



**NATION | P4**

**Abu Dhabi schools welcome students**

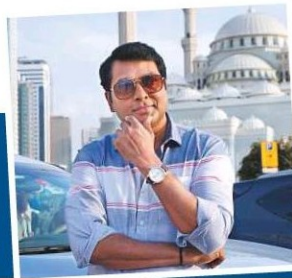
'It feels awesome to be able to see my friends and teachers'



**TABLOID | P6-7**

**Film shoot amid pandemic**

A visit to Indian actor Narain's set in Sharjah shows how crews have adapted



**BUSINESS | P12**

**Covid takes toll on UAE's property majors**

Damac reports loss of Dh1.04b as Emaar's profits shrink 58%



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Shaikh Mohammad during the cabinet meeting in Abu Dhabi. **Envoy to Israel sworn in: P3**

**UAE to use face ID to boost services**

HOPE PROBE MILESTONE MARKS START OF NEXT 50 YEARS

**ABU DHABI**

The UAE Cabinet yesterday approved the use of facial recognition technology to further develop the services provided by private and government sectors.

The use of facial recognition technology can offer services to the public at any time and place without the need of traditional means of identification such as official documents. The Ministry of Interior (MoI) will expand its use after the completion of the trial period, during which the MoI will launch a set of services using such technology in some private sector institutions.

The cabinet meeting, held under the chairmanship of His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President, Prime Minister of the UAE and Ruler of Dubai, emphasised that the success of the Hope Probe is a result of determination and persistence shown by Emirati youth.

**Empowering young Emiratis**

He said that empowering young Emiratis is an established approach that the UAE has believed in since the establishment of the Union. "Our country celebrates the Hope probe braking into orbit

**PREMARITAL SCREENING**

The cabinet reviewed a study on the premarital screening for genetic diseases and ways to reduce the incidence of genetic diseases.

The study aims at prevention of mental and physical disabilities and reducing mortality rate among children, as well as reducing the burden on the family.

The study outlines the importance of premarital genetic test as a tool that can predict the risk of developing genetic diseases. A unified digital register of the UAE's genetic diseases will be created, including the results of premarital examinations on recessive genetic diseases.

the collection, processing, storage, and presentation of data. The manual includes eight basic topics: economic statistics, social and demographic statistics, education statistics, employment statistics, environment statistics, buildings and housing units statistics and administrative divisions of each emirate.

A unified digital register of the UAE's genetic diseases will be created, including the results of premarital examinations on recessive genetic diseases. A national laboratory in genetic testing will be established.

**Environment protection**

The cabinet approved a decision to amend the executive regulations of the Environment Protection and Development law concerning the Environmental Impact Assessment. The decision aims at ensuring the availability of products and the continuity of the supply chain for commodities.

The cabinet also approved the restructure of Etihad Rails' board chaired by Shaikh Theyab Bin Mohammad Bin Zayed Al Nahyan.

The restructuring of the working group responsible for online communication and work automation, headed by Minister of State for Artificial Intelligence, Digital Economy and Teleworking Applications was also approved. — WAM

around Mars, a historic milestone that marks the beginning of the coming 50 years."

**National statistical data**

The cabinet also approved the National Standards Manual for Statistical Data, which will serve as a unified framework for methods and procedures for

**UK hits 15m vaccine target**

Pressure builds on Johnson to ease stringent lockdown

**LONDON**

Prime Minister Boris Johnson yesterday called Britain hitting a target of inoculating 15 million of the most vulnerable people with a first coronavirus jab "a significant milestone", as the country prepared for the next phase of its vaccination programme.

Johnson, who has faced severe criticism over his year-long handling of the pandemic, had set the ambitious aim of offering a jab to everybody in the top four priority groups of around 15 million people by the middle of this month. That comprises all

**LOCKDOWN IN AUCKLAND**

New Zealand's Prime Minister Jacinda Ardern yesterday announced a three-day lockdown in Auckland, after three cases emerged, the first local infections since late January. Level 3 restrictions will require everyone to stay home except for essential shopping and essential work, Ardern said. "We have stamped out the virus before and we will do it again," Ardern said in Wellington.

over-70s, care home residents and staff, NHS workers and the vulnerable to the virus.

