

# UAE Space Exploration Efforts

27/08/2021

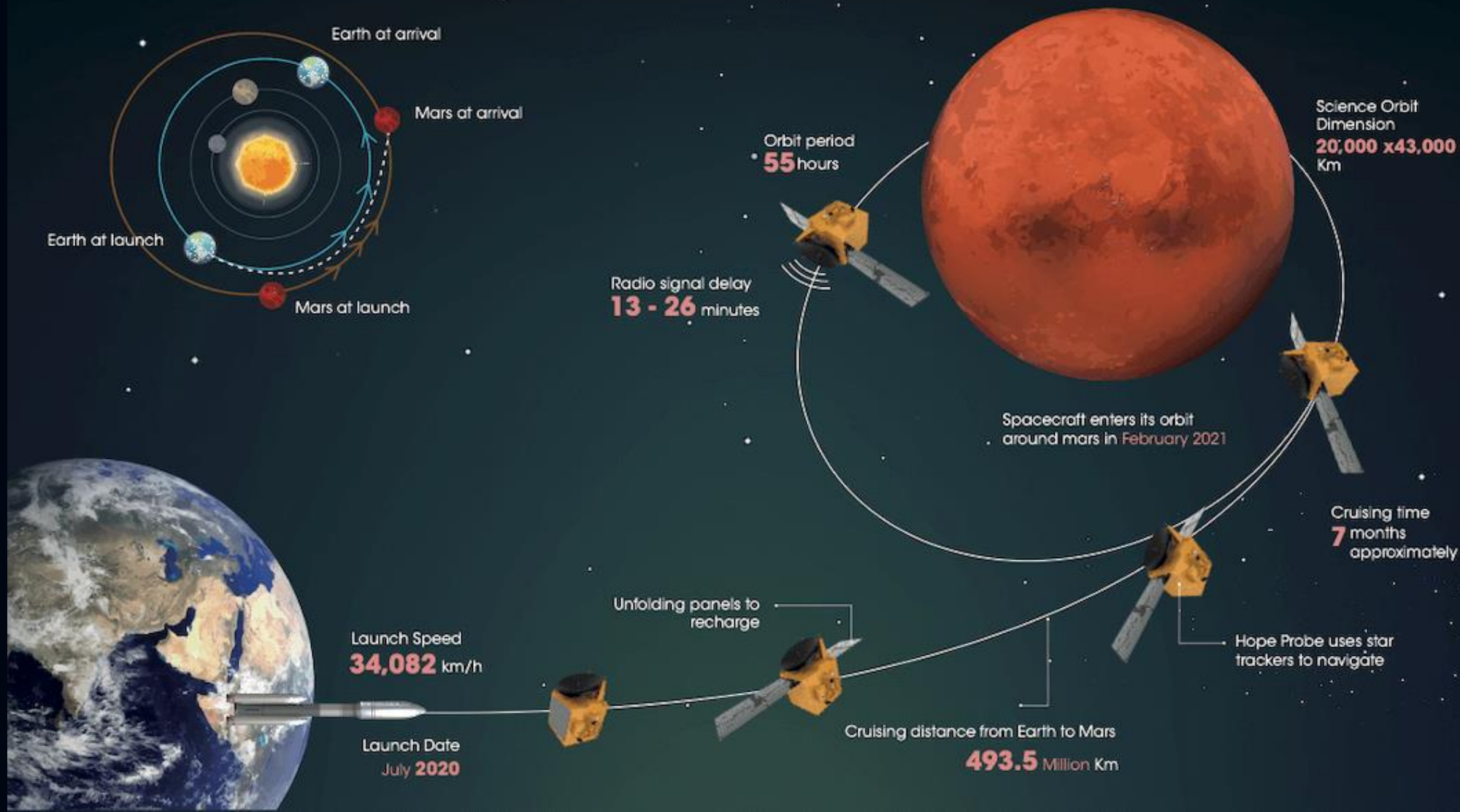
# Emirates Mars Mission





THE EMIRATES  
MAKE IT HAPPEN

## EMIRATES MARS MISSION JOURNEY

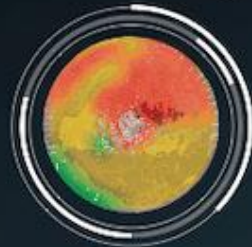




THE EMIRATES  
MAKE IT HAPPEN

## HOPE PROBE INSTRUMENTS

EMIRATES MARS INFRARED  
SPECTROMETER (EMIRS)



