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2023: A YEAR OF SPACE MILESTONES FOR UAE

All eyes on Rashid Rover's Moon touchdown, Al Neyadi's ISS mission and MBZ-Sat launch

DUBAI

BY ANGEL TESORERO
Senior Reporter

Following the successful launch of Moon-bound Rashid Rover in December 2022, the UAE is set to achieve several milestones in space exploration this year.

Emirati astronaut Sultan Al Neyadi heads to the International Space Station on a six-month mission, Rashid Rover is expected to land on the Moon's Atlas Crater by April and MBZ-SAT, touted as the region's biggest and most powerful satellite, will be launched this year.

Hope Probe is constantly sending new pictures and data of the Martian atmosphere.

"From the Earth's orbit to the asteroid belt, 2023 will be a very exciting year for space scientists in the UAE," Dimitra Atri, astrophysicist at New York University in Abu Dhabi, told *Gulf News*. "I am looking forward to the landing of the Rashid Rover which will enable us to study the surface of the Moon in greater detail."

Here's a look at UAE's space exploration milestones in 2023.

Marhaba, Moon

This April will be the most critical stage for the first Emirates Lunar Mission (ELM), when Rashid Rover is expected to land on the Moon's surface.

In a previous interview with *Gulf News*, ELM project manager Dr Hamad Al Marzooqi said: "Rashid Rover is in good health. There will be some critical



Ahmed Ramzan/Gulf News Archives

Rashid Rover is in good health ... the 'big moment' comes when it touches the lunar surface. Then we can declare that the UAE has stepped on the Moon for the first time."

Dr Hamad Al Marzooqi
| ELM project manager

- **Left:** Dr Hamad Al Marzooqi with a model of the Rashid Rover, expected to touch down on the Moon in April.
- **Below:** Technicians work on the MBZ-Sat, designed to be three times more efficient than KhalifaSat.

700kg
weight of MBZ-Sat. Its advanced high-resolution camera can take images from 500km above the Earth's surface



points in the coming weeks and we will keep everyone posted." He added that the landing would be the most critical part of the lunar mission.

"Once Hakuto-R safely

lands, the rover will be released and we can start our operation. We will deploy the mast and antenna following a check-up and calibration of all instruments. The 'big moment' will happen

when Rashid Rover touches the lunar surface and we can declare that the UAE has stepped on the Moon for the first time."

The four-wheeled rover named after Shaikh Rashid Bin

AL NEYADI SET FOR SIX-MONTH ISS MISSION

Emirati astronaut **Sultan Al Neyadi** is set to become the first Arab astronaut to spend six months on the International Space Station as part of the SpaceX Crew 6 mission. He and Hazzaa Al Mansoori, who was the first Emirati to complete an eight-day ISS mission in September 2019, have completed their European Space Agency Columbus training.

The targeted launch date for the SpaceX Crew-6 mission is mid-February. It will be launched from NASA's Kennedy Space Centre in Florida. Aside from Al Neyadi, the SpaceX Dragon spacecraft named Endeavour will also carry NASA astronauts.



Saeed Al Maktoum, builder of modern Dubai, will study the Moon's surroundings for one lunar day, which is equivalent to 14.75 days on Earth. It will also perform numerous scientific experiments to measure the effectiveness of materials on the lunar surface, and explore the process of overcoming natural obstacles on the Moon.

DubaiSat-1 and DubaiSat-2, that were jointly built by Emiratis and South Koreans.

KhalifaSat was the first Emirati-built satellite. MBZ-Sat is expected to improve image quality and increase download speed to supply content more efficiently to customers.

'The best is still to come'

The UAE's space ambitions can be best summed up by a tweet by His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, when he visited MBRSC to witness the launch of Rashid Rover.

He said: "We started with Mars and are now moving to the Moon while eyeing Venus. Our goal is to share knowledge, develop our capabilities, and add a scientific footprint in human history. The aspirations of Emirati people are boundless and nothing can hold them back. The best is still to come."

Region's biggest satellite

This year, the UAE is also expected to launch the region's biggest and most powerful satellite on a Falcon 9 rocket.

Named after President His Highness Shaikh Mohammad Bin Zayed Al Nahyan, MBZ-Sat, is designed to be three times more efficient than KhalifaSat – the first UAE-made satellite launched in 2018. The 700kg MBZ-Sat will have an advanced high-resolution camera that can take images from 500km above the Earth's surface.

The first Earth-observation satellites by the UAE were