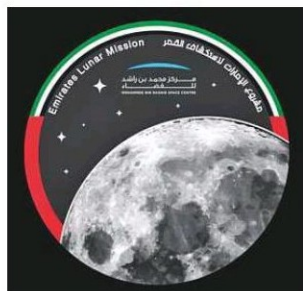




**NATION**

**Moon mission:  
Lunar rover  
named Rashid,  
to be designed  
by Emirati  
engineers,  
set for 2024  
launch** | P4



# UAE on a mission to explore Moon

LUNAR ROVER NAMED RASHID, SET FOR 2024 LAUNCH, WILL BE ENTIRELY DESIGNED AND BUILT BY EMIRATI ENGINEERS

**DUBAI**

The UAE yesterday launched the first Arab mission to explore the moon with a lunar rover to be designed and built entirely by an Emirati team of engineers, experts and researchers.

Announcing the Emirates Lunar Mission yesterday, His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, said that the rover has been named 'Rashid' in honour of Shaikh Rashid Bin Saeed Al Maktoum, builder of modern Dubai.

The mission is part of the 2021-31 strategy launched by the Mohammad Bin Rashid Space Centre (MBRSC).

If successful, the UAE will become the first Arab country and the fourth in the world to land on the lunar surface after the US, Russia and China. MBRSC will partner with an international entity to assist in landing the rover on the Moon.

Shaikh Mohammad said: "By exploring the Moon, we are drafting a new inspiring chapter in the UAE's growing list of achievements in space. We chose to name the Lunar Rover 'Rashid', after the builder of the modern renaissance of Dubai and one of the founders of the UAE. This project is the largest national and humanitarian project in the region."

**Uncharted territory**

The rover will land in an area of the Moon's surface that has not been explored by any previous lunar exploration missions. Therefore, it will provide new data, images, and insights. It will also collect scientific data on matters relating to the origin of the solar system.

Shaikh Mohammad said: "We have a large-scale space programme combined with an unwavering will, strategic governance and an ambitious cadre of scientists, researchers and engineers. The future awaiting us is full of achievements and innovations. What lies ahead is even more promising."

**Ideal platform**

The Moon is considered an ideal platform to test new technologies and equipment that can be used in future space exploration missions, including Mars. Landing on the Moon also allows for long-term exposure of sensors and other technologies to the space environment.

The Lunar Rover will further test new exploration techniques on the Moon, which will help test the UAE's capabilities for manned missions to Mars.

## MeznSat sends first signal to UAE ground station

Nanosatellite built by students is 'healthy and alive'

**DUBAI**  
 BY ANGEL TESORERO  
 Staff Reporter

MeznSat, the UAE's first environmental nanosatellite built by students, sent its first signal to the ground station at American University in Ras Al Khaimah (AURAK) at 1.41am (UAE time) yesterday, following its successful launch in Russia on Monday.

In a statement to *GulfNews*, Dr Abdul Halim Jallad, supervisor of MeznSat project at

AURAK, said that the signal is an indication that the miniature satellite - built to study climate change, detect greenhouse gas concentrations in the Arabian Gulf region - is "healthy and alive".

He added: "We have also succeeded in transmitting back a signal that the satellite received and acknowledged."

**Crucial stage**

The team at AURAK is expecting to get the next signal from MeznSat on Wednesday during its next orbital passage. They will then move to the most important stage, which is commissioning and ensuring stability of the satellite's orbit and angular speed.

### ALL YOU NEED TO KNOW ABOUT EMIRATES LUNAR MISSION

The development and launch of the first Emirati lunar rover named Rashid in honour of Shaikh Rashid Bin Saeed Al Maktoum, builder of modern Dubai, is part of the Mohammad bin Rashid Space Centre's 2021-31 strategy.

**100%**  
 Emirati team of engineers, experts and researchers will design and build the rover

**1,000**  
 Images expected to be sent by the lunar rover



By exploring the Moon, we are drafting a new inspiring chapter in the UAE's growing list of achievements in space and beyond. We chose to name the Lunar Rover 'Rashid' after the builder of the modern renaissance of Dubai and one of the founders of the UAE. This project is the largest national and humanitarian project in the region."