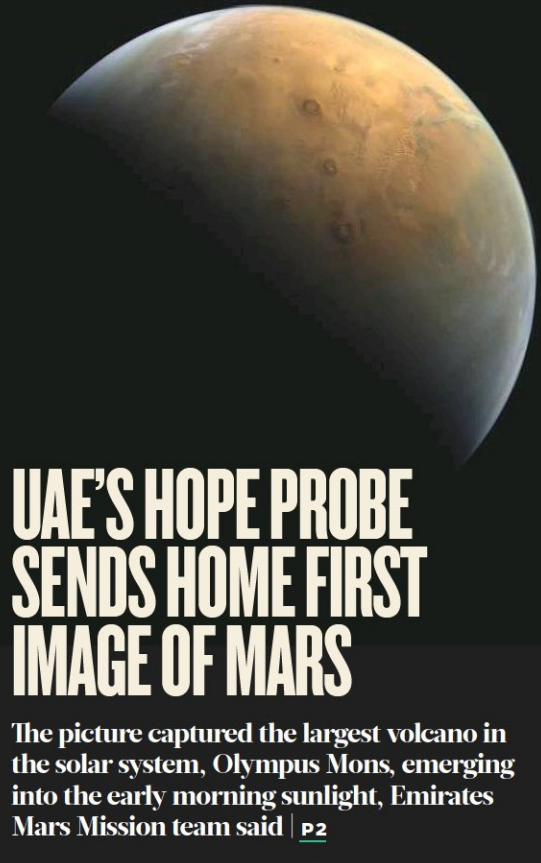
By the end of Saturday, 15,062,189 people had received a first dose, with 537,715 also getting their second shot, according to the latest health ministry statistics. "This country has achieved an extraordinary feat," Johnson said in a video message posted

on Twitter, noting it had been just over two months since Britain embarked on its biggest ever vaccination programme.

The country will now start administering vaccines from today to those aged between 65 and 69 and the clinically vulnerable, with almost 1.2 million already invited to book their jabs.

— Agencies

**FROM THE COVER | MISSION TO MARS**



**UAE'S HOPE PROBE SENDS HOME FIRST IMAGE OF MARS**

The picture captured the largest volcano in the solar system, Olympus Mons, emerging into the early morning sunlight, Emirates Mars Mission team said | **P2**

**INDIA**

**Road accident scenario more dangerous than Covid — minister | P10**



**NATION**

**Abu Dhabi launches Creative Visa for people in arts, media | P3**

**NATION**

**Pakistan reviews expat workers protection proposal | P5**

**UNITED STATES**

**What's next for Trump after Senate acquittal? | P9**



**NATION/LIVING IN UAE**

**Five mistakes to avoid if you are going to the cinema | P5**



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**HH Sheikh Mohammed:** The first picture of Mars captured by the first-ever Arab probe in history, 25,000 km above the Red Planet's surface.



**#Mohamed\_bin\_Zayed:** The transmission of the #Hope\_Probe's first image of #Mars is a defining moment in our history and marks the #UAE joining advanced nations involved in space exploration. We hope this mission will lead to new discoveries about Mars which will benefit humanity.

**387**

The number of days in one Martian year

# HOPE CREATES ARAB HISTORY WITH FIRST IMAGE

Picture is the first of more than 1,000GB of Mars data the probe will send back to Earth

**DUBAI**  
BY CHIRANJIB SENGUPTA  
Senior Assistant Editor

The first image of Mars from the Arab world's maiden interplanetary mission has been beamed back to Earth, days after the UAE's Hope probe successfully entered the Red Planet's orbit.

His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, and His Highness Shaikh Mohammad Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, yesterday tweeted the picture transmitted by the probe – immortalising the moment when the first Arab spacecraft to reach Mars captured a glorious shot of Olympus Mons, the largest volcano in the solar system, emerging into sunrise on Earth's dusty and barren neighbour.

"The first picture of Mars captured by the first-ever Arab probe in history," Shaikh Mohammad Bin Rashid wrote, sharing the image on Twitter.

"The transmission of the Hope Probe's first image of Mars is a defining moment in our history and marks the UAE joining advanced nations involved in space exploration. We hope this mission will lead to new discoveries about Mars which will benefit humanity," Shaikh Mohammad Bin Zayed tweeted.

