

مملكة البحرين



ORGANIZERS:



# FINAL REPORT

## 6<sup>th</sup> International Space Forum at Ministerial Level – The Gulf Chapter

**Manama, Kingdom of Bahrain**  
**2 July 2024**

*"Space as a game-changer for diplomacy  
and economic development in the region"*



# 6<sup>th</sup> International Space Forum at Ministerial level – The Gulf Chapter Manama, Kingdom of Bahrain | 2 July 2024

## Organizers:



## IAF Alliance Programme Partners:



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## 1 ISF 2024 HIGHLIGHTS

On behalf of the International Astronautical Federation (IAF), the Italian Space Agency (ASI) and the National Space Science Agency (NSSA), it is a great honour for us to present the final report of the International Space Forum 2024 at Ministerial Level – The Gulf Chapter, that took place in Manama, Bahrain on 2<sup>nd</sup> July 2024.

Launched in 2015, under the auspices of the IAF Vice President for Science and Academic Relations, the International Space Forum represents an annual gathering at Ministerial Level aiming to encourage a global discussion and debate on the necessity of promoting a greater involvement of local communities in space activities and programmes, with the ultimate goal of finding better and local space solutions to global challenges.

Following the first International Space Forum in Trento (Italy) and the following regional Chapters focusing on Africa region (Nairobi, 2017), the Latin America region (Buenos Aires, 2018), the Mediterranean region (Reggio Calabria, 2019), the Central America and Caribbean region (Panama City, 2023), the Gulf Chapter facilitated open and productive discussions on the wish to increasingly involve all potential players, including Academia and Universities, of the region in space programs and activities, so to create new opportunities and means to better address local challenges.

The success of such a meeting begins with its preparation but can be truly measured only by its participation and the engagement of the attending delegations. In this respect, this year was truly remarkable, and we would like to express our sincere thanks to all the delegates who joined us Manama. A total of 15 countries from the region and beyond, and 13 Space Agencies and International Organizations from all over the world, took part in the Forum. The involvement of various actors from government, space agencies, universities and technical institutions shows that these entities are aware of the major role that space must play in supporting the further development of the region.

During the Forum, discussions on earth observation, space exploration, and space policies highlighted the crucial need to harness space technologies for socio-economic development, foster international cooperation, and promote the sustainable and responsible use of outer space to preserve the Gulf region's rich natural resources.

Given its unique geographical location and natural elements, the Gulf region stands as an exceptional resource that requires protection, and the application of space technologies is vital in achieving this goal.

These and many more topics, were widely discussed during the Forum and were brought to light by the statements of the delegations. To give you all the opportunity of continuing with the reflection on those essential aspects, we have gathered in this booklet all the interventions made during the Forum as well as the final declaration, the Manama Page. We hope that this will contribute to keep alive the spirit of the Forum, and that it will inspire new forms of cooperation and partnership, not only in the Gulf region, but throughout the whole world. Enjoy the reading!



**Clay MOWRY**  
*President*  
International Astronautical  
Federation (IAF)



**Teodoro VALENTE**  
*President*  
Italian Space Agency (ASI)



**Mohamed AL-ASEERI**  
*Chief Executive Officer*  
The National Space Science Agency (NSSA),  
Bahrain





## 2 LOCAL AUTHORITIES, PARTICIPATING COUNTRIES, AND INTERNATIONAL ORGANIZATIONS

### COUNTRIES



AUSTRALIA



ITALY



AZERBAIJAN



KUWAIT



BAHRAIN



OMAN



CHINA



SAUDI ARABIA



EGYPT



TÜRKIYE



IRAQ



UNITED ARAB EMIRATES

### INTERNATIONAL ORGANIZATIONS & SPACE AGENCIES

China National Space Administration (CNSA)



Italian Space Agency (ASI)



Egyptian Space Agency (EgSA)



Mohammed Bin Rashid Space Centre (MBRSC)



Eurisy



Telecommunications Regulatory Authority (TRA)





# 6<sup>th</sup> International Space Forum at Ministerial level – The Gulf Chapter Manama, Kingdom of Bahrain | 2 July 2024

European Center for Space Law  
(ECSL)



The National Space Science Agency  
(NSSA), Bahrain



Food and Agriculture  
Organization of the United  
Nations (FAO)



UAE Space Agency

وكالة الإمارات للفضاء  
UAE SPACE AGENCY

Gulf Cooperation Council (GCC)



UNIDROIT



International Astronautical  
Federation (IAF)



## OBSERVERS

A9Capital



Plan-S



Orbital Space



Space Industry Association of  
Australia (SIAA)



Sapienza University of Rome



### 3 STATEMENTS OF PARTICIPATING COUNTRIES, INTERNATIONAL ORGANIZATIONS AND OBSERVERS

#### *Statement of ASI (Agenzia Spaziale Italiana)*

*By Teodoro VALENTE,  
President, ASI*



Distinguished Authorities, Distinguished delegates and representatives,

On behalf of the Italian Space Agency, I am pleased to attend the 6<sup>th</sup> edition of the International Space Forum – The Gulf Chapter – as co-organizer of the event with the International Astronautical Federation and the National Space Science Agency of the Kingdom of Bahrain.

The title of our Forum “**Space as a game-changer for diplomacy and economic development in the region**” projects us into the international space arena and, at the same time, focuses us on the needs and priorities of the Gulf region.

When ASI, in collaboration with IAF, decided to choose this region for the 6<sup>th</sup> edition of the International Space Forum, it was clear that the countries in this region, today, are the most promising for establishing new international collaborations and offering new partnership opportunities. To this purpose, let me thank NSSA for its availability to host this new Chapter of the initiative.

Briefly, I would like to say a few words on **two topics** of the Forum suggested for our discussion.

1. **Space exploration: a gateway to the Universe** – the Italian Space Agency has a long-standing tradition and experience in space exploration. As Prof. Valente mentioned during his keynote speech, Italy and the Agency started their first steps into space with a first international cooperation agreement on space exploration for peaceful purposes.

Exploration was our first ambition and imagination that we have realized with numerous space missions in space science. ASI contributed significantly to the largest international space missions for at least two decades. Italian scientific instruments are present on American and European probes such as **Mars Express, TGO and MRO** (in orbit around Mars), **BepiColombo**, for the Mercury study, and **ExoMars**, which will bring an automatic rover to Mars. Italy was also a protagonist in the **Cassini-Huygens** missions (which studied the Saturn system) and **Rosetta**, dedicated to the study of the comet Churyumov-Gerasimenko, and will be on board the next European probes dedicated to the study of exoplanets, Cheops and Plato.

The determining factor in the development of astrophysics in recent decades has been the possibility of expanding the observable band to the entire electromagnetic spectrum. Italians can be considered among the fathers of **high energy astrophysics**, in the X and gamma bands, born with the conquest of space. ASI participated in ESA and NASA missions such as **CALET, IXPE, INTEGRAL, FERMI, SWIFT, AGILE and AMS**.

ASI is also strongly committed to the study of the primordial Universe and the laws of gravitation. ESA missions such **GAIA and EUCLID** have had a strong impact not only on the international scientific community, but also on the general public.

Italy was among the first European countries to invest in the construction of the **International Space Station** through both an agreement with NASA and the ESA program. In particular, ASI, through the Italian industry, built the three Multi Purposes Pressurized Modules (MPLM), the Node 2 and 3, the Cupola, and contributed to the realization of the European Automated Transfer Vehicle (ATV) and Columbus laboratory. More than 40 experiments have been on board of the ISS and six Italian astronauts flew on board the ISS.



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Today, ASI is also among the international players in lunar exploration through the ESA program with the **cislunar gateway** and the NASA Artemis program with the realization of the first pressurized **module on the Moon surface**.

2. **Earth Observation: from technology to applications and services** – Earth Observation is another pillar of our national space strategy. Thanks to satellites, it is now possible to monitor the health of the planet like never before. The COSMO-SkyMed radar constellation is a unique example in the world as well the hyperspectral PRISMA mission.

**COSMO-SkyMed** constellation composed of 5 radar satellites in orbit is able to see the Earth from space meter by meter, day and night, in all weather conditions to help predict landslides and floods, coordinate relief efforts in the event of earthquakes or fires, and monitor emergency areas and different crisis.

