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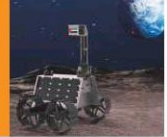


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ALL YOU NEED TO KNOW ABOUT RASHID ROVER

'SMALLEST AND LIGHTEST' ROVER TO BE DEPLOYED ON MOON'S SURFACE



10kg

Weight of the Rashid Rover with payload

A successful mission would jointly catapult the UAE and Japan as the fourth entity to land on the lunar surface.

MILESTONE

DUBAI

BY ANGEL TESORERO
Senior Reporter

The Arab world is now getting closer than ever to the moon, with Emirates Lunar Mission (ELM) only a few months away from sending the UAE-made Rashid Rover to the lunar surface.

The Mohammed bin Rashid Space Centre (MBRSC) said: "Rashid Rover's flight model is now complete and the dream of Arabs landing on the moon will soon become a reality."

Designed and assembled by Emirati engineers and researchers at MBRSC, Rashid Rover is the 'smallest and lightest' rover to be deployed on the moon's surface. It can climb over an obstacle up to 10cm tall and descend a 20-degree slope.

Rashid Rover — named after the late Shaikh Rashid Bin Saeed Al Maktoum — is actually two years ahead of its original launch schedule. It was first announced in 2020 by His Highness Shaikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, and the initial launch date was in 2024.

When is the launch date?

The rover will be delivered to the lunar surface by Japanese lander Hakuto-R, aboard a SpaceX Falcon 9 rocket that will lift off from Kennedy Space Centre in Florida, US, during the launch window between October to December this year.

The journey from Earth to the lunar surface will take around three months. Landing on the moon surface will be provided by Hakuto-R Mission 1, which is being developed by ispace, a private Japanese space company. The name of the robotic lunar lander is translated as 'white rabbit' in English and refers to a character in East-Asian Moon legend.

A successful mission would jointly catapult the UAE and Japan as the fourth entity to land on the lunar surface, after the US, the former Soviet Union and China.

What is Rashid Rover's mission?

Rashid Rover's core mission is to better understand how lunar dust and rocks vary across the moon. It will

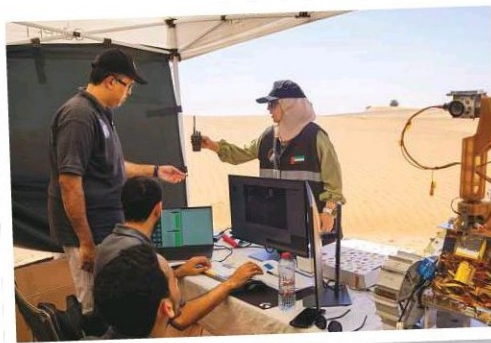
MISSION

HOW WILL ROVER SHOOT THE UAE TO THE STARS?

President His Highness Shaikh Mohammad Bin Zayed Al Nahyan said on Wednesday: "I was pleased to meet with members of the Emirates Lunar Mission team. This historic project is further expanding the UAE's contribution to the space sector and enabling our people to harness their knowledge and skills to serve their country and humanity."

Shaikh Mohammad also affirmed his confidence in the UAE youth. He said the lunar mission was great confirmation that the historic achievement of the 'Hope Probe' was only the beginning of the UAE's journey of space exploration. He added: "The UAE's endeavour to explore the moon confirms its belief in science as a path to development and enhances its position among the leading countries in space science for the benefit of humanity."

His Highness Shaikh Mohammad Bin Rashid Al



Twitter

Rashid Rover can climb over an obstacle up to 10cm tall and descend a 20-degree slope.

Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, said: "The Emirates Lunar Mission constitutes a new era of the UAE's success in the field of space. Our ambition in the space sector has no limits. The international cooperation with various partners during the coming period is very important."

"Rashid Rover will land on the moon in the next few months, carrying with it our pride in the nation's young people and scientists. The mission will push the UAE's aspirations to the next level and set the stage for a new scientific era in the history of the country," he added.

—A.T.



capture photos and collect information from 'Mare Frigoris', a crater area that lies in the far lunar north, which will be explored for the first time. 'Mare' (pronounced as MAR-ay) are vast basins on moon's surface that were formed billions of years ago.

According to MBRSC: "Rashid Rover will provide about ten gigabytes of recorded material, scientific data and new images to the global scientific community. It aims to study the moon's plasma and to provide answers about moon dust, the lunar surface, mobility on the moon's surface and how different surfaces interact with lunar particles."

"The technical team responsible for the mission will work hard to overcome potential challenges and difficulties, which include the difficulty of landing on the surface of the moon," MBRSC added.

Rashid Rover will play a big role in UAE's space exploration. MBRSC noted: "The rover will collect images and information that will allow the UAE to con-

duct comprehensive and integrated studies on how to build human settlement on the moon, prepare for future missions to study the red planet and provide the scientific community with answers about the solar system and other planets."

What are its technical specifications?

Rashid Rover's height is 70cm, length is 50cm and width is 50cm. Its weight is approximately 10kg with payload but it can climb over an obstacle up to 10cm tall and descend a 20-degree slope.

MBRSC said Rashid Rover is equipped with the latest technologies and innovative devices and it is distinguished by its ability to resist the lunar surface temperature, which drops to as low as minus 173 degrees Celsius, from as high as 127 degrees

Celsius, when sunlight hits the moon's surface.

Rashid Rover has 3D cameras, advanced motion system, sensors, communication system that are powered by solar panels. There are four cameras that move vertically and horizontally, including two main cameras, a microscope camera, and a thermal imaging camera. Its sensors will analyse the properties of lunar soil, dust, radioactivity, electrical activities, as well as the rocks on the moon surface.

Its advanced motion system is designed to enhance the efficiency of the rover's movement on the Moon and ability to overcome natural barriers as well as resistance to changing temperatures.

Rashid Rover will capture multiple images and send those back to the control room in Dubai, where the ELM team at MBRC will test new technologies in material science, robotics, mobility, navigation and communications. The findings will then help in the design of future missions to survive and function in harsh space environment.