Infrared

EMIRATES EXPLORATION  
IMAGER (EXI)

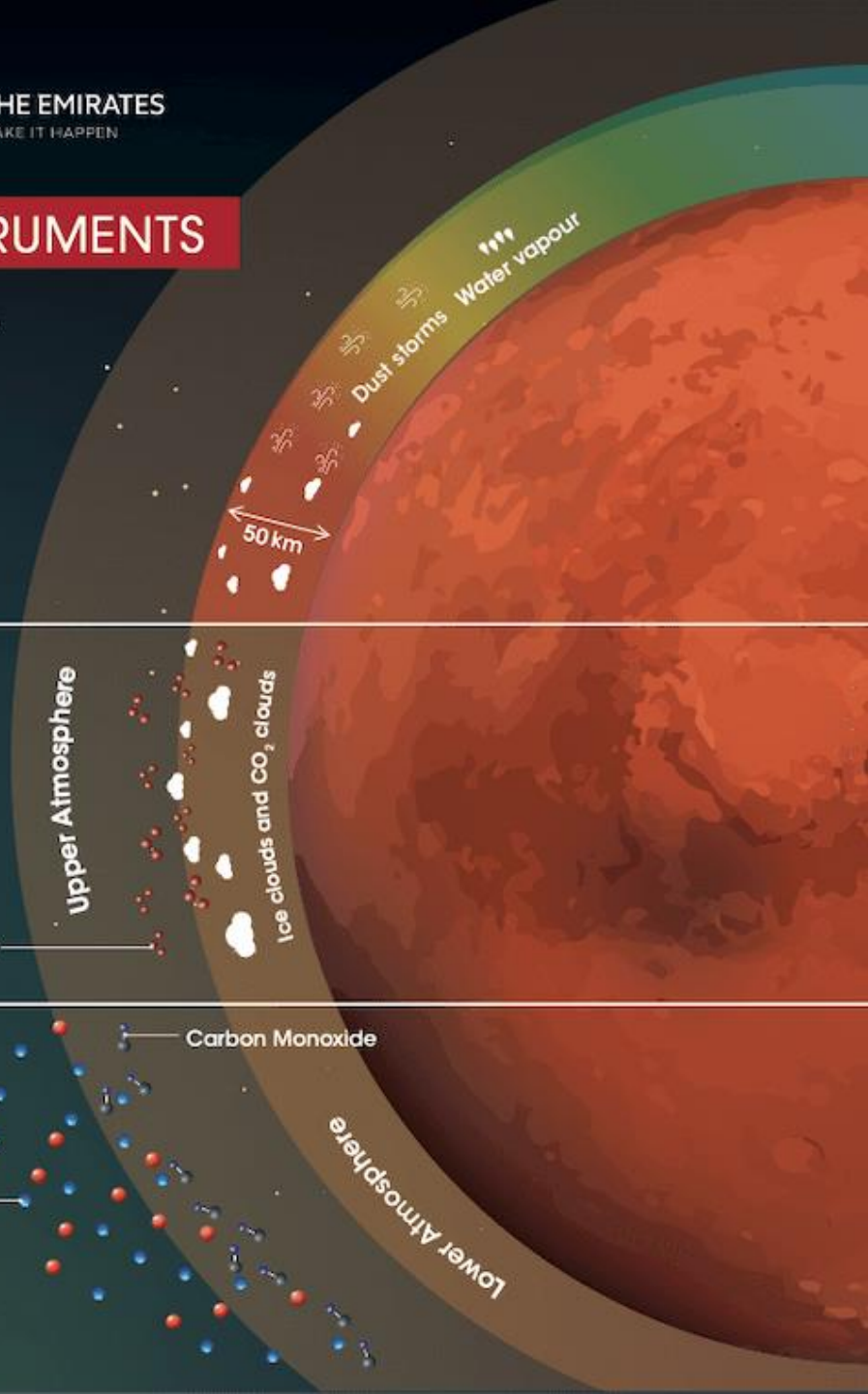


High resolution photos

EMIRATES MARS ULTRAVIOLET  
SPECTROMETER (EMUS)



