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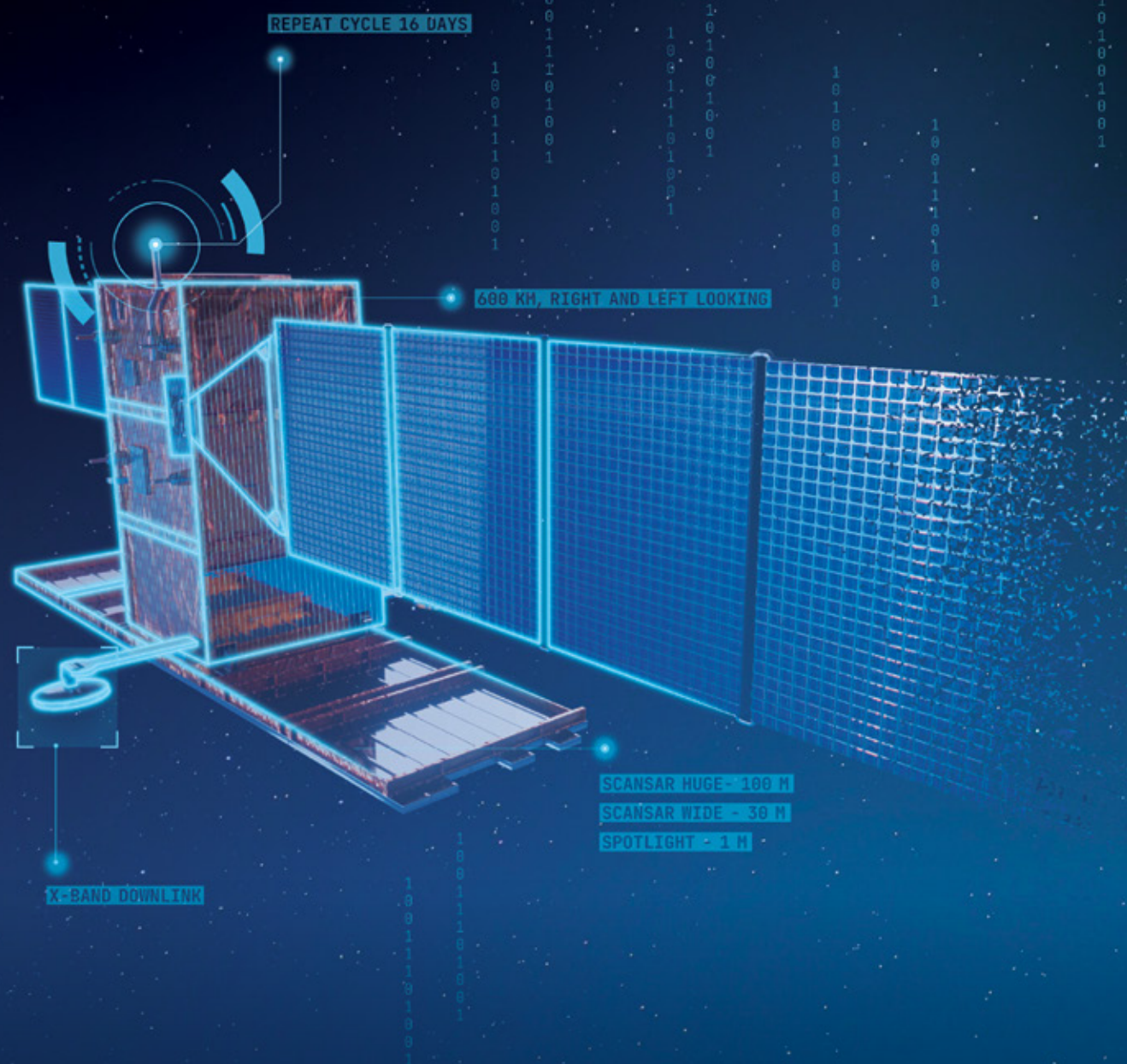
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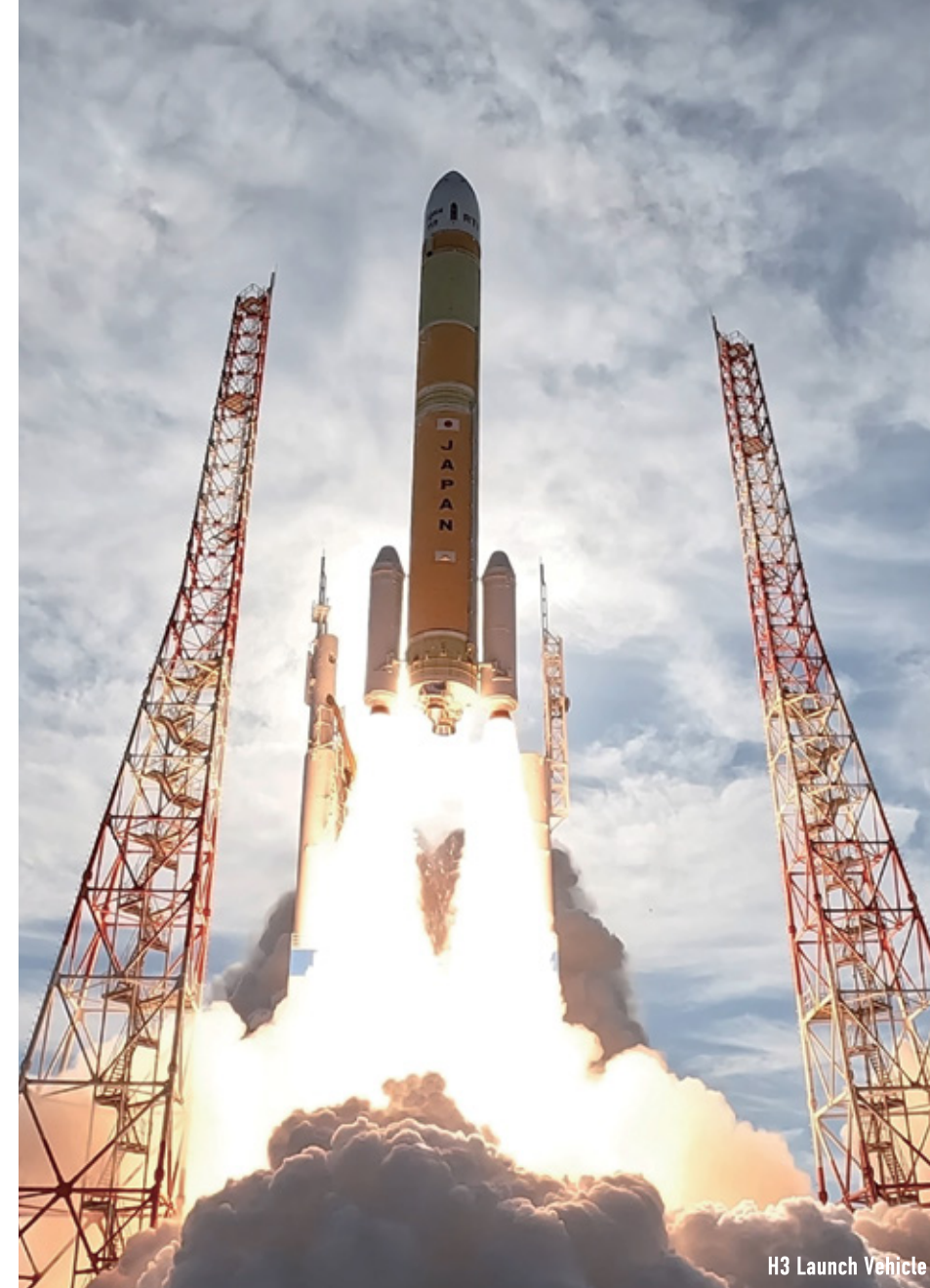
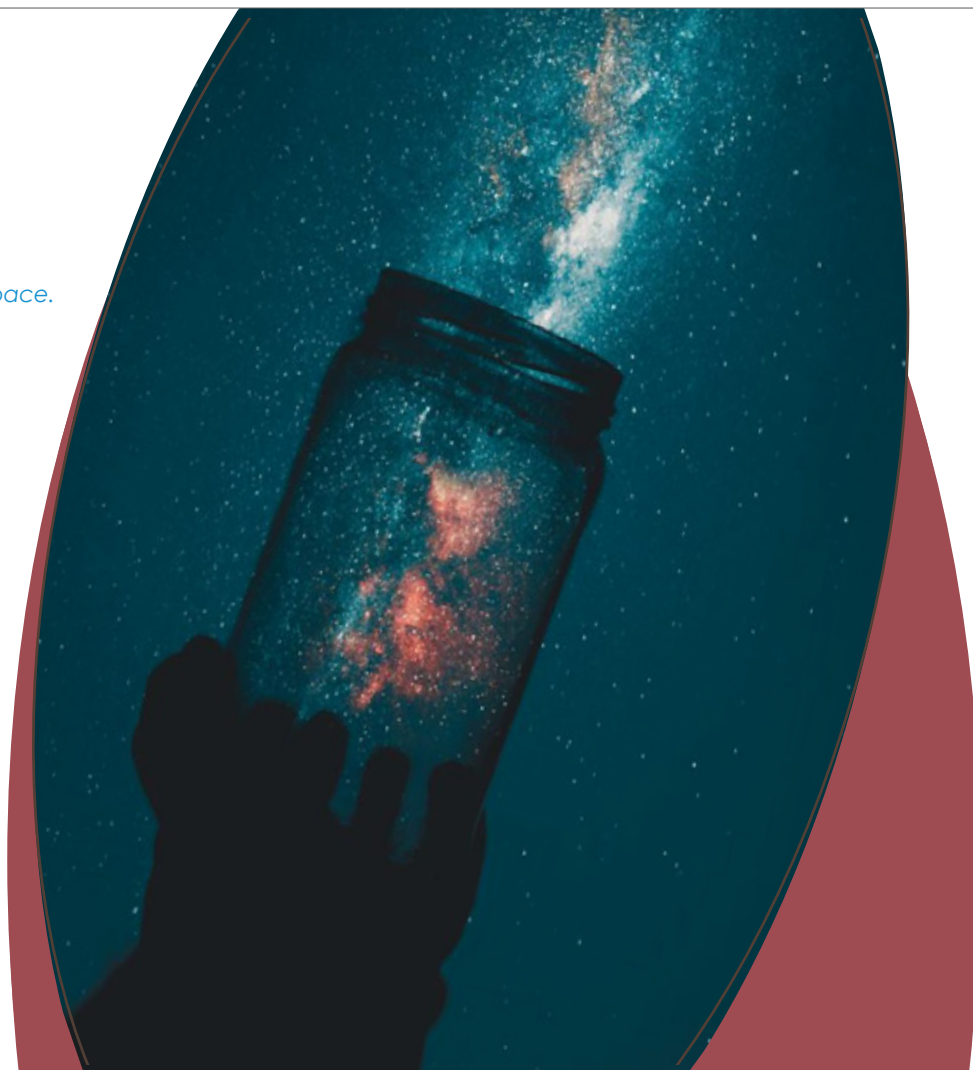
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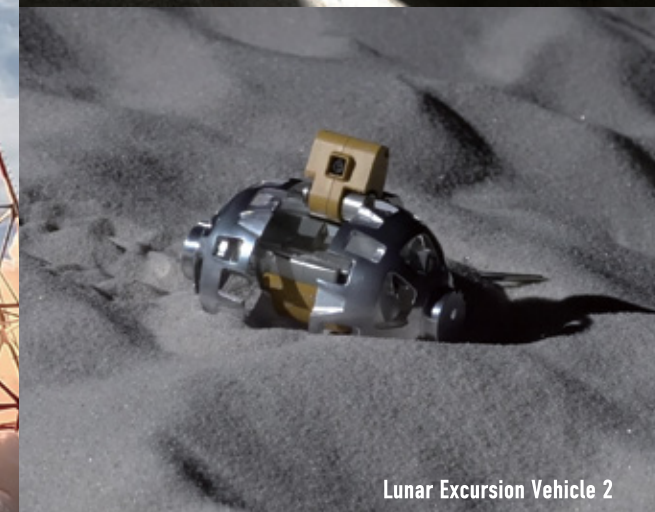
H3 Launch Vehicle



<https://global.jaxa.jp/>



Lunar Polar Exploration



Lunar Excursion Vehicle 2



Smart Lander for Investigating Moon

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Smart Lander for Investigating Moon Lunar Excursion Vehicle 2

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GLOBAL SPACE EXPLORATION
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7-9 May 2025

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Agenzia Spaziale Italiana

The Italian Space Agency (ASI) was established in 1988 with the task of promoting, developing and disseminating scientific and technological research applied to the space and aerospace fields and developing and implementing Italy's space policy in compliance with government guidelines.

ASI is one of the most important global stakeholders on the scene of space science, satellite technologies and development of means to reach and explore the Universe.



