



## IAF President's Welcome

Dear IAF Friends,

Welcome to the March 2023 IAF newsletter that provides a complete Federation activity calendar for the year ahead. As a member of the world's largest and most diverse space organization, I encourage you to save these dates/events in your calendar and to take advantage of the diverse program offerings to connect with our broad community of space professionals.



Tomorrow, we are convening in Paris for the IAF Spring Meetings where the Federation's 15 administrative and 26 technical committees gather to set their agendas, select technical papers, and attend the Global Networking Forum. The International Programme Committee is meeting to coordinate our symposia, set the agenda for IAC Technical Sessions, decide on Plenaries, and select Highlight Lectures.

The Federation's governing Bureau, including myself, our 12 Vice Presidents, Special Advisors, and SIS Task Force Chairs will also convene twice in Paris. At these meetings the IAF officers are responsible for approving and making recommendations to the IAF General Assembly on membership, symposia, finances, and cooperation with other space related organizations.

As per tradition, Tuesday 28 March will be the IAF IDEA "3G" Diversity Day with two main key events focusing on different diversity aspects and providing valuable networking opportunities and insights on how to further bring together our global IAF community.

After the Paris meetings, we will be gathering in Oslo, Norway on 23-25 May for the first IAF Global Space Conference on Climate Change, GLOC 2023. This conference promises to be an outstanding high-level event, contributing to a global effort to better understand and battle climate change using space-based services and applications. The first conference of its kind, GLOC 2023 will focus on the innovative theme: "**Fire and Ice – Space for Climate Action.**" The time has come for the space community to show how our programmes are pivotal in addressing climate change, I count on all of you to register and join the debate this May in Norway.

Later in the year, 2-6 October, you are invited to the magical city of Baku to attend the 74<sup>th</sup> IAC, which is returning to Azerbaijan after 50 years! I would like to thank once again the IAF General Assembly for choosing this beautiful location, a UNESCO World Heritage site on the shores of the Caspian Sea that also boasts ultra-modern event facilities. I look forward to exploring once again the magnificent Shirvanshah's Palace and Maiden Tower.

I hope you have already saved these dates.

Best wishes and see you soon,

Clay MOWRY  
IAF President

## IN THIS ISSUE

### IAF PRESIDENT'S WELCOME

#### IAF EVENTS & NEWS

- IAF APP
- IAF Spring Meetings
  - IAF IDEA "3G+" Diversity Day
  - IAF GNF Sessions
- GLOC 2023
- IAC 2023
- IAC 2024
- IAC 2026
- Next Gen
- Become an IAF Member

#### IAF MEMBERS' CORNER

#### INTERVIEW WITH:

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

#### OUR LATEST PUBLICATIONS

- [IAF Highlights 2022](#)
- [IAC 2023 Brochure](#)

#### IMPORTANT DATES:

- IAF Spring Meetings: 28 – 30 March 2023
- Deadline for submission of proposals for IAC 2026: 28 April 2023
- GLOC 2023: 23 – 25 May 2023
- IAC 2023: 2 – 6 October 2023
- IAC 2024: 14 – 18 October 2024

*Connecting @ll Space People*





# THE NEW IAF APP!

With the IFASTRO App, you can personalize your event schedule, receive the latest updates, see the list of all sessions, plenaries, GNFs and social events, contact all app users, check on all the speakers, connect on social media and so much more !

Should you have any questions please contact IAF App Manager:  
Martin FEICHTINGER [martin.feichtinger@iafastro.org](mailto:martin.feichtinger@iafastro.org)



### Download the new IAF App today:

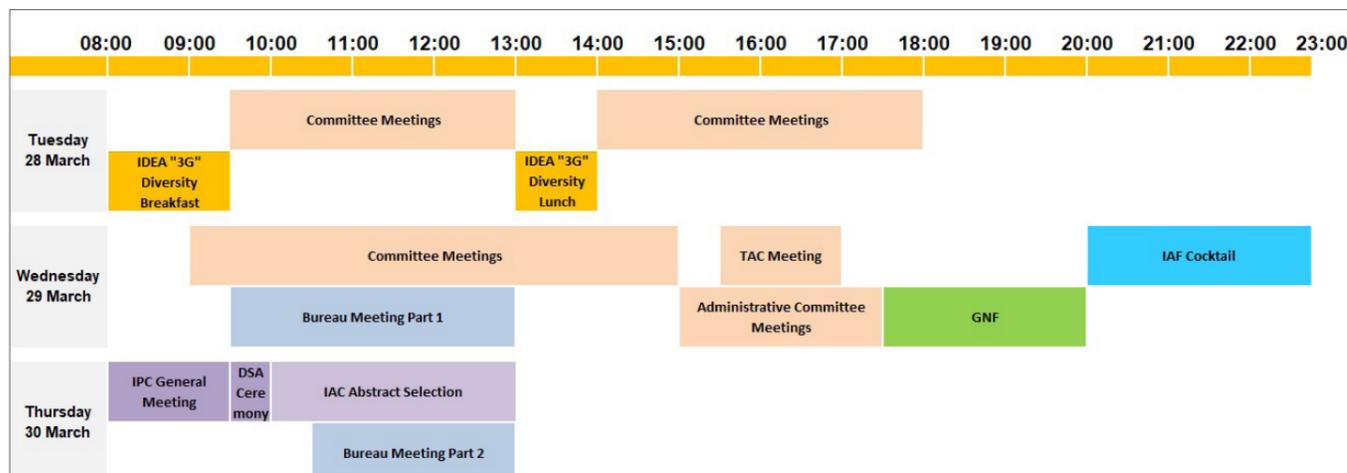
iOS: <https://apps.apple.com/us/app/iafastro-23/id64446270798>

Android: <https://play.google.com/store/apps/details?id=com.IFASTRO>



## 28 – 30 March 2023 in Paris, France

See you tomorrow at the IAF Spring Meetings 2023 in New CAP Conference Centre. Find below the full programme:



## IAF SPRING MEETINGS PROGRAMME

### TUESDAY 28 MARCH

Time	Meeting
08:00 - 09:30	IAF IDEA "3G+" Diversity Breakfast - " <a href="#">Presentation of the IAF Inclusion, Diversity and Equity Administrative Committee (IDEA)</a> "
09:30 - 11:00	IAF Congress and Symposia Advisory Committee (CSAC)
09:30 - 11:00	IAF Global Workforce Development Subcommittee
10:00 - 11:00	IAF Committee on Integrated Application
10:00 - 11:30	IAF Space Habitats Committee
10:30 - 12:30	IAF Finance Committee
11:00 - 12:00	D5 Symposium Coordination Meeting
11:00 - 13:00	IAF Workforce Development-Young Professionals Programme Committee (WD-YPP)
11:30 - 13:00	IAF Committee for Liaison with International Organisations and Developing Nations (CLIODN)
11:30 - 13:00	IAF/IAA/IISL Advisory Committee on History Activities (ACHA)
11:30 - 13:00	IAF Space Systems Committee - Session 1
13:00 - 14:00	IAF IDEA "3G+" Diversity Luncheon - " <a href="#">Presentation of the IAF Administrative Committee for Connecting Emerging Space ecoSystems (ACCESS)</a> "
14:00 - 15:30	IAF Space Economy Committee
14:00 - 15:30	IAF Space Education and Outreach Committee (SEOC) - Session 1
14:00 - 15:30	IAF Space Life Sciences Committee
14:00 - 16:00	IPC Steering Group
14:00 - 16:00	IAF Committee on Space Security
15:00 - 16:30	IAF Commercial Spaceflight Safety Committee
15:00 - 18:00	IAF Earth Observations Committee and GEOSS Subcommittee
15:30 - 17:00	IAF Space Power Committee
16:00 - 17:30	IAF Committee for the Cultural Utilisation of Space (ITACCUS) - Session I
16:00 - 18:00	IAF Industry Relations Committee (IRC)
16:30 - 17:30	IAF Committee on Planetary Defense and NEOs
16:30 - 18:00	IAF Student Activities Subcommittee
16:30 - 18:00	IAF Space Astronomy Technical Committee (SATC)



## WEDNESDAY 29 MARCH

Time	Meeting
09:00 - 10:00	IAF ACCESS - Europe Subcommittee (EU-SC)
09:00 - 10:30	IAF Space Societies Committee (SSC)
09:00 - 10:30	IAF Space Education and Outreach Committee (SEOC) - Session 2
09:00 - 10:30	IAA Space Debris Committee
09:00 - 12:00	IAF Astrodynamics Committee
09:00 - 13:00	IAF Bureau Meeting - Session 1
10:00 - 11:00	IAF ACCESS - Asia-Pacific Subcommittee (AP-SC)
10:00 - 11:30	IAF Space Universities Administrative Committee (SUAC)
10:00 - 11:30	IAF Enterprise Risk Management Committee (ERMC)
10:30 - 12:00	IAF Space Museums and Science Centres Committee
10:30 - 12:30	IAF Space Traffic Management Committee (STM)
11:00 - 12:00	IAF ACCESS - Africa Subcommittee (AF-SC)
11:00 - 12:30	IAF Space Entrepreneurship and Investment Committee (SEIC)
11:00 - 13:00	IAF Space Operations Committee
11:30 - 13:00	IAF Inclusion, Diversity and Equity Administrative Committee (IDEA) - Interviews for the 2023 IAF Excellence in 3G Diversity Award
11:30 - 13:30	IAF Human Spaceflight Committee
12:00 - 13:00	IAF ACCESS - Middle East and Central Asia Subcommittee (MECA-SC)
13:00 - 13:30	IAF YSL 2023 Recommendation
13:00 - 14:00	IAF Microgravity Sciences and Processes Committee
13:00 - 14:30	IAF Inclusion, Diversity and Equity Administrative Committee (IDEA) - Committee Meeting
13:00 - 14:30	IAF Space Systems Committee - Session 2
13:00 - 14:30	IAF Space Transportation Committee
13:30 - 15:00	IAF Materials and Structures Committee
13:30 - 15:00	IAF Space Communications and Navigation Committee (SCAN)
13:30 - 15:00	IAF Space Exploration Committee
13:30 - 15:00	IAF Space Propulsion Committee
13:30 - 15:30	GLOC 2023 - IPC Meeting
14:00 - 15:30	IAF Committee for the Cultural Utilisation of Space (ITACCUS) - Session II



Time	Meeting
14:00 - 15:30	IAF Knowledge Management for Space Organisations (KMTC)
14:15 - 15:15	IAF ACCESS - Latin America and Caribbean Subcommittee (LAC SC)
15:00 - 17:00	IAF Honours and Awards Committee (HAC)
15:30 - 17:00	IAF Administrative Committee for Connecting Emerging Space ecoSystems (ACCESS)
15:30 - 17:00	IAF Technical Activities Committee (TAC)
15:30 - 17:30	SGAC Advisory Board Meeting
17:30 - 18:00	<a href="#">IAF GNF Session: Europe's Space Ambition</a>
18:05 - 18:35	<a href="#">IAF GNF Session: IAC Milan 2024: Responsible Space for Sustainability</a>
18:40 - 18:50	<a href="#">IAF GNF Session: Fire and Ice - Space for Climate Action GLOC 2023</a>
18:55 - 20:00	<a href="#">IAF GNF Session: Connecting @II Space People in a Challenging Geopolitical Environment</a>
20:00 - 22:00	IAF Cocktail Reception

## THURSDAY 30 MARCH

Time	Meeting
08:00 - 09:30	IPC General Meeting
09:30 - 10:00	Award Ceremony " <a href="#">IAF 2023 Distinguished Service Award</a> "
10:00 - 13:00	IAC 2023 Abstract Selection
10:30 - 13:00	IAF Bureau Meeting - Session 2





## INTERNATIONAL PLATFORM FOR DIVERSITY AND EQUALITY IN ASTRONAUTICS

3G GEOGRAPHY • GENERATION • GENDER



### IDEA 3G+ Diversity Day – IAF Spring Meetings 2023

“Inauguration of new IAF Committees in support of the IDEA 3G+ Diversity Platform”  
Tuesday 28 March 2023

**08:00 – 09:30 IAF IDEA “3G+” Diversity Breakfast**  
Presentation of the IAF Inclusion, Diversity and Equity Administrative Committee (IDEA)

In the framework of the **International Platform for Diversity and Equality in Astronautics (IDEA 3G+Platform)**, we are pleased to introduce the newest amongst the IAF Administrative committees: the **IAF Inclusion, Diversity and Equity Administrative Committee (IDEA)**.