Ultra Violet



Ozone

Upper Atmosphere

Ice clouds and CO<sub>2</sub> clouds

Lower Atmosphere

Carbon Monoxide

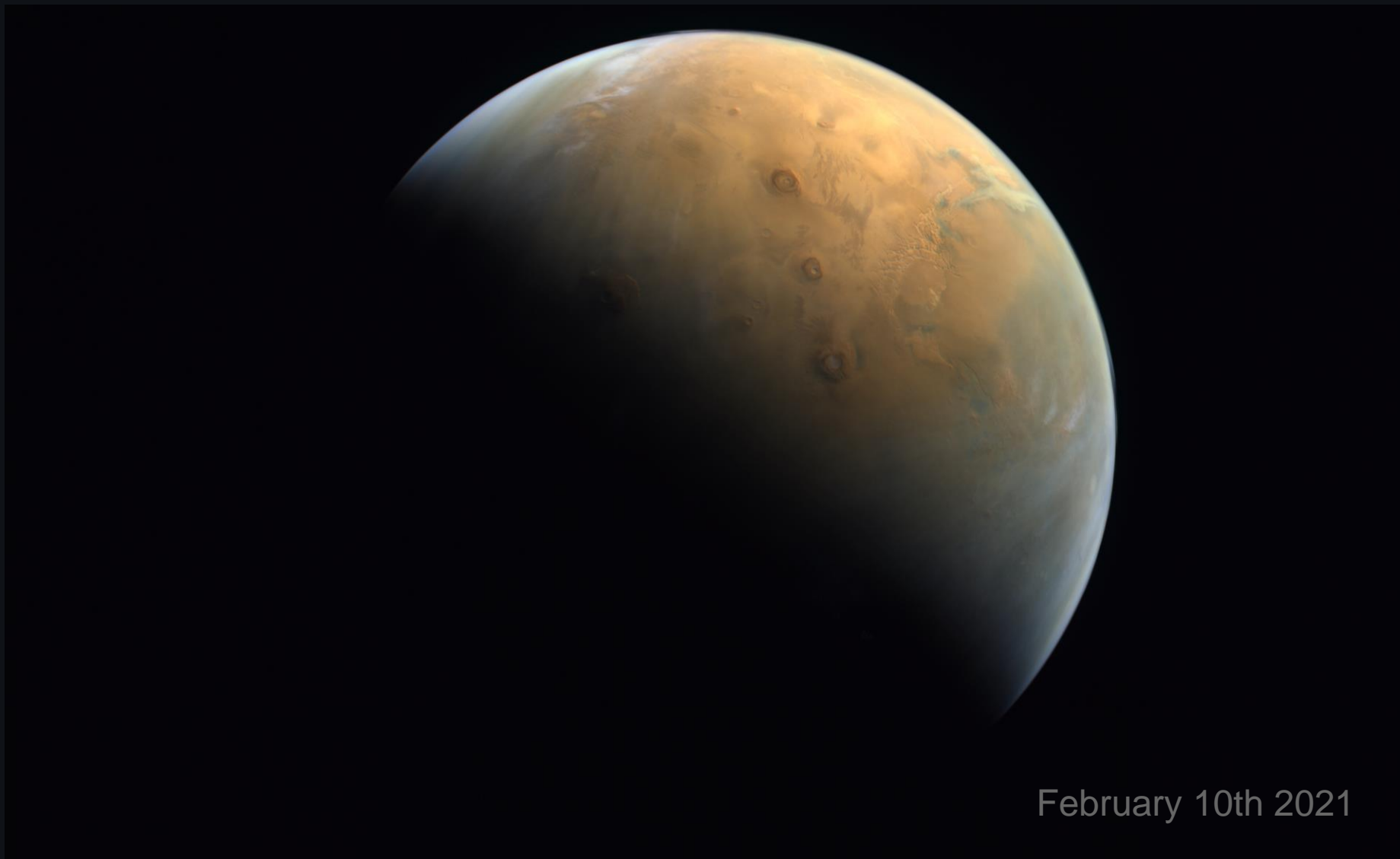
Oxygen

Hydrogen

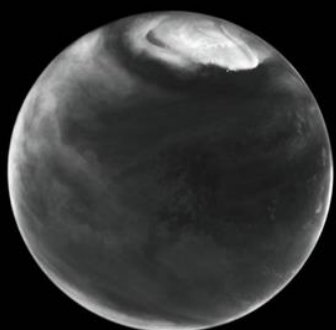
Dust storms

Water vapour

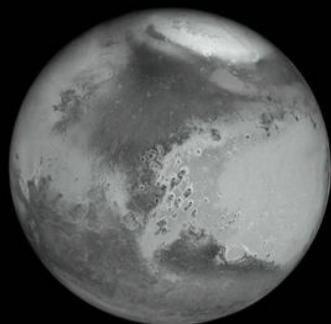
50 km



February 10th 2021



EXI f320 Channel  