HUMAN FLIGHT



TELECOMMUNICATIONS



LAUNCHERS



EARTH
OBSERVATION



OPERATIONS



EXPLORATION



NAVIGATION



SPACE
SCIENCES



TECHNOLOGIES

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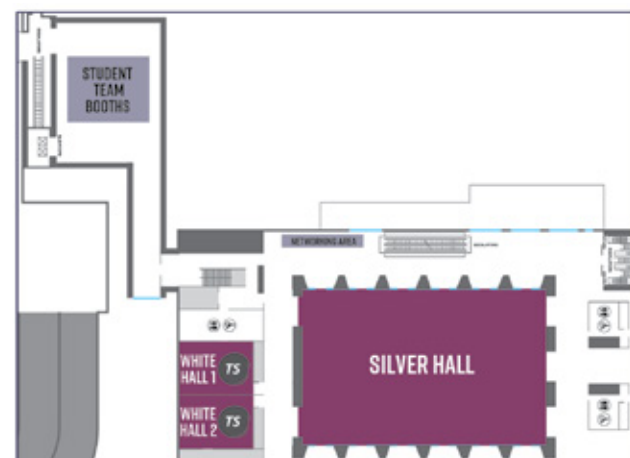
Floor plans

CONGRESS VENUE

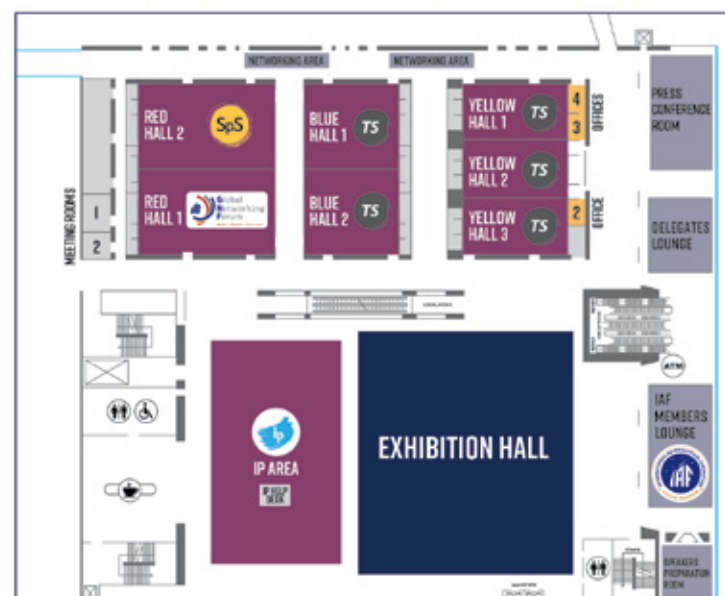
NORTH WING



LEVEL +2



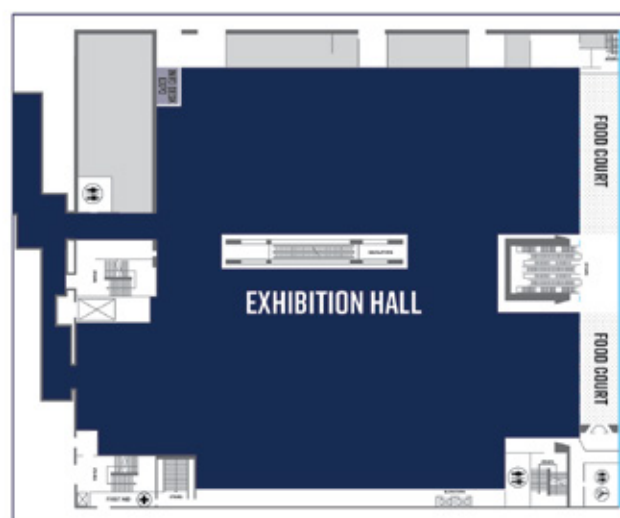
LEVEL +1



LEVEL 0
MEZZANINE



LEVEL 0



LEVEL -1



CONGRESS VENUE

SOUTH WING



LEVEL +3



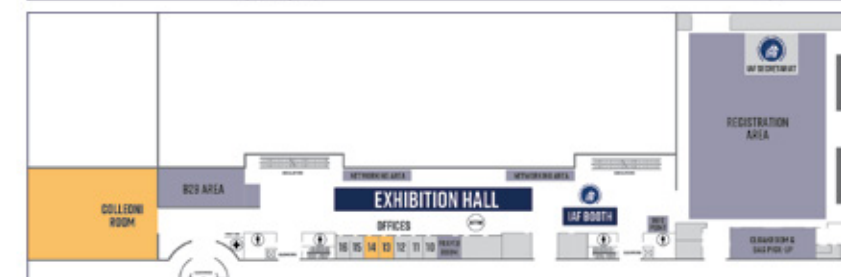
LEVEL +2
MEZZANINE



LEVEL +2



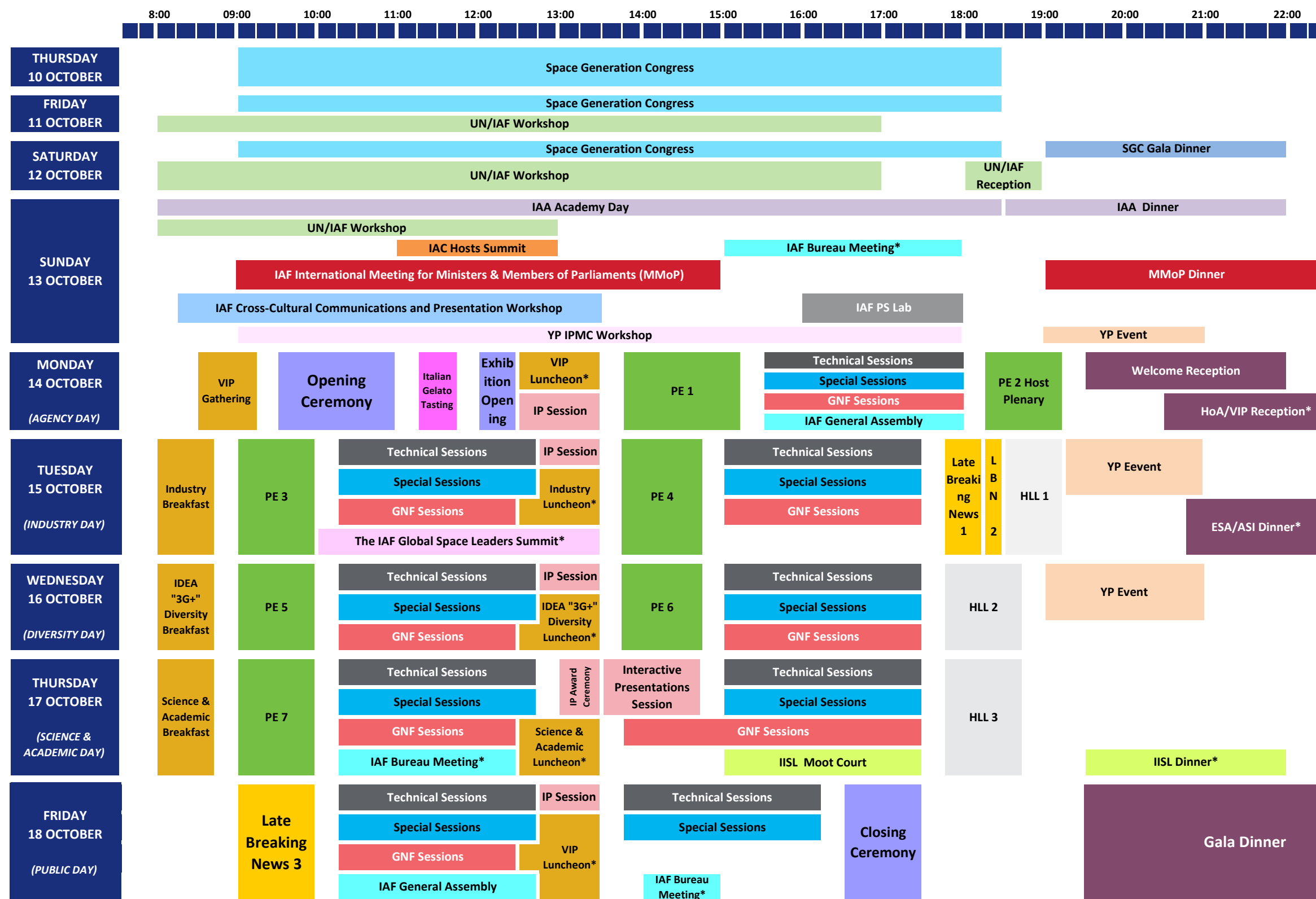
LEVEL +1



LEVEL 0



1 Congress at a Glance



Please Note:

*By invitation only; Pre-Congress events as well as the IISL Moot Court are dedicated to the respective participants

2 Plenary and IAF GNF Programme at a Glance

	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
Monday 14 October				Opening Ceremony	Exhibition VIP Tour		*VIP Luncheon sponsored	PE 1- One to One with Heads of Agencies		Italians do eat better: a space menu for a healthy body and mind	Driving Innovation Through Collaboration: Public-Private	The Institutional Investor Gap in Space (and How to Close It)	PE 2 - Host Plenary: Responsible and Sustainable Space Exploration: Moon to Mars	
Tuesday 15 October		Industry Breakfast	PE 3 - New lunar frontiers: how the non-space industry is unlocking future markets	Lunar City, the first metaverse platform solely dedicated to Space allowing reaching and operating in Space from an iconic Spaceport	A Collaborative, Water-Based Lunar Vision		*Industry Luncheon	PE 4 - VALUE OF RESOURCES: Recipe for In-Situ Resource Utilization on Space Frontiers	Protecting our People and Planet: IRIDE Constellation as a Global Catalyst for Sustainability	TED Talk: Triumph Over Trials - Personal Journeys Through Adversity	Space Stations 2.0: Future Opportunities on Commercial LEO	LBN 1 - Chang'E Mission Highlight Report: Mankind's First	LBN 2 - Unveiling of a new cosmos	HLL 1 - Euclid Mission: Unveiling the Universe
Wednesday 16 October		IDEA "3G+" Diversity Breakfast	PE 5 - Intelligent Space: Big Data, Advanced Algorithms, and Autonomous Robotics in Space	Climate & Environmental Action and Sustainability	The World Breathes: Restoring the Amazon		*IDEA "3G+" Diversity Luncheon	PE 6 - Observing the Earth, Serving our Societies: Space in the Age of Climate Change	A New Era in Human Presence	The Global Space Economy, International Organizations and Emerging Communities: Challenges and opportunities	Accessibility of Human Spaceflight			HLL 2 - Viewing the freshwater crisis from space: A world of drought and flood extremes
Thursday 17 October		Science and Academic Breakfast	PE 7 - New Opportunities benefit Human Space Flight on Earth, in Space and Beyond	Leveraging Generative Artificial Intelligence (GenAI) for Enhanced Strategic Risk Management in Aerospace	Pioneering space circular economy, for space and the Earth		IP Award Ceremony	IP Session	Heads of Think Tank: Quo Vadis Space Sustainability	Achieving Unified Global Governance for Civil Space Exploration	Innovative Lunar Lander Technologies for Sustainable Exploration			HLL 3 - IAF World Space Award - New Frontiers in Lunar Exploration: Chandrayaan-3 Mission &
Friday 18 October			LBN - Ariane 6	Bridging Worlds: A Compelling Conversation on Communications Between Space and Earth for a Sustainable Future	Full value chain of Space Investing in Europe		*VIP Luncheon	The Intertwined of Space Sustainability and Security	#norisknofun – keeping human spaceflight safe		Closing Ceremony			

*Upon Invitation Only

3 Daily Congress Programme

Monday 14 October

08:30 - 09:30 VIP Gathering

Location: Foyer Gold Hall, Level 2, South Wing, MiCo Convention Centre

09:30 - 11:00 Opening Ceremony

Location: Gold Hall, South Wing, MiCo Convention Centre

Master of Ceremony



Camila RAZNOVICH
Italy

Speakers:



Erasmo CARRERA
President,
Italian Association of
Aeronautics and Astronautics
(AIDAA),
Italy



Roberto CINGOLANI
Chief Executive Officer and
General Manager,
Leonardo Spa,
Italy



Wanda DÍAZ MERCED



Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States



Asanda SANGONI
VP: Honours and Awards,
IAF Bureau,
Acting Managing Director,
Earth Observations,
South African National Space
Agency (SANSA),
South Africa



Teodoro VALENTE
President,
Italian Space Agency (ASI),
Italy



Jacopo VENEZIANI
Art Historian and Promoter,
Italy

11:10 - 11:50 Italian Gelato Tasting

Location: South Wing, Level 2, MiCo Convention Centre

11:15 - 12:15 VIP Tour and Ribbon Cutting

Location: South Hall & North Hall, MiCo Convention Centre

12:00 - 12:30 Exhibition Opening

Location: South Hall & North Hall, MiCo Convention Centre

12:30 - 13:30 VIP Luncheon (upon invitation only)

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

Sponsored by:



Speaker:



Gelsomina VIGLIOTTI
Vice President,
European Investment Bank (EIB),
Italy



WELCOME REMARKS
Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States

13:45 - 15:15 Plenary 1 – One-To-One with Heads of Agencies

Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

Master of Ceremony



Christian FEICHTINGER
Executive Director,
International Astronautical
Federation (IAF),
France

Opening Welcome



Teodoro VALENTE
President,
Italian Space Agency (ASI),
Italy

Speakers:



Josef ASCHBACHER
Director General,
European Space Agency (ESA),
France



Lisa CAMPBELL
President,
Canadian Space Agency (CSA),
Canada



Bill NELSON
Administrator,
National Aeronautics and
Space Administration (NASA),
United States



S. SOMANATH
Chairman,
Indian Space Research
Organisation (ISRO),
India



Hiroshi YAMAKAWA
President,
Japan Aerospace
Exploration Agency (JAXA),
Japan



Guoping LI
Chief Engineer,
China National Space
Administration (CNSA),
China



MODERATOR
Tanja MASSON-ZWAAN
VP: Science and Academic
Relations,
International Astronautical
Federation (IAF),
Assistant Professor and Deputy
Director of the International
Institute of Air and Space Law
(IIASL),
Leiden University,
Netherlands



MODERATOR
Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States

This event will be guided by experts in the field of space food preparation, nutrition, and human space exploration. The panel will discuss the challenges of nutrition in space and how the Mediterranean Diet and the technologies behind the selected foods can help tackling them.

