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FRIDAY NOVEMBER 18, 2022
RABI AL THANI 23, 1444

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Rashid Rover to go to moon on Nov 28

First Emirati Lunar Mission will be carried by Japanese-made lander Hakuto-R M1

DUBAI

BY ANGEL TESORERO
Senior reporter

Emirati-made Rashid Rover is set to go to the moon on November 28 – at the earliest – and is expected to land on the lunar surface by April 2023, the Mohammad Bin Rashid Space Centre (MBRSC) announced yesterday.

The first Emirati Lunar Mission (ELM) will be carried by Japanese-made lander Hakuto-R M1, aboard a SpaceX Falcon 9 rocket that will lift off from the Space Launch Complex 40 at Cape Canaveral Space Force Station in Florida at 12.46pm (UAE time). But the date and time are subject to change, depending on weather and other conditions at launch.

MBRSC also confirmed Atlas Crater, located at 47.5°N, 44.4°E on the moon's southeastern outer edge of Mare



EMIRATI LUNAR MISSION

- Launch date – November 28
- Lift-off – 12.46pm (UAE time)
- Launch site – Space Launch Complex 40 at Cape Canaveral Space Force Station in Florida, USA
- Rashid Rover is named after the late Shaikh Rashid Bin Saeed Al Maktoum, builder of modern Dubai

Frigoris (“Sea of Cold”), as the rover’s landing site. If successful, the UAE will become the first Arab country and among the first countries in the world to land a spacecraft on the moon after the United States, former Soviet Union and China.

PRAYER TIMINGS 	FAJR	JUM'A	ASR	MAGHRIB	ISHA	Abu Dhabi: +4 mins, Ras Al Khaimah: -4 mins, Fujairah: -6 mins
	05:17	12:07	15:10	17:34	18:50	

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UAE's Rashid Rover poised to take off later this month

LUNAR ROVER IS EXPECTED TO LAND ON THE LUNAR SURFACE BY APRIL 2023

DUBAI
 BY ANGEL TESORERO
 Senior Reporter

UAE-made Rashid Rover is set to be launched to the moon on November 28 — at the earliest — at 12.46pm (UAE time), and is expected to land on the lunar surface by April 2023, the Mohammad Bin Rashid Space Centre (MBRSC) announced, yesterday.

MBRSC also confirmed Atlas Crater, located at 47.5°N, 44.4°E on the moon's south-eastern outer edge of Mare Frigoris ("Sea of Cold"), would be the rover's landing site. MBRSC added that the date and time are subject to change, depending on weather and other conditions at launch; and the landing site was chosen "to maintain flexibility during operations".

Multiple contingencies

The first Emirati Lunar Mission (ELM) will be delivered to the lunar surface by a lander built by Japanese company ispace called Hakuto-R M1, aboard a SpaceX Falcon 9 rocket that will lift off from the Space Launch Complex 40 at Cape Canaveral Space Force Station in Florida.

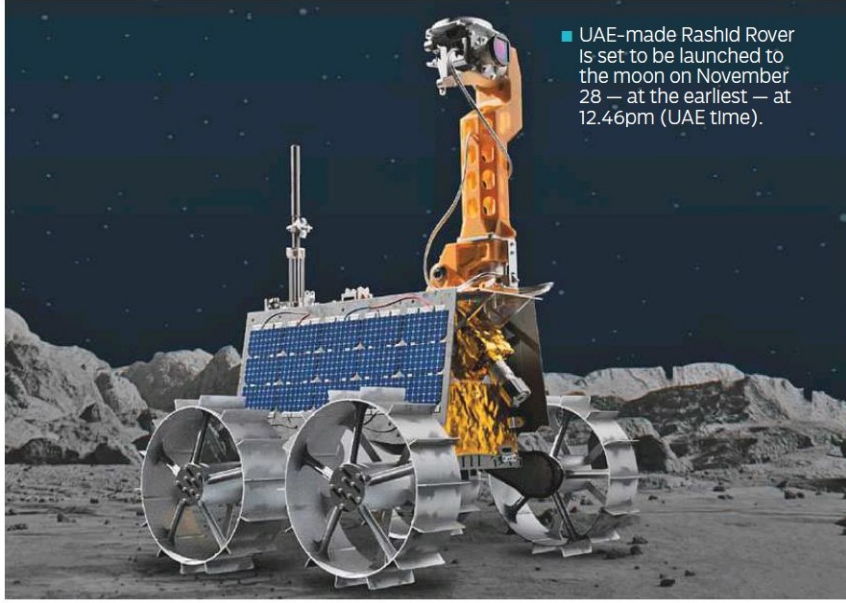
Rashid Rover will explore the characteristics of lunar soil, the petrography and geology of the moon, dust movement, surface plasma conditions, and the moon's photoelectron sheath.