(Ultraviolet filter)



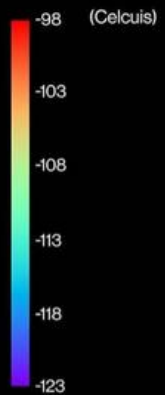
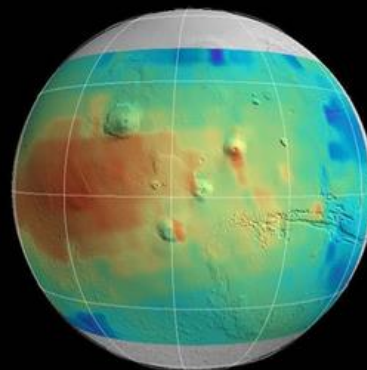
EXI f635 Channel  
(Red filter)



EXI Composite Image

IMAGE CREDIT:  
EMIRATES MARS MISSION / EXI

Atmospheric Temperature at 25 km



Surface Temperature

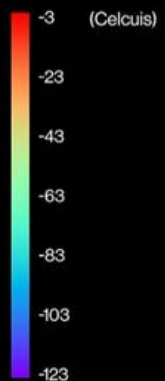
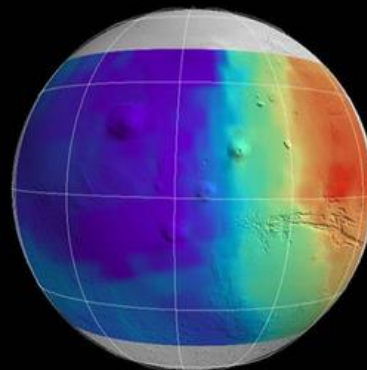