**PRISMA**, which began its journey into space on March 22, 2019, is a cutting-edge Earth observation system, equipped with electro-optical instruments, which integrates a hyperspectral sensor with a medium resolution camera sensitive to all colors. In this way the satellite is able to distinguish not only the geometric characteristics of the observed objects, but also the chemical-physical composition of the Earth's surface.

Finally, Italy is also contributing to the European **COPERNICUS** program. Among its relevant applications there are the management of natural disasters and monitoring of oceans, vegetation and atmosphere, the study of climate change, the support to the civil protection and sustainable development goals of the Agenda 2030 of the United Nations.

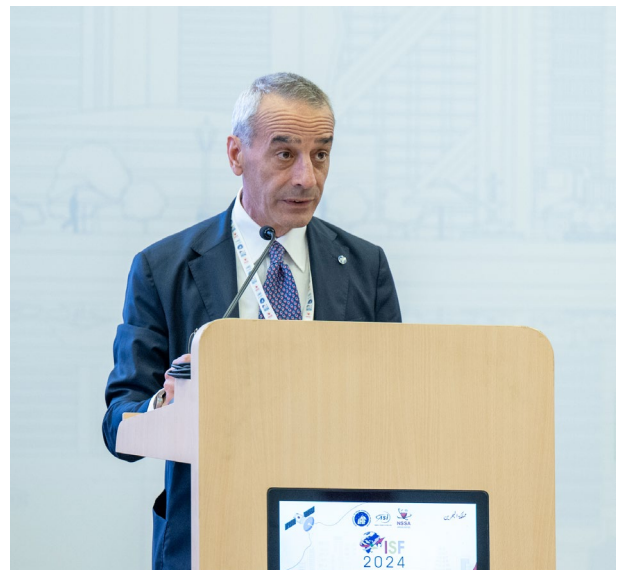
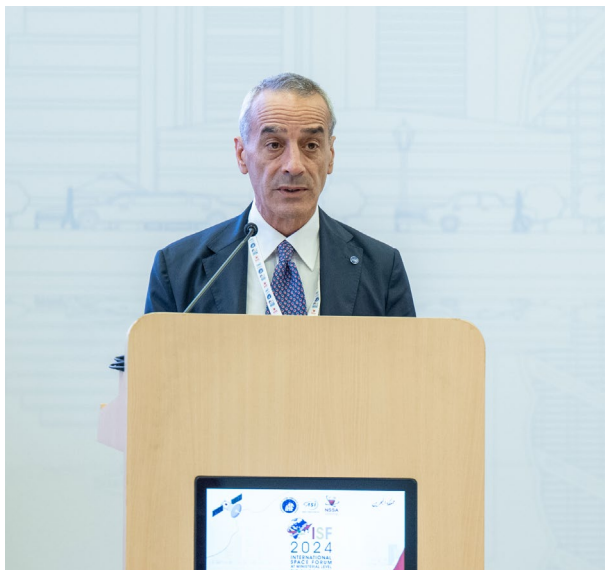
Distinguished delegates, colleagues, friends,

The Italian Space Agency is proud to share with all of you its experience and establish cooperative projects to enhance the international space cooperation and contribute to the regional collaboration.

We are deeply convinced that space partnerships between local and international space actors offer opportunities for the region's socio-economic development, both in terms of capacity building and infrastructure development.

We support and endorse the principles of Manama Page to be added to the previous editions of the International Space Forum.

Thank you for your attention.



## ***Statement of the Kingdom of Bahrain***

***By Hesa AL KHALIFA,***

***Senior Legal Researcher – Legal Affairs, National Space Science Agency (NSSA)***



Your Excellencies, Distinguished Delegates, Ladies and Gentlemen,

It is a distinct honor to address you today as we convene for this prestigious International Space Forum, marking a historic milestone with our Kingdom as the inaugural Arab nation to host this esteemed assembly. This forum not only celebrates our significant strides in space science but also symbolizes our increasing capabilities, matching those with nations of longstanding legacies in space exploration.

Our region's growing ambition is reflected in the past from when Abbas Ibn Farnas paved the way with aeronautical engineering in the 8th Century as being the first person to demonstrate controlled human flight with a homemade flying machine until our present day where Arab nations are eager to cultivate a sophisticated space ecosystem and the progressive localization of space technologies. This ecosystem is not only adapted to our regional and national aspirations but is also instrumental in fostering an enduring space economy, catalyzing growth, and nurturing technological autonomy.

As we navigate these goals, we must acknowledge the countless challenges that necessitate unwavering international collaboration and consensus. Our role as an emerging space-faring nation drives us to partake in space endeavors with utmost responsibility. Yet, the responsibility of safeguarding the safety, stability, security, and perpetual sustainability of outer space is a collective responsibility shared by all nations.

Forums such as this serve as critical platforms for open, multilateral dialogues, essential for devising solutions to overcome the multifaceted challenges and hazards present in space.

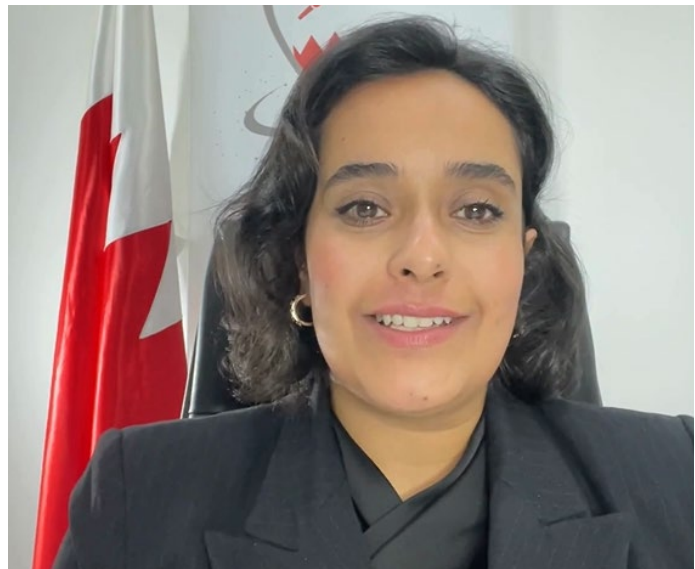
The impending enactment of the Kingdom of Bahrain's National Space Law and the articulation of our space policy objectives underscore our dedication to transparency and the dissemination of knowledge on space activities. The

Kingdom's initiatives are pivotal in restricting space debris and advocating for measures that enhance the safety and longevity of the space environment such as our groundbreaking research that specializes in employing artificial intelligence techniques in the process of automatic detection, monitoring, and control of space debris in low Earth orbit using satellites.

In the vast expanse of outer space, our interests converge on the preservation of this frontier, and it is this shared vision that underscores the necessity for transparent and candid dialogue among nations. Such discussions are vital as we collectively endeavor to implement or refine space policies and regulations, both internationally and domestically.

In closing, let us reaffirm our unwavering commitment to the responsible exploration and utilization of space, ensuring its enduring legacy for generations to come.

Thank you for your attention.







## ***Statement of the China National Space Administration (CNSA) on behalf of China***

***By, WANG Qiong,  
Deputy-Chief Designer, Lunar Exploration and Space Engineering  
Center, CNSA***



Dear Executive Director Christian Feichtinger, Director General Salem Al Marri, Esteemed Ladies and Gentlemen:

Good morning!

Merely a week ago, on June 25, the re-entry capsule of Chang'e-6 mission gracefully descended to Earth's embrace with 1935.3 grams of precious lunar samples in tow. This historic event marked humanity's inaugural retrieval from the enigmatic far side of our celestial neighbor. It stands as yet another testament to international cooperation in lunar exploration—a resounding success achieved through joint efforts involving four international payloads alongside China's scientific payload. Notably among these are Pakistan's CubeSat, France's radon gas detector, ESA's negative ion detector, and Italy's laser retro-reflector. The collective endeavors of Chinese and international scientist teams have yielded invaluable scientific data. These samples and data promise significant breakthroughs in unraveling the moon's origin and evolution.

