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News: Smart Lander for Investigating Moon (SLIM) Mission

Smart Lander for Investigating Moon (SLIM)

Mission

- The **Japan Aerospace Exploration Agency (JAXA)** recently achieved a significant milestone as its "Smart Lander for Investigating Moon" (SLIM) successfully entered lunar orbit, aiming to join the elite group of countries capable of soft-landing probes on the Moon.
- This mission marks Japan's second attempt at a soft Moon landing after the **HAKUTO-R** mission, a private commercial venture, met with failure earlier in 2023.
- SLIM, having a **dry weight of around 190 kilograms**, stands as an example of precision technology, aiming to touch down within 100 meters of its target site, the **Shinoli crater** in the equatorial region.

HAKUTO-R Moon Mission

- HAKUTO-R refers to the **white rabbit** that Japanese folklore suggests lives on the Moon.
- The **M1** lander will deploy two robotic rovers, two-wheeled, orange-sized devices from Japan's JAXA space agency and a four-wheeled Rover made by

the UAE known as the Explorer Rashid, named after the Dubai royal family patriarch.

- If the rover Rashid lands successfully, it will be the Arab world's first Moon mission.
- So far only the United States, Russia, China, and India have managed to put a robot on the lunar surface.
- It will also be carrying an experimental solid-state battery made by NGK Spark Plug Co, a Japanese-based spark plug company.

Features

- It is designed in such a way that it will use minimal fuel to save money and leave more room for cargo.
- It is taking a slow, low-energy path to the Moon, flying 1.6 million km (one million miles) from Earth before looping back and making a planned landing by the end of April.

Objective

- It is aimed to search for water deposits before touching down in the Atlas Crater, which lies in the northeastern section of the Moon's near side and measures more than 87km (54 miles) across and just over 2km (1.2 miles) deep.

- Mission success would also represent a milestone in space cooperation between Japan and the US at a time when China is becoming increasingly competitive and rides on Russian rockets are no longer available in the wake of Russia's invasion of Ukraine.
- Japan has a contract with NASA to ferry payloads to the Moon from 2025 and is aiming to build a permanently staffed lunar colony by 2040.
- Unfortunately, HAKUTO – R met up with a failure.
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