IMAGE CREDIT:  
EMIRATES MARS MISSION / EMIRS

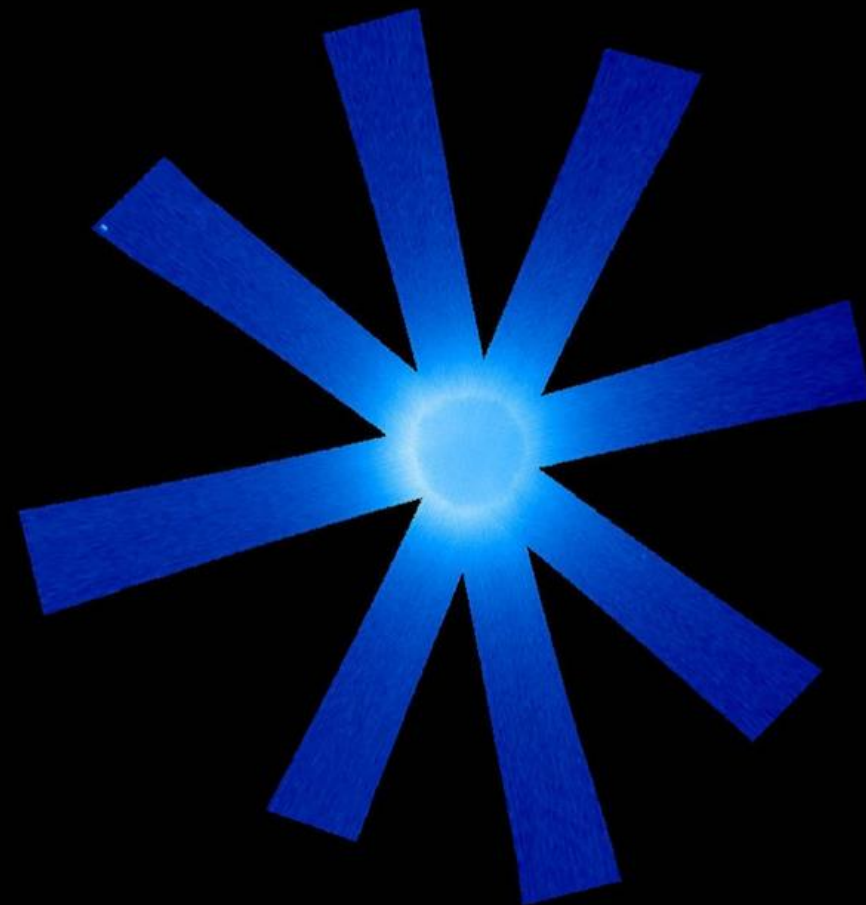
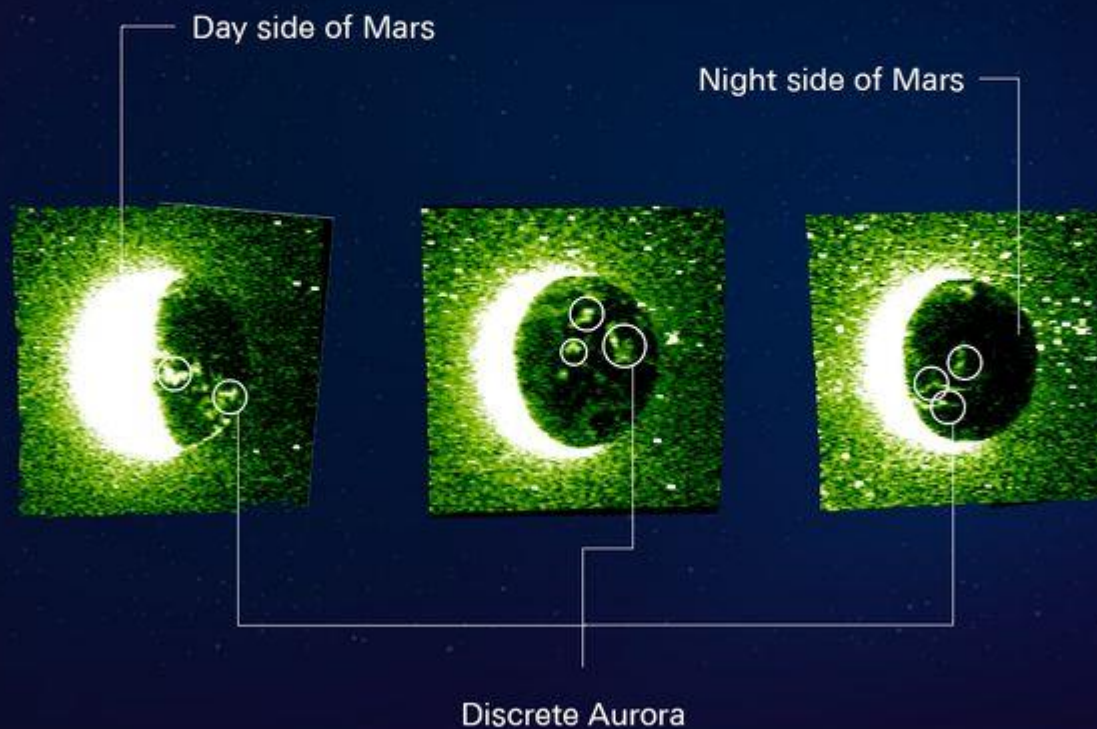


