

مملكة البحرين



ORGANIZERS:



FINAL PROGRAMME

6th 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"*



ORGANIZED BY:



HOSTED BY:



CO-HOSTED BY:



14 - 18 OCTOBER 2024
MILAN - ITALY

**REGISTER
TODAY!**



IAC2024.ORG

**RESPONSIBLE
SPACE FOR
SUSTAINABILITY**

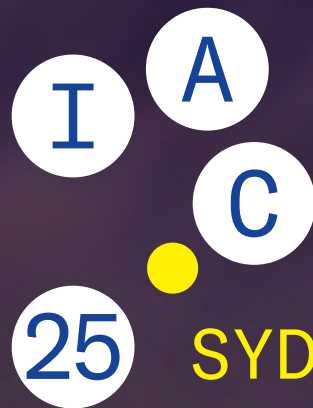
SUPPORTED BY:



ORGANIZED BY



HOSTED BY



SEE YOU AT IAC 2025 IN SYDNEY 29.09-03.10.25

SUPPORTED BY



CO-HOSTED BY



WWW.IAC2025.ORG



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

Organizers:



IAF Alliance Programme Partners:



CONTENTS

1	Welcome Messages	4
1.1	Welcome Message from the International Astronautical Federation (IAF).....	4
1.2	Welcome Message from the Italian Space Agency (ASI)	5
1.3	Welcome Message from H.E. the Minister of Transportation and Telecommunications, Board Chairman of the National Space Science Agency (NSSA)	6
1.4	Welcome Message from the Bahrain National Space Science Agency (NSSA)	7
2	Organizers Information.....	8
2.1	The International Astronautical Federation (IAF)	8
2.2	The Italian Space Agency (ASI)	8
2.3	The Bahrain National Space Science Agency (NSSA)	9
3	Forum General Info	11
4	Forum Programme	13
5	List of Participating Countries/Organizations	15
6	The Manama Page	17
7	Keynote Speeches' Abstracts	19
8	Logistical Info	21





1 WELCOME MESSAGE FROM THE INTERNATIONAL ASTRONAUTICAL FEDERATION (IAF)

Dear ISF 2024 Participants,

On behalf of the International Astronautical Federation (IAF), it is my great pleasure to welcome you to Manama, for the 6th edition of the International Space Forum at Ministerial Level – the Gulf Chapter, jointly organized by the IAF, the Italian Space Agency (ASI) and the Bahrain National Space Science Agency (NSSA), under the theme *“Space as a game-changer for diplomacy and economic development in the region”*.

This 6th edition of the Forum aims at enabling and stimulating the discussions between Ministers and Authorities of the Gulf region, responsible for space activities, on the necessity of exploring how space science and technology can contribute to greater development in the region. This Forum will offer a unique platform for decision-makers to take concrete steps in addressing the region's needs and those of its inhabitants, while also enhancing their capacities and abilities.

The Forum will focus on the topics of earth observation, space exploration and space visions and policies, and will feature prominent keynote speeches and Statements from the various delegations. Three Keynotes will highlight the importance of space policies for a better awareness and development of the region, and of space exploration as a gateway to the Universe and to the future. The keynotes will also underline how space-based technologies can be vital in increasing the security and economical stability of the area; whilst the Statements provided by each Delegations will give a concrete picture of the actions that need to be taken in their respective countries to achieve such goals.

We are confident that you will find the programme enriching, enlightening and rewarding. Every statement will constitute an important milestone in the creation of a better future for us all.

Enjoy your time in Manama and at this unique event!



Clay MOWRY

President

International Astronautical Federation (IAF)



WELCOME MESSAGE FROM THE ITALIAN SPACE AGENCY (ASI)

Dear ISF 2024 Participants,

It's an honor for me to be here in Manama (Bahrain) at this 6th edition of the International Space Forum 2024 - The Gulf Chapter - on behalf of the Italian Space Agency and the Italian space community.

Your region is an ideal building area to discuss space items with a focused approach on stability, security, development, diversity and national identity.

Three keynote speeches will be delivered during the Forum:

- Earth Observation: from technology to applications and services
- Space exploration: a gateway to the Universe
- Space visions and policies: sharing experiences and best practices

All Authorities, delegations and representatives of space agencies will have the opportunity to express their vision, their experience and comment ways and means to enhance the regional and international cooperation on space activities.