The triumphant cooperation witnessed during the Chang'e-6 mission embodies principles rooted in peaceful outer space utilization and unfettered exploration—an aspiration shared by all who yearn to uncover the mysteries shrouding our universe. As we celebrate two decades since its inception this year, China's lunar exploration program has steadfastly progressed step by step—culminating in seven consecutive triumphs while achieving its three-phase development goal encompassing orbiting, landing, and sample return missions. These endeavors have left indelible imprints of Chinese culture such as Chang'e, Jade Rabbit, and Magpie Bridge on the Moon. Embracing an inclusive worldview where Chinese civilization is an integral part of global heritage, we stand ready to collaborate with our international counterparts for further voyages into deep space.

In times ahead, China's exploratory missions will present enhanced opportunities for global participation—sharing developmental prospects and discoveries with nations worldwide. The forthcoming Chang'e-7 mission slated for launch around 2026 aims to explore water ice within the lunar South Pole while carrying six payloads contributed by seven countries and international organizations including Egypt, Bahrain, Switzerland, Thailand, Italy, Russia and the International Lunar Observatory Association.

Anticipated for liftoff around 2028, the Chang'e-8 mission seeks to verify technologies for future habitation such as communication networking and in-situ resource utilization.

We have allocated 200 kg payload capacity specifically for international cooperation projects—a selection process currently underway—with hopes to deploy robots belonging to our esteemed international partners onto lunar terrain.

Human activities on the moon are poised to transition towards more efficient and effective long-term habitation.

Building upon this vision, the China National Space Administration has proposed establishing an International Lunar Research Station—an initiative aimed at collectively constructing a comprehensive facility designed for sustained autonomous operations along with short-term human engagement both on lunar surface and orbit.

We extend open arms inviting countries or organizations across every corner of our globe—to participate tangibly or intangibly—in planning, feasibility study, design, technology development, mission implementation, and scientific research pertaining to this ambitious endeavor—the International Lunar Research Station.

Together let us sketch out this grand blueprint transforming dreams into reality—with already fifteen countries or organizations having pledged their support towards realizing this shared aspiration.



Space represents humanity's common domain—a realm awaiting continuous exploration enabling civilization's footprints extending ever deeper into cosmic expanse.

Space embodies humanity's collective dream—one demanding perpetual innovation driving forth profound revelations concerning cosmic marvels.

Space signifies humanity's commutual wealth—requiring unified effort propelling mankind steadily forward along its odyssey through space.

Let us set sail together embarking upon a journey spanning millions of kilometers—steadfastly working hand-in-hand forging new frontiers within space exploration and building a new global partnership. I firmly believe that as long as we unite together, this path of space exploration will lead humanity towards enduring prosperity and a better future.





## ***Statement of the Egyptian Space Agency-EgSA***

***By Ayman AHMED,  
Senior Director of Space Programs, EgSA***



Dear distinguish Heads of Delegations,  
Dear colleagues,

On behalf of the Egyptian Space agency, it is my pleasure to be here today at the 6<sup>th</sup> International Space Forum at Ministerial Level.

The space sector is undergoing a significant transformation. It has shifted from being an exclusive domain of a few countries, driven primarily by science and technology, to a dynamic sector that offers direct socio-economic benefits to participating nations.

The advancements in satellite technology, for instance, have revolutionized communication, enabling global connectivity and access to information. Earth observation technology has transformed our understanding of our planet and how we interact with it.

In this context and Over the last few years, Egypt's space program has made significant progress in advancing its capabilities and infrastructure. The Egyptian Space Agency (EgSA), established in 2019, has been at the forefront of these efforts, focusing on satellite development, space research, and international collaboration. Notably, Egyptian Space Agency has been actively pursuing several key initiatives to foster its presence in the space sector. A significant milestone was the launch of the MisrSat-2, an Earth observation satellite designed to monitor agricultural, water, and environmental resources, which plays a crucial role in national development planning. The agency also hosted several space-related conferences and workshops, aiming to raise awareness and inspire innovation within the local scientific community. To further support its mission, EgSA has been investing in state-of-the-art facilities and infrastructure, including the construction of a new satellite assembly, integration, and testing center. These activities highlight Egypt's commitment to leveraging space technology for socio-economic development and enhancing its standing in the global space community.

Egypt participated in major space activities in the African continent and has played an active role with the African countries and the African Union in the preparation of the space policy and strategy in Africa and will actively contribute to implementing these policies and strategies on the ground through technical and financial contributions to advance the development of space technology in the African continent and to support the African Development Plan 2063. In particular, Egypt hosts the African Space Agency and provides full support for the agency to be fully operative soon.

The Egyptian Space Agency (EgSA) plays a pivotal role in the African Development Satellite initiative, which aims to enhance the continent's space capabilities and foster socio-economic development. As a leading participant, EgSA collaborates with other African space agencies (Kenya, Nigeria Ghana, Uganda, and Sudan) to develop and launch satellites that address critical issues such as agriculture, climate change, and resource management. Through its expertise in satellite technology and space research, EgSA provides technical support, training, and knowledge transfer to other African nations, helping to build local capacities and promote regional cooperation. Egypt also leading an African consortium to develop an Imaging system for an international space station that will allow monitoring of the climate change effect in East Africa, this project cooperates with unite Nation's access to space for all – Bartolomeo opportunity.

In the field of deep space exploration, Egypt is collaborating with Bahrain to develop an advanced imaging system for the lunar surface, that will be launched with the next Chinese lunar mission.



Ladies and gentlemen,

Allow me to highlight the importance of collaboration in space development and exploration, which is crucial for advancing our understanding of the universe and ensuring sustainable progress beyond Earth. In a realm where the challenges are vast and resources limited, collaboration among nations, organizations, and private enterprises fosters innovation, shares costs, and leverages diverse expertise. By pooling scientific knowledge and technological capabilities, cooperative efforts enable ambitious missions that no single entity could achieve alone. Moreover, cooperation promotes peaceful interactions in space, mitigates risks, and establishes frameworks for responsible exploration and utilization of celestial bodies. Ultimately, the collective effort in space exploration not only expands humanity's frontier but also strengthens global partnerships, inspiring future generations to explore, discover, and unite in the exploration of the cosmos.

Finally, I would like to thank those responsible for preparing this meeting and congratulate our colleagues from Bahrain Space Science Authority, international extracanonical federation and Italian space agency on the successful organization of this event.

Thank you.





## ***Statement of Eurisy***

***By Dominique Tilmans,***  
***President, EURISY***



### **Earth Observation: from technology to applications and services - Dominique Tilmans**

Dear Excellencies, Dear Colleagues,

In the space sector, we often hear about technology and we do not hear enough about the concrete benefits of space solutions. As a former senator, I am an advocate of space and especially space solutions because they are

- Useful tool that meets specific national needs and discretely pervasive in our daily lives creating benefits in many aspects for Civil Society.
- Helpful tool supporting economic growth, generating new direct and indirect highly skilled and qualified jobs for every country
- And beneficial tool for communities new to space, to encourage innovative uses of satellite solutions to respond to countries' challenges

#### **What are their real-world benefits on Earth?**

At Eurisy, our mission is exactly to overcome the barrier of technology. We go to solutions and services.

We are an association established more than 30 years ago under the auspices of the European Space Agency.

Today, we gather 24 members, from national space agencies, research centres, and international organisations across Europe and beyond.

And we collaborate with various European and non-European entities, creating a wide and open network of dialogue and knowledge sharing opportunities.

#### **What is our aim?**

Our aim is to bridge the gap between space and society by promoting and sharing the benefits of satellite technologies.

#### **How do we act?**

We build up our actions around three key approaches

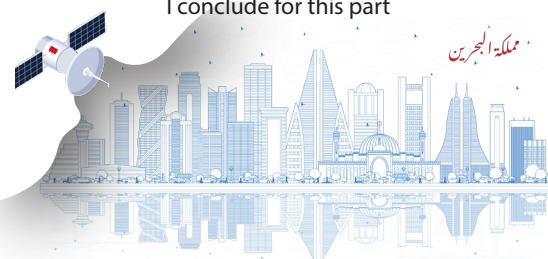
- **as facilitator**, raising awareness of satellite solutions and their benefits in numerous domains as energy, habitat protection, air pollution, water management, agriculture, tourism, transport, maritime, underwater and coastal cultural heritage, coastal protection, disasters and risk management, urban planning .... the potential is incredibly large!
- **as a matchmaker**, supporting engagement and connections between providers and potential users of the services;
- **and as an adviser**: providing feedback and informing decision makers on the needs of the users as well as the current opportunities offered by the market to promote their use.