"The novel discovery within the unexplored lunar site is one of the many reasons why the Emirates Lunar Mission is one of the most anticipated moon missions," MBRSC noted.

Early this week, MBRSC director general Salem Al Marri has tweeted that a team from MBRSC is already at Kennedy Space Centre in Cape Canaveral, Florida, for the launch of Rashid Rover.

MBRSC added the integrated launch vehicle is within the premises of Cape Canaveral Space Force Station, and will be moved to the launch pad closer to the launch date.

In a separate press statement from Tokyo yesterday, ispace said: "The primary landing site



UAE-made Rashid Rover is set to be launched to the moon on November 28 — at the earliest — at 12.46pm (UAE time).



A look at the Hakuto R flight model. Hakuto R will deliver Rashid Rover to the moon.

was chosen along with multiple contingencies, which may be used depending on variables that occur during transit. The site meets the technical specifications of the lander technology demonstration mission, the scientific exploration objectives for the MBRSC mission, as well as the mission requirements of our other customers.

"Careful consideration of the target site criteria included continuous sun-illumination duration and communication visibility from the Earth. Alternative landing targets include Lacus Somniorum, Sinus Iridium and Oceanus Procellarum,

among others. Landing is currently expected to take place around the end of April 2023."

According to ispace, the integrated spacecraft Hakuto-R M1 will take a low-energy route to the moon rather than a direct approach, which means the moon landing is expected to happen in April 2023, five months after launch.

Fuel-saving route

Dr Hamad Al Marzooqi, project manager of Emirates Lunar Mission at MBRSC, told Gulf News the rationale for the fuel-saving but long route. He said: "Main factor is the cost of the

In order to reach to the moon within six days, you would need to burn a lot of fuel which means that you need a big tank and a big propulsion system to do that."

Dr Hamad Al Marzooqi | MBRSC

mission. The cost comes from the volume and mass of the spacecraft.

"In order to reach to the moon within six days, which is the shortest path, you would need to burn a lot of fuel which means that you need a big tank and a big propulsion system to do that. But it will have a huge impact in cost."

SpaceX Falcon 9 rocket will take Hakuto-R M1 into the moon's orbit, and following its successful separation from the launch vehicle (rocket), Hakuto-R M1 will use the gravitational pull of the Earth and sun to guide it to the moon.



Sarah Al Amiri and Omran Sharaf at a press conference in Abu Dhabi, talking about the Abu Dhabi Space Debate.

Focus on sustainable space activity

Abu Dhabi Space Debate to bring together experts, world leaders

ABU DHABI
 BY SAMIHAH ZAMAN
 Senior Reporter

The UAE is a leading Arab country in the space sector, and as it expands its footprint, the nation is also advocating for peaceful and sustainable space activity, top officials said at a press conference in Abu Dhabi, yesterday.

Towards that end, the upcoming Abu Dhabi Space Debate will deliberate on how the space sector can contribute further to development, climate action, water sustainability and technological advancement. It will also see experts review existing laws and legislation so that progress can be accelerated.

New players

"We've seen the space sector go from an area that was accessible to two major nations to a field in which nearly 70 nations have become players, in addition to numerous private companies. The UAE is therefore playing a crucial role in ensuring that countries move away from the competitive 'space race' and instead work collaboratively to use space research and technology to improve human life," said Omran Sharaf, UAE Assistant Foreign Minister for Space and Technology Affairs.

