

Japan Prepares MMX Mission to Sample Mars Moons Phobos and Deimos

Japan Aerospace Exploration Agency unveiled its Martian Moons eXploration spacecraft designed to collect surface samples from Phobos.

Martian Moons eXploration (MMX) is a Japanese robotic sample-return mission targeting the Martian moons Phobos and Deimos.

KEY EXAM POINTS

- The **Japan Aerospace Exploration Agency** (JAXA) revealed the MMX spacecraft at **Tanegashima Space Center**.
- The mission aims to land on **Phobos** and collect at least **10 grams** of surface material.
- A surface exploration rover named **IDEFIX**, developed with **France** and Germany, will conduct surface observations.
- The spacecraft will spend approximately **three years** in Mars orbit and observe **Deimos** without landing.
- The sample return capsule is scheduled to return to Earth and land in **Australia** in around **2031**.
- The findings aim to test the **giant impact hypothesis** versus the **asteroid capture hypothesis** for the moons' origins.

DID YOU KNOW..!?

Mars has two small natural satellites, Phobos and Deimos, discovered by American astronomer **Asaph Hall** in **1877**.

JAXA successfully returned asteroid samples to Earth through the **Hayabusa** (2010) and **Hayabusa2** (2020) missions.

India launched its Mars Orbiter Mission (Mangalyaan) on **November 5, 2013**, using the **PSLV-C25** launch vehicle.

ISRO successfully entered Martian orbit on **September 24, 2014**, making India the first Asian nation to reach Mars orbit.

NASA's **Perseverance** rover successfully landed in Mars' Jezero Crater in **February 2021** to search for signs of ancient life.

China's **Tianwen-1** mission deployed the **Zhurong** rover on Mars in May 2021, making China the second nation to operate on the Martian surface.

Olympus Mons on Mars is recognized as the largest volcano and tallest planetary mountain in the Solar System.

REVISION FLASHCARD

JAXA's MMX mission targets collecting soil samples from Mars' moon Phobos by 2031.

Syllabus Relevance: Important for Unit 1 (General Science) and Unit 2 (Current Events - S&T) across TNPSC Group 1, 2, and 4 exams.

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