As Earth observation data becomes more accessible to all, it drives innovation, sustainable solutions and fuels the economy.

Do you know that by 2030, EO are expected to create economic opportunities more than 700 billion \$. Additionally, EO data could generate over 3 trillion \$ in total economic benefits worldwide.

Be curious go to our site it will inspire you, we developed the Europe's largest database of use cases in Europe, which contains more than 200 success stories on space solutions without technical jargon to practical uses and benefits of these services.

I conclude for this part





You must be convinced that today space solutions widen our vision of possible to better understand our planet, to make it more sustainable, more habitable and certainly to help us to overcome the great challenges we are facing.

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If you allow me 3 more minutes, I would like to invite you at the

### **Ministers and Members of Parliaments Meeting during the IAF Congress in Milan this 13 October**

The MMoP meeting is the only place across continents, countries, regions where Ministers and Parliamentarians - coming from countries using space solutions or not - have the opportunity to learn and inspire each other.

Our meeting is an exceptional source of ideas for operational space solutions and the accomplishment of national priorities and cities management.

What does it mean practically?

We give the opportunity

For Ministers to present their country's space strategy

For Parliamentarians to present a space solution adapted to their region or city to solve their specific challenges.

Of course, both Ministers and Parliamentarians who want to come just to listen and be inspired by their colleagues are more than welcome

At the MMoP Meeting, Decision-makers are on the driving seats.

It's policy-to-policy, peer-to-peer presentations. Isn't it the best way to make space understandable, explained in a concise, non-technical manner and where the topics covered are in direct relation to their concerns?

### **I tell you! It's the place to be**

The place to be for Decision-Makers to make this meeting the place that meets our expectations, our interests and can provide us actionable information on space solutions.

Please keep in mind that more than ever, space solutions have become an essential ally for our economy, our security, our independence and for the well-being of civil society.

Now, you'll have no excuse to not join us in Milan the 13 October!!





## ***Statement of the European Centre for Space Law (ECSL)***

***By Sergio Marchisio,***

***Chairman, European Centre for Space Law (ECSL) at the European Space Agency (ESA)***



Excellencies, Distinguished Delegates, Colleagues,

As Chairman of the European Centre for Space Law (ECSL) at the European Space Agency (ESA), I am grateful for the opportunity to address the Gulf Chapter of the 6<sup>th</sup> International Space Forum at the Ministerial Level. This event, organized by the International Astronautical Federation, the Italian Space Agency, and the National Space and Science Agency of the Kingdom of Bahrain, serves as a vital annual gathering, fostering both global and local discussions on enhancing stakeholders and national academies involvement in space activities. We are particularly pleased that one of this year's key topics is "Space Visions and Policies: Sharing Experiences and Best Practices."

The European Centre for Space Law, founded in 1989 in Paris under the auspices of the ESA, is dedicated to promoting awareness, knowledge, and the development of space law and policy in Europe. Space law emerged from the necessity to establish norms governing the expanding scientific and technological uses of outer space, new space applications, and related services on Earth. Our members include professionals from various sectors within the space industry, alongside lawyers, academics, and students. ECSL operates as a federative mechanism, relying on our parent institution, the ESA, and a network of National Points of Contact (NPOCs), which serve as interfaces between ECSL and its national members. Currently, there are 18 NPOCs in ESA Member States, including one at the Sapienza University in Italy, hosted by the Outer Space Law Team.

ECSL organizes various activities and events aimed at enhancing education, capacity-building, and research in space law and policy both within Europe and beyond. Notably, we conduct a two-week intensive Summer Course on Space Law and Policy, which is open to students and young professionals in space-related fields. This year marks the 32<sup>nd</sup> edition of the course, hosted in Athens from 26 August to 6 September, with a focus on "Space and Sustainability." The sustainable and responsible use of outer space is increasingly prioritized internationally to balance diverse interests, including national security concerns, equitable access for emerging states, and environmental protection. The long-term sustainability of outer space activities is defined as the ability to maintain the conduct of space activities indefinitely into the future in a manner that realizes the objectives of equitable access to the benefits of the exploration and use of outer space for peaceful purposes, in order to meet the needs of the present generations while preserving the outer space environment for future generations.

Since 1992, one of the key events of ECSL activities has been the annual Practitioners' Forum. These gathering welcomes practicing lawyers and professionals, with access available to students. The forum addresses the need for practitioners to meet expert lawyers in the field of space activities, providing updates on knowledge and information. It is a one-day session held more often in Paris, where specialists present the latest developments in areas such as space law, telecommunications, European Union law, contracts and procurement law, liability, and insurance. Each presentation is followed by a discussion session. This informal setting, where no papers are published, allows participants the freedom to speak and exchange views openly.

Another significant program organized by ECSL is the semifinals for the European Region of the Manfred Lachs Space Law World Competition, culminating in the finals during the International Astronautical Congress, settled by three judges of the International Court of Justice. This year, the final will be held in Milan during the IAC 2024.

As we approach our 35<sup>th</sup> anniversary, ECSL continues to shape the landscape of space law in Europe through academia, research, and professional development opportunities. In light of this milestone, ESA is considering ways to strengthen ECSL as a "hub of space law, policy, and diplomacy," particularly as regulation and governance of space activities grow increasingly relevant. We are also reviewing our capacity-building initiatives, which are central to our mission.

ECSL is always eager to explore new avenues for cooperation and to share our expertise. Therefore, I invite the National Space



Science Agency (NSSA) to consider forming a partnership with us to undertake joint initiatives.

We understand that the NSSA, in collaboration with relevant authorities, has drafted the National Space Policy for the Kingdom of Bahrain's space sector, translating His Majesty the King's vision into actionable objectives. We endorse its five guiding principles: competitiveness, fairness, sustainability, partnership, and interaction. Furthermore, we acknowledge that the NSSA plans to develop the National Space Law for the Kingdom of Bahrain, aligning with national laws, policies, and international treaties on outer space, established under the auspices of the United Nations.

We are open to establishing collaborations with international and national organizations that share similar goals. We are sure that this common aim for partnership will be outlined in the Manama Declaration to be adopted at this Forum.

Thank you for your attention.





## ***Statement of the Food and Agriculture Organization (FAO)***

***By Karl MORTEO,***

***Information Technology Officer of the Digital FAO and  
Agro-informatics Division, FAO***



### **Cultivating a Brighter Future: How Space Can Help Build a Better Future for All**

Esteemed participants of the International Space Forum.

The Food and Agriculture Organization, or FAO, is a UN agency dedicated to achieving a world where everyone has access to safe, nutritious food produced sustainably. This contributes to a better future for all, and our work focuses on four key areas (our 4 betters):

1. **Better Production:** We promote sustainable practices, increased yields, and improved livestock management to ensure sufficient food globally. This includes responsible water and land use, alongside pest and disease control.
2. **Better Nutrition:** Quality matters as much as quantity. We advocate for dietary diversity, fight malnutrition, and ensure everyone has the nutrients they need for good health.
3. **Better Environment:** Recognizing the link between agriculture and the environment, we encourage environmentally friendly practices like soil health promotion, water conservation, and mitigating climate change's impact on food production.
4. **Better Lives:** Ultimately, we aim to improve people's lives, especially in rural areas. This involves creating decent livelihoods in agriculture, empowering small-scale farmers, and promoting rural development to reduce poverty and hunger.

Beyond these four areas, we address other crucial aspects of food security:

- **Climate Change:** We help countries adapt and build resilience in their agricultural systems.
- **Disaster Risk Reduction:** We work to mitigate the impact of natural disasters on food production and help communities rebuild after emergencies.