Organized by:



Speakers:



Micol BELLUCCI
Technologist,
Italian Space Agency (ASI),
Italy



Antonio GATTULLI
Sales Director,
Sudalimenta s.r.l.,
Italy



Stefano POLATO
Head of Food
Development,
EAT freedom,
Italy



Giorgia PONTETTI
CEO,
Ferrari Farm,
Italy



MODERATOR
Marta DEL BIANCO
Researcher,
Italian Space Agency (ASI),
Italy

16:40 - 17:10 IAF GNF – Driving Innovation Through Collaboration: Public-Private Partnerships in Space



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Join us for a transformative panel discussion on the future of space exploration through public-private partnerships (PPPs). Our expert panelists from the UAE Space Agency, leading international space agencies, private sector innovators, and Space Economic Zone companies will delve into the dynamic interplay between public and private entities in driving space technologies and missions.

Discover how the UAE Space Agency is fostering collaboration between public and private sectors to advance space exploration and education. Learn about successful approaches from international space agencies in translating collaborative innovations into commercial applications. Gain insights from private sector representatives on aligning goals, managing expectations, and driving innovation in PPPs. Explore how small and medium-sized enterprises can leverage partnerships with larger public agencies to fuel sector-wide growth.

This session promises to deliver a comprehensive overview of how synergistic collaborations between public and private entities are shaping the future of space exploration, fostering technological advancements, and creating a vibrant commercial space market. Engage with leading experts and discover the pathways to successful innovation through collaboration in the space sector.

Speakers:



Salem AL MARRI
Director General,
Mohammed Bin Rashid
Space Centre (MBRSC),
United Arab Emirates



Hervé DERREY
President and CEO,
Thales Alenia Space France,
France



Mike GOLD
Chief Growth Officer,
Redwire,
United States

15:30 - 16:30 IAF GNF – Italians do eat better: a space menu for a healthy body and mind



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

The importance of food has been clear since the beginning of the human space exploration program. From the first tubes of homogenised food to the refined food onboard the ISS, food has evolved from being a challenge to an opportunity.

At a basic level, healthy food provides the nutrients and energy we, and our microbiome, need to thrive. In addition, in the context of human space exploration, the consumption of functional foods and a tailored diet have great potential as countermeasures for the detrimental effects that the space environment can have on the crew's health. Obviously, by improving physical health, food can indirectly influence our mental wellbeing in a positive manner. However, as an integral part of any culture, foods are also directly related to our mental and social health. Food has the power to make us feel better, more relaxed, comforted, but also curious towards different cultures and connected to people through the sharing of culinary experiences.

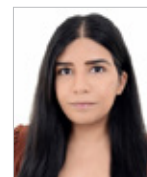
Rich in vegetables and 'good' fats, the Mediterranean Diet can lower the risk of cardiovascular disease and many other chronic conditions, while still being incredibly delicious! Follow us through our selected Italian menu, based on real space food that has consumed onboard the ISS, to discover how Italy is contributing to the physical, psychological and social wellbeing of astronauts by creating tasty and healthy foods for long-term space missions.



Mario GROTZ
Chairman of the Board,
Luxembourg Space Agency,
Luxembourg



OPENING REMARKS
Ibrahim AL QASIM
Deputy Director General,
UAE Space Agency,
United Arab Emirates



MODERATOR
Sarwat NASIR
Reporter,
The National,
United Arab Emirates

17:20 - 18:05 IAF GNF – The Institutional Investor Gap in Space (and How to Close It)



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

The space ecosystem has attracted tens of billions in venture and superangel funding, resulting in hundreds of startups and innovation across all space markets. Many space startups have deployed capabilities and grown, and are attractive targets for acquisition or are big enough to be acquirers themselves. In addition, the economic context has changed, and some firms are facing challenges that can attract acquirers looking for bargains. Government budgets are shifting, with national security space becoming more prominent and new nations joining exploration programs. Smallsat systems are poised to change telecommunications, depending on how their business cases play out. In this context of change, growth, challenges, and consolidation, where do the biggest investors fit? What will it take for private equity investors, institutional investors, large sovereign wealth funds, and other major financial players to focus on the space ecosystem? This panel will explore the views of world leading investors on space as a domain for investment and on what it will take to fully bring space businesses into the financial mainstream.

Speakers:



Mike FRENCH
Founder,
Space Policy Group,
United States



Alessandro IZZO
Director,
European Investment Bank,
Luxembourg



Jay KIM
CEO and Chairman,
Boryung,
Republic of Korea



Agnieszka ŁUKASZCZYK
Founder and CEO,
hiAltitude Consulting,
Belgium



MODERATOR
Carissa BRYCE CHRISTENSEN
CEO,
BryceTech,
United States

18:15 - 19:15 Plenary 2 – Responsible and Sustainable Space Exploration: Moon to Mars



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

This plenary event wants to highlight the importance of fostering responsible practices for the sustainable exploration of the outer space. As humanity navigates a future characterized by increasing privatization, international collaboration, and burgeoning commercial interests in space, the imperative for a collective commitment to responsible approaches becomes not only necessary but pivotal.

The PE places a particular emphasis on the transformative potential of Moon to Mars exploration, a symbol of humanity's next frontier. Spotlighting initiatives like the Artemis program, the discussion will delve into the scientific, technological, and socio-economical

considerations that underpin sustainable exploration. Specifically, the Moon serves as a crucible for innovative technologies, providing insights into resource utilization, habitat construction, considerations for back-contamination to protect our planet, and establishing the foundations for long-term outer space missions. Conversely, the arrival at Mars offers a similar duality, extending humanity's reach farther into the solar system.

Integral to the conversation is the "Space It Up!" partnership, an exemplary demonstration of fruitful collaboration among universities, industry, and space agencies. This initiative serves as a beacon, showcasing how diverse stakeholders can synergize efforts to advance space exploration. Lessons learned from such collaborations will be woven into the broader discourse on the responsible use of space as we move forward.

Transcending specific programs and focusing on the overarching theme of "Responsible Space for Sustainability", this plenary event aims to inspire a shared commitment among global actors. The discussion will examine the scientific advancements, and collaborative frameworks, standing as a testament to the fruitful collaborations that can shape our responsible trajectory and ensure enduring benefits for both Space and Earth.

Speakers:



Josef ASCHBACHER
Director General,
European Space Agency
(ESA),
France



Erasmo CARRERA
President,
Italian Association of
Aeronautics and Astronautics
(AIDAA),
Italy



Roberto CINGOLANI
Chief Executive Officer and
General Manager,
Leonardo Spa,
Italy



Pam MELROY
Deputy Administrator,
National Aeronautics
and Space
Administration (NASA),
United States



Teodoro VALENTE
President,
Italian Space Agency (ASI),
Italy



MODERATOR
Aarti HOLLA-MAINI
Director,
United Nations Office for Outer
Space Affairs (UNOOSA),
Austria

19:30 - 22:00 Welcome Reception

Location: Hall 4, Level 2, South Wing, MiCo Convention Centre

Join us for a memorable evening as we kick off the IAC 2024 with a vibrant welcome reception. Experience a delightful culinary journey through Italy, featuring regional specialties from across the country. Enjoy live entertainment with a mix of performances, including a band, a DJ set, and a special piano and soprano moment that will add a touch of elegance to the night. It's the perfect occasion to network, relax, and immerse yourself in the Italian cultural atmosphere.

The evening will feature performances by Alessandro Carrera, Anna Federica Cocola, Federica Morra, Eugenio Quaglia, Elisabetta Isola, Marta Conte, Mustapha Mofaddel, Giacomo Piras, Simona Cocola, and a DJ set by FOOL'S PARADISE.

Tuesday 15 October

08:00 - 08:45 Industry Breakfast

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

Sponsored by:



Speaker:



Jeffrey MANBER
President of International & Space Stations,
Voyager Space Holdings,
United States



WELCOME REMARKS
Clay MOWRY
President,
International Astronautical Federation (IAF),
United States

IRC WHITE PAPER: SPACE SUSTAINABILITY: A VIEW FROM THE GLOBAL SPACE INDUSTRY

Speaker:



Bruce CHESLEY
Senior Associate,
Teaching Science and
Technology, Inc (TSTI),
United States

09:00 - 10:00 Plenary 3 – New Lunar Frontiers: How The Non-Space Industry Is Unlocking Future Markets



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

This plenary event will reflect on the future landscape of space exploration, from the perspective of the non-space sector. By showcasing a unique group of leaders in their fields, the discussion aims to challenge our traditional approach to space and inspire a collaborative vision for unlocking the Moon's potential.

The panel discussion will highlight a set of unique collaborations between space and the fields of design, biofarming, pharma and nuclear energy. A particular emphasis will be placed on the exchange of technology and know-how between space and non-space sectors, exploring how it can propel future advancements in exploration. This includes considering the impact on global economies, innovation, and the broader societal implications of a thriving lunar economy.

In addition to sharing new and inspiring approaches to exploration, this panel aims to encourage the audience to engage in and promote more cross-industry collaborations.

Speakers:



Barbara BELVISI
CEO,
Interstellar Lab,
France



Octave DE GAULLE
Director,
Spade Agency,
France



Jay KIM
CEO and Chairman,
Boryung,
Republic of Korea



Jake THOMPSON
Director of Novel Nuclear & Special Projects,
Rolls Royce,
United Kingdom



MODERATOR
Charlotte NASSEY
Senior Government Affairs & Policy Officer,
ispace, inc
Luxembourg

10:00 - 13:30 IAF Global Space Leaders Summit (upon invitation only)

Location: Gold Hall, South Wing, MiCo Convention Center

In line with the IAF's motto 'Connecting @ll Space People' and with the aim of fostering coordination and collaboration between space agencies around the world, the Federation is launching a new initiative: the IAF Global Space Leaders Summit. This Summit is designed to be a series of senior leader gatherings taking place in conjunction with the annual International Astronautical Congress (IAC).

The Summit will be a formal high-level closed meeting, starting with an official welcome by the Italian authorities and co-chaired by the President of the Italian Space Agency, Prof. Teodoro Valente, and the President of the International Astronautical Federation, Clay Mowry. All global Heads of Space Agencies/Offices will be invited to participate in the Summit.

This year's Summit will focus on the topic of "Space Capabilities for Sustainability on Earth".

10:15 - 11:15 IAF GNF – Lunar City, the first metaverse platform solely dedicated to Space allowing reaching and operating in Space from an iconic Spaceport



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

The present GNF session addresses LUNAR CITY, the first metaverse platform entirely dedicated to space and aimed at enabling to multiple users the exposure to the space exploration activities based upon immersive technologies that combine scientific rigor with the entertainment typical of Videogames and Social Media. This purpose is achieved by transferring images and data to the ground from space missions (human and robotic) linked to institutional and commercial missions and acquired through instrumentation present on board or specially set up, based on specific agreements to be developed for the purpose. The outcome is the use of images transferred to ground which allow a highly immersive experience based on virtual reality that is instrumental to various purposes, from educational to training to experiment operations support. Lunar City is a concept and format created by Next One Film Group Srl and implemented through an agreement with Vection Technologies, ALTEC S.p.A. and Thales Alenia Space; the latter in particular will bring their experience as leading international companies in the space field to the initiative, thus giving Lunar City the appropriate scientific rigor. Lunar City proposes itself with five fundamental objectives: scientific, training, education, edutainment and commercial and space academy. The session starts with a Keynote describing the main highlights and applications of Lunar City; a subsequent panel will follow up composed of a diverse set of representatives of Space Agency, Industry, University/Research Center, Astronaut to discuss in more detail the multiple applications of Lunar City and the point of view of the different representatives. The session also features demonstration session to make possible initial acquaintance with the multiple capabilities offered by the Lunar City Platform; proper hardware (including visors), software and related equipment are available during the session.