Shaikh Mohammad Bin Rashid

**Exclusive club**

If successful, the UAE will become the first Arab country and the fourth in the world after the US, Russia and China to land on the lunar surface.

**Technical specifications**

The lunar rover will be equipped with a 3D camera, advanced motion system, sensors, communication system and be powered using solar panels. It's robust structure will protect devices and machinery from changing temperatures.

- Four cameras:** Two high-resolution main cameras, a microscope camera, and a thermal imaging camera will move vertically and horizontally.
- Sensor system:** It will analyse the properties of soil, dust, radioactivity, electrical activities, and rocks on the Moon's surface.
- Advanced motion system:** It will enhance the efficiency of the rover's wheels' movement on the Moon and facilitate the process to overcome natural barriers

**Scientific objectives**

- The rover will capture multiple images and relay them back to the control room in Dubai.
- It will study the lunar soil and its thermal properties.
- It will carry out measurements and tests of Moon plasma, photoelectrons and lunar dust particles.

It will test new technologies in material science, robotics, mobility, navigation, and communications, specially designed to survive and function in the harsh lunar environment.

**What is Strategy 2021-31?**

It is a roadmap for the MBRSC's work during the next decade. It aims to boost its international competitiveness, build new international knowledge partnerships and develop Emirati capabilities in space exploration and technologies. Strategic programmes in the coming decade include:

**Hope Probe**  
 Part of the Emirates Mars Mission, it will provide data to over 200 academic and scientific research institutions around the world and set the stage for the Mars 2117 programme.

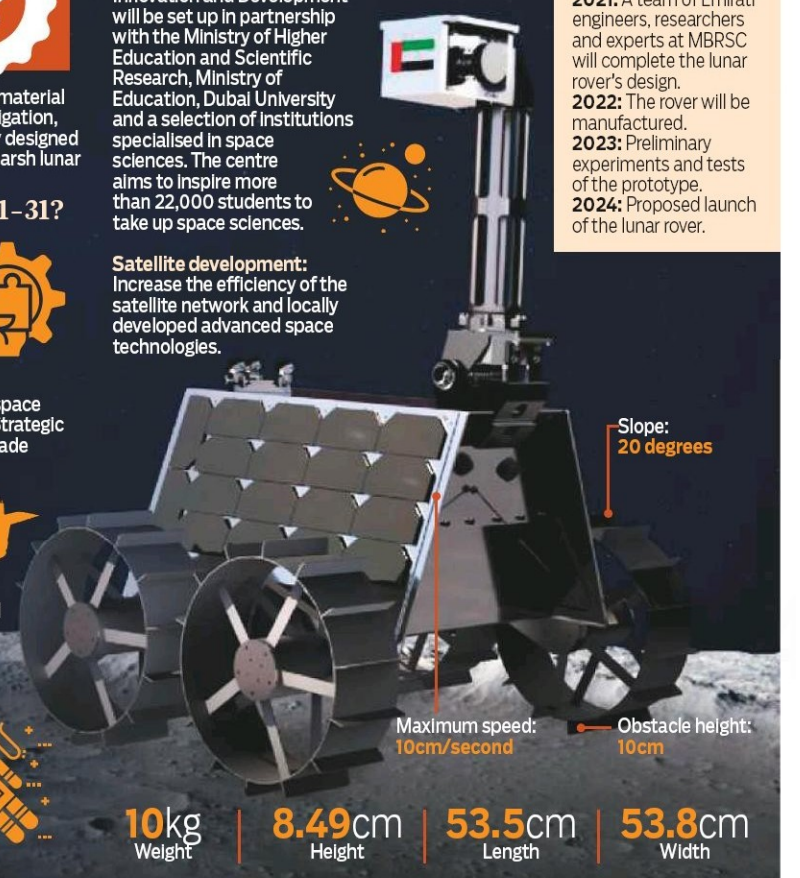
**UAE Astronaut Programme:** Train Emirati astronauts for future space missions in partnership with NASA.