Your region is a new space region with many opportunities and big ambitions. The exchange and comparison with space faring countries could be very useful and fruitful. Knowledge and experience, in fact, are two pillars for a sustainable development also in space domain.

I therefore wish you a good work and the courage to reach the heights of your ambitions with deeds.



Teodoro VALENTE

President

Italian Space Agency (ASI)



WELCOME MESSAGE FROM H.E. THE MINISTER OF TRANSPORTATION AND TELECOMMUNICATIONS, BOARD CHAIRMAN OF THE NATIONAL SPACE SCIENCE AGENCY (NSSA)

Dear ISF 2024 Participants,

After a series of successful gatherings across the globe, in Trento, Nairobi, Buenos Aires, Reggio Calabria and Panama City, the International Space Forum has now arrived in the vibrant city of Manama, Kingdom of Bahrain.

Bahrain, known as the “Pearl of the Arabian Gulf,” is not only a global financial hub but also a cultural crossroads where tradition meets innovation. As we gather here, under the clear desert skies that have inspired generations of astronomers and navigators, ISF 2024 presents an exceptional opportunity to convene Ministers, scientists, researchers, Heads of Space Agencies and International Organizations from the Gulf region and beyond.

Together, we will focus on three key topics: space policies, space exploration, and earth observation, culminating in the creation of the comprehensive “Manama Page”. Your active participation in this edition will undoubtedly contribute to advancing both regional prosperity and global progress.

We extend a warm welcome to Bahrain and invite you to embrace the unique blend of modernity and heritage that defines this island. Explore the ancient ruins of Dilmun, the legendary land of immortality, immerse yourselves in the bustling souqs, and savor the exquisite flavors of Bahraini cuisine. Most importantly, experience firsthand the genuine hospitality of our Bahraini community.



Mohamed bin Thamer AL KAABI

*Minister of Transportation and Telecommunications,
Board Chairman of The National Space Science Agency
(NSSA), Bahrain)*



WELCOME MESSAGE FROM THE NATIONAL SPACE SCIENCE AGENCY (NSSA), BAHRAIN

Dear Esteemed Participants of ISF 2024,

It is with great pleasure that we extend a warm welcome to each of you to the 6th International Space Forum at Ministerial Level, hosted this year in the vibrant city of Manama, Kingdom of Bahrain. As we continue the tradition established in previous chapters of this Forum, we are excited to bring together a diverse group of space authorities, space agencies, and academic institutions to engage in ideas sharing and meaningful dialogue on pivotal space-related topics that impact our region. This year's forum, set against the backdrop of Bahrain's rich cultural heritage, is poised to foster a collaborative environment where new perspectives and innovative ideas can flourish. We are dedicated to exploring the vast potential that Space Sciences, Technologies, and their applications hold for the socio-economic advancement of our communities to be in line with the focus areas for ISF 2024 which is "Space as a game-changer for diplomacy and economic development in the region".

Our agenda is carefully curated to feature insightful Keynote presentations and contributions from the delegations of the represented countries. The Keynotes will highlight the critical role of Earth Observation (from technology to applications and services), Space exploration (a gateway to the Universe), and Space visions and policies (sharing experiences and best practices). The statements from our esteemed delegations will paint a vivid picture of the strategic initiatives deemed essential for their nations and the region at large. We are confident that the program will not only enlighten but also challenge and inspire all participants, fostering a deeper understanding of how space sciences and applications can be harnessed to enhance the well-being and economic prosperity of our societies. We are delighted to host you in Manama and are optimistic that your time here will open new avenues for collaboration, contributing significantly to our shared vision of a brighter future. Welcome to Bahrain, where tradition meets innovation, and together, we will take another step towards building a better world.



Mohamed AL-ASEERI

Chief Executive Officer

The National Space Science Agency (NSSA), Bahrain



2 ORGANIZERS INFORMATION

2.1 The International Astronautical Federation (IAF)

Founded in 1951 to foster dialogue between scientists around the world and support international cooperation in all space-related activities, the International Astronautical Federation is the world's leading space advocacy body with over **513 members**, including all key space agencies, companies, societies, associations and institutes across 77 countries.

Over 40 administrative and technical committees support the Federation in its mission to advance knowledge about space and to foster the development of space assets by facilitating global cooperation.

Following its motto "Connecting @ll Space People" and its theme "A space-faring world cooperating for the benefit of humanity", the Federation advances knowledge about space and fosters the development and application of space assets by advancing global cooperation.