Addressing media, Sarah Al Amiri, UAE Minister of State

Revenues in the global space sector are expected to reach \$1 trillion (Dh3.67 trillion) by 2040, and this is expected to drive growth and innovation in the industry.

for Public Education and Advanced Technology, and the chairperson of the UAE Space Agency, said the UAE now has 19 satellites orbiting Earth, with 10 more under development.

"The UAE has already become the fifth country to reach the Mars orbit, and is one of four nations that have announced plans to reach the orbit of Venus, and to explore the asteroid belt beyond Mars, in a mission that is scheduled for launch in 2028. Our nation boasts more than 50 space companies and institutions, and has about 3,000 space experts. There are also more than five space research centres, and three universities with space programmes," Al Amiri said.

Industry growth

Revenues in the global space sector are expected to reach \$1 trillion (Dh3.67 trillion) by 2040, and this is expected to drive growth and innovation in the industry. Earlier this year, the UAE Space Agency announced a new Dh3 billion national investment and development fund for the space sector, The National Space Fund.

Dubai Airports makes parking payment a breeze

QR code on parking entry ticket a new, quick way to pay

DUBAI
 Gulf News Report

Dubai Airports in collaboration with its service partner Mawgif has made paying for car parks across Dubai International (DXB) a breeze for airport users with the launch of a new mobile payment option — 'Scan, Pay and Go'.

Now, users need to simply scan the QR code on their parking entry ticket to be directed to the payment gateway where they can select one of three secure payment methods — Visa, MasterCard or Apple Pay — to complete the transaction. The users have a 10-minute window after completing the transaction to exit the gate barrier. Car park users do not need to visit or remember any web-

10 mins
 is the time users have after paying to exit the gate barrier

site name, register online or download any smartphone application to be able to use 'Scan, Pay and Go', making the option even more handy.

Eugene Barry, Executive Vice President of Commercial at Dubai Airports, said, "We are delighted to launch 'Scan, Pay and Go', which is the outcome of Dubai Airports' ongoing approach of working closely with all of our partners to upgrade every customer touchpoint at DXB."

While the new mobile payment option is now available across all DXB's car parks, the existing parking payment machines will also continue to be available.

Space Data Centre launched at COP27

Digital platform will provide researchers and the public with access to insights

ABU DHABI
 Gulf News Report

The UAE Space Agency (UAESA) has launched a Space Data Centre, a digital platform providing scientists, scholars, public and private entities, start-ups, and the public with access to space data to develop solutions for national and global challenges.

The launch event was held on the sidelines of UAE's participation at the ongoing 2022 United Nations Climate Change Conference (COP27), being hosted in Egypt.

UAESA said: "The Space Data Centre is part of the transformational projects launched by the UAE's government, aiming to realise the vision of His Highness Shaikh Mohammad Bin Rashid Al Maktoum,



The Space Data Centre aims to provide an innovative ecosystem to utilise space data and technologies to address global sustainability challenges among other issues.

Vice President and Prime Minister of the UAE [and Ruler of Dubai], to focus on creating the world's best and most active economy."

Innovative ecosystem

The Space Data Centre aims to provide an innovative ecosystem to utilise space data and technologies to address global sustainability challenges, promoting space-related solutions to overcome national challenges, and boost the number of com-

panies and patents in the space industry. The initiatives also help attract leading innovators, accelerate the development process of space products, and increase productivity in scientific research to provide people with a better life, by utilising space-related applications and services.

Sarah Bint Yousif Al Amiri, Minister of State for Public Education and Advanced Technology and chairperson of UAE Space Agency, said: "The UAE's

The UAE's participation at COP27 is a clear indication of its keenness to invest in the future, based on its deep-rooted belief in the significance of knowledge in the fight against climate change."

Sarah Bint Yousif Al Amiri | UAE Space Agency

participation at COP27 is a clear indication of its keenness to invest in the future, based on its deep-rooted belief in the significance of knowledge in the global fight against climate change.

"We are always working on launching new initiatives and projects, and adopt the latest technologies to address climate-related challenges and promote sustainability to protect the environment and biodiversity on our planet."