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NATION | P2

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THE VIEWS | P9

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BUSINESS | P6

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Mohammad: Work begins on Rashid 2

'WE SUCCEEDED IN BUILDING A SPACE SECTOR FROM SCRATCH IN 10 YEARS'

DUBAI

BY SAJILA SASEENDRAN
Senior Reporter

The UAE will develop new rover called Rashid 2 for another attempt at exploring the Moon's surface, it was announced yesterday by His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, reflecting the nation's unwavering commitment to the lunar mission.

The announcement came a day after communication with the Japanese lander craft carrying the UAE's first rover, called Rashid, was lost moments before touchdown on the Moon.

Remarkable feat

In a tweet inspiring hope among the UAE people, Shaikh Mohammad said: "Despite the Rashid rover's unsuccessful moon mission, our ambitions have soared higher, reaching beyond the stars. In just 10 years, the UAE has created a team of talented young professionals and established a flourishing space sector."

Shaikh Mohammad added: "Undeterred by setbacks, the



We succeeded in raising the ceiling of our ambition to reach the Moon... The next is more beautiful, greater and more daring."

Shaikh Mohammad Bin Rashid Al Maktoum

UAE will start working on Rashid 2, a new rover for another attempt to reach the moon, from today... As a country founded on ambition, the UAE will not cease pursuing its goals."

Closely following Shaikh Mohammad's comments, Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of The Executive Council of Dubai, tweeted: "The biggest risk is not to take any risk. Risk is an integral part of any space mission, but that has never deterred us from exploring new frontiers of space. We remain steadfast in our commitment to undertake groundbreaking missions that will establish the UAE as a leading spacefaring nation."

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Courtesy: Twitter/@Astro_Alneyadi

■ Sultan Al Neyadi standing between two Extravehicular Mobility Units. His historic spacewalk along with Nasa astronaut Stephen Bowen is scheduled to begin from 5.15pm tomorrow.

Al Neyadi suits up for first Arab spacewalk

UAE ASTRONAUT GIVES INSIGHTS INTO PREPARATIONS

DUBAI

BY SAJILA SASEENDRAN
Senior Reporter

UAE astronaut Sultan Al Neyadi is preparing for the first Arab spacewalk outside the International Space Station (ISS) in a spacesuit weighing 145kg on Earth.

His historic feat along with Nasa astronaut Stephen Bowen is scheduled to begin from 5.15pm tomorrow (April 28). This will make the UAE the 10th country to undertake a spacewalk, also known as Extravehicular Activity (EVA).

Yesterday, Al Neyadi posted a video on Twitter to explain how he is preparing for the daring task that is expected to last six-and-a-half hours.

“Many of you must be wondering how we prepare for spacewalks. Here is a look into our preparations from the airlock onboard the ISS, as we get ready for our mission on 28/4/2023,” he posted.

Al Neyadi can be seen standing in between two massive spacesuits or the Extravehicular Mobility Units (EMU).

Preparations in airlock

Al Neyadi that he was speaking from the Quest Airlock, a pressurised module on the space station. It is the primary path for spacewalk entry and departure for astronauts. The airlock consists of two compartments attached end-to-end by a connecting bulkhead and hatch. The first compartment is the ‘Equipment Lock’ which provides the systems for suit maintenance and refurbishment. The second one is the ‘Crew Lock,’ which provides the actual exit for performing spacewalks.

Al Neyadi then gives a description about the spacesuits.

Miniature spacecraft

“These suits serve as miniature spacecraft providing protection because spacewalk missions can last for approximately seven hours,” he said.

“The suit provides oxygen and protection from high temperatures in outer space. If exposed to the sun, temperatures can reach up to 120 degree Celsius, while in the dark, temperatures can drop to approximately -150 degree Celsius. The suit provides protection from both,” he explained.

Al Neyadi also gave a quick explanation about some parts of the EMU. “As astronauts are of different statures, the suit



Courtesy: Twitter/@Astro_Alneyadi

■ Al Neyadi checks a spacesuit in the Quest Airlock, which is the primary path for spacewalk entry and departure on ISS.

As astronauts are of different statures, the suit comes in three sizes: medium, large and extra-large. One can further alter the size of the arms and legs to fit them.”

Sultan Al Neyadi
UAE astronaut on the ISS

145kg
weight of spacesuit
Al Neyadi will wear



Watch Al Neyadi talk about how he is preparing for historic spacewalk tomorrow

MINI SPACECRAFT

The **Extravehicular Mobility Unit**, or spacesuit, worn by astronauts outside the ISS, is akin to a small spacecraft.

Its main components consist of a hard upper torso assembly, primary life support system, arm assembly sections, gloves, an **Apollo-style ‘bubble’ helmet** with camera and lights, the extravehicular visor assembly and a **soft lower torso assembly**, incorporating the body seal closure, waist bearing, brief, legs, boots and an adult-sized diaper.

The bag-like back section is the **portable life support system**, which provides air to the astronauts and battery power for the suit’s electrical functions. It contains oxygen, refrigeration equipment, communication equipment and air purifiers.

comes in three sizes: medium, large and extra-large. One can further alter the size of the arms and legs to fit them,” he said.

“The upper part of the suit contains the helmet which is protected by a hard layer and looks like sunglasses. The suit also has covers on the right and left sides and an additional sunshade for protection from strong sunlight,” he added.