As the organiser of the annual International Astronautical Congress (IAC), and other meetings on specific space-related topics the IAF actively encourages the development of astronautics for peaceful purposes and supports the dissemination of scientific and technical information related to space.

THE IAF'S MISSIONS

- **Promoting cooperation:** The IAF's International Astronautical Congress and various IAF committees provide unique collaborative platforms for experts from space agencies, industry and research
- **Advancing international development:** The IAF is building a future of cooperation, development and international friendship, bringing together experts from experienced and emerging space nations alike
- **Sharing knowledge:** The Federation has many well-established channels to disseminate information within its global network and the wider space community
- **Recognising achievements:** The Federation's prestigious awards are presented annually to individuals and groups who have distinguished themselves in the global space community
- **Preparing the workforce of tomorrow:** To nurture new talent, the Federation has many activities targeting students and young professionals
- **Raising awareness:** The global network of the IAF, and IAF publications, help promote the public appreciation of space activities worldwide

2.2 The Italian Space Agency (ASI)

The Italian Space Agency, established in 1988, coordinates Italy's endeavors in space. ASI's activities encompass a wide spectrum from space science to Earth observation, telecommunications, navigation, and launcher development. ASI has emerged as a key global player in space science, satellite technologies, and cosmic exploration, maintaining prominent roles within Europe and internationally through close collaborations with NASA and participation in numerous significant scientific missions.

Thanks to ASI's activities, the Italian scientific community has achieved unprecedented success in astrophysics and cosmology. In addition to exploring the Universe, space observations enable Earth monitoring, environmental disaster prevention, crisis





response, and climate change measurement. Italy leads in these fields with systems like COSMO-SkyMed and PRISMA, which support rapid crisis interventions and climate change impact assessments.

At the latest Ministerial Council in 2022 (CM22), Italy recorded a record contribution to ESA programs, comprising 18.2% of the total Member States' contributions. This placed Italy third after Germany and France for mandatory programs and first for optional programs, with a significant investment of 2.5 billion euros in telecommunications, space exploration, navigation, and space transportation.

ASI is actively involved in bilateral international cooperation across five continents and participates in multilateral governmental bodies such as UNCOPUOS and GEO. ASI is also member of CEOS, IADC, ICG, ESPI, EURISY, and IAF. Its operational bases, besides the headquarters in Rome, include centers in Matera, Malindi (Kenya), and Sardinia. Matera's Space Center specializes in space geodesy, remote sensing, free-space quantum telecommunications, space debris tracking, and time/frequency metrology. The Space Science Data Center (SSDC) supports scientific operations, data processing, storage, and distribution for Italian space missions.

ASI has extensive experience in space scientific missions at the ESA level and in cooperation with NASA, contributing significantly to space exploration with scientific payloads aboard NASA and ESA satellites, including missions to Mars, Jupiter, Saturn, Venus, and for cosmological studies. Scientific payloads such as AMS on the ISS have advanced the understanding of high-energy astrophysics and black matter. Italy leads European investment in the ISS through ESA and NASA agreements.

In over 30 years, 12 Italian astronauts have flown under the Italian and ESA flags. As of 2024, twelve Italians have journeyed into space, with seven serving as members of the ESA astronaut corps. Among them, eight have completed orbital flights, while five have undertaken suborbital missions. Walter Villadei is the only Italian to have accomplished both types of flights. The first Italian in space was Franco Malerba in 1992. Roberto Vittori and Paolo Nespoli hold the current record for Italian astronauts, each with three orbital spaceflights. Samantha Cristoforetti made history as the first Italian and European female astronaut to command the International Space Station.

Italy hosted the 63rd International Astronautical Congress in Naples from October 1-5, 2012, and the ESA Ministerial Conference from November 19-21, 2012. In 2024, Italy will host the 75th International Astronautical Congress in Milan from October 14-18, 2024.

2.3 The National Space Science Agency (NSSA), Bahrain

The Bahrain National Space Science Agency (NSSA) was established by a Royal Decree in 2014, with His Majesty's the King vision "To promote Bahrain to a position of international prominence in the field of space science for the purpose of achieving comprehensive and sustainable development". NSSA's focus is on harnessing space technologies for national development and promote space science and applications by working very closely with ministries in the Kingdom, identifying their needs, and planning to provide enhanced space-based technology services for governance and development. NSSA is also working with schools and higher education institutes on exciting potential new space missions to advance space research and development programs, ensure capacity building and create a new space sector in the Kingdom.