Speaker:



Francesco CUPERTINO
Rector,
Polytechnic of Bari,
Italy



Cesare LOBASCIO
Space Exploration and
Science Innovation Lead
Senior Expert, Life Support &
Habitability,
Thales Alenia Space Italia,
Italy



Francesco SANTORO
Program Manager of the
Technology and Space
Exploitation Business Line,
ALTEC Spa,
Italy



**OPENING KEYNOTE
AND SPEAKER**
Anilkumar DAVE
CEO,
Lunar City Srl,
Italy

11:25 - 12:15 IAF GNF – A Collaborative, Water-Based Lunar Vision



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Artemis is taking what the world has learned from Apollo and decades of living and working in Low Earth Orbit to return humanity to the Moon and build a sustainable presence there, thereby enabling us to move on to Mars and beyond. At Lockheed Martin, we have formulated a vision for how this future could play out – an “existence proof” or “reference vision” for how today’s technologies, companies, and agencies around the globe could combine to enable tomorrow’s goals for the Moon and Mars.

Our vision is characterized by a nuclear-enabled, water-based Earth/Moon/Mars economy. In this panel, we will hear from a set of international industry panelists on how they are working today on systems that will be part of the future water-based economy, from nuclear to mobility to habitation. This is not a “Lockheed Martin” solution nor an attempt to predict the exact horizon end-state of a robust Earth/Moon/Mars ecosystem: it is instead a self-consistent holistic description of one future.

The heart of our vision is water – essential for life, ubiquitous in the solar system, and with a multitude of uses from respiration to rocket propellant. With the near limitless green power from space-borne nuclear systems in active development today, water can transform our exploration of space by allowing us to “live off the land”. With Earth-independent systems no longer reliant on fossil fuels, we can reduce the cost and complexity of in-space elements, while enabling business cases to close on infrastructure and production economies.

Successful sustainable, long-term human/robotic exploration of the Moon and Mars will require cooperation across myriad nations, organizations, disciplines, goals, and technologies. The goal of our vision is to allow companies, agencies, countries, and NGOs, and academia to explore these collaborations in a representative framework in which “the math works” – where they can “see themselves.”

Speakers:



Laurie CHAPPEL
Senior Director New Business
for Lunar Mobility,
MDA Space,
United States



Kate KELLY
Director, Space & Emerging
Programs at BWXT Advanced
Technologies,
BWXT Technologies,
United States



Roberto PROVERA
Director of New Initiatives
and Customer Solutions
Development, Exploration
and Science,
Thales Alenia Space Italia,
Italy



Jake THOMPSON
Director of Novel Nuclear &
Special Projects,
Rolls Royce,
United Kingdom



MODERATOR
Rob CHAMBERS
Future Concepts Director for
Exploration,
Lockheed Martin Corporation,
United States

12:30 – 13:30 Industry Luncheon (Upon Invitation Only)

Location: Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

Sponsored by:



WELCOME REMARKS
Geraldine NAJA
VP: Industry Relations and
Space Economy,
International Astronautical
Federation (IAF),
Director of Commercialisation,
Industry and Competitiveness,
European Space Agency (ESA),
France

Speakers:



Giuseppe ACIERNO
President & General Director,
Aerospace Technological
District (DTA),
Italy



Vito BAVARO
Head of Digital Transformation
Section, Economic
Development Department,
Apulia Region,
Italy



Patrizio SUMMA
Director of Special Projects
and Performance Monitoring,
Commercial Coordinator,
Aeroporti di Puglia S.p.A.,
Italy

EXCELLENCE IN INDUSTRY AWARD CEREMONY



WELCOME REMARKS
Carlo MIRRA
Chair, IAF Industry Relations
Committee, Head of ESA
Business Affairs,
Airbus Netherlands B.V.,
Netherlands



WELCOME REMARKS
Geraldine NAJA
VP: Industry Relations and
Space Economy,
International Astronautical
Federation (IAF),
Director of Commercialisation,
Industry and Competitiveness,
European Space Agency (ESA),
France

AWARDEE

United Launch Alliance

On January 8, 2024, United Launch Alliance (ULA) marked the beginning of a new era of space capabilities with the successful inaugural launch of its Vulcan rocket.

Vulcan introduces new innovative capabilities to meet the changing landscape and requirement of space launch, while leveraging the best of more than 120 combined years of launch experience with Atlas and Delta. Vulcan provides the highest-value launch service with optimal performance to meet the full range of customer needs. Vulcan will leverage the world's highest-performing upper stage to deliver on ULA's industry-leading legacy of reliability and precision. Centaur V's matchless flexibility and extreme endurance enables the most complex orbital insertions within the most challenging and clandestine orbits.



Tory BRUNO
President & CEO,
United Launch Alliance LLC,
United States



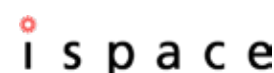
ispace

The ispace Mission 1 (M1) team stands as a pioneer in space exploration with the successful launch and voyage of the first commercial mission to the Moon.

In December 2022 ispace launched HAKUTO-R Mission 1, which embarked on its journey with aspirations of a Moon landing in April 2023. Despite a hard landing, the spacecraft operated nominally for 135 days in space, achieving 8 out of its 10 mission milestones. This feat was the first contribution to a global effort towards the commercialization of space exploration. Furthermore, Mission 1 facilitated access to lunar exploration for a diverse array of entities, thereby democratizing space access for both established and emerging spacefaring nations.



Takeshi HAKAMADA
Founder & CEO,
ispace, inc,
Japan



13:45 - 14:45 Plenary 4 – VALUE OF RESOURCES: Recipe for In-Situ Resource Utilization on Space Frontiers



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

This plenary puts its focus on the latest developments and the future of in-situ resource utilization (ISRU) to seek a way how space frontiers could be expanded through international cooperation and to provide opportunities for continuous discussions towards sustainable and responsible space exploration by stirring imagination of present and future generations in space community.

The habitation on the Moon and Mars requires consumables such as oxygen, water, propellant and construction materials in large quantities. While the International Space Station is dependent on regular resupply from the Earth, the same cannot be applied to the long-term presence on the deep space destinations in that the long-range transportation would cost plenty of time and money, involving a risk of catastrophic mishaps during its operations.

The panel discusses what could be done to realize the situation where essential consumables and materials are produced from local resources on the Moon and Mars from the standpoint of technical practicability and economic rationality. The session mainly consists of three parts: short presentations by several professionals who stand at the forefront of space exploration, followed by panel discussion and Q&A session. The short presentations and panel discussion cover a wide variety of subjects ranging from up-to-date developments of ISRU research activities including interagency cooperation to technical and legal challenges. The discussion turns to how practical plans could be formulated to encourage private investment in ISRU activities on space frontiers and how the emerging space countries and start-up companies can be involved. The panelists from various backgrounds including government officials and experts with great insights into policymaking, space economy and technology roadmapping, would discuss the practicability of in-space resource utilization from the technical and economical perspective, and the strategic plan to ensure long-term sustainability of outer space activities driven by international cooperation.

Speakers:



Kathryn HADLER
Director,
European Space Resources
Innovation Centre (ESRIC),
Luxembourg



Jeffrey HOFFMAN
Professor of the Practice of
Aerospace Engineering,
Massachusetts Institute of
Technology,
United States



Simone PIRROTTA
Exploration and Orbital
Infrastructures Office,
Italian Space Agency (ASI),
Italy



Gerald B. SANDERS
Lead, In-Space Resource
Utilization (ISRU),
National Aeronautics and
Space Administration (NASA),
United States



MODERATOR
Jun SHIMADA
Lead for ISRU Research,
Space Exploration Center,
Japan Aerospace Exploration
Agency (JAXA),
Japan

15:00 - 16:00 IAF GNF – Protecting our people and planet: IRIDE constellation as a global catalyst for sustainability



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

In recent years we have witnessed a significant increase in climate changes phenomena and natural disasters worldwide. Many nations are grappling with this challenge, facing issues related to mitigation, early warning and protection of their population. Substantial progress has been made through the development of new space and ground technologies aimed at ensuring a safe environment for future generations.

The proposed GNF will feature IRIDE, a programme which highlights an end-to-end vision for addressing natural disasters with a focus on Leonardo's leading role in achieving common goals of sustainability. IRIDE represents a model for tackling the last mile problem as it has been conceived with a focus on user needs, enabling the Institutions (e.g. Civil Protection and other Public Administrations) to address hydrogeological instability, wildfires, coastal protection, critical infrastructures monitoring, air quality control and weather monitoring. IRIDE will stimulate innovation and create new opportunities within the space ecosystem, fostering the growth of the Space Economy. Additionally, it will promote the development of new technological solutions and commercial applications by start-ups, small and medium-sized enterprises and industries in the geospatial sector.

IRIDE is a hybrid Earth Observation constellation entirely made by Italian companies including different classes of satellites with sensors to monitor the planet and supply services. It is a government project funded by Italy's National Recovery and Resilience Plan (PNRR), managed by ESA with ASI and scheduled for completion by 2026, which represents a further significant Italian contribution to a European programme to safeguard people and planet, complementing Italian (such as COSMO-SkyMed and PRISMA) as well as European programmes like COPERNICUS.

IRIDE showcases the Italian leading role within the European space sector, which sees Leonardo -with its joint ventures and companies Telespazio, e-GEOS, Thales Alenia Space and AVIO- as a key player covering the entire value chain of the space industry -satellites manufacturing, hi-tech equipment and sensors production, satellite services management, geoinformation, propulsion and launching systems- and providing cyber security solutions for space applications.

Speakers:



Simonetta CHELI
Director of Earth Observation Programmes and Head of ESRIN, European Space Agency (ESA), Italy



Massimo COMPARINI
Managing Director, Space Business Unit, Leonardo Spa, Italy



Aarti HOLLA-MAINI
Director, United Nations Office for Outer Space Affairs (UNOOSA), Austria



Teodoro VALENTE
President, Italian Space Agency (ASI), Italy



OPENING REMARKS
Raffaella LUGLINI
Chief Sustainability Officer, Leonardo Spa, Italy



MODERATOR
Simonetta DI PIPPO
Director, SEE Lab (Space Economy Evolution Laboratory) SDA Bocconi School of Management, Milan, Italy

16:10 - 16:55

IAF GNF – TED Talk: Triumph Over Trials – Personal Journeys Through Adversity



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Join us for a powerful session at our next TED Talk, where we dive deep into the heart of resilience. “Triumph Over Trials” showcases the extraordinary stories of some of the space industry’s most influential figures who have turned adversity into strength. This talk is not just about success; it’s about the real, raw, and often untold journeys that shape influential leaders. You’ll hear firsthand how these individuals faced their harder’s moments and emerged stronger, offering insights and strategies that inspire and empower other individuals growing in this sector. Whether you’re facing your own challenges or looking to motivate others, this session will equip you with the perspective and tools you need to forge ahead in the face of adversity.

Speakers:



Daniella BEZDAN
Head, Green Space Center, Germany



Sven MEYER-BRUNSWICK
Principal, Alpine Space Ventures, Germany



Nobu OKADA
Founder & CEO, Astroscale, Japan



Lucia ZACCARDI
Senior R&D Scientific, International IBSA Group, Switzerland



MODERATOR
Kyle ACIERNO
CEO, Exobiosphere, Luxembourg

17:05 - 17:35

IAF GNF – Space Stations 2.0: Opportunities on Commercial LEO Destinations



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

The International Space Station (ISS) has been a spectacular platform for scientific research, technology development, and worldwide diplomacy for over 20 years. The orbiting laboratory’s contributions to humanity for both terrestrial applications and the future of

spaceflight are unparalleled. However, the lifetime of the ISS is coming to an end in the near future, and the realm of government-run assets in low-Earth orbit (LEO) will soon transition to commercial space stations run by private companies.

Will the scientific discoveries and international partnerships of the last two decades still be possible in this new era? This panel session will explore the opportunities, capabilities, and frameworks of commercial space stations from the perspective of astronauts, microgravity researchers, technologists, investors, and policymakers around the world.

Speakers:



Mike GOLD
Chief Growth Officer, Redwire, United States



Max HAOT
CEO, Vast, United States



Jay KIM
CEO and Chairman, Boryung, Republic of Korea



Bob LAMBORAY
Senior Project Manager for Exploration and Space Resources, Luxembourg Space Agency, Luxembourg

17:45 - 18:10

Late Breaking News – Chang’E Mission Highlight Report: Mankind’s First Lunar Farside Sampling Return



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

On December 17, 2020, Chang’E-5 Return Capsule has retrieved 1731g lunar sample back to the Earth. It has realized China’s first lunar sample return, remarking the “Orbiting, landing, and sample return” planning of CLEP has perfectly completed. CE-5 Mission retrieved the youngest lunar sample and obtained a series of significant scientific discoveries, activating the “Chang’E Era” of lunar sample research.

On 3 May 2024, Chang’E-6 Spacecraft successfully launched by Long March 5 launch vehicle at Hainan Wenchang Space Launch Site. CE-6, the sibling mission of CE-5, conducts lunar sample return targeting the far-side of the Moon, where no samples have been ever collected in human history.

CE-6 Mission landed on the edge of the Apollo Impact Crater in the northeastern part of this giant basin, collecting 1935.3kg of lunar samples from the far-side by drilling and shoveling, for scientific exploration of the lunar surface shallow structure, mineral components and the topography detection. On the LBN, the presenter will demonstrate on CE-6 mission procedures, objectives, achievements, international cooperation, as well as CNSA future missions under planning.