SAFER life jacket

A device called Simplified Aid For EVA Rescue (SAFER) is also attached to EMU. It is essentially a ‘life jacket’ for spacewalks. The self-contained maneuvering unit that is worn like a backpack.

The system relies on small nitrogen-jet thrusters to let an astronaut move around in space. Astronauts must acti-

vate the SAFER in emergency situations as the space station cannot maneuver to rescue a free-floating EVA crew member unlike space shuttles.

Configuring EMUs

Meanwhile, NASA said Bowen and Al Neyadi spent Tuesday configuring their EMUs to get ready for the spacewalk.

Bowen will be referred to as EV-1 in a red-striped EMU and Al Neyadi will be the EV-2 in an unmarked, all white EMU.

The astronaut duo will retrieve an S-band antenna equipment, which enables communication with Earth, and bring it inside the space station for refurbishment.

They will work on a series of preparatory tasks related to the solar array installation EVAs planned for later in the mission.

“UAE will continue setting greater and bolder goals.”

MOHAMMAD ANNOUNCES THAT MBRSC WILL WORK ON RASHID 2, A NEW EMIRATI LUNAR MISSION

DUBAI

BY SAJILA SASEENDRAN
Senior Reporter

His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, yesterday visited the Mohammad Bin Rashid Space Centre (MBRSC) and met with the team behind the UAE's first attempt to land a rover on the lunar surface.

Stressing the importance of determination in achieving success in the space industry, Shaikh Mohammad said the UAE will continue to launch new space exploration missions. He announced that Rashid 2, a new Emirati lunar mission, will be undertaken by MBRSC.

Shaikh Mohammad was accompanied by Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of Dubai Executive Council.

In a series of tweets, Shaikh Mohammad said: “Emiratis have proved their ability to develop advanced space projects and rapidly create a vibrant national space sector. The UAE built a space sector from scratch within just 10 years. The Rashid Rover mission was driven by the country's ambitious vision for space exploration.”

He added: “As a country founded on ambition, the UAE will not cease pursuing its goals. The nation will continue setting beautiful, greater, and bolder goals for itself, reflecting the unwavering determination evident since its founding on December 2, 1971. The best is yet to come.”

Hamdan: Risk is an integral part of any space mission

Shaikh Hamdan tweeted: “@HSHkMohd once said: “The biggest risk is not to take any risk.” Risk is an integral part of any space mission, but that has never deterred us from exploring new frontiers of space.”

He added: “Our ambition knows no bounds, and we remain steadfast in our commitment to undertake groundbreaking missions that will establish the UAE as a leading spacefaring nation.”

Noting that the UAE is poised to enter a new phase of space exploration, he said: “Today, under the guidance of His Highness Shaikh Mohammad Bin Rashid, we announce the



■ Shaikh Mohammad and Shaikh Hamdan met with the Emirates Lunar Mission team during a visit to the MBRSC yesterday, a day after Japanese company iSpace confirmed the unsuccessful landing of its Hakuto-R lander, which was carrying the Rashid rover.



■ Shaikh Mohammad congratulated the team behind the UAE's first attempt to reach the moon and said that the UAE will continue to launch new space exploration missions.

WORLD'S MOST COMPACT LUNAR ROVER

Through the Emirates Lunar Mission, MBRSC achieved its ambitious goal of designing and building the world's most compact rover. It was also the first Arab rover to reach the lunar orbit before the landing attempt onboard iSpace's Hakuto-R lander. The Rashid Rover weighed about 10kg and was around 80cm high.

MBRSC partnered with 10 international and four UAE-based entities for the Emirates Lunar Mission's science programme. In collaboration with close to 40 scientists and researchers, MBRSC developed the main instruments, the optical cameras, microscopic imager and Langmuir probe on board the Rashid Rover.

launch of the Rashid 2 project, a new Emirati attempt to reach the moon.”

The outcome of the Rashid rover landing marks only the beginning of a promising jour-

ney of exploration, Salem Humaid Al Marri, director-general of MBRSC, said in a statement posted on Twitter yesterday.

“Our colleagues have developed the first Emirati and Arab

Rover; a notable achievement in and of itself and one we can all stand proudly behind. Thank you to the entire team for their unwavering devotion and hard work. We also thank our mission partners, iSpace and CNES for their efforts and their spirit of collaboration.”

Al Marri also pointed out how the UAE leaders have inspired others to take up challenges to make the impossible possible.

Al Amiri: Hakuto-R lander was a pioneering concept

Sarah Al Amiri, Chairwoman of the UAE Space Agency Minister of State for Public Education and Advanced Technology, tweeted: “Hakuto-R lander was

Emiratis have proved their ability to develop advanced space projects and rapidly create a vibrant national space sector. The UAE built a space sector from scratch within just 10 years. The Rashid Rover mission was driven by the country's ambitious vision for space exploration.”

Shaikh Mohammad Bin Rashid Al Maktoum

a pioneering concept, the first attempted landing on the moon by a private sector operator. Its loss has consequently meant the loss of the Rashid Rover, which was to have explored new regions of the moon.”

She added: “Years of hard work and dedication from MBRSC engineers have not only developed the capabilities of the Emirates' space sector, but have ensured that the whole sector has learned and moved ahead in leaps and bounds.

“We continue to have the opportunity to consolidate our work, learn from our setbacks and continue to strive to pursue the development of our vibrant private space sector.”