The NSSA, in cooperation with the relevant authorities, have issued the National Space Policy for the Kingdom of Bahrain space sector to translate His Majesty's vision into action through specific objectives at national level. It is based on five basic principles driven from Bahrain Economic Vision 2030, namely competitiveness, fairness, sustainability, partnership and interaction.

The NSSA has also worked on drafting the National Space Law, in cooperation with the relevant authorities, to include regulations related to registration of space objects, incident and risk management, space activity authorization, manned spaceflight activities, and auditing framework making sure to have the law in line with the Kingdoms laws and policies and the signed



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

international space treaties developed under the auspices of the United Nations; mainly: Outer Space Treaty, Liability Convention and Registration Convention.

NSSA also recognizes the benefits of memberships in international space organizations and committees for achieving the benefits derived from space economy for effectively addressing challenges before humanity and leveraging the benefits of space to accelerate sustainable development, thus, Kingdom of Bahrain, through NSSA, is a member of the United Nations Office for Outer Space Affairs (UNOOSA), the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), the International Astronautical Federation (IAF), the Arab Space Cooperation Group (ASCG), the Global Future Council on the Future of Space under the World Economic Forum, the Artemis Accords, the Space Climate Observatory, among others.

Additionally, Bilateral and multilateral space cooperation is one of the strategic goals of the NSSA where many agreements and memorandums of understanding are in force with space agencies, space organizations and companies around the world. These international partnerships have resulted in many successful projects such as the collaboration with the United Kingdom to build a payload to detect CO₂ emissions in the Gulf region, the collaboration with the United Arab Emirates to build a payload on board a lunar rover and the 3-way collaboration with China and Egypt to build a payload to explore the Moon's south pole, among other successful joint projects.

As NSSA celebrates its 10th anniversary this year, hosting the 6th edition of the International Space Forum at Ministerial Level – Gulf Chapter in the Kingdom of Bahrain is an addition to the many achievements attained during NSSA's young expedition. Several examples include launching the first Bahraini-Emirati Satellite "Light-1", winning the IAF Excellence in "3G" Diversity Award, winning the Payload Hosting Initiative "PHI" and being the only Arab Space Agency that NASA partnered with for the past 6 years for the Space Apps Challenge. The Kingdom of Bahrain is fully committed to the promotion of international cooperation for peaceful purposes and for safe, secure and sustainable use of outer space.



3 FORUM GENERAL INFO

INTRODUCTION

The **International Space Forum (ISF) at the Ministerial level – The Gulf Chapter** – is the 6th edition of an international initiative launched in 2016 by the **International Astronautical Federation (IAF)** jointly with the **Italian Space Agency (ASI)**.

Each year organized in collaboration with a local partner, the ISF is now a well-established joint ASI-IAF initiative that is traveling around the world to address each time different regions and promote greater involvement of the local community in space activities and programs, with the ultimate goal of finding better and local space solutions to global challenges.

The first edition was held in **Trento**, Italy, on 24 October 2016, and resulted in the adoption of the Trento Space Statement. Then followed the regional “Chapters”: **The African Chapter** (2017), hosted by the Kenyan Space Agency in Nairobi, Kenya; **The Latin America Chapter** (2018), hosted by CONAE in the city of Buenos Aires, Argentina; **The Mediterranean Chapter** (2019), hosted by the Mediterranean University in Reggio Calabria, Italy; **Central America and the Caribbean Chapter**, hosted by the Technological University of Panama in Panama City (2023).

For more information, please visit the IAF website:

<https://www.iafastro.org/events/international-space-forum-at-ministerial-level-isf/>

The International Space Forum 2024 is organized by IAF, ASI, and the National Space and Science Agency (NSSA), with the relevant support of the local Authorities of Bahrain. It is addressed to Ministers and Authorities in charge of space activities, as well as to Heads of Space Agencies and representatives of Academia and Research community in the Arabian Gulf region. Space agencies of the rest of the world and relevant intergovernmental and non-governmental organizations are also invited as observers.

FORUM OBJECTIVES

Space activities require a high level of technical and scientific knowledge, both in terms of capacity building and infrastructure. The opportunity for local players and institutions of the Arabian Gulf region to play a role in space activities and to connect with the “international space network” may be highly beneficial. This is expected to increase the flow of space knowledge and technological development, as well as the chances to find space solutions to better respond to the needs of the region.