The IDEA Committee will inherit the role of the IAF Excellence in “3G” Diversity Award Sub-Committee concerning the evaluation of the nominations for the “IAF Excellence in 3G Diversity Award”, while at the same time, enlarging its scope to further deepen the efforts of the Federation towards the promotion of inclusiveness and diversity within its activities, bodies, and committees.

We are convinced that thanks to the support of the IDEA Committee members the IDEA 3G+ Platform and its activities will be enriched and widened.

#### Programme:

- 08:00 – 08:05 **Welcome Remarks and Introduction**  
Clay Mowry, President, International Astronautical Federation (IAF)
- 08:05 – 08:15 **Introduction and Presentation of the IAF Inclusion, Diversity and Equity Administrative Committee (IDEA)**  
**Mishaal Ashemimry**, IAF VP for Diversity Activities, Founding Co-Chair of the IDEA Committee  
**Deganit Paikowsky**, Former IAF VP for Diversity Activities, Founding Co-Chair of the IDEA Committee
- 08:15 – 08:25 Introduction of the Members of the IAF IDEA Committee
- 08:20 – 08:25 Presentation of the IAF IDEA 3G+ Video
- 08:25 – 09:30 Networking: Post with **#IAFIDEA3G**

**13:00 – 14:00 IAF IDEA “3G+” Diversity Luncheon:**  
Presentation of the IAF Administrative Committee for Connecting Emerging Space ecoSystems (ACCESS)

#### Programme:

- 13:00 – 13:05 **Welcome Remarks**  
**Clay Mowry**, President, International Astronautical Federation (IAF)
- 13:05 – 13:10 **Presentation of the IAF Administrative Committee for Connecting Emerging Space ecoSystems (ACCESS)**  
**Pilar Zamora**, IAF VP for Developing Countries and EmergingCommunities
- 13:10 – 13:25 **Presentation of the IAF Administrative Committee for Connecting Emerging Space ecoSystems (ACCESS) Leadership**  
**Alejandro Román Molinas & Matías Campos**, Chair and Vice-Chair of the IAF ACCESS Committee



**Ahmed Farid, Tensae Alemayehu Ali & Mae Jemison**, Chair, Vice-Chair and Advisor of the IAF ACCESS - Africa Subcommittee (AF-SC)  
**Jonathan Hung**, Chair of the IAF ACCESS - Asia-Pacific Subcommittee (AP- SC)  
**Michal Brichta**, Chair of the IAF ACCESS - Europe Subcommittee (EU-SC)  
**Matías Campos**, Carlos Rodriguez and Carlos Mariscal, Chair and ViceChairs of the IAF ACCESS - Latin America and Caribbean Subcommittee (LAC-SC)  
**Fuad Aslanov and May Al-Dawsari**, Chair and Vice-Chair of the IAF ACCESS – Middle East and Central Asia Subcommittee (MECA-SC)

13:25 – 13:30 **Presentation of the IAF ACCESS Video**

### EUROPE'S SPACE AMBITION

Day: Wednesday 29 March  
Time: 17:30 -18:00 CEST

Location: Seine Room, New CAP Conference Centre



Europe faces unprecedented societal, economic and security challenges. Space has enormous untapped potential to help tackle these challenges and future crises, while simultaneously creating jobs and boosting innovation in the European space industry. But we must act now.

The challenges ahead of Europe are widespread, significant and urgent. Addressing them effectively will require bold decisions and dedicated efforts on multiple fronts. Space technologies, data and services are uniquely positioned to make a difference and provide a concrete response to present and upcoming challenges.

#### Speaker

- Josef Aschbacher, Director General, European Space Agency (ESA)

### IAC MILAN 2024: RESPONSIBLE SPACE FOR SUSTAINABILITY

Day: Wednesday 29 March  
Time: 18:05 -18:35 CEST

Location: Seine Room, New CAP Conference Centre



The event will be a panel discussion to present the main advancements towards IAC Milan 2024 and to further elaborate on the motto of the congress “Sustainable space for responsibility”, to discover the reasons of this choice by the local hosts and how they intend to give practical effect to it and to ensure of its actual fulfillment during the Congress. A quick in-depth into the scientific and technical meaning of the IAC 2024 motto will follow.

Panel guests are the representatives of the local host and experts of the scientific community. The panelists will be introduced by the moderator, who will then leave the floor to the local hosts to express their different views and to the experts to share their ideas on sustainable space. Questions from the attendees will be welcomed and finally the moderator will draw main conclusions.

#### Speakers

- Erasmo Carrera, President, Italian Association of Aeronautics and Astronautics (AIDAA)
- Camilla Colombo, Professor, Polytechnic University of Milan
- Giorgio Saccoccia, President, Italian Space Agency (ASI)
- Nicole Viola, Professor, Polytechnic University of Turin

#### Moderator

- Nunzia Maria Paradiso, Head of Extra-European Bilateral & Multilateral Relations Office, International Affairs Directorate, Italian Space Agency (ASI)



## FIRE AND ICE - SPACE FOR CLIMATE ACTION GLOC 2023

Day: Wednesday 29 March

Time: 18:40 -18:50 CEST

Location: Seine Room, New CAP Conference Centre



The International Astronautical Federation (IAF) will organize the IAF Global Space Conference on Climate Change (GLOC 2023) hosted by its member, the Norwegian Space Agency (NOSA) in Oslo, Norway, from 23 to 25 May 2023.

GLOC 2023 will contribute to the global efforts to better understand and battle climate change through the use of space-based services and applications. First conference of its kind, GLOC 2023 is designed to encourage the sharing of programmatic, technical and policy information, as well as collaborative solutions, challenges, lessons learnt, and paths forward among all nations.

The conference programme is designed to bring together the international community, including senior representatives of the major space agencies, industries, governments, policy makers, academia and NGOs, as well as representatives of non-space sectors involved in the climate change debate. These leaders in the field will converge in Oslo, Norway to present results, exchange ideas, debate roadmaps, and discuss the future opportunities provided by space activities to contribute to the global climate change mitigation efforts.

### Speaker

- Ole Dokka, GLOC 2023 Project Manager, Norwegian Space Agency (NOSA)

## CONNECTING @LL SPACE PEOPLE IN A CHALLENGING GEOPOLITICAL ENVIRONMENT

Day: Wednesday 29 March

Time: 18:55 -20:00 CEST

Location: Seine Room, New CAP Conference Centre

Founded in 1951, at a time of high international tensions, the IAF has been able to build and offer a secure platform for the global space community to meet, exchange and connect. Inspired by the same values and principles that have guided it for the past years, the Federation has always firmly believed that, in times of conflict and disagreement, a continuous dialogue is the foundation for peaceful coexistence and cooperation.

The IAF continues to work hard to help policy makers understand the economic, social, political, and scientific value of space. Through our congresses, conferences, publications and studies, knowledge is deepened and shared about how space technology can improve our lives. Through the networking offered at IAF events, the investment in innovation is encouraged and organizations from around the world are able to connect, collaborate and advance scientific and technological knowledge in their countries.

During this roundtable, panelist will discuss the importance and relevance of advocacy bodies like the IAF in connecting @ll space people and in bringing together the global space community despite of political, societal and geographical challenges.

### Setting the Scene

- Christian Feichtinger, IAF Executive Director

### Speakers

- Leyla Abdullayeva**, Ambassador of Azerbaijan in France
- Mishaal Ashemimry**, IAF Vice President for Diversity Initiatives; Aerospace Consultant & Special Advisor to CEO, Saudi Space Commission (SSC)
- Pascale Ehrenfreund**, IAF Past President; President, International Space University (ISU); President, Committee on Space Research (COSPAR)
- Steve Eisenhart**, IAF Vice President for Global Networking Forum; Senior Vice President, Space Foundation
- Andreas Lindenthal**, IAF Vice President for Industry Relations; Airbus Defence and Space Head of Business Operations Systems
- Clay Mowry**, IAF President; Chief Revenue Officer, Voyager Space Holdings
- Heriberto Saldivar Massimi**, Head of the Foresight, Strategy and Coordination Department, European Space Agency (ESA)

### Moderator

- Dominique Tilmans**, Special Advisor to the IAF President on Parliamentary and Ministerial Relations; President, EURISY



Following on from the overwhelming interest in the GLOC 2023 Call for Abstracts which attracted more than 380 submissions from 61 countries, we are thrilled to announce that notification letters have been issued and authors have been informed of their abstract acceptance.

The conference Technical Programme will feature 75 oral presentations and 120 interactive presentations covering diverse topics related to Space and Climate Action.

Congratulations to all successful authors!

GLOC 2023 will take place at Radisson Blu Scandinavia Hotel in Oslo, Norway. The venue offers an exhibition space.

Below the list of exhibitors you will find at GLOC 2023:



### Registration:

We are also pleased to remind you that the registration is OPEN and that you can [register here](#)



More than **3530 abstracts** have been received for the 74<sup>th</sup> International Astronautical Congress to be held in **Baku, Azerbaijan**, propelling the **IAC 2023** as the World's Premier Global Space Event with the **highest abstract ranking** together with the IAC 2022 (Paris, France), the IAC 2019 (Washington D.C., United States) and the IAC 2018 (Bremen, Germany).

The IAC 2023 Call for Abstracts performance reveals the profound dedication of the global space community to the congress theme **"Give Space a Chance"**. Abstracts have been submitted from an outstanding collection of potential presenters and topped Baku with a **record-breaking number in the IAC history covering 95 countries!** The exceptional results illustrate the global nature of the space community and strongly confirms our commitment to

fostering inclusion and diversity at the IAC – our hope remains strong as we believe that each of us can bring positive impact for space and for the benefit of humanity.

The International Programme Committee is already well underway with the difficult task of reviewing all abstracts and deciding who will be selected to present and in which of the two session formats – Technical Sessions or Interactive Presentation Sessions.