IMAGE CREDIT:  
EMIRATES MARS MISSION / EMUS



لا شيء  
مستحيل  
الإمارات  
THE EMIRATES  
IMPOSSIBLE  
IS POSSIBLE





لا شيء  
مستحيل  
IMPOSSIBLE  
IS POSSIBLE





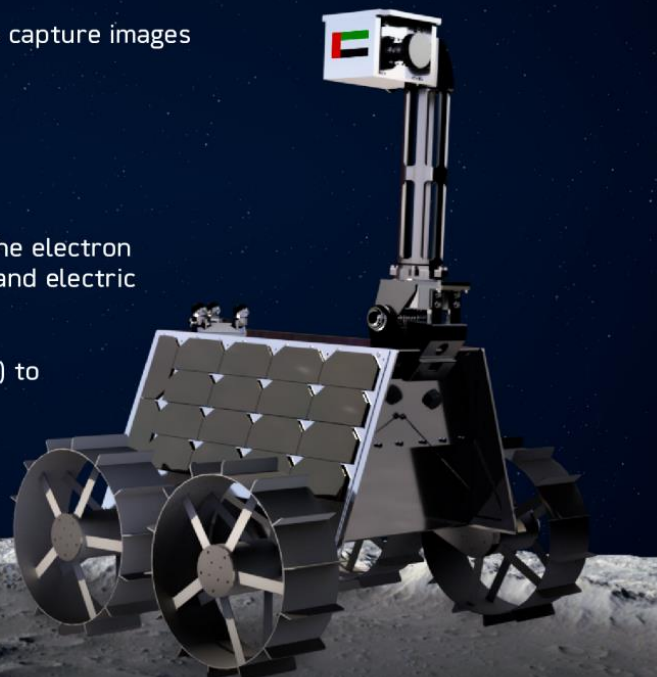


# Emirates Lunar Mission



## The instruments on the first Arab lunar rover

- Two high-resolution cameras to capture images of the lunar surface
- Microscopic Camera
- Thermal Imager
- Langmuir Probe to determine the electron temperature, electron density, and electric potential of a plasma
- Inertial Measurement Unit (IMU) to track the motion of the Rover
- 3D Camera Time of Flight

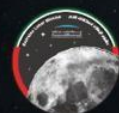
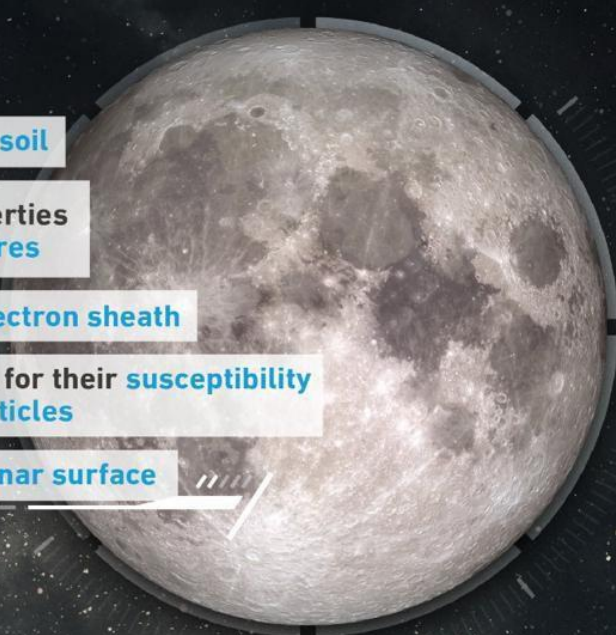


Supported by



## The scientific objectives of the Emirates Lunar Mission

- Study the lunar surface soil
- Study the thermal properties of lunar surface structures
- Study the lunar photoelectron sheath
- Test different materials for their susceptibility to adhesion of lunar particles
- Study mobility on the lunar surface



Supported by



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للفضاء  
MOHAMMED BIN RASHID SPACE CENTRE

# Astronaut Program



## NORA ALMATROOSHI

Second Batch of the  
UAE Astronaut Programme

**YEAR OF BIRTH:** 1993

**EDUCATION:**

- Bachelor's degree in mechanical engineering from the United Arab Emirates University (2015)
- Training at the Vaasa University of Applied Sciences in Finland



## MOHAMMAD ALMULLA

Second Batch of the  
UAE Astronaut Programme

**YEAR OF BIRTH:** 1988

**EDUCATION:**

- Holder of commercial pilot's license
- Holder of flight instructor license from the Australian Civil Aviation Authority
- Bachelor's degree in law and economics
- Executive Master of Public Administration - Mohammed Bin Rashid School of Government



Thank you