We achieve this by providing evidence-based technical expertise and facilitating collaboration between governments, international organizations, and the private sector.

### **Earth Observation Derived from Space Data**

The Food and Agriculture Organization (FAO) is a strong advocate and user of remote sensing technologies. Imagine having a real-time, high-resolution view of your entire agricultural landscape. This is the power of Earth Observation satellites. They collect vast amounts of data, allowing us to:

- **Monitor soil moisture:** Optimize irrigation by understanding water needs.
- **Track crop health:** Implement precision agriculture with data-driven decisions using multispectral and hyperspectral imaging especially when combined with IoT sensors and GPS.
- **Predict environmental challenges:** Proactively manage droughts, floods, sandstorms, and wildfires.

These are just a few examples of how Earth Observation empowers policymakers and farmers. It can also be used for:

- Predict potential pests and diseases outbreaks: Early warning systems for timely interventions saving crops and livestock.
- Crop planning and yield prediction/management: Better planning on planting and fertilisation, harvesting supporting supply chain management and market planning through crop modelling and more accurate weather forecasting, Especially relevant with increasing climate change.
- Land cover mapping: Track changes in land use, identify potential agricultural areas, and monitor deforestation.
- Water quality monitoring: Maintain healthy fish farms by monitoring water quality.



- Habitat assessment: Identify suitable areas for aquaculture.
- Fish stock management: Understand fish migration patterns for sustainable fishing practices.

### Space Visions and Policies: Sharing Best Practices

Space technology's true potential is unlocked through robust space policies and a shared vision. The Gulf region has a unique opportunity to set an example for international collaboration by:

- **Establishing national space strategies:** Provide a framework for investment in space-based agricultural solutions.
- **Promoting regional knowledge-sharing:** Accelerate progress through collaborative research and technology transfer between Gulf states.
- **Data access and integration:** Promote free and open-source remote sensing data and standardize data formats for seamless integration across the Gulf.
- **Engaging with international partners:** Share best practices and expertise for even more advanced applications.

### Building Capacity and Innovation

We can further enhance the Gulf region's capabilities by:

- **Building capacity:** Equip local governments and farmers with the skills to utilize remote sensing data effectively.
- **Developing applications:** Promote practical applications like the WaPOR project, which provides open-access data on water productivity.
- **Encouraging innovation:** Support research and development efforts to explore new sensors, analysis techniques, and artificial intelligence applications for remote sensing.

This collaborative approach will foster innovation and ensure the Gulf region remains at the forefront of space-driven agricultural advancements.

### Conclusion

By embracing space technologies and strategic space policies, we can cultivate a brighter future for all. Let us work together, with a focus on both innovation and practicality, to ensure a secure and prosperous future for generations to come.

Thank you.







## ***Statement of the International Astronautical Federation (IAF)***

***By Clay Mowry,***  
***President, IAF***



Distinguished Delegates,

It is a great honour for me to address you on this very special occasion in my capacity as President of the International Astronautical Federation.

The IAF has been the world's leading space advocacy body since its foundation in 1951, and it is one of the few, and the most important, organizations that deals with the space sector on a global scale.

The Federation has a history of constant growth and innovation: originally founded by 10 organizations, the IAF counts today 513 Members from 77 countries from all over the world and covering all space sectors and domains, including all leading space agencies, industries, research institutions, universities, societies, associations, institutes, and museums worldwide. Currently, the Gulf region is represented in the Federation by 12 Members, and we are confident that meetings like this will help grow that number in the near future.

For over 70 years the International Astronautical Federation has provided a valued forum for all space actors to confront and debate the challenges facing our collective future in the reaches far above planet Earth. Following its mission of ***Connecting @All Space People***, the IAF continuously seeks to deepen international cooperation worldwide by encouraging the advancement of knowledge about space and fostering dialogue between scientists, engineers, policy makers and all other space actors for the benefit of humanity.

In pursuit of this goal, the IAF works 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 at IAF events, investment in innovation is encouraged and organizations from around the world can connect, collaborate and advance scientific and technological knowledge in their countries.

In today's rapidly evolving world, it is imperative that we unite our efforts and collaborate closely to achieve our common goals in space exploration. As we navigate this period of transformation, the importance of working together across borders and sectors cannot be overstated. The challenges and opportunities that lie ahead in space demand a collective response, and it is only through coordinated global efforts that we can unlock the full potential of space for the benefit of humankind.

The space sector operates in a uniquely shared environment, where the actions of one entity can have far-reaching impacts on others. Therefore, it is crucial to develop a framework of shared guidelines and best practices that promote safety, security, and cooperation. By doing so, we can create a space ecosystem that is not only thriving and innovative but also responsible and inclusive.

The International Astronautical Federation stands at the forefront of these efforts. As the largest space advocacy organization in the world, the IAF possesses an extremely large network, and this unparalleled diversity and reach enable the IAF to serve as a central hub for global space dialogue and collaboration.

At the heart of the IAF's mission is the commitment to fostering, connecting, and supporting the global space community. We play a pivotal role in bringing together a wide array of space actors, facilitating cooperation, and advancing global space developments. Our mission is deeply rooted in the belief that international cooperation is essential for the progress and sustainability of space activities. By nurturing these connections, the IAF helps to drive innovation and ensure that the benefits of space exploration are shared broadly across the globe.



Being a part of the IAF is more than just membership in an organization; it implies belonging to a vibrant and dynamic global community. This community collaborates daily, working together to tackle the challenges and seize the opportunities that space activities present. Membership in the IAF means being part of a network that transcends borders and disciplines, united by a common passion for space and a shared vision for the future. Together, we are building a foundation for a more connected and cooperative space sector, aiming at making groundbreaking advancements that will benefit all of humanity.

I am sure that, as policy makers, you all will agree on the importance of the above-mentioned goals, and, as the IAF President, I would like to draw your attention to three important topics that I have chosen to put at the top of the IAF Agenda for the duration of my presidency:

Sustainability, Investment, and Security “The SIS Agenda”.

We have set up dedicated task forces that regularly discuss and elaborate ways how the topics of Sustainability, Investment, and Security can be reflected in the activities of the Federation in more prominent ways.

Talking about sustainability, this touched upon the protection of the space environment as well as the contribution of space to support sustainable development on Earth.

As we seek a more sustainable space environment, we must secure continued investment to foster its expansion. In the next few years, we will see a shift towards the commercial development of low Earth orbit and a strong push towards the realization of systems in lunar orbit and on the surface of the Moon. We must be prepared for the challenges of increasing investment in the space sector.

Security refers to the freedom to operate safely in the space domain. Collectively, we seek a secure space environment where scientists, innovators, and nations actively engage in commerce and exploration to create new applications here on Earth.

These topics are broad, and I am sure they are deeply discussed within each of your countries and organizations. They cut across the themes we are addressing in this forum, and I am sure they will stimulate the discussions between Ministers and Authorities of the Gulf region as well.

Meetings like this are an invaluable resource for attracting key stakeholders like you and for promoting discussion on the importance of space activities, therefore I thank you very much for your contributions and participation.





## ***Statement of Space Industry Association of Australia (SIAA)***

***By Jeremy Hallett,  
Chairman, SIAA***



Excellencies and Distinguished Guests, it is an honour to be amongst some of the brightest and most influential contributors to our global space industry and economy at ISF 2024 in Manama, Bahrain.

Space Industry Association of Australia (SIAA) truly believes that space is a 'game-changer for diplomacy and economic development in the region' as per the theme of ISF 2024. Collaboration coupled with specialisation is what we believe is required to succeed in the global space economy and we warmly welcome other countries to partner with our very innovative Australian space industry and make the most of our country's strong geographic advantage for mutual benefit.

SIAA, in partnership with our co-hosts, Australian Space Agency and New South Wales Government, will deliver IAC 2025 in Sydney, Australia from 29 September to 3 October 2025. The theme of IAC 2025 is 'Sustainable Space : Resilient Earth' which covers space-based applications for earth; sustainable space activities; and sustaining life off earth. Our vision is to assert Australia's place in space globally and build economic growth and social prosperity for our region.