**Thank you all for your trust, contributions and unwavering commitment to diversity, inclusion and dialogue.** Thanks to you, the IAC 2023 is shaping up into an **inspiring global space event** and will be part of an **unforgettable experience!**

**WE LOOK FORWARD TO SEEING YOU ALL IN BAKU!**

**[REGISTER HERE!](#)**

## BIG NEWS !

### IAF & Azercosmos offer Exceptional Opportunity of Low-Cost Accommodation for Students & Young Professionals

**Offer available on a first come, first served basis**

Today, the **International Astronautical Federation - IAF** as the organizer and **Azercosmos** as the host of the **74<sup>th</sup> International Astronautical Congress** in Baku are very pleased to announce a new initiative supporting all students and young professionals from many fields of space science to attend the [IAC 2023](#).

IAF Executive Director, Dr. Christian Feichtinger is particularly pleased with this new initiative which "is completely in line with our [IAF IDEA 3G+ Diversity Platform](#) through which we always support and encourage the next generation".

Chairman of the Board of Azerbaijan Space Agency, Mr. Samaddin Asadov commented: "Aiming to make the IAC 2023 even more attractive for the next generation in the space sector, we are delighted to offer indeed affordable accommodation specifically for the representatives of the next generation. Grab the chance to get registered to the IAC 2023 taking place from 2-6 October 2023 in the capital of Azerbaijan. We urge young space professionals to benefit from this opportunity and visit our beautiful city".

The **"Youth Accommodation"** located just 10 minute drive from the Congress Venue and next to the city transport hub, welcomes the visitors within its own residential zone, nearby shops, restaurants, and much more. The "Youth Accommodation" offers 2 beds in each room equipped with Wi-Fi and all necessary amenities. (Please note that there are no single rooms. If you do not wish to share your room, you will need to pay for the two beds).

The initiative enables more than **1,000 applicants** to get a safe accommodation for a special price of just **29 Euros per night**. **The offer is available on a first come, first served basis.**



#### How to apply:

- Applicants must be between **18 and 35 years old** (on 1<sup>st</sup> October 2023)
- Before applying for the "Youth Accommodation" **make sure to register for the IAC 2023** at <https://registration.iac2023.org/registration>
- Go to the booking platform <https://iac.monkigo.com/>
- Get access and choose the button "Youth Accommodation"
- Complete the following details: First name, Last name, ID Number, IAC2023 Registration Number
- Send a scan of following documents to [youth-accommodation@iac2023.org](mailto:youth-accommodation@iac2023.org) – passport, student card, proof of current education/employment
- Once your submission is complete, the documents will be validated by the Youth Accommodation Team
- You will be informed about the status of your application within five working days.

By travelling to Baku, you will have a chance to explore the diverse mix of influences from both east and west such as the stunning Heydar Aliyev Center, a one of IAC 2023 venues, and the UNESCO-protected sites as Icherisheher, the Walled City of Baku with the Shirvanshah's Palace and Maiden Tower.

For more information on how to get registered for the IAC 2023 and plan your travel to Baku please visit: [www.iac2023.org](http://www.iac2023.org). From luxury 5-star hotels and boutiques to budget 3-star options, 42 hotels are available on our partner platform so that everyone can find something for themselves.

For group bookings or any questions, please contact [hospitality@iac2023.org](mailto:hospitality@iac2023.org).



The International Astronautical Federation (IAF), the Italian Association of Aeronautics and Astronautics (AIDAA), the Italian Space Agency (ASI) and the Italian Space Industry represented by Leonardo Telespazio (Leonardo/TLS) are looking forward to welcoming the International Astronautical Congress (IAC) to Milan in 2024.



The 75<sup>th</sup> IAC's venue, the Allianz MiCo (Milan Convention Centre) offers 7,500+ smq of Exhibition Area!

On July 15<sup>th</sup> 2022, the Preliminary Contract was signed by Prof. E. Carrera (President of AIDAA) and Prof. P. Ehrenfreund (President of IAF) at Palazzo Lombardia, Milan.



IAC Milan 2024 has a winning mascot presented at IAC 2022 in Paris.

You can follow the IAC 2024 on social media!



### Looking Beyond Exhibition

On Monday, 27 February 2023, at the STEP FuturAbility District in Milan, the immersive exhibition "Looking Beyond" took place in the presence of the President of AIDAA-Italian Association of Aeronautics and Astronautics, Erasmo Carrera, the President of the Italian Space Agency, Giorgio Saccoccia, the CEO of Leonardo, Alessandro Profumo, the IAF Executive Director, Christian Feichtinger, the IAF Deputy Executive Director, Giulia Maria Berardi and the Projects Manager and Special Advisor, Elena Feichtinger. The exhibition "Looking Beyond" was promoted by the Ministry of Foreign Affairs and International Cooperation (MAECI) together with the Italian Space Agency (ASI) and Telespazio/e-GEOS.



IAF Executive Director Christian Feichtinger interview for RAI 3 TGR LOMBARDIA at "Looking Beyond" exhibition.

The initiative represents a new step toward IAC 2024.

IAC 2024's motto "Responsible Space for Sustainability" is central to the journey toward Milan 2024. The main objective is to raise awareness among the international community for a more conscious and responsible use of space technologies, among the best allies of environmental sustainability and the achievement of the United Nations Sustainable Development Goals.



**Everybody is looking forward to this great event and the whole community is confident for the conduct of future activities to assure the success of IAC 2024.**



## THE IAF ANNOUNCED THE CALL FOR PROPOSALS FOR THE SELECTION OF THE SITE OF THE 77<sup>TH</sup> IAC IN OCTOBER 2022.

**By the deadline of February 2023, the following IAF Members notified their intent to submit their proposal:**

- **Budapest, Hungary:** by [Hungarian Astronautical Society \(MANT\)](#)
- **Antalya, Türkiye:** by [Turkish Space Agency \(TUA\)](#)
- **Rwanda:** by [Rwanda Space Agency](#)
- **Poznan, Poland:** by [European Space Foundation](#)

The deadline to submit proposals is 28 April 2023. The selection of finalist candidates (if applicable) is June 2023. Site Inspections will run throughout July - August 2023. Deadline for submission of updated proposals from the candidates is 8 September 2023.

Finalist will present their proposal during the 74<sup>th</sup> IAC in Baku, Azerbaijan 2 – 6 October 2023 and the selection of the Host by the IAF General Assembly will be on 6 October 2023.



## The IAF is Proud of its Next Generation of Space Leaders!

We are very excited to announce the record-breaking number of applications received for the [2023 IAF Emerging Space Leaders Grant Programme](#). This year, 154 students and young professionals from 56 countries applied to the grant programme to get the unique opportunity to be fully funded by the IAF and participate in the [IAC 2023](#) in Baku, Azerbaijan from 2 - 6 October 2023.

target community. This has resulted in a significant increase in the number of young people engaged and participating in IAF activities.

Let us continue our efforts to make sure space has a legacy!

This high number of applications only attests the great importance the next generation is giving to space. Last year's IAC 2022 which took place in Paris saw an impressive rate of delegates below 35 years of age of about 50% of the total participation.

An increasing interest from the youth which is a consequence of the great efforts made by the IAF community through the [IAF IDEA "3G" Diversity Platform](#) for which one of the 3Gs "Generation" is of key importance. Indeed, attracting the young generation has been in the focus of the IAF during the recent years with manifold newly created activities and programmes tuned to this



IAF 2022 Emerging Space Leaders at IAC 2022 in Paris, France

## The IAF is Proud to Present its IAF GLOC 2023 Student Grant Winners!

We are very excited to announce the winners of the very first IAF GLOC 2023 Students Grant Programme. This grant is the very first offered in the frame of an IAF Global Conference. Twelve students from twelve different countries will be fully funded by the Federation to participate in the IAF Global Space Conference on Climate Change - GLOC 2023 to take place in Oslo, Norway from 22 - 26 May 2023.

The grant recipients were selected through a very competitive process by high level IAF decision-makers.

Join us at #GLOC2023 by registering now.

### Congratulations to all!



**Fahimeh BARZAMINI**  
*Iran*

Fahimeh Barzamini has been an associate researcher at the Space System Design Institute (SSDI) in the Department of Aerospace Engineering at the K.N. Toosi University of Technology (KNTU) since 2014. She earned her MASc (2017) in Aerospace Engineering from the KNTU and her BAsC (2013) in Robotics Engineering from the SUT. Mainly, her research was centered around studying Star Sensors' capability enhancement in complex and perceptually-degraded environments. Her research towards a new algorithm for the Nasir-1 Star Tracker increases the reliability and efficiency of the existing autonomous navigation systems using optical sensors. Fahimeh served as an executive administrator in the SSDI from 2017 to 2020 while conducting her activities as a senior system engineer in several Iranian leading-edge space programs, including the Pars-1 Iranian Satellite Design, Nasir-1 Celestial Navigation Sensor, Industrial Software Engineering, Competition Teams Consulting, etc.

As a Control Engineer (ICE) at the PGPIC companies since 2019, she has attained a broad sight in project engineering, stakeholder communication, interdisciplinary interactions, and complex systems requirements along with team working. Fahimeh started her contribution with the Institute of Electrical and Electronics Engineers (IEEE) in 2018, rolling as a scientific member and arbitrator. Her current research professionally focuses on Deep & Machine Learning, Path Planning & Trajectory Optimization, and Optimal Control of spacecraft swarms.



**Gavin CHOONG**  
*Australia*

Situated in Australia, Gavin is 21 years old and completing his Bachelor of Laws (Honours) and Biomedical Science at Monash University.

In 2022, Gavin was awarded as a Young Australian Space Leader by the Australian Youth Aerospace Association and received a scholarship to attend IAC 2022. This was in recognition of his publications on the use of Earth observation to tackle climate change in Australia and the Indo-Pacific. At GLOC 2023, Gavin will be presenting an article on how space technologies can be used to overcome challenges faced by the Australian carbon market.

Aside from this, Gavin is a youth and human rights advocate. He is currently a global youth spokesperson for Amnesty International, with experience in First Nations justice, climate and human rights, and refugee aid.



**Sahba EL-SHAWA**  
*Jordan*

Sahba El-Shawa is a Jordanian-Canadian interdisciplinary researcher and social entrepreneur originally from Palestine. She is the Founder of the Jordan Space Research Initiative (JSRI), which aims to bridge sustainable development with space exploration and establish an analog research facility in Jordan. Sahba holds several roles in the Space Generation Advisory Council, including National Point of Contact for Jordan, as well as Co-Lead of the Ethics & Human Rights project group and the Space for Climate Action policy division. She is also a National Coordinator in the Moon Village Association and its Participation of Emerging Space Countries program.

Sahba holds a BAsC in Mechanical Engineering from the University of British Columbia, an MSc in Space Studies from the International Space University, and is currently pursuing her PhD in Sustainable Development and Climate Change at IUSS Pavia in Italy. Her PhD research centers around the neuropsychological basis of the Overview Effect, and how making it more accessible using Virtual Reality can help drive sustainable behaviour on Earth. During her studies, she collaborated with the German Aerospace Centre (DLR) on robotics research and completed an internship at the European Space Agency's Clean Space initiative focusing on the environmental impacts of space activities. Sahba is a vocal advocate for decoupling defense and space. She is committed to creating opportunities for underrepresented communities and helping guide the industry towards a more equitable, ethical, and sustainable future.