The UAE made history last Tuesday when it became the first Arab nation, and the fifth in the world, to reach Mars after the Hope Probe successfully entered the Red Planet's orbit at 7.42pm. It is also only the second country to achieve this feat in its first attempt.

## What is the camera used to take this image?

The historic picture – which captured the picturesque view of Mars as a yellowed semicircle against the black curtain of space and the three volcanoes of Tharsis Montes dazzling under a dust-free sky – was taken using the Emirates eXploration Imager (EXI), one of the three instruments that make up the scientific payload of the Hope Probe.

The multi-wavelength radiation tolerant camera can take up to 12-megapixel images while maintaining the radiometric calibration needed for detailed scientific analysis. Developed jointly by the Mohammad Bin Rashid Space Centre (MBRSC) in Dubai and the Laboratory for Atmospheric and Space Physics (LASP) at the University of California in the US, the camera boasts a double lens assembly with separate UV and VIS optical paths.

The EXI's low focal ratio makes it possible to use very short exposure times to capture stable images when the probe is closest to Mars.

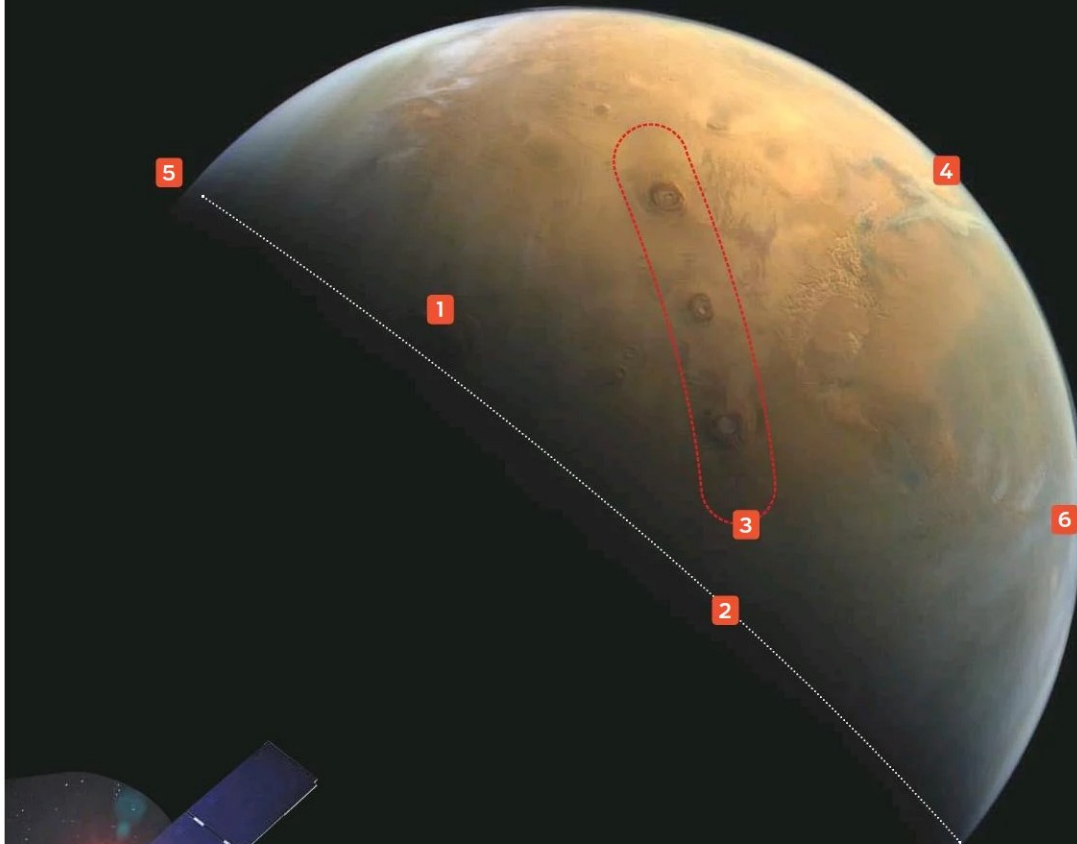
## PROBE'S FIRST PICTURE FROM MARS

### What is it?

This is the historic first picture of Mars sent by the Hope Probe, taken around 24,700km from the surface of the Red Planet.

### When was this image taken?

The picture was captured by Hope Probe at 20.36GMT on February 10 – a day after the spacecraft's arrival at the Red Planet.