**Space Sector Sustainability Programme:** A Centre for Innovation and Development will be set up in partnership with the Ministry of Higher Education and Scientific Research, Ministry of Education, Dubai University and a selection of institutions specialised in space sciences. The centre aims to inspire more than 22,000 students to take up space sciences.

**Satellite development:** Increase the efficiency of the satellite network and locally developed advanced space technologies.

**The schedule**

- 2021:** A team of Emirati engineers, researchers and experts at MBRSC will complete the lunar rover's design.
- 2022:** The rover will be manufactured.
- 2023:** Preliminary experiments and tests of the prototype.
- 2024:** Proposed launch of the lunar rover.



The MBRSC aims to launch the rover by 2024. It is working towards completing the design by 2021 and build it in 2022, while preliminary tests are expected to start in 2023.

**45% success rate**

With a success rate of only 45 per cent, landing on the Moon is considered one of the most challenging space missions due to the precision required for a successful landing.

If successful, the UAE will become the first Arab country and the fourth country in the

world to successfully land on the lunar surface after the US, Russia, and China.

**Challenges**

The rover is expected to face many challenges on the surface of the Moon as it has a harsher environment than Mars, and the temperature can reach minus 173 degrees Celsius.

Additionally, the lunar soil, surface terrain, lunar photoelectrons and other factors may pose challenges to the mission. The focus of the team of researchers and engineers at

MBRSC is to design a rover capable of bypassing all obstacles while performing its mission.

**'Spirit of innovation'**

Hamad Obaid Al Mansouri, Chairman of MBRSC, said: "The mission is an indicator of the potential and experience of the Arab youth. The project embodies the spirit of innovation and scientific progress that characterises the UAE, and reflects on the greatness of our dreams, the vision of our children, the wisdom of our leadership, the determination of

our heroes and the position of our nation as a global centre for space science. We will continue on this path of science and knowledge as a strategic choice to build the future of the UAE."

**'New scientific reality'**

Yousuf Hamad Al Shaibani, Director-General, MBRSC, said: "The mission will engineer a new scientific reality for Arabs and Emiratis, following the legacy of Arab scientists and achievers of the past who shaped the region's scientific renaissance in various fields.

The data from the mission will create a knowledge base that will help in building a research station on the Moon."

Adnan Al Rais, Mars 2117 Programme Director, MBRSC, said: "The lunar mission paves the way for the realisation of the Mars 2117 Programme's strategy. The mission will provide us with answers and data that define the course of our mission to explore Mars. We are aware that the project involves many challenges, but every risk to us is a learning opportunity." - WAM

## UAE bids for non-permanent Security Council seat

Five UN member states will be elected for Council's 2022-2023 term

**DUBAI**

The UAE yesterday officially launched its campaign to secure an elected non-permanent seat on the United Nations Security Council for the term 2022-2023. The announcement was made during the General Debate of the 75th session of the United Nations General Assembly delivered by Shaikh Abdullah Bin Zayed Al Nahyan, Minister of Foreign Affairs and International Cooperation.

"We recognise the significant



Shaikh Abdullah addressing the the UN assembly yesterday.

responsibility associated with membership on the Security Council and the extensive challenges the Council faces, and we affirm that the UAE will work towards solving the important issues confronting states with resolve and determination. In

doing so, we will be guided by our understanding of these crises, our experiences in the Arab region, and our close relationships with other states," said Shaikh Abdullah. "My country will continue its call for involving regional organisations in

UAE will work towards solving the important issues confronting states with resolve and determination."

Shaikh Abdullah Bin Zayed Al Nahyan | Minister of Foreign Affairs and International Cooperation

finding permanent solutions for crises, and we count on your support to achieve these goals."

In June 2021, the UN General Assembly will elect five member states to serve as non-permanent members of the Security Council for the 2022-2023 term.

- WAM