**Seamus LOMBARDO**  
*United States*

Seamus Lombardo is an Aeronautics and Astronautics PhD candidate conducting research in the Engineering Systems Lab at MIT. He utilizes satellite remote sensing and integrated environmental and socioeconomic modeling for decision support in sustainable development. Applications of this research include analyses of flooding and mangrove reforestation to improve coastal resilience in Indonesia, forest and carbon sequestration project trends for Yurok Tribe in Northern California, and monitoring of invasive aquatic plant species in Benin. All of these collaborations have entailed stakeholder interviews, collaborative development of satellite remote sensing analyses and decision support tools, as well as the evaluation of the prototype software by end-users.

In addition, Seamus was also a part-time consultant for Planet where he analyzed the application of Planet satellite data to forest carbon applications, and has interned as a researcher at NASA Goddard where he aided in the development of global mangrove biomass map.

Seamus previously conducted research on spacesuit performance and received his Master's degree in AeroAstro from MIT in May, 2020. He received his BS in Aerospace Engineering from SUNY Buffalo in 2018. He has previously interned throughout the aerospace engineering industry at Millennium Space Systems, SpaceX, and NASA, and was a program manager for the University at Buffalo Nanosatellite Lab. Additionally, Seamus has experience in policy and advocacy through his work as a member of the MIT Space Policy Research Group, climate policy research intern at the Massachusetts Statehouse, and Federal Affairs Chair for the MIT Graduate Student Council's External Affairs Board.



**Kumbirai MATINGO**  
*Zimbabwe*

Kumbirai is a young innovative student and freelance geospatial consultant who utilized GIS and Earth Observation technology to develop impactful and cutting-edge solutions that support sustainable growth and development across various sectors. He is currently serving as the National Point of Contact with the Space Generation Advisory Council (SGAC) and has over the years worked with various organisations (both local and international) to implement solutions through geospatial technology. Kumbirai has a passion for and strives to achieve global sustainability, focusing on developing countries towards the 2030 SDGs vision.



**Elen NOVIANTI**  
*Indonesia*

Elen is a Bina Nusantara University student in Jakarta, Indonesia. Throughout her study at college, she actively participates in several student activities both inside and outside the campus. In 2021, she and her two colleagues successfully became the grant recipient of the Student Creativity Program held by Indonesia's Ministry of Education, Culture, Research and Technology. Regarding climate change issues, she is concerned about the food waste problem. She manifests her interest in the form of active participation in research related to food, which is currently in the process of writing scientific articles. She also expresses her interest through real action by participating in committee activities whose theme directly intersects with the problem of food waste. She learned a lot about managing food waste properly and correctly through that event. She got an opportunity to help those with difficulty accessing food directly. As a Psychology student, she is deeply concerned about climate change issues, especially people as the agents who make the change. To expand and manifest her participation in overcoming climate change, she wants to contribute more through the IAF GLOC 2023. This program facilitates the participants to gather and expand their knowledge regarding climate change.



**Alessandro PARAVANO**  
*Italy*

Alessandro Paravano is a PhD candidate at the School of Management at Politecnico di Milano, where he collaborates as a researcher in the Space Economy Observatory. His main research interests encompass studying complex project business, space industrial value network transition, and its impacts on non-space sectors.



**Sathesh Raj PERIASAMEY**  
*Malaysia*

Sathesh Raj is passionate about Earth and Space. He has participated in grassroots movements such as Extinction Rebellion and MY Climate Strike to advocate for climate action and promote journalism that drives discourse on climate change. He has also contributed prototype solutions to tackle climate change using space technologies.



He is one of the alumni of British Council Scotland's Future News Worldwide programme and in 2021, his project was one of the 15 projects around the world which was awarded a professional development grant. Through this grant, he worked on "Peaks of Paradise: Slowly Depleting Forests in Malaysia," a data journalism and visualization project that aimed to uncover the state of Malaysian forests using environmental data and visualization methods.

Currently, Sathesh is exploring research and academia to also contribute to climate change mitigation and adaptation efforts. He is a member of the innovative research team at Time To Rice, which received a grant for Communicating Science for Climate Action from the British High Commission Kuala Lumpur, supported by EcoKnights in 2021. Additionally, he is pursuing a Laurea Magistrale in Biology of Extreme Environments, specializing in Astrobiology at the University of Naples Federico II in Italy.



**Prem PHILLIPS**  
Canada

"I am a third year student at the University of British Columbia in Vancouver Canada, studying Computer Science. Ever since I got my first telescope as a child, I was fascinated about space, and the idea of humanity going out into the stars. A few years later, as an adult, I am now able to realize these dreams of working in the space industry. At my university, I have had the opportunity to contribute to UBC Mars Colony and UBC Orbit, two space related engineering teams. I plan to continue to grow and develop my abilities, so that I can one day create my own space company, and help humanity become a space faring civilization."



**Kwerit SARAH CHEBIJIRA**  
Rwanda

Kwerit Sarah Chebijira is a distinguished leader in the field of environmental sustainability, serving as the team leader at Climate Change Action Africa. This initiative is focused on raising awareness of climate change among young people in Africa, an issue that Sarah is deeply passionate about. Through her tireless efforts, Sarah has established proactive climate action clubs in 18 secondary schools in Uganda, successfully empowering young people to recognize and overcome the barriers that prevent them from adopting more environmentally-friendly lifestyles.

In addition to her outstanding work with Climate Change Action Africa, Sarah is also the founder of Clean Cities Uganda, a groundbreaking project aimed at addressing the issue of poor waste management in major Ugandan cities. As the leader of a group of young climate activists, Sarah has spearheaded the development of an innovative application that raises awareness of proper waste management practices and promotes responsible waste disposal.

Sarah's exceptional leadership skills and dedication to environmental sustainability have earned her a prominent role in the Youth Climate Voices Project, an Initiative aimed at building capacity on solar radiation modification. Her role in this crucial initiative involves raising awareness among youth, women and policy makers on the impact of solar radiation modification. With her unwavering commitment to climate action and innovation, Sarah is determined to create a brighter, more sustainable future for all.



**Abd El Hamid SHERIEF**  
Egypt

Abd El Hamid Sherief, from Egypt, is currently pursuing a masters degree in Sustainable Development at the American University in Cairo with a specialization in Green Technologies. He is an active member in the Moon Village Association and the Space Generation Advisory Council Teams in Egypt and is the recipient of the SGAC African Space Leader Award. His proposal on mycelium as a sustainable material for space habitats has been selected as one of the 10 global finalists in MVA Promo-Moon Competition and he is also a part of SGAC Satellite Tracking Initiative. His current thesis research tackles algae utilization to tackle climate change and water-energy-food nexus. He is interested in how space technology could be utilized to not only inform policy makers, but to provide the basis for a fair trading scheme for carbon credits. His presentation at GLOC would be inspired by the graduate course he attended on the Arctic at University of Oslo with a focus on permafrost thawing. You could reach him via his LinkedIn Account: <https://www.linkedin.com/in/abd-el-hamid-sherief-02871420a/>



**Lew TÖPFER**  
Germany

Lew Töpfer is currently pursuing an interdisciplinary degree in space law and sustainability at the Leuphana University Lüneburg and has participated in the IISL Manfred Lachs Space Law Moot Court and the ECSL Young Lawyers' Symposium. Lew works as a project assistant for UN-Affairs at the German Space Agency at DLR, focusing on the implementation on the Space2030-Agenda, and is a German UN Youth Delegate to the UN General Assembly.



## Connecting @ll Space People



### Dear Space Enthusiasts,

As you all know, the International Astronautical Federation (IAF), has been a recognized leader in advancing knowledge about space, in supporting the development of space assets, and in promoting global cooperation, for the past 72 years.

With 468 members in 75 countries, the IAF includes all leading space agencies, companies, research institutions, universities, societies, associations, institutes and museums worldwide. Everybody is joining the IAF movement to create a space-faring world cooperating for the benefit of humanity. We take pride in organizing the annual International Astronautical Congress (IAC) – world's premier global space event – and other thematic events. These events allow us to actively encourage the development of astronautics for peaceful purposes and to support the dissemination of scientific and technical information related to space.

I'm writing you today to invite you to choose to become an IAF member and be part of this great historical moment. Increasingly more organizations from new backgrounds and emerging space nations are integrating the IAF network. Our achievements in supporting international cooperation over the last seven decades have been greatly fulfilling and the Federation continues to build the largest worldwide networks of space experts and decision-makers.

So, come on board!

Get in touch with us and we will surely exceed your expectations. This is the best environment to have your organization grow. We will provide you with unique collaborative platforms for experts from space agencies, industry and research. We will bring you experts from experienced and emerging space nations alike. We will disseminate your information within our global network and the wider space community. We will recognize your achievements. We are preparing your future workforce. And we will publish your work to help promote the public appreciation of space activities worldwide.

Don't hesitate any longer and contact us. I look forward to seeing you in Oslo, Norway for the [IAF Global Space Conference on Climate Change](#) from 23-25 May 2023 and in Baku, Azerbaijan for the [74<sup>th</sup> International Astronautical Congress](#) from 2-6 October 2023.

Best Regards,



Christian FEICHTINGER  
IAF Executive Director





## NEWS!



### The Mexican Space Agency partners with NASA to protect endangered ocean fauna Carlos Duarte, Mexican Space Agency

On August 31, 2022, the Mexican Space Agency (AEM), NASA, and a team of 5 Mexican universities started formally the AztechSat Constellation Project, a joint initiative between AEM and NASA to develop a constellation of at least 4 nanosatellites for animal telemetry applications. Its mission is to develop a proof of concept of a space system that serves to monitor marine fauna from space in order to understand the migration habits of marine animals and protect species from dangers such as colliding with offshore facilities or deep-draft ships. The project originated with the Bureau of Ocean Energy Management (BOEM), a US government agency, which entrusted it to NASA. NASA in turn partnered with the Mexican Space Agency for its development. Marine animals to consider are primarily whales and other large marine mammals. Once validated, the technology developed by the project could be used to support Moon exploration.

AEM and NASA coordinate the project, and its development follows strict adherence to NASA's Space Systems Engineering methodology. In addition to providing mentoring, NASA will also provide environmental testing facilities for the engineering model and will cover the cost of launching the constellation. Mentors of recognized prestige in the space field from organizations such as Google, Planet, and MIT, among others, also participate in the project.

It is estimated that the AztechSat Constellation will be carried out in a period of two years. The project is currently in the design definition phase.