Speaker:



Feng GUAN
Director of Lunar Exploration and Space Engineering Center, China National Space Administration - LESEC, CNSA, China



WELCOME REMARKS
Guoping LI
Chief Engineer, China National Space Administration (CNSA), China

18:15 - 18:35 Late Breaking News – Unveiling of a new cosmic vision from Euclid



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

Euclid is a mission from the European Space Agency to uncover the secrets of dark matter and dark energy, which are thought to make up 95% of the Universe yet cannot be directly observed. To reveal the ‘dark’ influence on the visible Universe, Euclid is observing the shapes, distances, and motions of billions of galaxies out to 10 billion light-years. Over the next six year, Euclid will cover a significant fraction of the sky creating, in this way, the largest cosmic 3D map ever made.

A completely new view of the Universe taken by Euclid during its first year, will be unveiled in this session. A first glimpse to this unpublished image will show Euclid’s capabilities to its fullest and will be a teaser of the type of science that is coming up next year with the first Euclid data release from the nominal survey.

A review of the mission’s milestones and some of the first scientific results will be presented just afterwards at the Highlight Lecture “Euclid Mission: Unveiling the Universe” by the Euclid team.

Speakers:



Josef ASCHBACHER
Director General,
European Space Agency
(ESA),
France



Carole MUNDELL
Director of Science,
European Space Agency
(ESA),
France

18:35 - 19:15 Highlight Lecture – Euclid Mission: Unveiling the Universe



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

On the 1st of July 2023, the Euclid spacecraft was launched from Cape Canaveral. Euclid is a European science mission led by the European Space Agency (ESA) with contributions from NASA and from the Euclid Consortium (EC), which consists of more than 2500 scientists and engineers across 13 European countries, the US, Canada and Japan.

In December 2023, a few months after its launch, Euclid successfully completed its commissioning and performance verification phases. It has now started its dark Universe survey that will cover 1/3 of the sky in 6 years and will study the origin of the accelerating expansion of our Universe, helping constrain the nature of dark energy and dark matter. Euclid will gather a treasure trove of imaging and spectroscopic data, unprecedented by volume for a scientific space-based mission. It will enable state-of-the-art research not only in cosmology but over all disciplines in astronomy.

This highlight lecture will, first, provide a scientific and technical overview of this unique and award-winning space mission designed to explore the composition and evolution of the dark Universe. The calibration and performance verification activities conducted between the end of the commissioning and the start of the Euclid survey will then be described, pointing out the challenges that had to be overcome, how they were addressed, and the changes in the Euclid survey that they triggered. The lecture will also present the massive Euclid data processing and analysis effort led by the EC, which is necessary to achieve Euclid’s challenging scientific objectives. This includes both space and ground-based observations of the Euclid Survey area. The processing will be conducted by a highly-distributed scientific ground segment spread over 9 different countries worldwide.

Euclid is a European mission, built and operated by ESA, with contributions from NASA. The Member States of ESA together with the EC are responsible for providing the scientific instruments, securing access to ancillary ground-based data, designing the Euclid survey and processing and analysing the Euclid scientific data. ESA selected Thales Alenia Space as prime contractor for the construction of

the satellite and its service module, with Airbus Defence and Space chosen to develop the payload module, including the telescope. NASA provided the detectors of the Near-Infrared Spectrometer and Photometer (NISF) instrument. Euclid is a medium-class mission in ESA’s Cosmic Vision Programme.

Speakers:



Henk HOEKSTRA
Professor of Observational
Cosmology,
Leiden University,
Netherlands



Valeria PETTORINO
Euclid Project Scientist,
European Space Agency
(ESA),
Netherlands



MODERATOR
Pierre CASENOVE
French Euclid Contributions
Project Manager,
Centre National d’Etudes
Spatiales (CNES),
France

19:15 - 22:00 Young Professionals Networking Event (restricted to Young Professionals)

Location: Silver Hall, Level 2, North Wing, MiCo Convention Centre

The IAF WD/YPP Committee presents the panel “Space for the UN Sustainable Development Goals: Making the SDGs Real by Harnessing the Power of Space for All People”

Networking and reception will follow.

Sponsored by:



Wednesday 16 October

08:00 - 08:45 IAF IDEA 3G+ Diversity Breakfast

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

Sponsored by:



WELCOME REMARKS
Clay MOWRY
President,
International Astronautical
Federation (IAF),
Chief Revenue Officer,
Voyager Space Holdings,
United States



WELCOME REMARKS
Mishaal ASHEMIMRY
Aerospace Consultant &
Special Advisor to CEO,
Saudi Space Agency (SSA),
Saudi Arabia

Speaker:



Laurie LESHIN
Director,
Jet Propulsion Laboratory (JPL),
United States

09:00 - 10:00 Plenary 5 – Intelligent Space: Big Data, Advanced Algorithms, and Autonomous Robotics in Space



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

Advanced algorithms driven by big datasets are improving our lives on Earth—from autonomous driving, and social media content recommendations, to predicting satellite collisions and landing reusable rocket boosters. The frontier of artificial intelligence is developed by larger and larger datasets, sufficient computing power to operate advanced algorithms in real-time, and advanced algorithms that find meaningful patterns to provide desired outcomes. Intelligent systems refers to the general infrastructure of using data and information to conduct sophisticated and complex operations, which includes big data, automation, artificial intelligence, and machine learning. Intelligent systems are becoming a growing cornerstone of space operations due to its increasing complexity, lack of capacity for real-time human intervention, and the huge amount of variables involved.

This session aims to showcase young professionals and emerging leaders who are actively involved in space initiatives that utilize intelligent systems, augment space operations with machine learning, or conduct data-driven activities in space. This session asks panelists to discuss their activities related to:

1. Creating and curating space-sourced big data systems, notably those using Earth Observation (EO) data, especially in terms of data storage, data integration, data processing/accessing, and cloud computing
2. Developing, managing, or utilizing advanced algorithms for spacecraft operations, such as tracking space debris, stationkeeping, redirecting space assets, and docking/launching spacecrafts in space

3. Transitioning existing advanced algorithms for Earth for use in space, such as terrestrial navigation, obstacle avoidance, and object manipulation for lunar/Martian driving or construction applications
4. Ensuring space data integrity such as space bandwidth management, curating inter-satellite networks, data traffic with multiple ground stations during downlink, and minimizing data loss or correcting data corruption.
5. Use of autonomous robotics to assist or replace human spaceflight, such as autonomous construction robots, robotic arms around space stations for EVAs, or robotic support in zero-g environments

This proposed Next Generation Plenary will especially focus on how intelligent systems can operate in the space environment, where there is less data, greater communication distances, and a more extreme environment for robotics systems. The plenary will also showcase voices from those who are interested in data-driven governance, combating data-based biases, artificial intelligence ethics, or laws, regulations, and policies of using automation for space environments.

Speakers:



Kirk HOVELL
Co-founder and the Chief
Technical Officer,
Obruta,
Canada



Jack NAYLOR
PhD Candidate,
Australian Centre for
Robotics, The University of
Sydney,
Australia



Golda NGUYEN
PhD Candidate,
Massachusetts Institute of
Technology,
United States



Shreya SANTRA
Assistant Professor,
Department of Aerospace
Engineering,
Tohoku University,
Japan



Dimitra STEFOUDI
PhD Candidate,
International Institute of
Air and Space Law, Leiden
University,
Netherlands



MODERATOR
Ewan REID
Founder & CEO,
Mission Control,
Canada

10:15 - 11:15 IAF GNF – Climate & Environmental Action and Sustainability



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Earth Observation satellites have proven to be a game changer in terms of better understanding the complexities of our planet and responding to the challenges of changes in Earth's climate and environment, as well as issues of sustainability on Earth. Data from these satellites are used to forecast the weather and help when disaster strikes, to provide essential information used to improve, for example, agricultural practices, water management and siting of renewable energy plants, and to address issues and questions related to important Earth-science questions.

The European Space Agency, a world-leader in Earth Observation, is dedicated to fostering the development of cutting-edge space-borne technology and to supporting science and user communities to take full advantage of the data coming from the resulting satellite missions.

In this GNF, the panelists will address the use of space-based Earth Observation data to further understand the planet, to support effective policy- and decision making related to the environment and resource management, to improve the daily lives of citizens and for a more sustainable future and economy of all nations. The moderator will facilitate a discussion among panellists, from a wide range of communities, in a conversation focusing on the means required to expand the uptake of satellite Earth Observation data as a unique tool to support action on climate and environmental challenges.

Speakers:



Simonetta CHELI
Director of Earth Observation
Programmes and Head of
ESRIN,
European Space Agency
(ESA),
Italy



Alessandro IZZO
Director,
European Investment Bank,
Luxembourg



Alessandra ZAMPIERI
Director of Directorate D –
Sustainable Resources,
European Commission, Joint
Research Centre (JRC),
Belgium



MODERATOR
Fani KALLIANOU DE JONG
Principal Manager,
European Bank for
Reconstruction and
Development (EBRD),
United Kingdom

11:25 - 12:15 IAF GNF – The World Breathes: Restoring the Amazon



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

The panel will explore the growing contributions of small satellite constellations in safeguarding the Amazon rainforest. As the largest rainforest on Earth and home to more than 30 million people of 350 different ethnic groups, the Amazon biome has irreplaceable carbon stores and the globe's highest rates of biodiversity. Experts from across several fields will dissect the multifaceted role these technological marvels play in monitoring deforestation, tracking illegal logging activities, informing endangered species conservation, and studying the impacts of climate change. The discussion will include how the data collected by these Earth Observation (EO) satellite constellations provide invaluable information for enforcing environmental laws, promoting sustainable land use practices, and implementing effective conservation strategies. Deforestation patterns also go hand in hand with the development of forest monitoring systems (using satellites), a practice that has increased in recent years is degradation, which today is the biggest contributor to CO2 emissions in the Amazon biome and it occupies a larger area within the biome compared to deforestation, 86% of degraded forest areas are not cleared in the following decades. Therefore, identifying degradation has a big impact on the conservation of its biome.

Understanding the root causes of the Amazon deforestation is key to solving the problem. Indeed, the protection of the Amazon involves an intersection of multiple approaches and considerations, including technology, environment, sustainability, Indigenous Peoples, climate, economy, and land development. Acting on this problem requires the availability of abundant, accurate, timely and actionable data to inform policy-making, law enforcement, environmental markets, and initiatives at the local and regional level.

Until very recently, a lack of reliable and timely EO data hampered conservation efforts and the enforcement of protection measures. The proliferation of EO small satellite constellations has enabled an unprecedented explosion and democratization of geospatial data from Space. With the availability of moderate-to-high resolution images passing multiple times a day over the same spot, it is now possible to keep track near real-time of the evolution of entire ecosystems, changes in the environment, and the effects of human activity on the ecosystem services. The combination of small satellite constellations and powerful data platforms to conduct effective analytics has become a game-changer for sustainability initiatives. The commoditization of EO data has ushered a new era of transparency and a call to action.

The panel will also discuss specific case studies demonstrating successful interventions facilitated by EO data, illustrating the tangible benefits of satellite technology in Sustainability and environmental protection efforts. Additionally, discussions will highlight the importance of international collaboration in satellite network operations, data sharing and awareness to ensure the Amazon's preservation. "Space Sustainability Guardians" promises to be a thought-provoking discussion, showcasing how small satellite constellations are becoming indispensable tools in the fight against deforestation, degradation, and climate change, offering hope for the Amazon rainforest's future.

Speakers:



Irene BENITO
Director of Government Affairs,
Planet,
Spain



Tom GREENWOOD
Mission Sales & Competitive
Intelligence Manager,
Iceye,
United Kingdom



Christian HAUGLIE-HANSSEN
Director General,
Norwegian Space Agency
(NOSA),
Norway



Rodrigo LEONARDI
Director,
Brazilian Space Agency (AEB),
Brazil



MODERATOR
Agnieszka ŁUKASZCZYK
Founder and CEO,
hiAltitude Consulting,
Belgium

12:30 - 13:30 IAF IDEA 3G+ Diversity Luncheon (Upon Invitation Only)

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

Sponsored by:



WELCOME REMARKS
Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States

Speakers:



Josef ASCHBACHER
Director General,
European Space Agency
(ESA),
France



John MCFALL
Member of the ESA
Astronaut Reserve for Fly!
Feasibility Study,
United Kingdom

IAF Excellence in "3G" Diversity Award Ceremony



Asanda SANGONI
VP: Honours and Awards,
IAF Bureau,
South Africa

AWARDEES

The Karman Project

KARMAN

"A steadfast commitment to all pillars of diversity is central to this vision, understanding that the future success of the sector relies on inclusive participation, diverse representation and meaningful cooperation"



Hannah ASHFORD
Managing Director,
The Karman Project,

NASA Indigenous Community-Based Education (CBE) Program



"These programs bring Indigenous Knowledge and Western STEM together in a community-based way to support the development of learners' cultural and STEM identities"



Daniella SCALICE
Education and
Communications Lead at NASA
Astrobiology Program,
National Aeronautics and
Space Administration (NASA),
United States

13:45 - 14:45

Plenary 6 – Observing the Earth, Serving our Societies: Space in the Age of Climate Change



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

The objective of this plenary is to discuss the role of space observations and the perspectives offered by exploiting their full potential, which, in the face of escalating effects of climate change, has emerged as a critical component in our collective efforts to monitor, understand, mitigate and adapt to our transforming planet.

