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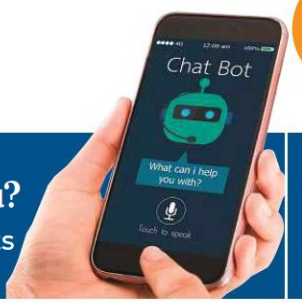
Internet has been abuzz with idea of robots taking over the world... it's already here



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The country has taken a lead, Abdullah Belhaif Al Nuaimi writes

Hope Probe in science orbit after a final 'scary moment'

SHARAF SAYS TWO-YEAR DATA GATHERING PHASE WILL BEGIN ON APRIL 14

DUBAI

BY ANGEL TESORERO
Senior Reporter

Hope Probe, the first Arab interplanetary mission, has successfully transitioned from capture orbit to science orbit, following the completion of a 510-second burn of its thrusters, the Emirates Mars Mission (EEM) announced yesterday.

"Barring the requirement for a minor course correction, the spacecraft is now in its final orbit of Mars and ready for its two-year science data gathering phase — the core aim of the mission — beginning on April 14," EMM said in a statement.

EMM Project Director Omran Sharaf added: "The Transition to Science Manoeuvre (TSM) was critically important and I can say was the last truly scary moment for the mission because there was a very real risk of losing the spacecraft during this last burn. We're now assessing the results of that burn, but I can say we are confident that we will not need a further large correction manoeuvre.

Big burn

"Although Hope Probe is a huge achievement and a source of great national pride, its core objective, defined right from day one of this mission, is to build the first complete picture of Mars' atmospheric dynamics," Sharaf underlined.

According to EMM, the TSM saw Hope Probe moved away from its elliptical capture orbit (between 1,063km to 42,461km from Mars' planetary surface) to a wider scope of 20,000km by 43,000km science orbit. Following the successful transition to the science orbit, Hope Probe will always be higher above the surface of Mars. "The manoeuvre was the last scheduled 'big burn' in the spacecraft's journey since its launch on July 20, 2020. The science phase will commence on April 14 with a number of calibration and test runs that aim to establish a sound baseline for the accurate and efficient management of the measurements from the spacecraft's three instruments," the EMM noted.

Open sharing

"The mission's two-year science data collection will formally commence on May 23, with data being made available globally in October," EMM added.

Hessa Al Matroushi, EMM Science Lead, explained: "Once we have established our stable science orbit and deployed our instruments, we can start building data sets and testing our systems with the live data. This is the data we will be processing, formatting and sharing with the world's science and academic communities openly through our website."

Hope Probe will provide a complete picture of the Martian atmosphere using three highly-advanced science instruments: Emirates exploration Imager (EXI), a 12 megapixel digital camera that captures high-resolution images of Mars along with measuring water ice and ozone in the lower atmosphere through the UV bands. On March 15, at around 11am (UAE time) the Emirates exploration Imager (EXI) captured a monochromatic image of the Cerberus Fossae with a spatial scale of approximately 180 meters/pixel.

WHAT HAPPENS NEXT

- The Transition to Science Manoeuvre (TSM) saw Hope Probe moved away from its elliptical capture orbit between 1,063km to 42,461km from Mars' planetary surface to a wider scope of 20,000km by 43,000km science orbit.
- Emirates exploration Imager (EXI), a 12 megapixel digital camera that captures high-resolution images of Mars along with measuring water ice and ozone in the lower atmosphere through the UV bands:
- The EXI captured a monochromatic image of the Cerberus Fossae with a spatial scale of approximately 180 metres/pixel.
- Cerberus Fossae is a fracture system that stretches for more than 1,000km across the Martian surface.

Emirates Mars Mission

- On March 15, 2021, the Emirates exploration Imager captured a monochromatic image of the Cerberus Fossae with a spatial scale of approximately 180 metres/pixel.

20,000-43,000km
science orbit is the wider scope of Hope Probe to collect data for two years, beginning on April 14