### Review at Space: Science & Technology, entitled "Karst Cave as Terrestrial Simulation Platform to Test and Design Human Base in Lunar Lava Tube"

Lately, Professor Gengxin Xie's team from COSE at Chongqing University, contributed a Review at Space: Science & Technology, entitled "Karst Cave as Terrestrial Simulation Platform to Test and Design Human Base in Lunar Lava Tube". Developing efficient approaches to building a suitable environment for humans on the moon play a key role in future long-term sustainable lunar exploration activities, which has motivated many countries to propose diverse plans to build a lunar base. The lava tubes discovered by the Kaguya mission offer huge potential sites to host such bases. Through computation and analysis, the authors show that lunar lava tubes offer stable structures, suitable temperatures, low radiation doses, and low meteorite impact rates. The authors summarize previous research results and put forward the conditions to find and use a suitable lunar lava tube for human habitation on the moon (Figure 1). The establishment of extraterrestrial bases still faces many technical bottlenecks; many countries have begun to use the earth's environment for extraterrestrial exploration and simulation missions. In this regard, the authors proposed the idea of using the Earth's karst caves to simulate extraterrestrial lava tubes, selected caves in Chongqing as the simulation site (Figure 2), and demonstrated the feasibility from both structural and environmental aspects. Finally, the authors proposed a karst cave simulation platform with three main research directions: cave sealing technology, efficient daylight system, and internal circulation research of artificial ecosystems containing natural soil and rock. They sincerely hope to collaborate with scientists around the world

The full article can be found at:  
<https://doi.org/10.34133/2022/9875780>



Figure 1. Roadmap of the construction of extraterrestrial bases

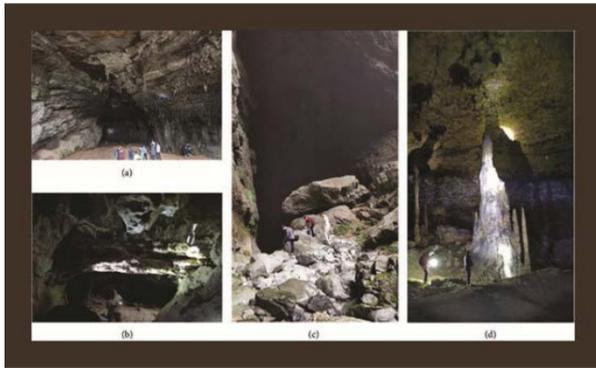


Figure 2. Karst caves in Wulong (a, c) and Youyang (b, d)



### Viterbi School of Engineering, USC Rocket Propulsion Laboratory

The Viterbi School of Engineering's Rocket Propulsion Laboratory (RPL) at the University of Southern California (USC) designs, builds, tests, and flies solid-propellant rockets. In 2019, USCRPL successfully launched Traveler IV, the first fully designed and built student solid-propellant rocket to make it past the Karman line (100 km altitude).

This year, this undergraduate student group works on improvements of all systems of the rocket from top to bottom. The main project, Fireball, is a 6-inch diameter high-performance vehicle designed to travel at a maximum Mach value of 4.3 up to a target apogee of 63 km or 207,000 ft. Fireball will feature a new in-house avionics unit with circular PCB boards and a newly developed tracking system, as well as a new dual deployment recovery system, new thermal protection system, new fin leading-edge design, and an updated solid propellant formula.

The static firing of a development vehicle Firebiter in November (photograph) successfully validated the new solid-propellant motor. This is an important step towards USCRPL's strategic goal of forming the first-ever undergraduate student space program.



In 2023, NSSA plans to host the second Middle East Space Generation Workshop (ME-SGW) for the Space Generation Advisory Council. The event will be the first of its kind in the region and will enhance the Kingdom's contribution to the global space sector.



NSSA has also recently participated in the 7th international conference on climate change 2023 held in Colombo, Sri Lanka for climate action and emerging challenges in land and ocean-based solutions. The NSSA showcased the various studies done to combat climate change on land and ocean surrounding the Kingdom such as oil spill detection and palm weevil detection in palm trees.



The agency will also participate in the 17th international conference on space operations (SpaceOps 2023) that is held in March in Dubai, UAE with 4 research papers, two of which will contribute to mitigating space debris and collision avoidance in space.



Additionally, NSSA is collaborating with the University of Leicester in the UK to develop the NSSA's lab of space imagery and data to enhance the service provided and to become an internationally recognized center.



To further elevate the space sector in the Kingdom and region, NSSA is also developing its new five-year strategic plan for the period 2024-2028. Continually evolving technology and trends will be reflected in the new strategic plan.



### Drinking water for astronauts will be purified using an intelligent control system

The research team of the Institute of Fundamental Training and Technological Innovations of the St. Petersburg State University of Aerospace Instrumentation (SUAI) is developing a project of a small-sized installation for water purification by electric treatment. The use of the electric treatment method allows to reduce the weight and size parameters of water treatment equipment and to abandon a large number of chemical reagents. The development will make it possible to supply the crews of spacecraft with drinking water of proper quality.



Water in space is of key importance: today it is repeatedly used on the ISS, the operation of the space station and the production of oxygen depend on it. To develop an electric cleaning system, SUAI specialists used a large array of initial data including the composition of water and the requirements for treated water.

The development of circulating water supply systems is an issue whose solution is important not only for aerospace enterprises, but also for geological exploration expeditions, during the

development of deposits, in shift settlements, in specially protected areas, and in emergency zones. Designing individual water treatment equipment requires serious research related to labor and time resources: equipping devices with intelligent control systems will make the electric treatment method more versatile, applicable to solving a wide range of water purification and water treatment tasks, and will reduce the complexity of the process.



### Planet Partners Enable Sustainable Agriculture in Europe

In August, Planet [announced](#) its first three certified partners through our new Planet Orbit Certification Program, all of whom have a deep understanding of Planet data and are creating innovative solutions on our platform. These solutions are making it easier for users to process and use Planet data. In the last few months, we have been thrilled to see how our partnerships are enabling impact around the world.

Notably, we are seeing a transformation in sustainable agriculture across Europe. Our partner [Sinergise](#), a leading developer platform for earth observation (EO) data, is powering the European Union-backed [Sentinel Hub](#). This allows customers, developers, and data scientists to access multi-source EO data for processing, analysis, and insight extraction. This platform is helping European nations transform agricultural practices for greater sustainability and find [solutions](#) for the EU Common Agricultural Policy (CAP). A recently expanded partnership now allows all Planet customers, developers, and data scientists to leverage Sentinel Hub's data processing platform to extract insights from Planet data.

Since 2018, the CAP has been working on a modernizing and greening process, aligning with the EU Green Deal to tackle climate change by adopting remote sensing solutions to support agricultural monitoring. Combined with Planet data and public satellite data from the European Space Agency ([ESA](#)), Sinergise's Sentinel Hub enables farmers, businesses, and governments to transform their management practices and report their sustainable impact. These data sources and distribution services allow the government of Slovenia and agricultural companies like Bayer to visualize and analyze a variety of data products at an unprecedented speed.

In Slovenia, agricultural small land parcels present a challenge for monitoring how farmers can align their practices with the EU's CAP. However, thanks to Sentinel Hub, the [Slovenian National Paying Agency](#) has been able to access Planet data for accurate land parcel monitoring. With our data, even small and elongated

parcels of agricultural land can be assessed for sustainable management practices, helping Checks and Monitoring reports and providing solutions for the CAP agenda.

With Planet Fusion and SkySat data, [Bayer](#) is able to optimize seed production, improve supply chain efficiency, and support sustainable agriculture. With this dataset, their farmers can see the potential to better understand historical and in-season crop performance. Access to Planet data allows Bayer to further expand into the digital agricultural revolution and enhance precision agriculture practices.

This agricultural innovation is also seen in Polish start-up [SatAgro](#), which provides customers access to Planet's daily imagery, complementary satellite data from NASA and ESA, and information on weather and soil sampling all in one app. This data enables farmers to monitor crop development in near real time, observe the effects of agronomic treatments, and generate productivity benchmarks by observing our imagery archive reaching back over a decade.

Leveraging PlanetScope, SkySat, Planet Fusion, and Sentinel-2, the Welsh government has also sponsored new sustainable agricultural research programs. For example, the [Living Wales](#) research project simulates sustainable farming practices to help inform future policy making. This data helps researchers better understand the allocation of carbon within different landscapes and how it is changing and the varying distribution of native flora and fauna.

As you heard from our co-founders in Planet's [North Star](#), we are striving to build an Earth data platform that powers action, and partnerships are what will allow us to accelerate and escalate this goal. Our partner ecosystem is a family built of experts delivering unique solutions to over a dozen verticals around the entire globe. We look forward to sharing how these efforts are shaping the world for the better as we continue to grow these relationships.

We are also excited to announce that Bayer will be sharing more details about how they are leveraging Planet's satellite data to revolutionize the agricultural industry at Planet's [Explore 2023 Conference](#) in Washington, D.C. on April 12-13<sup>th</sup>. Be sure to register today to learn about the latest technologies defining Europe's sustainability transformation.



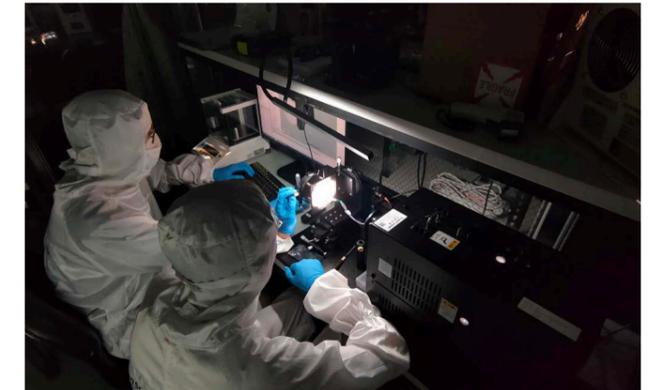
### World Famous Astronauts Will Meet at GUHEM

Over 100 renowned astronauts and cosmonauts will convene at GUHEM, Turkey's first space and aviation training center, in September for the Planetary Congress organized by the Association of Space Explorers (ASE). The congress, which will be held in Bursa from September 25-29, aims to increase awareness about space and its future prospects, with a theme centered around the famous quote by Mustafa Kemal Atatürk, "Our Future is in the Skies," in honor of the 100<sup>th</sup> anniversary of the Republic of Turkey.

GUHEM General Director Halit Mirahmetoğlu stated that the Board of Directors of the Space Explorers Association, which consists of astronauts and cosmonauts, will pay a visit to Bursa at the end of March. "Science education plays a crucial role in the development of modern societies by fostering innovative and critical thinking skills. With advancements in technology, the study of space and aviation has become increasingly significant, and institutions like Gökmen Space and Aviation Training Center (GUHEM) are playing a vital role in preparing the next generation of leaders in this field. As Turkey's first space and aviation training center, GUHEM is committed to providing high-quality educational programs and state-of-the-art facilities to inspire and educate future scientists, engineers, and astronauts. Its mission is to increase public awareness and understanding of space exploration, while also promoting Turkey's position in the global space industry," he said.



Tensor Tech is dedicated to developing a satellite attitude control system, bringing the technology to the space industry for satellite attitude control and determination system (ADCS) minimization that can be scaled without compromising reliability and performance.



In 2022, our integrated ADCS was used in the Transporter-3 launched by SpaceX Falcon 9 rocket from SLC-40 Cape Canaveral SFS Florida, United States. Our ADCS uses variable speed control moment gyroscopes (CMG) for pointing and tracking, which is more power effective than reaction wheels—we also attended several exhibitions, continuously boosting collaboration with partners from the space industry.

At the end of the year, we had an office relocation project to accommodate our growing business. Facilities were renewed, with a bigger cleanroom for research and development for our colleagues. Discovering the customers' needs from overseas, especially from the United States, Tensor Tech will establish a new base in San Jose, California in 2023. In response to the expansion of the US market.



