

Answer to the Questions from Q-Post to Dr. Koichi Wakata

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JAXA Public Affairs Department

[Question]

You are a member of the advisory committee of the Emirates Space Agency, how do you see the Emirati vision of going towards space?

[Answer] I have been serving as a member of the Advisory Committee of the United Arab Emirates Space Agency (UAESA) since 2018, and I supported various meetings and public events with H.E. Dr. Mohammed Nasser Al Ahbabi, Director General of UAESA.

Since the UAESA was founded in 2014, the UAE has launched nationally ambitious plans, such as the Mars Exploration Program (EMM) and Mars2117.

In addition, the UAE has steadily realized space programs such as launch of satellites and the 1st UAE astronaut's flight on the ISS. I highly respect all the great achievements the UAE has made in the recent years.

[Question]

The UAE has the Hope Probe, which will arrive within days to its location. How do you see this project and what are its importance and implications for the region?

[Answer] Mars is considered as a challenging target of space exploration for humanity following the lunar exploration. Before we send humans to the red planet, it is essential to cooperate internationally and expand our knowledge about Mars through robotic exploration missions. The HOPE mission of the UAE is a big step towards that goal, and JAXA is looking forward to its outcome.

[Question]

How do you see the Emirati move to encourage young people to study space science and provide incentives for those who are distinguished in their fields?

[Answer] The UAE's space program and their achievements are beneficial not only to the UAE, but also to the Arab nations as well as to the entire world on this planet. It is fascinating that the achievements in space are fascinating many people especially the younger generation who will take up the new challenges towards giant leaps in expanding our knowledge of our universe.

[Question]

What is the importance of the Hope probe and the role it will play in the discovery of Mars from your point of view?

[Answer] I understand that the primary purpose of the Emirates Mars Mission "HOPE Probe" is to observe the Martian atmosphere, which is key to understanding the evolution of Mars as well as acquiring data for future human missions to Mars.

[Question]

The Hope Probe is the fruit of the Emirati-Japanese cooperation. We want you to talk about the details of this matter?

[Answer] In July last year, the Emirates Mars Mission (EMM) "HOPE Probe" was launched on the H-IIA rocket operated by the Mitsubishi Heavy Industries (MHI) from the Tanegashima Space Center in Japan. EMM is a significant mission in the UAE's space activities, and I had the privilege to share the excitement of the EMM launch with the representatives from the UAE at Tanegashima. We are very pleased that the cooperation between Japan and the UAE has achieved an essential milestone of the successful arrival of "HOPE" in Mars orbit.

[Question]

What are the benefits that will accrue to the world from the studies that the probe will conduct?

[Answer] Bringing together the results of various spacecraft will reveal the dynamics and evolutionary processes of the Martian atmosphere from multiple angles. We believe that these scientific results can lead to understanding of the sustainability of the Mars environment in which living organisms can survive. The UAE's Hope Probe plays an important role in this effort.

[Question]

There are questions that the Hope Probe is trying to answer related to the causes of the disappearance of the upper layer of the Martian atmosphere, what are the difficulties that scientists face in analyzing the results?

[Answer] Science is always a quest for unknown, and it is not easy to interpret the data that you haven't experienced before. Therefore, we have great expectations for the valuable data that HOPE Probe will acquire. The data provided by the HOPE Probe strongly complements the science goals of JAXA's Martian Moon eXploration mission (MMX). MMX will study the development of habitability on Mars by revealing the origin of the Martian moons, which are thought to be either time capsules preserving conditions on the planet at the epoch when a giant impact created the satellites, or captured asteroids whose composition will indicate the passage of water and organics between the outer and inner Solar System. The sample to be collected from Phobos is also expected to contain grains ejected from Mars over millions of years. By dating these grains from radioactive isotopes trapped in the minerals, MMX will provide a chronology for the evolution of conditions on Mars.

[Question]

If we talked briefly about the method of exchanging information and the expected results?

[Answer] International cooperation is important in space exploration. The farther the exploration area will be from the Earth, the higher the transportation and communication costs will be. And so will be the technical risks, which will make it impractical to be executed entirely by one country. Therefore, I believe that international collaboration to share mission opportunities, information, and data with each other will be a key to the success of future space exploration.

[Question]

How would you rate the Arab interest in space programs and what are the obstacles from your point of view?

[Answer] As excellent astronomical research has been carried out in the Arab world since the Middle Ages, it seems natural that there is a high level of interest in space in the region. I think it is critical to acquire and expand human resources in order to develop technologies for space activities in a sustainable manner by enhancing public awareness of the activities in space as well as through education.

[Question]

Do you expect that Arab countries will expand in the field of investment and benefit from space science?

[Answer] I believe that space exploration is the ultimate challenge for exploring new frontiers of humanity, and that it can be only achieved efficiently by bringing together the most advanced technologies on a global scale. Therefore, international cooperation is critical. And I do expect that Arab countries will play an essential role in this effort with a long-term vision as space activities will contribute to the sustainable growth of science and technology which will benefit the entire society on our planet and beyond.

[Question]

Finally, what are your advice and vision to enhance the benefit of the Emirati trend towards space exploration?

[Answer] I would like to pay my tribute to the UAE's nationwide ambitious plans in space exploration including the Emirates Mars Mission "HOPE Probe" and the Mars 2117 Project. The UAE is steadily promoting space activities and is advancing technologies and management capabilities that supports the activities in space. Therefore, the UAE has strong potential for significant growth and development in space in the future. As an emerging space-faring nation, it is important to take advantage of opportunities for international cooperation. I would like to see the UAE continue to take on challenges without being afraid of failure as the nation proceeds with space activities. JAXA would like to continue to expand cooperation with the UAE in the utilization of the International Space Station and "Kibo" module as well as in the international space exploration beyond the Low Earth Orbit, i.e. to the Moon and Mars.