.org

SpaceLand

SpaceLand has signed initial agreements with an Italian airport management company in central Italy aiming to create Europe's first open Microgravity Flight Port, named SpaceLand Center. This project is a twin-development to the one presented in Dubai to the United Nations by Eng. Doct. Carlo Viberti and the renowned scientist Head of State of Mauritius for Africa.

At the Center, daily "open" training for aerospace tourism and S.T.E.M. R&D in Lunar, Martian and zero-gravity conditions will enable up to 50 people per flight mission to experience astronaut's life on a unique vehicle developed with U.S. partners for high-quality weightlessness. The SpaceLand Center will feature immersive ground, underwater and flight infrastructures, including novel Mars Habitats, showcasing eco-friendly construction technologies under the supervision of Architect Celeste Petraroli, who is also consultant for mass-media facilities of the Milano-Cortina 2026 Olympics.

Air-launching of small satellites for an all-Italian high-speed broadband internet network and the development of the world's first sub-orbital passenger airline are also being considered, using the same flight vehicle as first stage.

SpaceLand's vision of democratizing access to space and low-gravity STEM will create hundreds of high-tech jobs and thousands of indirect jobs for the surrounding areas. As demonstrated by the records set by SpaceLand on NASA Pathfinder microgravity

flights, citizens of all ages and backgrounds, including those with disabilities, will benefit from SpaceLand's eco-sustainable, democratic approach to the Space Economy, fostering future-facing education and socio-economic growth for All. Further info and background are available in this interview in Montecarlo

https://livinginmonaco.com/2024/01/25/doct-carlo-viberti-history-first-private-engineer-cosmonaut/

SUAI State University of Aerospace Instrumentation

IX All-Russian Forum of Cosmonautics and Aviation CosmoStart 2024: A Call From Space

The three-day event organized by the State University of Aerospace Instrumentation jointly with the State Corporation Roscosmos held in Saint Petersburg on November 21-23, 2024 united leading specialists, scientists, engineers, students and schoolchildren from all over the country. This time the event was dedicated to the 90th anniversary of the birth of the world's first cosmonaut Yuri Gagarin.

Right during the opening ceremony, a telephone connection was established directly with the International Space Station. Pilot-cosmonaut, Hero of Russia Alexey Ovchinin emphasized how important it is to get schoolchildren interested in space – after all, it is the current young generation that will develop space technologies.

This year, pilot-cosmonaut, Hero of Russia Valery Tokarev and pilot-cosmonaut, Hero of Russia Sergey Prokopyev took part in the traditional dialogue with audience. In 1999 Valery Tokarev served as a specialist on the Discovery shuttle STS-96 flight under the ISS assembly program and became the second Russian cosmonaut to visit the International Space Station. Sergey Prokopyev made one of the longest flights - he spent 370 days, 21 hours and 22 minutes in space. The cosmonauts talked to the participants and answered questions.

The forum is an excellent opportunity to learn more about cosmonautics first-hand, to communicate with experts and real cosmonauts, to build a professional trajectory in the rocket and space industry.

AACII

Together for a better world!

The world is constantly moving and evolving and so is technology: artificial intelligence, satellites as small as shoeboxes and air mobility. Everybody is talking about future technologies and innovation. Staying ahead in such a rapidly changing landscape requires more than just awareness - it demands insight, collaboration, and action.

That's where the second Aviation Aerospace Congress Inter-disciplinary International on Tuesday, February 12th 2025 in Nuremberg, Germany comes in. This event gathers leading experts for dialog, visionaries, and innovators from across the globe to explore the latest trends and breakthroughs in aviation and aerospace. With a dynamic program of keynote speeches and engaging panel discussions, the congress offers a platform learn about cutting-edge technologies.

Together for a better world is the motto of this year's congress, and there is no better place to discuss the future of the world than in rooms filled with experts from different fields.

Whether you're a business leader, engineer, or tech enthusiast, the AACII provides unparalleled insights, networking opportunities and global awards. Join us in Nuremberg to be part of the dialog that's defining the future of science and economy!

Find more information on the congress here: www.aacii.space

TU WIEN TECHNISCHE UNIVERSITÄT WIEN

Shaping the Future: Space Architecture for Earth and Beyond

The TU Wien Academy is thrilled to announce the second cohort of its Executive MBA in Space Architecture, starting in autumn 2025. This groundbreaking program prepares professionals to tackle challenges in designing for space and extreme environments on Earth.

Participants will explore innovative technologies such as 3D manufacturing, robotics, virtual reality, and augmented reality, gaining strategic skills to address resource management and climate change. Spanning three semesters and culminating in a master's thesis, the program is taught in English, with modular classes tailored for working professionals.

Dr. Sandra Häuplik-Meusburger, the academic director, under-scores its significance: "Space has always been a synonym for endless dreams and cutting-edge innovations. These experiences offer potential solutions for pressing terrestrial questions." Her insights on space architecture highlight how designing for zero gravity and extreme conditions drives creative thinking. For example, the circular structures of pressurized habitats and foldable systems, like the Apollo-15 lunar rover, exemplify resourceful engineering.