National Agencies and international Organisations play a fundamental role in improving the quality and the variety of the available observations as well as in transforming them in actionable information for decision and policy makers. In this scenario, the SCO is an international initiative which aims to support the development of Earth-observation based operational tools for climate adaptation, mitigation and monitoring at local level, at the nearest of the users.

Advancements in satellite technology are offering unprecedented insights into atmospheric dynamics, ocean currents, deforestation, and other critical indicators. Through data assimilation and modelling techniques, these observations constitute an essential element for predictive analyses, enabling the development of early warning systems for natural disasters and other climate-related events as well as the proactive planning of measures to minimize the socio-economic impact of climate change on vulnerable communities. These advancements, together with the undeniable evidence, captured by satellite imagery, of climate change impacts on our planet, are progressively shaping an informed and compelling narrative that resonates with the global population, that is at the core of a global response to climate change.

Panellists will bring their own perspectives to this topic, coming from different geographic areas and sectors and having different places in the Earth Observation value chain: from space agencies focusing on collecting the data to the managers who will use these data to inform local decisions and plans. The session is organized in two panel discussions run by a Moderator: a "Users" Panel, including representatives from: ECMWF, GCOS, Planetek, Municipality of Rome, and a "Providers" Panel, including representatives from Copernicus, CNES, ASI, NOAA.

Organized by: Frédéric **BRETAR** (CNES)
Giovanni **RUM** (ASI)
Charles **WOOLDRIDGE** (NOAA)

Speakers:



Philippe BAPTISTE
Chairman & CEO,
Centre National d'Etudes
Spatiales (CNES),
France



Simonetta CHELI
Director of Earth Observation
Programmes and Head of
ESRIN,
European Space Agency
(ESA),
Italy



Roberto FORMARO
Director of Engineering and
Technologies Directorate,
Italian Space Agency (ASI),
Italy



Florence RABIER
Director General,
European Centre for Medium-
Range Weather Forecast
(ECMWF),
United Kingdom



Giovanni SYLOS LABINI
CEO,
Planetek Italia,
Italy



Andrea Taramelli
Italian National Delegate, Full
Professor,
European Commission
Copernicus User Forum, IUSS
Pavia,
Italy



Stephen VOLZ
Assistant Administrator for
Satellite and Information
Services,
National Oceanic and
Atmospheric Administration
(NOAA),
United States



Edoardo ZANCHINI
Director of the Climate Office,
Roma Capitale,
Italy



MODERATOR
**Laurence MONNOYER-
SMITH**
Head of Sustainable
Development,
Centre National d'Etudes
Spatiales (CNES),
France

15:00 - 15:30

IAF GNF – A New Era in Human Presence: NASA's Strategy to Advance Microgravity Science, Technology, and Exploration in Low Earth Orbit



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Join us for an insightful presentation by NASA Deputy Administrator Pam Melroy as she unveils NASA's Low Earth Orbit (LEO) Microgravity Strategy. Since its inception, NASA's flagship human spaceflight programs have built upon each other, enabling a continuous human presence in space for over two decades. With the promise of new commercial destinations by the end of the decade, Melroy will detail NASA's strategy for the next generation of human presence in low Earth orbit that will advance microgravity science, technology, and exploration.

Speaker:



Pam MELROY
Deputy Administrator,
National Aeronautics and
Space Administration (NASA),
United States



MODERATOR
Christian FEICHTINGER
Executive Director,
International Astronautical
Federation (IAF),
France

15:40 - 16:25 IAF GNF – The Global Space Economy, International Organizations and Emerging Communities: Challenges and opportunities



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Today the space community faces a pivotal change: the outburst of emerging countries and communities joining space activities, led by an expanding space economy forecasted to reach multi-trillion dollars in the near future. At the same time, we face a massive challenge in ensuring that space science and technology benefits the whole of humanity, while maintaining sustainability in space and on Earth.

To make wide range of space applications available to the people living in the developing nations/emerging communities, it is essential to leverage the innovative power of the bolstering space economy, whilst ensuring that these countries/communities can progressively develop their own space capabilities. It is also key to find innovative solutions that combine science and technology with economic incentives that help the implementation of rules and norms to achieve sustainability. For instance, UNOOSA is collaborating with space agencies in its Kibo CUBE program to provide access to space to all. The World Economic forum has been working with the space industry focusing on topics including space sustainability rating, and Earth data valuation and AI.

The GNF panel will focus on programs through such partnerships among space agencies and international organizations, as well as commercial and financial entities to make this happen. The session will be introduced by a keynote address followed by a stimulating panel discussion with representatives from various sectors. Key questions to be addressed are:

- How should developing nations/emerging communities embark with their space ambitions?
- How can international organizations work together with space agencies and industry to create successful space ecosystems in developing nations/emerging communities, while maintaining sustainability in space and on Earth?
- How can the expanding space economy provide innovative solutions for this to happen?

Speakers:



Rodrigo DA COSTA
Executive Director,
European Union Agency
for the Space Programme
(EUSPA),
Czech Republic



Aarti HOLLA-MAINI
Director,
United Nations Office
for Outer Space Affairs
(UNOOSA),
Austria



Junichi Sakai
Japan



Hazuki MORI
Lead in Space Technology,
World Economic Forum
(WEF),
Austria



Sherif SEDKY
CEO,
Egyptian Space Agency (EgSA),
Austria



KEYNOTE SPEAKER
S. SOMANATH
Chairman,
Indian Space Research
Organisation (ISRO),
India



MODERATOR
Pieter VAN BEEKHUIZEN
Vice Chair IAF CLIODN, Board
Member,
Stichting Space Professionals
Foundation (SSPF),
Netherlands

16:35 - 17:20 IAF GNF – Accessibility of Human Spaceflight



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

For the first time since 2008, ESA sought in 2021 new astronauts to join a journey of discovery for the benefit of Earth in 2021. In a first for ESA and human spaceflight worldwide, ESA launched a call for interest for individual(s) who are psychologically, cognitively, technically and professionally qualified to be an astronaut, but who live with a physical disability that would normally prevent them from being selected due to the requirements imposed by the use of current space hardware. The intention of the vacancy of 'Astronaut (with a physical disability)' is to select individual(s) with a specific physical disability to join ESA's astronaut reserve.

ESA received 27 applications from individuals with a physical disability. In November 2022 ESA's Director General has selected John McFall from the UK to become Member of the ESA Astronaut Reserve as "Fly! Feasibility Study" member.

In close coordination with NASA, the UK Space Agency and Industry companies ESA is studying the feasibility of sending John to Space.

The panelists from ESA, NASA and the UK Space Agency will give an update about the study and how likely it is that we will see John in Space. Of course, also John himself will give first hands information how the study is going.

Speakers:



Paul BATE
Chief Executive Officer,
UK Space Agency,
United Kingdom



John MCFALL
Member of the ESA
Astronaut Reserve for Fly!
Feasibility Study,
United Kingdom



Joel MONTALBANO
Deputy Associate
Administrator for Space
Operations,
National Aeronautics and
Space Administration (NASA),
United States



Daniel NEUENSCHWANDER
Director of Human and Robotic
Exploration Programmes,
European Space Agency (ESA),
France



MODERATOR
Ersilia VAUDO
Chief Diversity Officer,
European Space Agency (ESA),
France

17:45 - 18:45 Highlight Lecture – Viewing the freshwater crisis from space: A world of drought and flood extremes

HLL

Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

Flooding is one of the most disruptive natural disasters that we face. Major flood events (e.g., the Harvey and Irma events in the Gulf of Mexico in 2017, Germany in 2021 and the Emilia Romagna region in northern Italy in 2023) can affect millions of people, lead to significant loss of life, and cause monetary losses of billions of dollars. In developing countries (e.g., Mozambique in 2018 and Pakistan

in 2022) flooding can displace hundreds of thousands of people, significantly impacting their future life chances and even altering long-term national development trajectories. Globally, the value of infrastructure exposed to flooding is likely to total hundreds of trillions of US dollars, and there is growing recognition that natural hazard risks pose a threat to the global economy.

At the same time, drought is also on the rise as climate change starts to intensify the hydrological cycle. Severe droughts have major impacts on livelihoods, economic impact, and food security for hundreds of millions of people.

Moreover, these issues may even be connected. Analysis of satellite imagery and climate data has shown that in many regions both hazards are increasing simultaneously, a prediction that is in line with what climate models have suggested for some time.

The space community has a major role to play in assessing and mitigating these twin threats by providing immediate and salient data to guide event response. Today's satellites provide an array of powerful observations utilizing optical, altimetry and SAR radar technologies along with low-cost satellite constellations improving the temporal and spatial sampling critical to disaster management and mitigation applications.

This Highlight Lecture will present an overview of global freshwater hazards and demonstrate how space science is making a significant difference to our ability to cope with such extreme events utilizing satellite data that directly target these problems.

Speaker:



Paul BATES
Professor,
University of Bristol,
United Kingdom



INTRODUCTION
Maria Fabrizia
BUONGIORNO
Director of Technological
Research,
National Institute
of Geophysics and
Volcanology (INGV),
Italy

19:00 - 22:00 IAF WD-YPP/ISU/SGAC Young Professionals Networking Event
(restricted to Young Professionals)

Location: Silver Hall, Level 2, North Wing, MiCo Convention Centre

Join us for a night focusing on space educational offerings and how you can get involved with our organizations. Networking and reception to follow.

Sponsored by:



DoraHacks

Thursday 17 October

08:00 - 08:45 IAF Science & Academic Breakfast

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

Italy as the Launchpad for Space Careers

Sponsored by the Italian National Institute for Astrophysics (INAF), the IAC 2024 Science and Academic Breakfast aims at inspiring and stimulating the next generation through an overview of local opportunities for young space enthusiasts, followed by an engaging discussion organized by AIDAA between experts, students, and young professionals to share and exchange views on future space careers.

Sponsored by:



WELCOME REMARKS
Tanja MASSON-ZWAAN
VP: Science and Academic
Relations,
International Astronautical
Federation (IAF),
Assistant Professor and Deputy
Director of the International
Institute of Air and Space Law
(IIASL),
Leiden University,
Netherlands

Speakers:



Andrea BIANCO
Senior Researcher, Brera
Astronomical Observatory,
Italian National Institute of
Astrophysics (INAF),
Italy



Enrico ZAPPINO
Executive Project Manager
IAC 2024,
Italian Association of
Aeronautics and Astronautics
(AIDAA),
Italy

09:00 - 10:00 Plenary 7 – New Opportunities benefit Human Space Flight on Earth, in Space and Beyond



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

This Plenary will mainly focus on the progress and future plan of China's scientific and utilization research regarding to human space flight. The panel will also talk about the collaboration activities within global cooperation based on microgravity facilities such as space station, spacecrafts, parabolic flight etc.

China has completed the assembly of the Tiangong Space Station in 2022, entering a new stage of operation and application. As a national space laboratory, it has comprehensive coverage of space science related disciplines, strong in-orbit support capacity, and unique advantages of human operation in-orbit. The scientific experiment racks, support system equipped inside the modules, and the exposed experiment platforms, as well as large payload mounting positions outside the modules will support thousands experiments continually.

To benefit space exploration, China has planned four main areas of research on CSS, space life sciences and human research, microgravity physics, space astronomy and earth science, and new space technologies.

China welcomes global partners to join CSS and future missions in the way of cooperative research or joint payload development, as well as academic exchanges under the balance of win-win principle, to benefit the science communities and industries, and to promote the peaceful use of outer space. The first round China/United Nations Cooperation experiments on CSS are being organized and implemented as planned. New call for proposals will be periodical.

Speakers:



Xiqiang LIN
Acting Director General,
China Manned Space Agency
(CMSA),
China



Vladimir PLETZER
Director of Space Training
Operations,
Blue Abyss,
United Kingdom



Hongen ZHONG
Deputy Chief Designer of
Space Utilization System,
China Manned Space Agency
(CMSA),
China



MODERATOR
Ming GAO
Chief Commander of the Space
Utilization System,
China Manned Space Agency
(CMSA),
China

10:15 - 11:15

IAF GNF – Leveraging Generative Artificial Intelligence (GenAI) for Enhanced Strategic Risk Management in Aerospace Sustainability



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Aligning with the IAC theme of “Responsible Space for Sustainability” a panel of recognized cross-sector leaders will have an in-depth discussion focused on the emerging field of AI and how it reinforces managing risk, by all definitions, in their organizations. Panelists will explore the intersection of artificial intelligence and risk management within the aerospace industry, particularly concerning sustainability challenges such as space debris, Earth security from space, and safety and security of space assets, and they will explore the potential benefits and known challenges associated with integrating tools of AI into strategic risk management processes. Ultimately, the GNF session aims to foster a lively interactive exchange of ideas and experiences, culminating in actionable insights for risk management practitioners. By examining real-world use cases, discussing advantages, disadvantages, and best practices, we seek to provide IAC attendees with a new level of understanding of AI's potential in shaping the future of aerospace sustainability.