The International Space Forum 2024 in Manama will stimulate fruitful discussions between Ministers and Authorities of the Arabian Gulf region and other Arab countries on the opportunity to take common actions and launch joint initiatives to increase the participation of their scientific and academic institutions, as well as the private players in space activities, to contribute to meet the needs of the local communities and develop their capacities and abilities.

FORUM PROGRAM AND CONTENT

The Forum will address three main topics, which will be presented by three keynote speakers:

- **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 in service of local communities and populations.
- **Space exploration: a gateway to the Universe** - Space exploration is not only the necessary achievement of human knowledge, but it drives high technology and requests in-depth scientific studies.
- **Space visions and policies: sharing experiences and best practices** - policies and visions in the space domain are a necessary skeleton for the economic and social development of the region. Sharing experiences and best practices at local and international levels is a unique and challenging opportunity.



6th International Space Forum at Ministerial level

– The Gulf Chapter

Manama, Kingdom of Bahrain | 2 July 2024

Each Head of delegation may make a 7-minutes statement. We suggest concentrating on one or more of the three topics described above, by presenting the point of view of the country/organization.

Delegations that wish to make a statement are kindly requested to send the information to the following addresses:

spaceforum@iafastro.org, alessandra.vernile@asi.it

At the end of the Forum, delegations will endorse the **Manama Page** to be added to the **Trento Space Statement**, the **Nairobi Page**, the **Buenos Aires Page**, the **Reggio Calabria Page**, and the **Panama Page**.

A draft of the Manama Page will be circulated in advance to all Heads of delegations.



4 FORUM PROGRAMME

Monday 1 July 2024

Free arrival of delegations in Manama

Welcome reception

19:30 - 21:00

Welcome reception at the Italian Ambassador's Residence

[Villa 1433 - Road 2530, Block 525, SAR](#)

Tuesday 2 July 2024

08:30 - 09:30

Accreditation of delegations at Gulf Convention Centre

Bldg 11, Road 3801, Block 338, Manama, Manama

09:30 - 10:00

International Space Forum (ISF) – Opening Ceremony

Master of Ceremony: Christian Feichtinger, Executive Director, International Astronautical Federation (IAF)

- Bahrain's National Anthem

Opening of the Forum by

H.E. *Mohamed bin Thamer Al Kaabi*, Minister of Transportation and Telecommunications, Kingdom of Bahrain & Chairman, The National Space Science Agency (NSSA), Bahrain

Speech by

H.E. *Jasem Mohamed Al Budaiwi*, Secretary General, Gulf Cooperation Council (GCC)

Welcome remarks by:

- *Clay Mowry*, President, International Astronautical Federation (IAF)
- *Teodoro Valente*, President, Italian Space Agency (ASI)

10:00 - 10:05

ISF 2024 Welcome video

10:05 - 10:25

Fireside Chat with UAE Astronauts, *Hazzaa Al Mansoori* and H.E. Dr. Eng. *Sultan Al Neyadi*, and the IAF President, *Clay Mowry*

10:25 - 10:35

Group Photo with Heads of Delegations and Heads of Space Agencies

10:35 - 10:45

Coffee Break

10:45 - 11:00

Keynote speech on "Space exploration: a gateway to the Universe"

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

11:00 - 12:00

Statements by delegations

12:00 - 13:00

Lunch break



6th International Space Forum at Ministerial level

– The Gulf Chapter

Manama, Kingdom of Bahrain | 2 July 2024

13:00 – 13:15	Keynote speech on “Earth Observation: from technology to applications and services” by <i>Roaya Rashid Bubshait</i> , Head of Geospatial Analytics, The National Space Science Agency (NSSA), Bahrain)
13:15 – 15:00	Statements by Delegations
15:00 – 15:30	<i>Coffee Break</i>
15:30 – 15:45	Keynote speech on “Space visions and policies: sharing experiences and best practices” by <i>Teodoro Valente</i> , President, Italian Space Agency (ASI)
15:45 – 16:30	Statements by Delegations
16:30 – 16:45	Endorsement of “The Manama Page” <i>To be added to the Trento Space Statement, The Nairobi Page, The Buenos Aires Page, the Reggio Calabria Page and the Panama City Page</i>
16:45 – 17:00	Conclusions <ul style="list-style-type: none">• <i>Clay Mowry</i>, President, International Astronautical Federation (IAF)• <i>Teodoro Valente</i>, President, Italian Space Agency (ASI)• <i>H.E. Dr. Mohamed E. Al-Aseeri</i>, CEO, The National Space Science Agency (NSSA), Bahrain
	Gala dinner
19:30 – 22:00	Gala dinner at Gulf Convention Centre <i>Bldg 11, Road 3801, Block 338, Manama, Manama</i>

