

UAE announces its participation in Nasa's Lunar Gateway Station

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In the presence of UAE President His Highness Sheikh Mohamed bin Zayed Al Nahyan and His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, the UAE has announced its participation in developing a module on Nasa's Lunar Gateway Station alongside the USA, Japan, Canada and the European Union, in addition to sending the first Emirati astronaut into lunar orbit as part of the project.

The nation's contribution in the development of the Crew and Science Airlock module on the Lunar Gateway Station, aims to strengthen its global presence in the fields of space science and technology.

UAE President His Highness Sheikh Mohamed bin Zayed Al Nahyan said during the event, which was held at Qasr Al Watan in Abu Dhabi, "The UAE's participation in this international project reflects our commitment to promoting partnerships with the world that contribute to the advancement of knowledge and progress for humanity."

His Highness Sheikh Mohamed bin Zayed Al Nahyan expressed his pride in the national institutions and teams that contribute to achieving the UAE's ambitions in the space sector, and reiterated the leadership's continued support for ongoing participation in international missions and events that advance the sustainable development of the country and the global community.

His Highness Sheikh Mohammed bin Rashid Al Maktoum said, "We have a longstanding journey in the space sector, our team comprises highly skilled professionals capable of leading the most challenging scientific missions. Our unwavering ambition knows no limits when it comes to our future Emirati projects."

His Highness Sheikh Mohammed bin Rashid Al Maktoum further noted, "A significant mission awaits us in this project that represents a groundbreaking initiative for humanity's return to the Moon, landing on its surface and establishing it as a base for future missions toward Mars. The Emirati team alongside other international teams, are capable of accomplishing this mission, and we will support them by providing all the necessary resources."

The announcement ceremony was held in the presence of His Highness Sheikh Mansour bin Zayed Al Nahyan, Vice President, Deputy Prime Minister and Chairman of the Presidential Court; H.H. Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of Dubai Executive Council; H.H. Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum, First

Deputy Ruler of Dubai and Deputy Prime Minister and Minister of Finance; H.H. Lt. General Sheikh Saif bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Interior; H.H. Sheikh Abdullah bin Zayed Al Nahyan, Minister of Foreign Affairs; H.H. Sheikh Hamdan bin Mohamed bin Zayed Al Nahyan; Sheikh Mohammed bin Hamad bin Tahnoun Al Nahyan, Advisor for Special Affairs at the Presidential Court; Mohammad bin Abdullah Al Gergawi, Minister of Cabinet Affairs; and a number of ministers and senior officials.

The UAE is the fifth partner in this project, which will be among the most important global achievements of the 21st century, and represents a historic achievement among the UAE's accomplishments in the space sector.

This contribution comes in cooperation with the National Aeronautics and Space Administration (NASA). The project represents humankind's renewed ambition to revisit the Moon after an absence of more than fifty years. This initiative involves landing on the Moon's surface in preparation for upcoming missions directed towards Mars.

Airlock features and details

The UAE will be responsible for developing the lunar space station's Crew and Science Airlock, a critical component for maintaining a safe environment for astronauts. This unit will act as a portal of the station, serving as the entry and exit point for missions and astronauts travelling to the Moon's surface from the Lunar Gateway Station.

The UAE will also undertake the management and operation of the station's Airlock. The Airlock's length is 10 metres, its width is 4 metres, weight 10 tonnes, while the size of the entire station is: 19 x 20 x 42M.

The station will double as a space laboratory, enabling a range of scientific and technical experiments, and will have a minimum lifespan of 15 years, which is subject to extension.

The first elements of Gateway are expected to be launched by 2025, while the Emirates Airlock is scheduled to be launched by 2030.

Airlock Project phases

The Airlock development stages will include five main stages: The planning stage; the design phase; the qualification process; the flight preparation; and the operations stage.

The planning stage consists of establishing objectives, strategies and Project partners for the creation of the Airlock module, while the second stage will include the development of detailed designs and specifications for the components of the Airlock unit in order to be assembled.

The qualification process stage is characterized by testing and qualifying the Airlock unit's components to ensure their reliability and safety for space

conditions and requirements. The fourth phase of the Airlock's development will include the preparations and launching of the space components and integrating them into the Lunar Gateway Station.

The Mohammed Bin Rashid Space Centre (MBRSC) will be responsible for managing, maintaining, and operating the Airlock, ensuring it functions effectively as part of the Gateway.

What is Artemis?

The pivotal NASA mission "Artemis" is focused on returning humans to the Moon and establishing sustainable long-term Lunar missions. The Artemis missions are expected to provide invaluable insights into lunar resources, technologies, and how to live and work on another celestial body, significantly advancing our understanding of the Moon, Mars and the expanses of the universe.

The Lunar Gateway Station is a key component of this endeavour, as humanity's first space station orbiting the Moon. This station, built in collaboration with international and commercial partners, will provide essential functions to support astronaut health and mission objectives.

The Gateway will enable long-term astronaut stays, enhanced communication with the lunar surface, and facilitate studies on solar and cosmic radiation, as part of the programme's vision of lunar exploration and future missions to Mars.

Significant input of the UAE

The UAE's involvement in the Gateway marks a momentous advancement in international space collaboration. This will elevate the nation as a pivotal leader in the global space community of the future.

The UAE will hold a permanent seat and contribute scientifically to the largest programme for lunar and space exploration. It will be among the first countries to send an astronaut to the Moon, with priority access to advanced scientific and engineering data gathered by the station, enhancing its journey of knowledge.

Gateway supports sustained exploration and research in deep space, including docking ports for a variety of visiting spacecraft; space for crew to live, work, and prepare for lunar surface missions for a duration of up to 90 days; and on-board science investigations to study helio-physics, human health, and life sciences, among other areas.

Hamad Obaid AlMansoori, Chairman of the Mohammed Bin Rashid Space Centre (MBRSC), said, "Our participation in this project marks a new chapter in the UAE's journey of space exploration. Guided by the ambition of our leadership, we are entering a fresh era in space exploration. Their wise vision has been a driving force behind our involvement in the development of Nasa's Lunar Gateway Station, a global milestone showcasing the UAE's commitment and

expanding capabilities.”

Salem Humaid Al Marri, Director-General at Mohammed Bin Rashid Space Centre, said, “We are grateful for the unwavering commitment and ambitious vision of our wise leadership, which has transformed space into a field of innovation and scientific progress. The UAE’s contribution in this project is not just a national triumph but a global achievement. It showcases our ability to actively contribute to space exploration. This project emphasizes the significance of international cooperation in this field, and reflects our keenness to participate in the re-establishment of human presence on the Moon and advance space missions towards Mars.”

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