To briefly introduce our techniques, we minimized variable speed control moment gyroscope (CMG) features its lower mass, smaller volume, and more power compelling compared with reaction wheels. The unique parts of our Sun Sensor, our designs feature a high cost-performance ratio with the ability for mass production. Moreover, it comes with various types to meet all kinds of requirements. We also work on the ADCS testbed, which consists of an air-bearing platform, a triaxial Helmholtz cage, and a solar simulator.

Space has defined some of humanity's most outstanding achievements. Thus, Tensor Tech aims to bring out innovative technologies to this world and more sparks to this industry. With it, we can all go further!

Visit our website: <https://tensortech.com.tw/>



## 2022 - A DECISIVE YEAR FOR EUMETSAT

The importance of EUMETSAT's work – and the need to continue to innovate and improve – was highlighted in 2022, where communities experiencing extreme weather events such as record heat, drought, fires and floods needed accurate forecasts and climate analyses. Data from EUMETSAT's satellites are essential in providing this forecast accuracy and EUMETSAT is committed to making its data as widely available as possible.

Over the past year, EUMETSAT has continued to deliver new and better products and services to its 30 member states, and to examine how to make best use of new technologies and approaches for the future. It continues to respond to changes affecting the meteorological community, including the growth of artificial intelligence and machine learning, the development of cloud technologies and the growth of "new space".

EUMETSAT is also proceeding to prepare for new satellite systems designed to significantly improve weather forecasting accuracy.

The EUMETSAT Polar System (EPS) - Aeolus and EPS-Sterna missions, will measure winds and atmospheric temperature and humidity respectively. The EPS-Sterna mission will innovate as a constellation of micro-satellites complementing Metop-SG observations and significantly benefitting medium and short-range weather forecasting globally, as well as enhancing very-short-range forecasting regionally at high latitudes. EPS-Aeolus will enable the determination of wind vectors from the ground to 30km altitude.

In late October, the aging Meteosat-8 was moved to a "graveyard orbit" above the geostationary orbit, in order to keep increasingly crowded satellite orbits safe for those spacecraft that are operational, in line with space debris minimisation standards

The first imaging satellite in the Meteosat Third Generation system, MTG-I1, was launched on 13 December 2022 from Kourou, French Guiana. EUMETSAT took control of MTG-I1 on 28 December and it is now undergoing commissioning and tests before becoming operational, later in 2023.

291 words



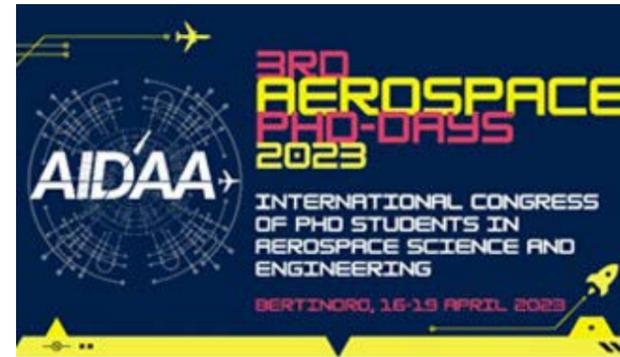
*EUMETSAT's newest satellite, MTG-I1, is successfully launched from Kourou, French Guiana, on board an Ariane 5 rocket, at 21:30 CET, Tuesday, 13 December 2022.  
Source: ESA-CNES-Arianespace*



On Monday 27 February, at the STEP FuturAbility District in Milan, the immersive exhibition "Looking Beyond" was presented in the presence of the President of AIDAA-Italian Association of Aeronautics and Astronautics, Erasmo Carrera, the President of ASI, Giorgio Saccoccia and the CEO of Leonardo, Alessandro Profumo.



"Looking Beyond", presented in Milan in a digital edition, enabled the visitor to experience around 60 spectacular images of our planet acquired by the satellites of the Italian constellation owned by ASI and the Italian Ministry of Defence, COSMO-SkyMed. Divided into four themes – agriculture, city, climate change, and water – the exhibition offered an innovative itinerary through the aid of video walls, projections and 3D effects.



The Third Edition of Aerospace Ph.D. Days will be held in Bertinoro (Bologna) from 16 to 19 April 2023. Ph.D. Days is an International Congress of doctoral students in Aerospace Science and Engineering organized by AIDAA. The event is open to Ph.D. students in Aerospace Science and Engineering or with a Ph.D. topic in the aerospace field. An extended abstract on the Ph.D. topic is required by 28 February 2023. Presentations on aeronautics, space, and aviation are welcome



The University of Padova will host the next Congress of AIDAA from the 4<sup>th</sup> to the 7<sup>th</sup> of September 2023. The AIDAA Congress brings together an international community of academic

and non-academic delegates to share the latest findings in aeronautics and astronautics science and technology. The AIDAA 2023 technical program will include plenary and parallel sessions, keynote talks, mini-symposia, and other events.

Organised by the Air and Space Academy (AAE), the Space Exploration Congress will take place at Politecnico di Torino with the support of this university, of the Italian Association of Aeronautics and Astronautics (AIDAA) and of the Space Generation Advisory Council (SGAC).



Dedicated to Space exploration, automated as well as manned, the purpose of the conference is to focus on a few important themes underpinning Space Exploration with the aim of providing useful input to agencies or other bodies in charge of building programmes.

On 2<sup>nd</sup> February 2022, during the meeting of the presentation of the new government team that will support Dean Donatella Sciuto at the helm of Politecnico di Milano, Professor Amalia Ercoli Finzi was officially awarded the Hubert Curien Award for her commitment, passion and lifelong work dedicated to space exploration.



The prestigious recognition is issued by Eurisy, a non-profit association made up of European space agencies, government offices and international organizations responsible for space affairs. Eurisy was founded in 2004 by Hubert Curien with the intent of recognizing the outstanding commitment to derive benefits from space research in favour of society.

## Save the Date

### The 5<sup>th</sup> Summit for Space Sustainability

June 13-14, 2023

at Convene on 117 West 46<sup>th</sup> Street, New York, NY

Please join us at the [5<sup>th</sup> Summit for Space Sustainability](#) hosted by [Secure World Foundation](#). The event will focus on several critical themes, including reinforcing sustainability through corporate performance, strengthening space governance, and building a sustainable cislunar space economy. A unique gathering of global stakeholders from government, industry, and civil society, this event will feature keynotes, interactive sessions, panels, and networking designed to highlight opportunities and challenges for developing solutions for space sustainability. Registration is now open!

Please visit <https://swfsummit.org/> to register and get updated information.



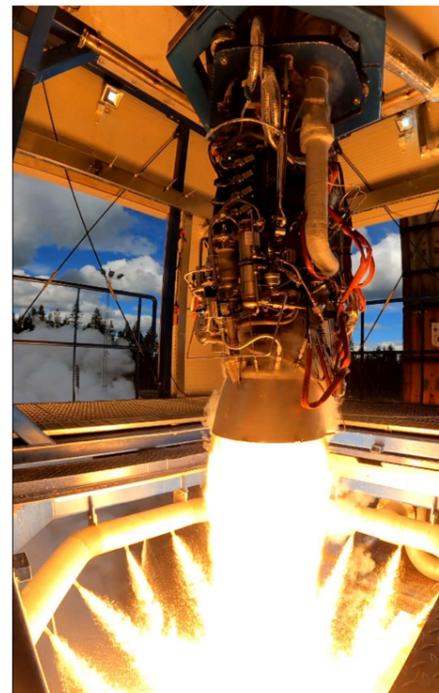
### RFA prepares integrated upper stage test

Rocket Factory Augsburg (RFA), a leading German launch vehicle start-up, is preparing full throttle for the maiden flight of its RFA ONE rocket. In recent months, the company has increased its workforce to more than 200 space enthusiasts from some 35 nations. After last year's successful tests, such as the 74-second hot-fire campaign [Watch the video!] (<https://www.youtube.com/watch?v=yUbnISV4euQ>), the team is now moving on to the next milestones: Working closely with the Swedish Space Cooperation (SSC), RFA is preparing the Integrated Systems Test (IST) of its full upper stage. This will bring together a Helix engine, the upper stage tank and all pressurization, monitoring and control systems. Initial smaller tests are already taking place and will be completed with a long duration hot-fire campaign. This will test the systems for functionality and compatibility.



The company is also planning to continue to put the Helix engine through its paces. Long duration burn times will be used to optimize the design and explore the performance limits. With the successes already achieved, RFA is getting closer to the first flight of the RFA ONE: The upper stage is close to flight qualification, the already pressure-qualified first stage is undergoing assembly in Augsburg, the Redshift OTV is making great progress. Regarding the latter, some announcements can be expected this year.

The launch vehicle RFA ONE can deliver up to 1,300 kg into LEO. Its Redshift OTV offers precise and flexible deployment of satellites or entire constellations with a single launch, as well as a range of in-orbit services. A first launch is currently planned for end of 2023 from SaxaVord Spaceport, Scotland.



Follow RFA on [LinkedIn](#), [Twitter](#), [Instagram](#) or [YouTube](#) to see the steps to get there and not miss an update.

(Linktree: <https://linktr.ee/rocketfactory>)



### EOS Data Analytics partners with Agrvision to assist it in the agricultural transformation of Eastern Africa

[EOS Data Analytics \(EOSDA\)](#), a global provider of AI-powered satellite imagery analytics, has partnered with [Agrvision](#), a Kenyan-based startup providing cost-effective agri-tech solutions to the agriculture and forestry markets, to help it develop a precision agriculture business model and assist with creating sustainable food security programs for Eastern Africa.

**Agrvision will continue to contribute to the social and economic developments of agriculture and forestry sectors in the region using [EOSDA Crop Monitoring](#), an online satellite-based precision agriculture platform for field monitoring, and the company's custom solutions.**

The partnership with EOS Data Analytics will allow Agrvision to make remote sensing and precision agriculture technologies more accessible and practical and deliver more accurate and insightful data to the local farmers and agribusinesses.

"We are delighted to have Agrvision among our strategic partners and to open up new opportunities for their customers in Eastern Africa to benefit from our technological developments. With Agrvision, we'll be able to further deliver the value proposition of our EOSDA Crop Monitoring and custom solutions, such as [crop classification](#) and [yield prediction](#), in Kenya and neighboring countries," believes **Brijesh Thoppil, Strategic Partnerships Lead at EOS Data Analytics.**

With EOSDA, Agrvision will ramp up its efforts of promoting remote sensing-based [precision agriculture](#) technologies among governments, NGOs, and other entities interested in developing agriculture and forestry in Eastern Africa.



### Łukasiewicz – Institute of Aviation has launched an upgraded version of the ILR-33 AMBER rocket

The Łukasiewicz – Institute of Aviation has performed an in-flight test of the new version of its sounding rocket. The ILR-33 AMBER 2K was launched in late 2022 and its payload was successfully recovered from the Baltic Sea ([see the video](#)). Together with the rocket, the Institute has tested its WR-2 mobile launch pad.

The ILR-33 AMBER is the world's first to use 98% HTP grades as oxidizer. The unique configuration of the rocket (parallel staging despite its small size) and use of a hybrid rocket motor ensures versatility and capability of carrying out a plethora of missions. The new version has larger boosters that enables it to lift larger masses, carrying more kilograms of payload up to apogees in excess of 100 kilometers.