Wednesday 3 July 2024

Visit to the Bahrain National Museum

09:30	Pick up from Gulf Hotel
11:30	End of tour and return to Gulf Hotel



5 LIST OF PARTICIPATING COUNTRIES AND INTERNATIONAL ORGANIZATIONS

COUNTRIES



AUSTRALIA



KUWAIT



AZERBAIJAN



OMAN



BAHRAIN



SAUDI ARABIA



CHINA



TÜRKIYE



EGYPT



UNITED ARAB EMIRATES



IRAQ



NEW ZEALAND



ITALY

INTERNATIONAL ORGANIZATIONS & SPACE AGENCIES

China National Space Administration (CNSA)



Italian Space Agency (ASI)



Egyptian Space Agency (EgSA)



Islamic World Educational, Scientific and Cultural Organization (ICESCO)



Eurisy



Mohammed Bin Rashid Space Centre (MBRSC)





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

European Center for Space Law
(ECSL)



Telecommunications Regulatory
Authority (TRA)



Food and Agriculture
Organization of the United
Nations (FAO)



The National Space Science Agency
(NSSA), Bahrain



Gulf Cooperation Council (GCC)



UAE Space Agency



International Astronautical
Federation (IAF)



UNIDROIT



OBSERVERS

A9Capital



Plan-S



Orbital Space



Space Industry Association of
Australia (SIAA)



Sapienza University of Rome



6 THE MANAMA PAGE (to be added to the Trento Space Statement)

6th 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 2nd, 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 **6th 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.



6th 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 6th 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.



7 KEYNOTE SPEECHES ABSTRACTS

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.



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

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.



8 LOGISTICAL INFO

PARTICIPANTS

Participation in the Forum is open to Ministers and Authorities in charge of space affairs of the Arabian Gulf region and other invited Arab countries. Delegations should be composed of a maximum of 4 delegates, possibly including representatives of both the government and the national scientific and academic community. Space agencies of the rest of the world, International Space Organizations, and the IAF community are also invited as observers.

DATES AND LOCATION

The Forum will be held in Manama, Bahrain, on Tuesday, 2 July 2024, at the Gulf Hotel Bahrain, located in Building 11 Rd No 3801, Manama, Bahrain.

SOCIAL EVENTS

On Monday, July 1st, the Italian Embassy to Bahrain will offer a Welcome reception at the Italian Ambassador's Residence in Manama (Villa 1554 - Road 5647, Manama, Capital Governorate 356).

On Tuesday, July 2nd, Delegations are invited to join a Gala dinner offered by the Government of Bahrain. It will take place at the Gulf Convention Centre within the Gulf Hotel Bahrain Premises.

TRANSPORTATION

The Kingdom of Bahrain has a public transport system which includes taxicabs and buses (<https://www.bahrainbus.bh/>). All taxicabs in Bahrain run by meter, so customers are requested to make sure that the driver has indeed turned it on at the start of the ride.

A number of private companies also offer transport services, which can be found in the following link: <https://www.mtt.gov.bh/content/taxis>.

TOURIST TOUR

The NSSA is delighted to offer an optional exquisite experience to visit Bahrain's National Museum on Wednesday, July 3rd, 2024, to experience an astonishing tour escorted by certified guidance to witness the history and heritage of the kingdom. With contemporary sculptures. The exhibition halls showcase artifacts uncovered in the numerous archaeological sites in Bahrain and underpinning the longstanding history of the island. The rich collection covers 6000 years of Bahrain's history. In addition to the archaeological exhibits, two halls are dedicated to local customs and traditions, featuring clothing, housing, rituals, and traditional crafts. Moreover, the art hall features a permanent collection of works by some of Bahrain's leading artists as well as regularly hosting temporary exhibitions. The Bahrain National Museum is considered one of the finest museums of its kind in the Arabian Gulf region and one of the island's main cultural landmarks.