As we all know, innovations across the global space sector are driving change faster than ever before and an increase in private space actors has reshaped the space domain. It is important to consider future best practices for undertaking civil space activities which should continue to be informed by the existing international legal frameworks which govern the behaviour of international actors in space. Future international visions for the space domain must emphasise international cooperation in support of a sustainable global space sector, so countries can strive to develop space policies which foster the growth of space-nations across the world.

The future of human activities in low-earth orbit, lunar environments, and beyond will be driven by public-private partnerships and increasing private sector participation. This is particularly evident in the development of future private space stations, some of which plan to launch as early as the end of this decade. With the deorbiting of the International Space Station planned for 2030, private space stations will fill a critical capability gap and enable more humans to travel to space, establishing a basis for an ongoing expanded human presence in LEO and beyond. This will continue to ensure that humans can undertake a breadth of space research which directly benefits the lives of people on Earth. We look forward to exploring the future of human spaceflight and are very proud of our recently graduated Australian astronaut candidate, Katherine Bennell-Pegg.

Evidently, we must ensure that the increasing activity in the global space economy is sustainable. It is critically important that visions for the future of space consider the current challenges that pose a threat to the continuity of space activity, specifically space debris. At IAC 2025, SIAA looks forward to exploring the range of government and industry-led initiatives seeking to actively reduce, and prevent the creation of, space debris. These initiatives can inform an international vision for the space sector to ensure that all space actors behave in a responsible and sustainable manner. Australia is supportive of global initiatives that commit to a safe, stable and peaceful space domain, with the Australian Government joining other like-minded countries, in committing to never conduct destructive direct-ascent anti-satellite missile testing. To ensure that the world can continue to benefit from space capability, it is essential that future visions of space emphasise the importance of countries and private actors alike being responsible actors in space.

Turning now towards Earth Observation (EO), it has grown tremendously as a field and provides invaluable insights into various aspects of our environment and society.

Today, Australia has a diverse range of EO platforms, spanning: high-resolution imaging satellites; radar satellites capable of penetrating clouds and darkness; and small, cost-effective CubeSats that provide frequent and versatile observations. Additionally, drones and ground-based sensors complement satellite data, creating a comprehensive and multi-layered view of our planet.



These technological innovations have dramatically improved our ability to monitor the earth's surface and atmosphere with exceptional detail and accuracy.

Approximately half of Australia's GDP is dependent on natural resources, including mining, oil and gas, agriculture, forestry, and fisheries. The importance of Earth Observation has been recognised in Australia. The Australian Space Agency has released a publication 'The Earth Observation from Space Roadmap', which encapsulates the next phase of Australian Earth Observation capability development to drive economic growth and industry transformation through to 2030.

Earth Observation has vital applications in many fields in Australia, including: agriculture; emergency management; and resources, which will be strongly integrated into IAC 2025 for the first time.

The Australian agriculture industry heavily relies on EO technology for precision farming. Farmers use satellite imagery to monitor crop health, assess soil moisture levels, and optimise irrigation and fertilisation, leading to increased yields and more efficient resource use. Companies such as Regrow Ag use cloud-based analytics techniques to analyse EO imagery to provide farmers with alerts detailing the health of their crops. Since the use of this technology, case studies have shown that crop yields have improved by 10%.

EO allows us to monitor, understand, and respond to environmental changes on a global scale from tracking deforestation and glacier retreat to measuring sea-level rise and air quality. EO also supports emergency management by offering real-time data on natural calamities, enabling faster and more effective emergency response and recovery efforts. As a country constantly challenged by natural disasters, Australia's use of EO data in emergency management is critical to our survival. The Australian Government's Commonwealth Scientific and Industrial Research Organisation (CSIRO) is currently using EO capabilities to map flood events for better disaster management in Australia. This information is indispensable for timely evacuations and effective disaster relief efforts.

The resources sector has driven Australia's economy over recent decades, including contributing 21% of the growth of Australia's GDP in the last decade. Space services are critical to enabling exploration, operations, and remediation of the resource business lifecycle. For example, Australian company Fleet Space's ExoSphere technology provides 3D subsurface imaging, and Esper Satellite Technologies' Earthtones product uses hyperspectral imaging, both reducing the steps and time taken to undertake mineral exploration. Space capability such as this is well aligned with the Australian Government's recently announced \$566 million dollar Resourcing Australia's Prosperity initiative to deliver national mapping of resource potential for critical minerals, strategic minerals, hydrogen, and other resources.

As we continue to innovate and expand our capabilities, EO will play an increasingly central role in shaping a sustainable and resilient future for our planet.

In closing, collaboration on space is critical for the future of humanity – both on and off Earth, and we welcome you all to partner with Australia to make the most of our very innovative Australian space industry and of our country's immense geographical advantage.

We thank you for the fruitful discussions at ISF 2024, and we welcome you all to join us at IAC 2025 in Sydney, Australia, to continue driving significant progress for our global space industry and economy.







## ***Statement of Saudi Space Agency (SSA) on behalf of the Kingdom of Saudi Arabia***

***By Kamal ALHARBI,  
Sector Head of Space Services, SSA***



Ladies and Gentlemen,  
Esteemed colleagues and distinguished guests,

It is with great pleasure that I stand before you today at the 6<sup>th</sup> International Space Forum (ISF 2024), representing the Saudi Space Agency. As we gather here in Manama, we are reminded of the profound potential that space science and technology hold in fostering regional development and global collaboration.

Space is an enabler of sustainable development on Earth, with applications addressing various needs of humanity. Whether it is connecting the unconnected, providing imagery information that supports development and sustains the environment, or guiding us to our destinations safely and accurately, we cannot imagine life without the tremendous benefits space has to offer. For decades, Saudi Arabia has recognized the strategic importance of space, establishing sovereign and state-of-the-art capabilities and assets in satellite communication and Earth observation. These technologies have proven to be indispensable for our national development agenda. Our advanced **Earth observation** capabilities, leveraging satellite data, have significantly enhanced resource management and environmental monitoring for applications in agriculture, water resources, and urban planning.

**Space exploration** offers immense opportunities for humanity. Saudi Arabia is committed to advancing collective progress, innovation, and shared prosperity. Through collaborative efforts and strategic partnerships with leading space agencies and organizations worldwide, we are actively collaborating to push boundaries of human capability and understanding. These collaboration endeavors are fundamental to achieving groundbreaking scientific discoveries and fostering global cooperation.

As we navigate the complexities of space exploration and technology, it is imperative to develop robust **space visions and policies**. These frameworks ensure responsible and sustainable space activities, safeguarding our shared environment for future generations.

In Saudi Arabia, we are committed to sharing our experiences and best practices with the global community. Participating in ISF 2024 today, helps to learn from each other's successes and challenges, refining our strategies and policies, contributing to a cohesive and effective global space agenda.

In conclusion, let us wholeheartedly embrace the spirit of collaboration and innovation that defines our shared journey into space. By joining forces with leading space agencies and international organizations, we significantly contribute to the global effort to unlock the vast potential of the universe. This collaborative spirit not only accelerates groundbreaking scientific discoveries but also fortifies the bonds between our nations. Together, we will continue to explore new frontiers of knowledge and forge enduring bonds that transcend borders.

Special thank you to the National Space Science Agency (NSSA) for organizing this gathering, wishing you a highly successful International Space Forum.