"We wanted to take the next step, tailoring the model to our partners needs and fly to higher apogees. A crucial step before reaching higher apogees was confirming that this configuration: the two propulsion systems, including new solid booster motors, will work well in flight" says Adam Okniński, director of Space Technologies Center at Łukasiewicz – Institute of Aviation and member of IAF Space Propulsion Committee.

AMBER's first external customer and payload provider is the Polish new space company Thorium Space.



ILR-33 AMBER 2K suborbital rocket milliseconds before its release from the launch pad in October 2022. Credit: Łukasiewicz – Institute of Aviation.



### MANT Workshops for professional audience



One of the main goals of the Hungarian Astronautical Society (MANT) is to raise public awareness about space exploration and its uses. This includes science communication, publishing written material, organising public events, and engaging students with space, starting from primary schools to universities. However, the Society should also serve the needs of the Hungarian space research and industry community. As a new means of this service, we initiated a series of professional workshops in November 2022. These short events, packed with presentations and discussions, offer an in-depth knowledge of specific aspects of space, for a target audience composed of space experts, industry representatives, and

university students. So far, there were already five such successful workshops which quickly gain popularity among the interested professionals. The first topics covered were radio communications with satellites and frequency regulation. That event was organised in collaboration with the Hungarian National Media and Infocommunications Authority (NMHH). Further workshops were devoted to satellite payloads, the upcoming Hungarian picosatellite MRC-100 to be launched in April 2023, infrared monitoring of Solar System bodies, and connections of Hungary with the European Space Agency, including business possibilities and tenders. We are determined to continue the series of workshops with a selection of current space-related topics, for the benefit of the actors in the research and industry sectors in Hungary.



### Recommended Framework and Key Elements for Peaceful and Sustainable Lunar Activities

The Recommended Framework and Key Elements is designed as a guide for well-balanced lunar projects and offers recommendations for how to implement safe and sustainable lunar activities through norm- setting, coordination, and management. It builds on principles established in international space law, relevant UN outer space treaties and soft law documents, and can be downloaded here:

<https://moonvillageassociation.org/download/recommended-framework-and-key-elements-for-peaceful-and-sustainable-lunar-activities/>



### Lunar Commerce Portfolio

In November 2022, the MVA Lunar Commerce and Economics Working Group published the first version of its Lunar Commerce Portfolio report. The report provides a comprehensive overview of nine lunar markets, including their respective customers, potential suppliers, and value chains. The report and its accompanying market model also identify market drivers, and produce revenue estimates for four lunar economic scenarios. The portfolio's preliminary estimates indicate that near-term revenue for commercial lunar companies is likely to be derived largely from government contracts. However, long-term revenue could display a far greater share of commercial-commercial market interactions, particularly if lunar tourism and lunar resource markets for the production of propellant become viable and prosperous. *The Lunar Commerce Portfolio was presented at the COPUOS STSC on February 7.*

<https://moonvillageassociation.org/download/the-lunar-commerce-portfolio-first-edition-november-2022/>



### Register for IAC 2023 for an impeccable Congress experience

Registration to the 74<sup>th</sup> International Astronautical Congress continues at full speed! Hurry up and secure your seat here! Exactly 50 years after Baku hosted the IAC for the first time, the space community is coming back to the cosmopolitan capital of Azerbaijan. Within the framework of this year's theme "Global Challenges and Opportunities: Give Space a Chance", participants will have an exceptional IAC journey with splendid event programme and indulging experiences!

Bringing together leading space players from around the world, the IAC provides an ideal platform to showcase your brand while maximising visibility and recognition among a diverse international audience. Make sure to check the available sponsorship and exhibition opportunities and [apply](#) to gain an extensive publicity within this magnificent event.

Baku will also treat you to a number of engaging programmes from an exquisite Gala Dinner to various social and technical tours, all carefully planned to give you a real taste the world's best hospitality of Azerbaijan.

To make your travel to Baku easier and even reasonably priced, a [single booking platform](#) offers exclusive rates for airfare and accommodation to the participants of the 74<sup>th</sup> IAC. The platform, operated by an official travel agency of the Congress, will provide the best deals from the world-class airlines connecting hundreds of international destinations to Baku and accommodation ranging from the renowned international chains to boutique hotels. You might as well reserve a social or technical tour that is of most interest to you to get to experience local culture, cuisine, traditional handicraft and much more!

Let's convene in Baku that has a lot to offer for a full-blown IAC experience accompanied by local colors that will leave their long-lasting trace in your mind. We are looking forward to meet you in Azerbaijan on 2-6 October!



## Space industry of Azerbaijan: favourable business climate and attractive market

Today, the space industry of Azerbaijan is developing by leaps and bounds, placing this sphere among the leading fields of the country's vigorous economy.

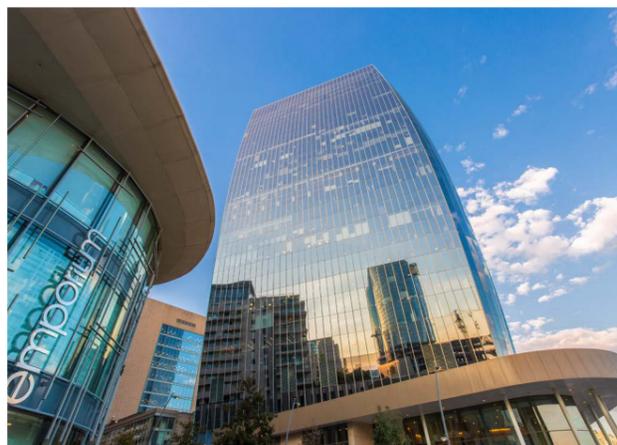
Standing at the forefront of the development of space ecosystem in the country, Azercosmos, Space Agency of the Republic of Azerbaijan has been building up its extensive activities both locally and internationally, ranging from R&D initiatives and outreach programmes to international cooperation within the sphere of space. The International Astronautical Congress to be held in Azerbaijan on 2-6 October, 2023 is another attestation of the country's commitment to strengthening global collaboration and the dialogue for peaceful, secure and sustainable use of outer space.

With space industry among the priority dimensions of the country's development, it offers a wide array of business opportunities for companies looking to expand their activities and access an untapped regional market with great potential. Playing a critical role in the diversification of the national economy, the space industry is a pivotal part of the local business environment, with more than 90% of the revenue within the industry generated outside Azerbaijan. What's more, as a prominent space player, Azerbaijan has established strong collaborative ties within the international space industry with more than 42 countries and 200 companies globally.

Competitive and efficient production costs and highly skilled human capital, favourable geographic location with direct and convenient connection to major regional markets, internationally acknowledged advantageous business climate (34th in the World Bank's 'Doing Business' ranking), rapid development of the ICT sector, government support and investment-oriented policies, facilitated and centralized issuance of business licenses and permits, special taxation regime for the residents of industrial and technological parks – all these and many other features make Azerbaijan an ideal place for directing your business expansion.

In line with the Space Strategy delineated until 2030, Azerbaijan prioritizes the development of its space industry in several key dimensions, namely ensuring the sustainability of the offered satellite services, formation of local production potential related to the space field, expansion of research capacity and development of human capital, as well as accelerating the establishment of start-ups and innovative SMEs engaged in space activities.

Azercosmos is ready to provide any support and guidance for companies and organizations interested in expanding their operations to a wider region and accessing an extensive potent market, so do not hesitate to contact us with regard to questions and requests that may arise.



## Women In Aerospace Europe: New Start-Up Membership Programme

Women In Aerospace Europe (WIA-Europe) has introduced a new membership programme for Start-up businesses in the aerospace sector. Now small and tiny companies starting their activities can fully benefit from the resources provided by the WIA-Europe association. As a WIA-Europe Start-Up Member you demonstrate your commitment to the advancement of women in the aerospace sector and maintain corporate visibility within the aerospace community.

Since its foundation in 2009, WIA-Europe has been committed to fostering inclusive representation for women across the European aerospace sector, giving visibility to skilled women, motivating girls to get interested in science, and communicating the key role that space plays in our daily lives. For more than a decade now we have been organising events, trainings, grants and awards, bringing together individuals and organisations

from across our industry to network and share experiences throughout local groups. WIA-Europe has gained high-level support from its corporate members and a growing individual membership base fully devoted to spreading such values as equality and inclusion, with no distinction of race, religion, gender, background or culture.

Find out how you can join us at <https://www.wia-europe.org/join-wia-europe/>



## Pioneer AI SW for Autonomous Collaborative In-Situ Resource Utilisation (ISRU)

GMV, under ESA's contract, is carrying out the CISRU project, which consists in developing an AI powered software suite for complex ISRU missions of robot-robot and astronaut-robot collaboration. This suite will provide the different agents with the highest level of autonomy through five main components: perception, multiagent, navigation, manipulation, and cooperative behavior. The perception components are responsible for understanding and cataloging the environment, such as detecting the poses of surrounding objects as well as detecting astronaut behavior and interactions. For this purpose, a novel and pioneer astronaut-robot interaction dataset has been specifically created at ESA's planetary facilities at ESTEC. The CISRU's multi-agent components are responsible for high-level communication and management of plans and tasks, as

well as communication with the mission center. The navigation components allow the different rovers to move through an unstructured environment, avoiding obstacles and collisions with other robots and people. In addition, it also allows social navigation, respecting social distances acceptable to the astronauts. The manipulation components are responsible for enabling the manipulation of different objects and tools, having also developed a new tool-changer system. Finally, the cooperative behavior components are responsible for the exchange of information and maps between agents, as well as for the development of collaborative tasks.

For this, a Mixed Reality system has been developed showing the information provided by robots in a concise and efficient way, as well as a command console has been developed for the astronaut's suit.



## Successful tests of EMRS project on Mars and Moon analogues surface last February.

GMV is leading one of the two Pre-Phase A studies of the European Moon Rover System (EMRS). This project focuses on finding the best solution for a potential future European rover, with the ability to carry out different missions in different places on the lunar surface. As such, the GMV's EMRS team (OHB, AVS, HTR, DLR) has selected a modular approach, allowing different capabilities to be added to the rover and the egress with minimal changes. By design, EMRS is intended to be used for Polar Explorer, Astronomical Lunar Observatory, and In-Situ Resources Utilisation missions and other non-polar geological missions (f.i. equatorial).

In only nine months the GMV's EMRS modular solution has shown not only its suitability to be used in various mission configurations, but its capability to achieve a balance between versatility and system optimality, making flexibility the key design driver.

The solution proposed in EMRS has been tested in two analogue facilities, DLR's PEL and GMV's SPoT, the former analogous to the Moon and the latter to the Martian surface. The test results showed that the proposed solution, first the locomotion system, can traverse difficult terrain, climb slopes greater than 25° and overcome many obstacles while maintaining high performance, both on lunar regolith and on the ground.

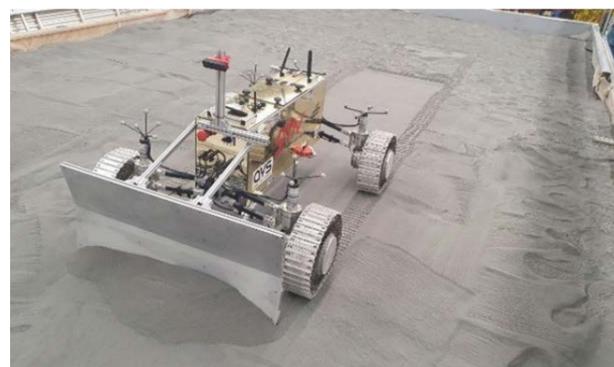
Excavation tests have demonstrated the ability to excavate in lunar regolith, essential for human life on the Moon.

