

The United Arab Emirates is making history with its mission to Mars

Don't miss the importance of a small Arab nation inspiring its young people to reach for the stars

by Jack Rusenko | March 7, 2021



One month ago, the United Arab Emirates made history.

The Al-Amal probe (which means "Hope" in Arabic) successfully entered the orbit of Mars on Feb. 9 at 7:42 p.m.

This marked the first time an Arab country had ever successfully sent a mission into space, and to another planet.

What's more, the UAE became the second country to reach Mars on their first attempt. Previously only the U.S. accomplished this with their Mariner mission in 1965.

The UAE's Mars Mission will provide the first ever complete picture of the atmosphere of Mars.

Given the current global condition with COVID-19, it may seem surprising that the UAE chose to launch a mission to Mars in July 2020.

However, due to the mathematical complexities of the planetary orbits, there is only a short window to launch Mars missions, and July 2020 was the last time to launch one before 2022-2023.

The U.S. and China also launched missions the same month. The Chinese spacecraft is now orbiting Mars and will hopefully land later this year. The U.S. Rover Perseverance has landed on Mars and is sending back spectacular images.

What makes the UAE's effort so exciting – and historic – is that space missions are very rare in the Arab world.

The UAE sent only the third Arab astronaut ever into space in 2019 when Hazza Al Mansouri spent eight days aboard the International Space Station.

Saudi Arabia has the distinction of having sent the first astronaut into space when Prince Sultan (the eldest living brother of Crown Prince Mohammed Bin Salman) flew on board the NASA Space Shuttle Discovery in 1985.

Syria has the distinction of training and deploying the only Arab Cosmonaut in history. Muhammed Faris spent a week on the Mir space station in 1987.

Successfully reaching Mars is not an easy task.

60% of the Mars missions have failed before completion.

Ten missions from six different countries have totally failed in the last several decades.

It is, by no means, a given to be able to successfully place a probe into the orbit of Mars.

When the mission to Mars was announced in 2015, Sheikh Mohammed bin Rashid explained that they named it “Al-Amal” because their generation is the hope of Arabs and Muslims.

He then laid out what he saw as three messages the mission will send.

The first message, the sheikh said, is for the world – “Arab civilization once played a great role in contributing to human knowledge and will play that role again.”

UAE leaders clearly see the Mars mission as a step on the path to developing and regaining an important role in global scientific contributions. Many local commentators are comparing the Hope Probe to the Golden Age of Islam during the Abbasid period, and hope to see it as a rebirth of that time.

“The second (message) is to our Arab brethren,” the sheikh said, “that nothing is impossible and that we can compete with the greatest of nations in the race for knowledge.

“The third is for those who strive to reach the highest of peaks: set no limits to your ambitions and you can even reach space.”

So far, the UAE has made good on these aspirations. Missions to Mars have typically taken ten to twelve years to prepare, but the UAE has achieved theirs in just six years.

The Emirati space missions are managed by the Mohammed bin Rashid Space Centre (MBRSC) in Dubai.

However, the Hope Probe was built in collaboration with three American universities: the University of Colorado – Boulder, Arizona State University and the University of California – Berkeley.

Just after the Al-Amal probe entered the orbit of Mars, the Ruler of Dubai (His Highness Sheikh Mohammed bin Rashid) and the Crown Prince of Abu Dhabi (His Highness Sheikh Mohammed bin Zayed) visited the center to congratulate the staff and acknowledge their accomplishment.

Crown Prince Mohammed bin Zayed said this is an accomplishment that marks the 50th anniversary of their national independence from the British and “paves the way for the next 50 years of sustainable scientific development in the UAE. The human capital is the true wealth of our nation. Investing in our people forms the main pillar of all our development strategies and policies.”

There's no question in my mind that this statement accurately reflects their program, and I've been impressed by the unique Emirati staff chosen for the Mars mission.

While the UAE has successfully coordinated with other space programs, and used their lessons learned to make improvements early on, the UAE space project leadership is 100 percent Emirati.

The average age of the Emirati Mars Mission team is 27 years old.

More than one-third of its scientists are women, and the cabinet minister who oversees the UAE space agency is also a woman.

This achievement places the UAE within a very small group of countries who were able not only to reach for the stars, but hit one of them on the first try.

Hopefully the Al-Amal probe will continue to provide quality photos and data for the next two years to benefit the global scientific community and, through them, to the benefit of all.

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