## **Statement of the UAE Space Agency**

**By Salem Butti Salem AL QUBAISI,  
Director General, UAE Space Agency**

وكالة الإمارات للفضاء  
UAE SPACE AGENCY

Statement 2: Space visions and policies: sharing experiences and best practices

Your Excellencies, Esteemed guests, Ladies and gentlemen,

1. The vast expanse of space beckons us with its potential to unlock scientific breakthroughs and inspire generations to come. It is through collaboration, not competition, that we can truly harness its potential.
2. It is my pleasure to be here with you today to speak about space visions and policies, and to share the UAE's experience in the space sector. Our collective efforts in space exploration and policy-making have shaped our future, allowing us to transcend borders and foster global cooperation and innovation.
3. In the UAE, we follow a structured and comprehensive approach to developing space policy and legislation.
4. This framework includes the National Space Strategy 2030, the Space Science and Technology Policy, and compliance with international law.
5. Our policies are guided by a leadership vision that prioritizes innovation, sustainability, and global cooperation.
6. This approach ensures that our policies are not only forward-looking but also responsive to the dynamic nature of space activities, which results in positioning the UAE as a proactive and responsible nation in the space domain.
7. Our policy fosters a vibrant and sustainable space industry, drives economic diversification, and cultivates a culture of innovation. Our ambitious projects, like the Emirates Mars Mission demonstrate our unwavering commitment to scientific advancement. These achievements, however, wouldn't be possible without the power of international partnerships.
8. Collaboration is at the core of our space policy.
9. In 2019, by having a space law, we ensured alignment of our policies with international best practices.
10. By understanding the changing dynamics of the space domain, and recognizing the needs and feedback received from our stakeholders, we introduced the new revised space law in 2023.
11. In 2020, we became one of the original signers of the Artemis Accords, demonstrating our proactive approach to international lunar exploration efforts.
12. From 2021 to 2023, we continued our efforts leading to chairing the UN Committee on the Peaceful Uses of Outer Space.
13. In 2022, we hosted the Abu Dhabi Space Debate, bringing together global leaders to discuss critical space issues. The same year, we hosted the annual meeting of the International Committee on Global Navigation Satellite Systems, where UAE youth played key roles, showcasing our investment in the next generation of space leaders.
14. In 2023, we achieved further alignment with international law with the approval of more than 9 regulations and procedures.
15. A major highlight was at COP28, where the UAE led the initiative of establishing the first Space Agencies Leaders' Summit. This summit resulted in Space Pledge for Enhancing Space-Based Climate Initiatives, demonstrating commitment to leveraging space technology for global climate action.



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16. We prioritize fostering international cooperation, capacity building, and the peaceful use of outer space. By working with leading space agencies, we've enriched our capabilities and broadened our horizons. Through this collaborative approach, we can develop robust regulatory frameworks, advance technological innovations, and ensure the sustainable use of resources in this rapidly evolving landscape.
17. Together, we can:
  - Develop robust regulations that ensure the sustainable use of space resources.
  - Drive cutting-edge technological breakthroughs.
  - Mitigate challenges like space debris and cost inefficiencies.
18. Investing in the future is paramount. Through initiatives like the National Space Academy and partnerships with universities, we're committed to nurturing talent and fostering a culture of innovation, not just in the UAE, but globally.
19. By investing in education and training, we empower the next generation of scientists and engineers. These initiatives are designed to build a skilled workforce capable of sustaining and advancing our space ambitions.
20. Let us join hands and build a cohesive global space community. By leveraging our diverse strengths and perspectives, we can transform space into a bridge for innovation, peace, and shared prosperity.

Thank you





## Statement of UNIDROIT

By Anna VENEZIANO,  
Deputy Secretary-General



1. Honourable Chair, Excellencies, and distinguished delegates. On behalf of the International Institute for the Unification of Private Law (UNIDROIT), and in my capacity as its Secretary-General, please allow me to start by congratulating you on your efforts towards ensuring the success of this Committee. UNIDROIT would also like to express its utmost appreciation and gratitude for the work and efforts of Prof. Teodoro Valente (President Italian Space Agency (ASI)), Clay Mowry (President International Astronautical Federation (IAF)), and Dr. Mohamed E. Al-Aseeri (CEO, Bahrain National Space Science Agency (NSSA)).
2. Honourable Chair, Excellencies, and distinguished delegates. As most of you are aware, UNIDROIT is an independent intergovernmental organisation established in 1926 as an auxiliary organ of the League of Nations, with a function to develop methods for harmonising international private and commercial law. UNIDROIT counts on 65 Member States in all continents, representing more than 73% of the world's population and over 90% of global nominal GDP, and we are proud to say that many more States around the world have benefited from ratifying our most important instruments, or have used them as models for their legislation.
3. UNIDROIT has a history of successful cooperation with global and regional UN agencies, intergovernmental organisations, and other international bodies. In this regard, we greatly appreciate being invited to this Forum, and the opportunity to update you on our activities in areas of space law, space finance, and access to credit for space activities.
4. As recently reported, the Global Space Economy is estimated at \$509 billion in 2023 (+34% in 5 years) and it is expected to reach a record value of \$759 billion by 2030. The Middle East's Space Economy in particular has tripled over the past decade. This astounding data bears witness to the exponential growth of this sector and the increasingly important role played by the Middle East's Space Economy.
5. To assist in the growth and development of the space industry, **an efficient international financial ecosystem needs to be developed.** Indeed, the Council of the European Union most recently underlined the need to support co-funding models and efforts to increase access to finance in the space industry, highlighting, in particular, **the importance of asset-based financing.** In this respect, UNIDROIT is at the forefront of the development of effective harmonised legal solutions through the well-known Cape Town Convention on International Interests in Mobile Equipment. The Cape Town Convention aims to give creditors greater confidence in their decision to grant credit by creating a robust international legal regime for asset-based financing, ensuring the valid and effective creation and enforcement of international security interests and leasing on high value mobile equipment. The Cape Town Convention system consists of a main framework treaty accompanied by four protocols, each dealing with a specific category of equipment: Aircraft, Railway Rolling Stock, Mining, Agricultural and Construction Equipment; and, most importantly in the present context, Space Assets.
6. The Cape Town Convention and its most successful Aircraft Protocol are regarded as some of the most commercially beneficial international private law treaties ever adopted. They currently have 86 and 83 States Parties respectively and one Regional Economic Integration Organisation (the EU), and continue to attract new accessions. The International Registry for Aircraft Objects has recorded well over 1.6 million registrations since 2016, demonstrating the extraordinary volume of commercial activities covered by the treaty.
7. Additionally, the implementation of other Protocols has begun to pick up speed. In March this year, the Luxembourg Rail Protocol under the Cape Town Convention, which specifically deals with the financing of rail rolling stock, also met all the requirements for its entry into force. The International Registry of Interests in Rolling Stock is now fully operational, providing accreditation for users, allocating unique numbers for rolling stock, accepting registrations of security interests, and facilitating searches against these interests. The entry into force of the Luxembourg Rail Protocol will undoubtedly support access to private credit for the rail industry.



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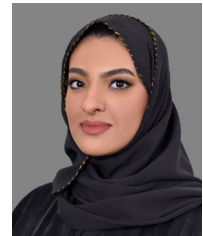
8. UNIDROIT is convinced that the success of the Aircraft Protocol and the progress of the Rail Protocol demonstrate the potential of the Space Protocol.
9. UNIDROIT adopted the Space Protocol in 2012, which is designed to provide a stable and secure legal environment for transactions in space assets based on the tried and tested mechanism of asset-based financing. The Space Protocol has the potential to reduce the cost of financing as a result of the increased level of transparency and predictability for financiers, thereby making financing more widely available to a greater number of players in the commercial space sector.
10. Ten ratifications or accessions are needed for the entry into force of the Space Protocol, as well as a certification by the Supervisory Authority that the future International Registry for Space assets is fully operational. In this respect, we note with great satisfaction that Paraguay has completed all internal procedures and has just ratified all four Protocols, including the Space Protocol. This is most promising news. We encourage States to continue their consideration of the Space Protocol, and we remain available to offer support and guidance to all Members of this Forum in this regard. By signing up to the Space Protocol, States expand and open up asset-based financing options for space projects. Acceding to the Space Protocol fosters widespread investment, innovation, technological advancement, and space industry growth by providing a level playing field and uniform and predictable regime for interests in space assets.
11. UNIDROIT looks forward to continuing to work closely with its Member States and Observers to secure the implementation of the Space Protocol and generally promote the use of harmonised private law in the space sector. We wish this Forum every success in its deliberations. Thank you.