The GMV's EMRS showed the need and the feasibility to think modular when talking about future lunar exploration.

Test in GMV SPoT terrain



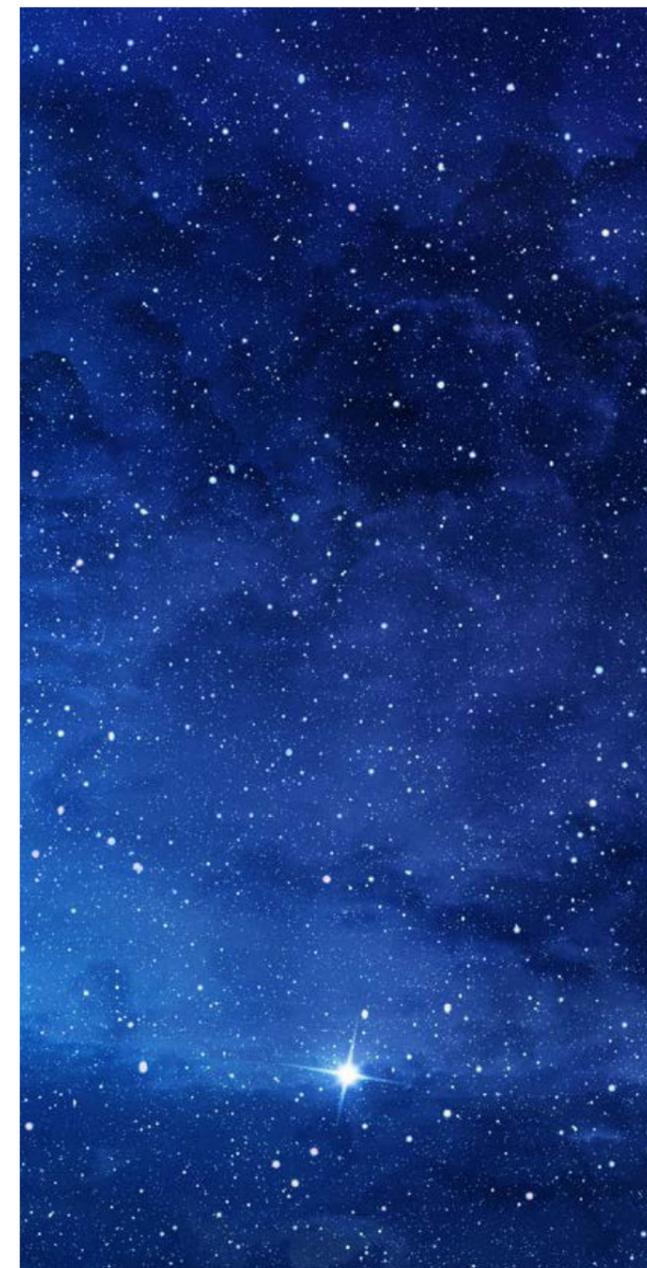
Test in DLR PEL facility



## A Business Plan Competition That is Shaping the Future of the Space Industry

The NewSpace Business Plan Competition (BPC) at the IAC, Paris 2022, was a three-day unprecedented, joint effort of The IAF Space Entrepreneurship and Investment Committee (SEIC), The Center for Space Commerce and Finance (CSCF), World Space Week Association (WSW) and Space Generation Advisory Council-Commercial Space Project Group (SGAC-CSPG). They explored innovative approaches for space

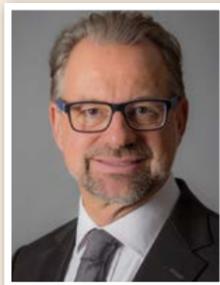
exploration, satellites, resource utilization-asteroid mining, and space debris solutions. The BPC was especially valuable for young professionals considering entrepreneurship paths, early-stage startup founders, and investors. Let's dive briefly into the process that led to its emergence. In 2020, Thomas A Olson proposed the BPC initiative. However, in 2021 the coordination was dropped. In 2022 Nancy C. Wolfson took charge of the BPC project, restructuring and aligning it with the IAF's expectations. Thomas involved the CSCF as the primary sponsor and gathered the judges for the pre-evaluation phase. Nancy acquired the IAF approval and utilized her managerial experience to produce the official organizational structure and plan implementation, including signing relevant MoUs with partners. The team thanks the IAF secretariat Christian Feichtinger and Stefano Pascali for their support. The selected finalists, Celestial (Germany), KMI (USA), Progresja (Poland), Spin (Luxembourg), and Astralintu Space Technology (Ecuador), attended a two-day Boot Camp led by Thomas A. Olson and the on-site coordinator Alina Vizireanu. The grand finale was the BPC panel/pitch on September 20<sup>th</sup>, where the teams competed for a 10.000 \$ prize. The BPC distinguished Judges Candace Johnson, Dennis Stone, and Joerg Kreisel announced Astralintu Space Technology (Ecuador) as the winner. The BPC team, SGAC- CSPG' Nicholas Florio, and promotion co-coordinator KangSan (Antonio) attracted attendees of all ages, including the leaders of various space-related companies and organizations. Stay tuned for the next BPC that promises to shape the future of the space industry! Article editor: Gourav Namta, Space Systems Engineer with a Master's degree in Space Engineering from the Technical University of Berlin and SEIC member since 2022. Assistant editor: Francesco Ventre is an Innovation Manager with a Master's Degree in Space Engineering from Politecnico di Milano.





# Interview

## Interview with Josef ASCHBACHER, European Space Agency (ESA) Director General



Josef Aschbacher became ESA Director General on 1 of March 2021. Prior to that he was Esa Director of Earth Observation Programmes and Head of ESRIN, ESA's centre for Earth Observation, located in Frascati (near Rome), Italy.

Born in Austria, he studied at the University of Innsbruck, graduating with a Master and a Doctoral Degree in Natural Sciences.

His professional career in ESA began in 1990 as a Young Graduate at ESA ESRIN. From 1991-93 he was seconded as ESA Representative to Southeast Asia to the Asian Institute of Technology in Bangkok, Thailand. From 1994 – 2001 he worked at the European Commission Joint Research Centre in Ispra, Italy, where he was the Scientific Assistant to the Director of the Space Applications Institute. He returned to ESA HQ (Paris) in 2001 as Programme Coordinator where he was primarily responsible for advancing Copernicus activities within ESA. In 2006 he was nominated Head of the Copernicus Space Office, where he led all activities for Copernicus within the Agency and with external partners, in particular the European Commission. In 2014, he was promoted to Head of Programme Planning and Coordination at ESRIN, where he was responsible for planning ESA's Earth Observation programmes and for formulating and implementing programmatic and strategic decisions across the Directorate. He took up duty as Director of Earth Observation Programmes on 1 July 2016.

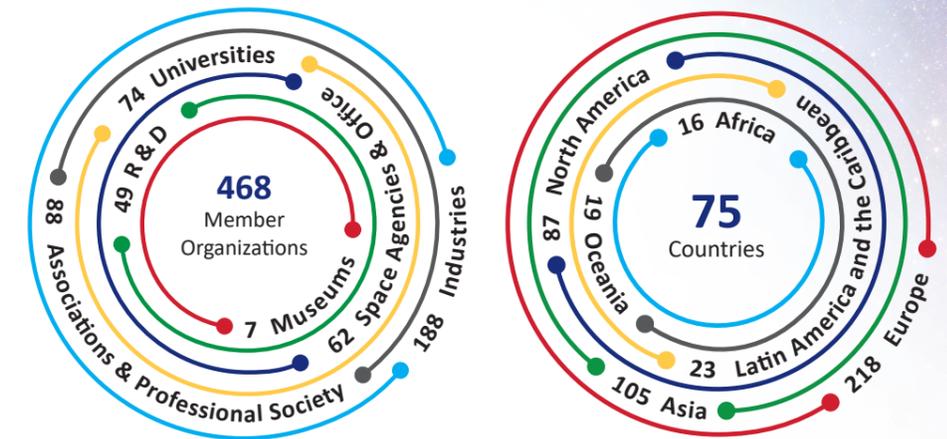
ESA DG, Josef ASCHBACHER interviewed by IAF Executive Director, Christian FEICHTINGER on his GLOC 2023 attendance. Watch the interview to find out what are his thoughts on how space activities can contribute to climate protection and what the European Space Agency is doing in this direction. He also explains on what his intervention at GLOC 2023 will be focusing on especially with regards to the next generation of space leaders.

Watch the full video here: <https://www.youtube.com/watch?v=eqPUM4qPSJ4>



# INTERNATIONAL ASTRONAUTICAL FEDERATION

## Join the world leading space advocacy body!



### OUR BENEFITS

#### NETWORKING

- Access a **global network** of potential business partners and meet decision makers
- Promote your organization to the **workforce of tomorrow**
- Attract and exchange with **students** and **young professionals** at our targeted events
- Interact with your peers in exclusive **IAF members lounges**
- Shape the space community by nominating an **IAF Bureau Member**

- Promote your organization on the IAF website, social media and the IAFastro app
- Reach more than **35.000 subscribers worldwide** through the **IAF Newsletter** and **Members' Corner**
- Gain visibility for your organization through the **IAF publications**
- Be included in all **IAF promotional materials**

#### VISIBILITY

#### RECOGNITION

- Earn public recognition of your organization's **achievements**
- Nominate** candidates and be **nominated** for the IAF Awards
- Access IAF events through **IAF Grants Programmes**
- Get privileged connection with **IAF's media partners**
- Boost your organization's awareness through **IAF Plenary Programmes**

- Get **discounted rates** on registration and exhibition fees
- Receive **free access** to more than 50.000 manuscripts through the **IAF Digital Library**
- Book **complimentary meeting facilities** during IAF events
- Have **privileged access** to sponsorship opportunities at IAF events

#### FINANCIAL BENEFITS

### JOIN US

Download the **Application Form** on our website [www.iafastro.org](http://www.iafastro.org) and contact [Martina.Fabbiani@iafastro.org](mailto:Martina.Fabbiani@iafastro.org)

**Get in Touch via the IAFASTRO App and be part of the conversation @iafastro!**

You can download the App on:

- Google Play store: <https://play.google.com/store/apps/details?id=com.attendify.confbofn3r>
- Apple Store: <https://itunes.apple.com/app/id1328269635>
- IAF Web App: <http://bofn3r.m.attendify.com/app/events> Or directly with this QR code:



**Connecting @ll Space People**



## International Astronautical Federation

100 Avenue de Suffren  
75015 Paris, France  
Tel: +33 1 45 67 42 60  
E-mail: [info@iafastro.org](mailto:info@iafastro.org)  
[www.iafastro.org](http://www.iafastro.org)

Be part of the conversation **@iafastro**



**Connecting @ll Space People**



To unsubscribe, please send an email to [newsletter@iafastro.org](mailto:newsletter@iafastro.org) | E-mail: [newsletter@iafastro.org](mailto:newsletter@iafastro.org)

International Astronautical Federation

The next IAF newsletter will be issued in June 2023