Speakers:



Adam ABDIN
Associate Professor,
CentraleSupélec Engineering
School,
University of Paris-Saclay,
France



Massimo COMPARINI
Managing Director, Space
Business Unit,
Leonardo Spa,
Italy



Christopher GEIGER
Internal Audit Director,
Lockheed Martin Corporation,
United States



Mariella GRAZIANO
Executive Director of Strategy
and Business Development
- Science, Exploration and
Transportation,
GMV Space Systems,
Spain



Adam F. GREENSTONE
Counsel for Ethics,
National Aeronautics and Space
Administration (NASA),
United States



MODERATOR
Maria Gabriella SARAH
Strategy and Foresight
Department,
European Space Agency
(ESA),
France

11:25 - 12:15

IAF GNF – Pioneering space circular economy, for space and the Earth



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Join us for an enlightening Global Network Forum at IAC24 that delves into the transformative application of circular economy principles – reduce, repair, reuse, repurpose and recycle – to space activities across three critical regions: on Earth, in Earth orbit, and on the Moon.

As space exploration accelerates at an unprecedented pace, the sustainability of our activities has never been more crucial. With increasingly crowded orbits, escalating space debris and finite resources on the Moon, there is an urgent need to rethink our strategies.

The panel, featuring representatives from major space agencies as well as established and emerging industry players, will discuss the latest initiatives and collaborations driving circular economy in the space industry, including:

- How incorporating ecodesign into satellite development, extending the operational life of satellites, and implementing recycling methods on the lunar surface are shaping the future of sustainable space exploration
- How the development of circular economy technologies for space activities can serve as a catalyst for similar initiatives on Earth

Join us for meaningful discussions and collaborations among participants and attendees, touching on research findings, cutting-edge technologies, and bold strategies aimed at influencing future space exploration. Together, we will contribute to shaping a more sustainable approach to space activities.

Speakers:



Cédric BALT
Gateway International
Program Manager,
Thales Alenia Space France,
France



Patrick NEUMANN
Founder, Chief Scientist &
Head of R&D,
Neumann Space,
Australia



Andrea VENA
Chief Climate and
Sustainability Officer,
European Space Agency
(ESA),
France



Charity WEEDEN
Associate Administrator
for Technology, Policy, and
Strategy,
National Aeronautics and
Space Administration (NASA),
United States

12:30 - 13:30

IAF Science & Academic Luncheon (Upon Invitation Only)

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

2024 Humans In Space - From LEO to Moon and Beyond

Sponsored by Boryung, this Luncheon Keynote Session will highlight International Cooperation and Investment in Critical Space Infrastructure to enable Multiplanetary Human Life from LEO to the Moon and Beyond. Starting with an introduction of Boryung, a healthcare investment company in South Korea, with a vision to become an indispensable company to enable human presence in Space, will share its strategic cooperation with key LEO and Moon infrastructure companies: Axiom Space and Intuitive Machines.

Axiom Space, the company leading the development and operation of the world's first commercial space station, will present its groundbreaking scientific advancements achieved through private human spaceflight missions, the AxEMU spacesuit, and its space

station initiatives. The keynote will provide insights into how Axiom is shaping the future of space exploration and microgravity research, highlighting the technological innovations and scientific breakthroughs that drive its success in the rapidly growing space economy.

Intuitive Machines, a pioneering company dedicated to expanding access to the Moon for the advancement of humanity, will share its remarkable success story of landing the first commercial spacecraft on the lunar surface. They will also outline its ambitious business plans for future lunar lander missions, the development of its Lunar Terrain Vehicle (LTV) program, and its cutting-edge lunar data services. Additionally, Intuitive Machines will highlight the significant scientific contributions these efforts will bring, underscoring the broader impact on space exploration and technological progress.

Sponsored by: **BORYUNG**



WELCOME REMARKS

Tanja MASSON-ZWAAN

VP: Science and Academic Relations,
International Astronautical Federation (IAF),
Assistant Professor and Deputy Director of the International Institute of Air and Space Law (IIASL),
Leiden University, Netherlands

Speakers:



Tim CRAIN

Chief Growth Officer / Co-founder,
Intuitive Machines, United States



Kam GHAFFARIAN

Founder and CEO,
IBX, United States



Jay KIM

CEO and Chairman,
Boryung, Republic of Korea

13:30 - 14:00

IAF GNF – Inspiring Change: AIDAA Student Team Challenge for Global Sustainability



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Twenty-three student teams from various regions, including Europe, the Americas, India, and Saudi Arabia, participated in the AIDAA Student Team Challenge. AIDAA aims to amplify the voices of young innovators and their visions for a sustainable future. The Challenge has the important mission of bringing fresh and youthful perspectives to the prestigious International Astronautical Congress event. Embracing the principles of 3G (Generational, Gender, and Geographic Diversity), it seeks to cultivate a dynamic global network of student teams. After a broad “Call of Interest”, the teams in the second phase meticulously prepared reports detailing their sustainability ideas. These reports highlight their collaborative dynamics and the attributes that foster cohesion, which an educational committee within AIDAA will evaluate. Based on the quality and innovation of the ideas presented in the reports, the committee will award technical prizes and other recognition as ‘The Most Emerging Team’ and ‘The Most Sustainable Team.’ Teams will present their hardware and sustainable ideas in a dedicated IP session during the congress. An evaluation committee will judge the team presentations during the event. In addition, all IAC 2024 attendees will have the opportunity to vote and play a crucial role in determining the winners of the ‘Demoscopic Award’.

The culminating event, the Global Networking Forum, will recognize the top three teams whose ideas demonstrate the highest level of innovation and development as judged by the committee. Professor Erasmo Carrera, President of AIDAA, will open the event with

a welcome address. The three finalist teams will then have five minutes each to present their ideas, followed by the committee’s final vote. Finally, there will be an award ceremony for each prize, and Professor Carrera will close the event with a few words of thanks and farewell.

Speakers:



Francesca BRACAGLIA

PhD student and Evaluation committee member,
Associazione Italiana di Aeronautica e Astronautica (AIDAA), Italy



Erasmo CARRERA

President,
Associazione Italiana di Aeronautica e Astronautica (AIDAA), Italy



Marianna VALENTE

PhD student and Evaluation committee member,
Associazione Italiana di Aeronautica e Astronautica (AIDAA), Italy



Enrico ZAPPINO

Executive Project Manager IAC 2024,
Italian Association of Aeronautics and Astronautics (AIDAA), Italy



MODERATOR

Muhammad ASAD

Associate Professor,
Prince Mohammad Bin Fah University, AL-Khobar Saudi Arabia

14:10 - 14:40

IAF GNF – 2024 Humans In Space – Multiplanetary Human Life Enabler



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

This GNF Session aims to highlight the importance of international cooperation between Industry, Investors, Government Space Agencies and Academia to create the Space Healthcare Ecosystem in making space accessible, not for the extraordinary, but for everyone.

Space healthcare is a rapidly growing field of interest for both Earth-bound and spacefaring humans. It not only consists biomedical and life science research to solve critical crew health and performance related risks faced by human during deep space exploration, but also has aspects of tackling problems on Earth by leveraging the unique microgravity environment of the Low Earth Orbit.

The session will highlight the essence of Space Healthcare in achieving prominent human presence in space. The panel, consisting prominent representatives from Europe Space Agencies and Institutions, working in the forefront of Human Space Exploration, will share their view on the Space Healthcare agenda and explore room for international collaboration between Space Agencies, Government, Industry and Academia, leveraging critical space infrastructure. The need for global partnership to facilitate the growth of the Space Healthcare ecosystem will be emphasized. The “Humans In Space” Program run by Boryung which invests in and facilitates essential technological advancements leveraging the critical space infrastructure in LEO and Moon will be introduced and discussed, to explore room for collaboration.

Speakers:



Audrey BERTHIER

Executive Director,
MEDES - Institute for Space Physiology and Medicine, France



Jens JORDAN

Director, DLR Institute of Aerospace Medicine,
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany



Barbara NEGRI

Head, Human Flight and Science Experimentation,
Italian Space Agency (ASI), Italy



Jonathan SCOTT
European Space Agency (ESA),



OPENING KEYNOTE
Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States



OPENING KEYNOTE
Jay KIM
CEO and Chairman,
Boryung,
Republic of Korea



MODERATOR
Jack LIM
Head of New Portfolio
Investment (NPI) Group,
Boryung,
Republic of Korea



Hebe Romero TALAVERA
Member,
Center for Aerospace
Research of Paraguay (CIAP),
Paraguay



MODERATOR
Peggy HOLLINGER
Space Industry Editor, Financial
Times,
The Financial Times,
Ireland

14:50 - 15:35 IAF GNF – Heads of Think Tank: Quo Vadis Space Sustainability



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

Every year the IAC brings together space agencies, industry, emerging space-faring states, and future generations. Nonetheless, the voice of the international think tank community remains missing. The think tank ecosystem is vibrant, and its expertise is essential to navigating the changing dynamics of the space sector. As core members of civil society, think tanks have a stated mission to provide informed advice to decision makers and play a crucial role in shaping and advocating for a flourishing and responsible space industry.

In alignment with the IAF's motto "Connecting @ll Space People" and its mission to foster partnerships and knowledge sharing, this Global Networking Forum, jointly organized by the European Space Policy Institute and the Center for Space Policy and Strategy, will feature high-level representation from the global think tank community. Under the overarching theme of IAC 2024 "Responsible Space for Sustainability," the event will delve into the multifaceted aspects of space sustainability and best practices for engaging international stakeholders in sustainable initiatives.

Moderated by Peggy Hollinger, international business editor of The Financial Times, the event will explore three key facets of space sustainability:

1. The role of space technologies in facilitating the Green Transition, ensuring their impact on decarbonizing non-space industry sectors and incorporation into future Green Transition policies.
2. Achieving NetZero targets within the space sector, focusing on reducing environmental footprints across development, manufacturing, launch, and operation.
3. Ensuring the safe and sustainable use of the space environment amid increasing government and commercial satellite deployments, while fostering innovative approaches to safety, security, and sustainability.

Panellists, heads of leading think tanks, will offer insights into global sustainability efforts' future directions across technical, legal, and policy dimensions. The global and multisectoral outreach of the proposed speakers will ensure a high participation rate and serve as a stimulus for enlarging IAF involvement to the think tank world, academic community, and organised civil society.

Speakers:



Ikuko KURIYAMA
Visiting researcher,
Institute for Future Initiatives
(IFI),
Japan



Hermann Ludwig MOELLER
Director,
European Space Policy
Institute (ESPI),
Austria



Jamie MORIN
Executive Director, Center for
Space Policy and Strategy,
The Aerospace Corporation,
United States

15:45 - 16:30 IAF GNF – Achieving Unified Global Governance for Civil Space Exploration



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

We are entering a new and dynamic era of space exploration with numerous countries and even companies conducting ambitious and trailblazing missions to the Moon, Mars, and beyond. The pace and number of current space activities are only being exceeded by their unique nature as concepts such as in-situ resource utilization transition from concept to reality. The Outer Space Treaty, along with other binding UN agreements, have established a foundation for norms of behavior which are being further refined by instruments such as the Artemis Accords, the International Lunar Research Station agreements, and the Committee on the Peaceful Uses of Outer Space's long-term sustainability guidelines. The purpose of this singular panel will be to bring a diverse group of experts together, reflecting different and potentially conflicting views, in an attempt to understand the constantly evolving policy environment, and to find common ground and a path forward to achieve a responsible and sustainable future in space for all of humanity to enjoy.

Speakers:



Aarti HOLLA-MAINI
Director,
United Nations Office
for Outer Space Affairs
(UNOOSA),
Austria



Frederic NORDLUND
Head of the European
and External Relations
Department,
European Space Agency (ESA),
France



Guoyu WANG
Dean of the Academy of Air,
Space Policy and Law,
Beijing FutureSpace Space
Technology Institute,
China



MODERATOR
Mike GOLD
Chief Growth Officer,
Redwire,
United States

16:40 - 17:35 IAF GNF – Innovative Lunar Lander Technologies for Sustainable Exploration



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

The recent and diverse set of robotics missions to the lunar surface have utilized different mission concepts and technologies for landing. This panel will focus on the various technologies that developers have utilized in their mission architectures. Discussion will focus on in-space mission design, de-orbit/descent/landing (DDL) approaches, surface survival, payload accommodations, and future plans. We will also discuss lessons learned from recent missions, observations on infusing new technologies, technology gap areas, and medium and longer term technology areas of interest, and how to explore sustainability for the future.