Tours schedule:

- Pick up from Gulf Hotel: 9:30AM
- End of tour and return to Gulf Hotel: 11:30AM

Delegates interested in participating in the visit should inform: spaceforum@iafastro.org



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

LANGUAGE OF THE FORUM

The Official Language of the Forum is English.

SECURITY DURING THE EVENT

National and local Authorities will take all necessary security measures.

Delegates are required to always wear their identity badges both at the Welcome Reception and at the Forum Session venue.

Delegates may collect their badges on July 1st, at the dedicated desk that will be located near the reception area in the Gulf Hotel Bahrain starting from 16:00 to 19:00, or on July 2nd, from 8:30 to 9:30, at the dedicated desk that will be located within the Forum venue.

LIFE AND HEALTH INSURANCE

Life and major health insurance are the responsibility of each selected participant or his/her nominating institution or government. The co-organizers will not assume any responsibility for life and major health insurance, nor any expenses related to medical treatment or accidents.

ARRIVAL IN MANAMA CITY

Bahrain International Airport is located in the island of Muharraq, the second largest island in Bahrain.

Taxis are readily available at the airport. It is also possible to rent a car or take private transfers in advance or upon arrival (<https://www.bahrainairport.bh/car-rental-limousine-services/>).

VISAS

Currently, every nationality entering the Kingdom of Bahrain needs an entry visa, except for the Gulf Cooperation Council nationals (Kuwait, Oman, United Arab Emirates, Saudi Arabia, and Qatar). You can easily find out your eligibility to receive an entry visa through the eVisa (<https://evisa.gov.bh/>) platform provided by the Nationality, Passport, and Residence Affairs (NPRA) (<https://www.npra.gov.bh/en/>).

The platform also enables you to check the status of your visa, pay for the application, correct your visa data application, and even extend your visa if you choose to extend your visit.

HEALTH & SECURITY

Manama city is a safe and modern city with high security standards and good quality health services. Public hospitals are open 24 hours a day and attend patients free of charge, and pharmacies are easily found all over the city.

Any medical costs incurred during the stay in Bahrain shall be borne by the Forum delegates. It is therefore strongly recommended that delegates take care of their own health insurance.

If required, the link below lists the emergency contacts in Bahrain:

<https://www.bahrain.bh/wps/portal/en/BNP/DirectoryOfEmergencyHotlineNumbersEmergency>



WEATHER

The climate in Bahrain is affected by the proximity to the Arabian desert, usually hot and humid. The temperature in July ranges between 35°/45°

ACCOMMODATION IN MANAMA CITY

For the best and most convenient experience during the forum, participants are kindly requested to make their reservation at the Gulf Hotel Bahrain, the venue of the event. This choice will help you avoid heavy traffic on the roads, ensuring a smooth and stress-free commute. The Gulf Hotel Bahrain offers comfortable accommodations and the convenience of staying at the forum venue, thereby making your overall experience much more enjoyable and efficient.

For additional information about the hotel, please visit the following website: <https://www.gulfhotehbahrain.com/>.

Arrangements have been done with the Gulf hotel to obtain discounted room rates for ISF participants, in which you may avail by using the below form:



ROOM
RESERVATION FORM

MORE INFORMATION

You can find more information about the city, practical information and attractions at:

- <https://culture.gov.bh/en/visitingbahrain/>.
- <https://www.bahrain.bh/wps/portal/en/BNP/AboutTheKingdom/AboutBahrain>.

FORUM POINT OF CONTACT

International Astronautical Federation (IAF)
100 Avenue De Suffren
75015 Paris, France
spaceforum@iafastro.org



مملكة البحرين



International Astronautical Federation (IAF)

100 Avenue de Suffren
75015 Paris
France

Phone: +33 1 45 67 42 60
Email: info@iafastro.org
Website: www.iafastro.org



Agenzia Spaziale Italiana (ASI)

Via del Politecnico
00133 Roma
Italy

Phone: +39 06 8567 237
Fax: +39 06 8567 322
Email: urp@asi.it
Website: <http://www.asi.it/en>



The National Space Science Agency (NSSA), Bahrain

2nd Floor, Bldg. 702 (Ports and Maritime), Rd. 1510,
Blk. 115 Hidd
Kingdom of Bahrain

Phone: +973 17558811
Email: nssa@nssa.gov.bh
Website: <https://www.nssa.gov.bh/>

Be part of the conversation on #ISF2024