Beyond technical mastery, the program emphasizes human-centric design. Key architectural considerations include psychological well-being, private spaces, and fostering teamwork among astronauts—lessons drawn from historical pioneers like Galina Balaschowa and Raymond Loewy.

Sustainability is another cornerstone, with reusable rockets and satellite-based climate data playing pivotal roles. These principles inspire Earth-bound solutions, combining flexibility and resource efficiency to meet today's environmental challenges.

The program bridges innovation and human needs, equipping participants to shape the future of architecture both in space and here on Earth.

More information: Space Architecture | TU Wien

天银星际 TY-SPACE

TY-Space Technology (Beijing) Ltd. is professional focusing on advanced attitude optical sensors,especially Star Trackers for space industry.TY-Space Star Trackers successfully launched and operating flawlessly on board of High Resolution Remote Sensing Project, Lunar Exploration Program and other satellites & on-orbit applications, such as Jilin-1, NS-1, NS-2, High-resolution Micro-Nano, Smart imaging, Laser communications, Chuangxin-06, CE-4 moon formation Constellation, Zhuhai-1 Constellation, Microscope Constellation Celestial constellation.

New product: PnP ADCS-A2,on-orbit successfully service for NS-1, NS-2 Satellites, lunched on JUN15,2024, and NS-3,NS-4 Satellites, lunched on NOV15,2024.

Performance

Volume	96×96×100mm
Mass	990g
Electronicsinput voltage	12V
Attitude Determination Accuracy	5"(3σ)
Pointing Accuracy	0.02°
Momentum	20mNms
Maximum Torquc	2.5mNm
Magnetic Dipole Moment	0.6Am²
Magnetometer	±8Gauss
Operating Temperature	40t085°C

Key Technologies

- high-performance and highly reliable microsystem(PnP-ADCS) based on on-board plug-and-play technology (SPA), by advance micro-nano components: the nano-reaction flywheel and the nano-type magnetic torque.

- An active perception of on-orbit multi-mode intelligent control strategy and the rapid identification based on inertial attributes response to improve the
- PnP ADCS performance, reliability, and achieve to plug and play.
- The full-link multi-field coupled space environment simulation method for coupled attitude dynamics, space magnetic field, space radio and stellar environment, by developed the full-link multi-field coupled full physics ground experimental system and semi-physical closed-loop flight simulation test system, which can support the full-link ground verification of micro-nano systems such as the high-precision attitude control system.

وكالة الإمارات للفضاء
UAE SPACE AGENCY

As a testament to its groundbreaking achievements throughout the year, the UAE has ushered in 2025 with remarkable milestones in the space sector. Beginning the year on a historic note, the UAE successfully launched five cutting-edge satellites in less than one month: HCT-SAT 1, AL AIN-SAT 1, MBZ-SAT, Thuraya 4, and the second phase of the Foresight Constellation. These advancements in satellite technology, spanning remote sensing and mobile communications, are setting new standards in Earth observation, reinforcing the UAE's role as a leader in space innovation.

The UAE continues to pioneer solutions to both terrestrial and space challenges. To close 2024 on a high note, the UAE hosted the second edition of the Abu Dhabi Space Debate (ADSD), bringing together emerging space players, industry leaders, decision-makers, and academia. The two-day event, attended by over 1,000 participants from 47 countries, addressed key challenges in the space industry, fostering bold, forward-thinking solutions to advance global space policy.

On the sidelines of ADSD, the UAE Space Agency launched a UAE-Japan joint space workshop aimed at strengthening collaboration in space exploration and the peaceful use of outer space.

Looking ahead, 2025 promises to be another transformative year for the UAE's thriving space sector. With the nation's involvement in NASA's Gateway project and significant progress in the Emirates Mission to the Asteroid Belt (EMA), the UAE is poised to make even greater strides in space exploration and innovation.

USC Viterbi School of Engineering

Viterbi School of Engineering, USC
Record by Rocket Propulsion Laboratory

The Viterbi School of Engineering's Rocket Propulsion Laboratory (RPL) at the University of Southern California (USC) designs, builds and launches solid-propellant rockets. On October 20, 2024, the student-built rocket Aftershock II lifted off from the Black Rock Desert in Nevada and reached an altitude of 143 km. RPL thus beat the world altitude record for student and amateur groups of 116 km set in 2004. Aftershock II's maximum speed exceeded 1600 m/s.

The 13-ft (4 m) long and 8" (20 cm) in diameter rocket weighed about 150 kg. Its solid-propellant motor with a maximum thrust of nearly 18.8 kN relies on an ammonium-perchlorate-based composite propellant mixed and cast by students.

Aftershock II's motor burned out in 19 seconds (T+19) after the launch. The missile crossed the von Karman line at the 100-km altitude in 85 seconds (T+85) after the liftoff and reached the apogee at T+177. The vehicle hit the ground 12.5 minutes after the launch.

Led by USC Astronautics, the student-operated RPL primarily engages undergraduate engineering students. Its motto is "Space of Nothing."

International Astronautical Federation

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Be part of the conversation @iafastro

Alliance Programme

Connecting @ll Space People
for a sustainable future