Speakers:



Tim CRAIN
Chief Growth Officer / Co-founder,
Intuitive Machines,
United States



Masaki FUJIMOTO
Professor and Deputy
Director General of ISAS/
JAXA,
Japan Aerospace Exploration
Agency (JAXA),
Japan



Dan HENDRICKSON
Vice President Business
Development,
Astrobotic,
United States



P. VEERAMUTHUVEL
Project Director,
Chandrayaan-3, Group
Director, Spacecraft Systems
Engineering Group,
Indian Space Research
Organisation (ISRO),
India



Moderator
A. C. CHARANIA
Chief Technologist,
National Aeronautics and
Space Administration (NASA),
United States

17:45 - 18:45 Highlight Lecture – New Frontiers in Lunar Exploration: Chandrayaan-3 Mission & beyond

HLL

Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

The soft landing on August 23rd, 2023 has marked a significant milestone in India's momentous space journey. The day has been declared as National Space Day clearly exhibiting the importance of the mission to not just the technologists and scientists but also to the nation at large.

The Chandrayaan-3 spacecraft was precisely launched into its intended orbit by LVM3 launch vehicle on July 14th 2023. All mission sequences, right from launch, orbit positioning, and soft landing to roving operations were executed flawlessly. The innovative mission management for the spacecraft to arrive at the lunar orbit embodies the frugal approach to various engineering challenges.

Chandrayaan-3 explored a region of the Moon, which is near the South Pole, that has never been visited before. Chandrayaan-3's measurements have discovered the presence of elements, namely, Aluminum (Al), Sulphur (S), Calcium (Ca), Iron (Fe), Chromium (Cr), and Titanium (Ti) on the lunar surface, along with Manganese (Mn), Silicon (Si), and Oxygen (O). The wealth of data collected during the mission including high-resolution images and the real-time videos would significantly contribute to our understanding of lunar features and geology.

Chandrayaan-3 team was also a perfect blend of top class experts in space with long years of experiences, middle level scientists and engineers, women scientists and also the relatively new recruits. International collaboration spanning multiple borders was also a key aspect of the mission through support from ground stations and instruments. Notwithstanding the technological competence and excellence that the mission has demonstrated, it has also served to enhance and further enthuse the allure of space across generations and beyond borders.

With this success, India has already planned a few more missions to explore Moon, which shall lead to the landing of Indian on the Moon's surface in 2040, as announced by the Hon'ble Prime Minister of India.

Speaker:



S. SOMANATH
Chairman,
Indian Space Research
Organisation (ISRO),
India



INTRODUCTION
Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States

Friday 18 October

09:00- 10:00 Late Breaking News – Ariane 6, right first time! How did we succeed?



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

The inaugural flight of Ariane 6 that took place on July 9th, 2024 is a great success for Europe, one year after the last flight of Ariane 5. A completely new rocket launching from a completely new pad is an event happening about every 25 years, a quarter of a century, and thus, success is far from guaranteed.

Ariane 6 made it right first time!

This was not a given... The ESA Director General recalled that inaugural flights statistically have a 47% chance to succeed! Launch date was announced on May 5th...and everything was perfectly on track 2 months later!

The chronology was conducted on time, with no unforeseen technical events, which is remarkable for such an ambitious project.

The launch system performing wonderfully at the first attempt is a demonstration of European excellence in engineering and technology and a statement to the dedication of European teams.

How did the Space Team Europe reach this historical success? Who was involved and what has been the role of the Ariane 6 task force members (ESA, CNES, ArianeGroup and Arianespace)?

How was the industrial team in 13 countries organized and managed?

What was the secret to a seamless road to success in the last seven months of the program?

Which were the key moments of the developments' decisions, the incremental improvements, industrial revolution and problem solving that led to this achievement?

It was the first time in decades that an upper stage has been tested on ground in Europe! A re-ignitable upper stage adding high complexity while increasing the flexibility of the system significantly!

Launch pad and launcher first met for combined tests in July 2022 in Kourou, after years of separate development...and matched both hard and software!

After a smooth ignition of the boosters – a common product with the VEGA C rocket burning 142 tons of powder each – and a very successful flight including upper stage re-ignition and up to payload release, the inaugural flight launcher entered an experimental phase pushing the upper stage to its limits to gather as much data as possible and prepare future missions.

The European space industry has now moved into a new era. This development flight permitted to test the new launcher in space and demonstrated that launcher exploitation can start, for all missions to all orbits, including the ability to deploy constellations.

What is coming next?

Versatile, modular and evolutive, the new heavy launcher is starting a new era for European space.

It is only the beginning of Ariane 6's career.

Next launch is in preparation with Arianespace teams.

Speakers:



Caroline ARNOUX
Head of Ariane Business
Unit,
Arianespace,
France



Olivier BUGNET
Deputy Director of Space
Transportation Directorate,
Centre National d'Etudes
Spatiales (CNES),
France



François DENEU
Ariane 6 Programme
Director, Head of Launcher
Development,
Ariane Group,
France



Pier Domenico Resta
Head of Ariane Launch
System and Engineering
Division,
European Space Agency
(ESA),
France

10:15 - 11:15 IAF GNF – Bridging Worlds: A Compelling Conversation on Communications Between Space and Earth for a Sustainable Future



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

This session is designed to catalyze broader and more profound public engagement with space technologies and their benefits to life on Earth. The conversation, steered by the moderator Aarti Holla-Maini, Director UNOOSA will explore the necessity of accurately and compellingly presenting space activities and their benefits to humanity. This effort is crucial for fostering a supportive public opinion, encouraging educational pursuits in STEM, and securing the political and financial backing needed for future space endeavors. The panel will center on strategies to enhance public communication about space, highlighting the importance of clear and compelling narratives to make space exploration accessible and relevant to a broad audience around the world.

Speakers:



Camille BERGIN
Social Media Influencer, Space Communicator, Galactic Gal, United States



Peter PLATZER
CEO, Spire Global, Austria



Dennis STONE
President, World Space Week Association, United States



MODERATOR
Aarti HOLLA-MAINI
Director, United Nations Office for Outer Space Affairs (UNOOSA), Austria

11:25 - 12:15 IAF GNF – Full value chain of Space Investing in Europe



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

In recent years the Space industry has rapidly grown thanks to the development of the Space Economy, in particular of its “downstream” segment. According to “European SpaceTech Report”, elaborated in collaboration with ESA, EUSPA, EC DG-DEFIS and E. Amaldi Foundation, data shows positive trends: the Space Economy market is destined to reach 1 trillion euros in 2040, with an average annual growth of +11% compared to 470 billion euros in 2023. This perspective makes the Space Economy a huge opportunity for industries and space investors. The workshop, organised by E. Amaldi Foundation (FEA), aims to present points of strength and weaknesses of the entire value chain of Space Investing in Europe, from a practitioner’s perspective. The objective of the workshop is also to highlight the missing steps to reach a fully competitive SpaceTech market at International level.

Speakers:



Matteo CASCINARI
General Partner and co-founder, Primo Space Venture Capital Fund, Italy



Michele GALLO
Partner and Managing Director, Alcedo SGR, Italy



Giorgio MARIANI
Head of Corporate and M&A practice, Deloitte Legal, Italy



Claudia PINGUE
Head of Technology Transfer Fund, CDP Venture Capital SGR - Fondo Nazionale Innovazione, Italy



MODERATOR
Lorenzo SCATENA
Secretary General, Fondazione E. Amaldi, Italy

12:30 - 13:30 VIP Luncheon (Upon Invitation Only)

Location: Tower Lounge, Level 2, South Wing, MiCo Convention Centre

13:45 - 14:15 IAF GNF – The Intertwined Relationship of Space Sustainability and Security: How they are both needed to make space safe and predictable for all



Location: Red Hall, Level 1, North Wing, MiCo Convention Centre

This session is designed to catalyze broader and more profound public engagement with space technologies and their benefits to life on Earth. The conversation, steered by the moderator Aarti Holla-Maini, Director UNOOSA will explore the necessity of accurately and compellingly presenting space activities and their benefits to humanity. This effort is crucial for fostering a supportive public opinion, encouraging educational pursuits in STEM, and securing the political and financial backing needed for future space endeavors. The panel will center on strategies to enhance public communication about space, highlighting the importance of clear and compelling narratives to make space exploration accessible and relevant to a broad audience around the world.

Speakers:



Almudena AZCÁRATE ORTEGA
Lead Space Security Researcher, United Nations Institute for Disarmament Research (UNIDIR), Switzerland



Aya IWAMOTO
Vice President, Strategy and Policy, Astroscale, Japan



Melissa QUINN
Managing Director, Slingshot Aerospace Ltd, United States



MODERATOR
Victoria SAMSON
Chief Director, Space Security and Stability, Secure World Foundation, United States

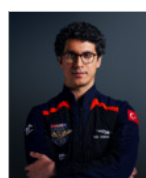
14:30 - 15:30 IAF GNF – IAF – ASE Astronaut Panel: #NORISKNOFUN - Keeping Human Spaceflight Safe



Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

Every body intuitively knows that launching into space must be dangerous: rockets burst into flames and thunder just to hurl satellites and humans into Space. Science tells you that Space is dangerous: the vacuum and radiation kill humans if not shielded in the artificial cocoon of a spacecraft. But we see people buying themselves a ride into Space sometimes just for reasons of being the first to do this or that. Rigorous testing and year-long training, once the reason for cost and schedule overruns of Space missions – can they be replaced by higher risk acceptance? A panel of experienced astronauts will reflect on their risk awareness and answer the audience's questions.

Speakers:



Tuva Cihangir ATASEVER
Astronaut,
Turkish Space Agency (TUA),
Türkiye



Tony ANTONELLI
Astronaut, Acting Director,
Advanced Programs Civil
Space,
Lockheed Martin Corporation
(LMC),
United States



Anthea COMELLINI
GNC engineer at Thales Alenia
Space,
Astronaut Reserve,
European Space Agency
(ESA),
Italy



Akihiko HOSHIDE
Astronaut, Director Houston
Office,
Japan Aerospace Exploration
Agency (JAXA),
Japan



Luca PARMITANO
Lead Astronaut, EAC/ISC
Liaison Officer,
European Space Agency (ESA),
Italy



Eytan STIBBE
AX-1 Astronaut,
Rakia Mission,
Israel



MODERATOR
Reinhold EWALD
European Astronaut and
Professor of Astronautics,
President,
Association of Space Explorers
(ASE) (2021-2024),
Chair,
IAF Astronauts Administrative
Committee (AAC)
Germany

16:30 - 17:30 Closing Ceremony

Location: Auditorium, Level 3, South Wing, MiCo Convention Centre

The Closing Ceremony provides a formal end to the activities of the IAC. There will be a video summary of the week's highlights, presentation of awards, and at the end of the ceremony, the Congress flag will be handed over to the next host country – Australia.

Master of Ceremony:



Christian FEICHTINGER
Executive Director,
International
Astronautical Federation
(IAF),
France

Speakers:



Clay MOWRY
President,
International Astronautical
Federation (IAF),
United States



Asanda SANGONI
VP: Honours and Awards,
IAF Bureau,
Acting Managing Director,
Earth Observations,
South African National Space
Agency (SANSA),
South Africa

19:30 - 22:30 Gala Dinner

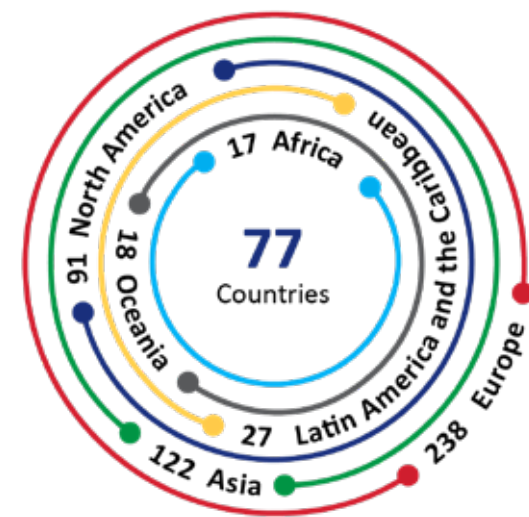
Location: Gold Room, Level +2, South Wing, MiCo Convention Centre

The social event will host a fashion show designed by selected students from the Raffles Milan International Design Institute, the European hub of the largest independent design education network with 16 campuses worldwide, where students actively collaborate with faculty to create projects of hybridization, experimentation and research, breaking down homogenization and cultural, technological and geographic barriers.

Sponsored by: **RafflesMilano** International Design Institute

Under the creative direction of Tiziano Guardini, about 26 students of the Raffles Milan International Design Institute will presents their garments designed especially for the show during the 75th IAC

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Become an IAF Member

- ✓ Download the Application Form on www.iafastro.org
- ✓ Participate in the IAF Committees in charge of defining the Technical Programme
- ✓ Propose to host a Plenary Event during the IAC
- ✓ Propose a Global Networking Forum (GNF) Event to showcase your organization's latest achievements or to discuss the most interesting topics about Space
- ✓ Participate and vote in the General Assembly and nominate IAF Officers
- ✓ Host one of our events!

Join Us

1 ↓

Download the **Application Form** on our website (www.iafastro.org) or request it to the Secretariat.

2 ✎

Complete the Application Form and attach the **requested documents**.

3 ✉

Send everything to our Secretariat. (info@iafastro.org)

4 🔍

We will review your application and ask in case of missing information.

5 ✓

Once reviewed, your application will be recommended by the **IAF General Counsel**.

6 👥

Final approval by the General Assembly during the IAC.

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