### What does this picture show?

The glorious shot captures some of the key topographies and atmospheric features of Mars. These are:

**1 Olympus Mons:** The biggest volcano in the entire solar system, it can be seen just emerging into the early morning sunlight, peeking out at the terminator.

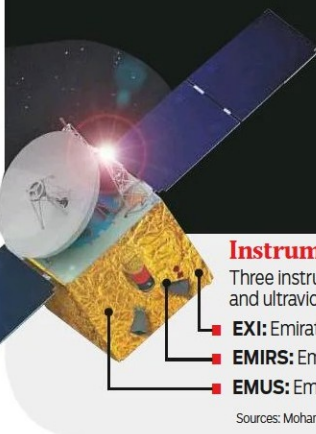
**2 Terminator:** This is the so-called boundary between night and day on Mars.

**3 Tharsis Montes:** These are three large shield volcanoes in a line, comprising Ascraeus Mons, Pavonis Mons and Arsia Mons.

**4 Valles Marineris:** On the limb of the planet to the east is this mighty canyon system, partly covered by cloud.

**5 North Pole:** The north pole of Mars is in the upper left of the image.

**6 Ice clouds:** Martian canyons are filled with clouds, while ice clouds are present over the southern highlands (lower right) as well as surrounding the volcano Alba Mons (upper left).



### Instruments on Hope Probe

Three instruments will image Mars in visible, thermal, infrared and ultraviolet wavelengths on board the UAE spacecraft:

- EXI:** Emirates eXploration Imager, used for capturing the picture above.
- EMIRS:** Emirates Mars InfraRed Spectrometer to study the lower atmosphere.
- EMUS:** Emirates Mars Ultraviolet Spectrometer, to detect ultraviolet wavelength.

Sources: Mohammad bin Rashid Space Centre (MBRSC)

### What else will the EXI study?

The picture is the first of more than 1,000GB of new Mars data that the probe will send back to Earth and that will be shared for free with more than 200 scientific institutions around the world. While Hope is now running in an initial ellipse around Mars of between 1,000km and 50,000km, over the course of the next few weeks, this will turn into a 22,000km-43,000km orbit of 55 hours – enabling the probe to capture a global overview of the entire planet. That will help Hope carry out its key research into seasonal weather changes on Mars as well as observing how hydrogen and oxygen are lost into space. While previous atmospheric probes, such as Nasa's Maven, zoomed in on

a small area of Mars at a time, Hope Probe will enjoy a broad overview – and that's where the EXI, which studies the lower Martian atmosphere at visible and ultraviolet wavelengths, will be especially useful.

### What does this image mean for the Arab world?

While the Emirates Mars Mission is designed to reveal the secrets of Martian weather, the UAE's spectacular success in building a space programme in just seven years serves as an inspiration for the region's youth, apart from celebrating the UAE's Golden Jubilee. The project saw Emirati engineers working with partners around the world to develop the UAE's spacecraft design, engineering, and manufacturing capabilities. More than a millennia after

Abdul Rahman Al Sufi published his seminal *Book of the Fixed Stars* and Al Beruni found a simple formula to measure the Earth's radius, the Hope Probe marks the revival of the Golden Age of Arab science, as observed by Shaikh Mohammad Bin Rashid. "Today is the start of a new chapter in Arab history... of trust in our capability to compete with other nations and people," he said last week when the Hope Probe entered the Martian orbit.

### At what stage of its journey is Hope now? What comes next?

The probe's entry to Mars' orbit marks the end of four of the six stages of its space journey that started in July 20 last year. Those stages are Launch, Early Operations, Cruise and the Mars

**>>> The data and images transmitted by Hope will help scientists better understand how Mars turned into a dusty, barren planet.**

Orbit Insertion. The probe is currently entering the "transition to Science" phase, before it fully begins the Science phase to study the Martian atmosphere. That last phase is scheduled to begin in April 2021 and last until April 2023.

### What is the key objective of the UAE's Mars Mission?

Hope will orbit the Red Planet for at least one Martian year, or 687 days, and is expected to begin transmitting more information back to Earth in September 2021. Along with the other two main instruments on the probe – two spectrometers, one operating in the infrared and the other in ultraviolet – the data and images transmitted by Hope will help scientists better understand how Mars turned into a dusty, barren planet.

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