## 5 KEYNOTE SPEECHES PRESENTATIONS

### Keynote Speech on Earth Observation: From technology to applications and services

by *Roaya Rashid Bubshait, Head of Geospatial Analytics, The National Space Science Agency (NSSA), Bahrain*



The downstream applications of Earth observation (EO) data have become increasingly essential for decision-making processes. EO data provides real-time and multi-dimensional insights, enabling organizations to establish baselines, set targets, and monitor progress towards sustainability goals. According to the WorldMetrics Report 2024, the EO data market is expected to experience a significant growth, expanding from \$3 billion in 2020 to an anticipated \$6 billion by 2026. This growth reflects the remarkable capabilities of satellites to provide both broad, panoramic perspectives and close-up, detailed views. This multi-scalar approach generates rich and continuous data, offering deep insights into the current state of the environment and its evolving dynamics over time. With the rapidly growing volumes of big data captured by satellites, a wealth of innovative use cases and applications are being unlocked and explored. However, fully analyzing and leveraging this wealth of EO data presents challenges. Reports indicate that only 25% of the collected EO data is being analyzed and utilized effectively. Overcoming these challenges could help unlock far greater value from EO data applications. Achieving this would require developing specialized skills and capabilities that many companies and organizations still lack. This presentation will explore four key topics: the current state and emerging trends within the EO market, the advancements in big data and cloud computing technologies that are transforming the EO data landscape, the new necessary skill sets and capabilities required to extract maximum value from EO data, and both the challenges and opportunities that exist in these dynamic and rapidly evolving areas. The presentation will also highlight real-world case studies and practical examples from the Kingdom of Bahrain, illustrating the practical applications and impacts of these developments.

### Keynote speech on Space exploration: A gateway to the Universe

by *Salem Al Marri, Director General, Mohammed bin Rashid Space Centre (MBRSC)*



The history of Space Exploration is a story of competition and cooperation, large nations at first and smaller new players as of late, the benefits are clear to be seen and working together to achieve huge objectives is the only pathway to success.

The UAE as a relative new player has taken a cooperative approach in space exploration, working together with everyone to achieve its own objectives and work towards big goals.





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### Keynote speech on Space visions and policies: Sharing experiences and best practices

by **Teodoro Valente, President, Italian Space Agency (ASI)**



Creating a national governance framework for space activities requires careful consideration of political, legal, technological, and diplomatic factors. International cooperation through bilateral and multilateral partnerships is essential for resource sharing and collaborative advancements. The framework emphasizes the promotion of research and development, infrastructure and capability building, and the implementation of specific space policies and programs. This begins with establishing clear national objectives and priorities, followed by developing a robust legal and regulatory framework compliant with international treaties.

Italy's space history began with a cooperation agreement with NASA, highlighting the importance of space cooperation over a dedicated space law. Italy did not, and still does not, have a dedicated space law. However, this initial step highlighted Italy's vision of the importance of space cooperation, which remains a pillar of the Italian Space Agency's (ASI) strategy: maintaining the use of outer space for peaceful purposes through dialogue with all interested countries.

The cooperation agreement with NASA initiated the development of Italy's space ecosystem, involving scientific and industrial communities and the creation of academic programs in space disciplines. Italy has played a significant role in the international space arena, contributing to the governance of COPUOS and ESA.

Italy now boasts a comprehensive space system involving public and private sectors, ground facilities, space assets, and numerous universities and research centers. ASI is active in all space domains. The governance of space activities in Italy uniquely shifted from the Ministry of University and Research to the Prime Minister, with an inter-ministerial committee coordinating national space policies, a governance structure unique in Europe. Space activities are no longer seen merely as research but as integral to broader governmental policies, including economic, foreign, and security policies.

ASI's extensive experience and adaptive capabilities highlight the importance of international cooperation as a tool for development, dialogue and peace. This cooperation is crucial in advancing global space activities and sharing experiences, best practices, and visions.





## 6 THE MANAMA PAGE

### 6<sup>th</sup> International Space Forum at Ministerial Level – The Gulf Chapter (ISF 2024)

*“Space as a game-changer for diplomacy and economic development in the region”*

On July 2<sup>nd</sup>, 2024, the Minister of Transportation and Telecommunication of Bahrain, H.E. Mohamed bin Thamer Al Kaabi, the Ministers and Authorities for Space in the Gulf and other invited Arab countries, as well as representatives and experts from national and international space Agencies and Organizations, convened in Manama (Bahrain). The Forum organized under the auspices of the International Astronautical Federation (IAF), the Italian Space Agency (ASI) and the National Space Science Agency (NSSA), marked the **6<sup>th</sup> International Space Forum - The Gulf Chapter (ISF 2024)**.

Following the first International Space Forum in Trento (Italy) and the following regional Chapters focusing on Africa region (Nairobi, 2017), the Latin America region (Buenos Aires, 2018), the Mediterranean region (Reggio Calabria, 2019), the Central America and Caribbean region (Panama City, 2023), the Gulf Chapter facilitated open and productive discussions on the wish to increasingly involve all potential players, including Academia and Universities, of the region in space programs and activities, so to create new opportunities and means to better address local challenges.

Delegates and experts exchanged views, shared experiences and visions, and delivered statements, in which they presented a wide range of valuable views, including:

- **space technologies and related applications** are crucial in addressing several challenges affecting human life on Earth, in particular, in the Gulf region, where desert, islands, water and temperatures are key elements to consider; space applications and related projects are precious tools for implementing the sustainable development goals of the UN Agenda 2030;
- **space activities** require a high-level of scientific and technical knowledge, as well as a multidisciplinary approach; Universities, Research Centers and Industry are crucial sources of knowledge, technological know-how and human capital, offering invaluable opportunities to younger generations;
- the **international space network** is essential to exchange information and best practices, to better understand the benefits deriving from space technologies and services, and increase our capabilities to find targeted solutions to local and global needs;
- **the Gulf region serves as an ideal building area** to discuss space items with a focused approach on stability, security, development, diversity and national identity.

Three keynote speeches were delivered by distinguished space experts on the following topics:

- ♦ **Earth Observation: from technology to applications and services** - services and applications coming from space data are the first and most evident results of space technology servicing local communities and populations.
- ♦ **Space exploration: a gateway to the Universe** - Space exploration is not only the necessary achievement of human knowledge, but it also drives the technology frontiers and requests in-depth scientific research.
- ♦ **Space visions and policies: sharing experiences and best practices** - policies and visions in the space domain are a necessary framework for the economic and social development of the region. Sharing experiences and best practices at local and international level is a unique and challenging opportunity.



## 6<sup>th</sup> International Space Forum at Ministerial level – The Gulf Chapter Manama, Kingdom of Bahrain | 2 July 2024

Delegates noted that:

- Satellite data can enhance maritime, water and food security by monitoring processes, ensuring results and diversifying economies.
- Sustainable food systems, water and agriculture management, risk and disaster mitigation, climate changes studies need a common strategy where space disciplines and technologies serve as excellent building platform for exchange of information.
- Space partnerships between local and international space actors offer opportunities for the region's socio-economic development, both in terms of capacity building and infrastructure development.

Ministers, Authorities, Heads of space agencies and all distinguished delegates present in Manama, welcomed the 6<sup>th</sup> International Space Forum - The Gulf Chapter - and identified the following points as the main objectives to be pursued in a medium-short term:

- **Enhanced use of space-based data and information** from telecommunication, earth observation and navigation satellite systems to support the region's socio- economic development in the region.
- **Increased and deepen networking in space cooperation activities** among Gulf and other Arab countries, and with spacefaring countries, in order to facilitate capacity building and technology transfer.
- **Promotion of peaceful, responsible and sustainable use of outer space activities** for the benefit of the current and future generations of men and women, and as a contribution to the achievement of the UN sustainable development goals.

Finally, the Gulf and the other invited Arab delegations expressed their desire to continue this regional International Space Forum in the coming years, to enhance the participation of local institutions, experts and Universities, and to involve new actors and private companies to further discussions on space capabilities and technology opportunities for a greater socio-economic development in the region.









**6<sup>th</sup> International Space Forum at Ministerial level**  
**– The Gulf Chapter**  
**Manama, Kingdom of Bahrain | 2 July 2024**











## 6<sup>th</sup> International Space Forum at Ministerial level – The Gulf Chapter

Manama, Kingdom of Bahrain | 2 July 2024











**6<sup>th</sup> International Space Forum at Ministerial level**  
**– The Gulf Chapter**  
**Manama, Kingdom of Bahrain | 2 July 2024**







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