

Japan's Space Ambitions: Economic Shifts, Lunar Missions, and Global Tech

Space Exploration · Answer Key · 8 Questions

1. What is the Japanese government's stated goal for the value of its domestic space industry by the early 2030s, and what fund has been established to support this growth?

- A) JPY 5 trillion, funded by the Space Innovation Fund
- B) JPY 8 trillion, funded by the Space Strategy Fund**
- C) JPY 6 trillion, funded by the National Space Development Fund
- D) JPY 10 trillion, funded by the Japan Aerospace Exploration Agency's general budget

2. Japan's SLIM mission achieved a significant milestone by being the fifth nation to successfully soft-land on the Moon. What was a key technological demonstration of this mission that has implications for future lunar exploration, especially in challenging terrain?

- A) Development of a long-duration power source for lunar nights
- B) Automated navigation and obstacle avoidance for pinpoint landings within 100 meters of a target**
- C) Deployment of a large-scale orbital refueling station
- D) The first successful extraction of lunar water ice

3. Which of the following represents a significant international collaboration Japan is involved in, aimed at returning humans to the Moon and supporting future Mars missions, where Japan contributes key components like the International Habitation (I-HAB) module's life support systems?

- A) The China-led International Lunar Research Station (ILRS) program
- B) The European Space Agency's (ESA) ExoMars program
- C) The NASA-led Artemis program**
- D) Russia's Vostochny Cosmodrome development

4. How is Japan attempting to revitalize its semiconductor industry amidst global competition and supply chain vulnerabilities, particularly concerning its reliance on imported materials and the decline in chip manufacturing dominance?

- A) By exclusively focusing on research and development of next-generation memory chips
- B) By increasing import tariffs on foreign semiconductors to protect domestic manufacturers
- C) Through large government support, international partnerships (like with TSMC for Rapidus), and a focus on advanced technologies and legacy sectors**
- D) By nationalizing all foreign semiconductor companies operating within Japan

5. What is a critical global issue impacting space exploration and economic activity, which Japanese companies like Astroscale are actively addressing, and how does it relate to the increasing number of satellite launches?

- A) The threat of solar flares disrupting satellite communications
- B) The risk of space debris accumulation, potentially leading to Kessler Syndrome, and the need for removal technologies**
- C) The challenge of maintaining consistent GPS signal strength for orbital navigation
- D) The high cost of launching payloads into geostationary orbit

6. Japan's space industry has seen a significant shift from a government-led model to one that increasingly involves private companies and startups. What is the primary driver behind this shift in recent years?

- A) A decrease in government funding for space exploration
- B) The retirement of the International Space Station and increased global competition, necessitating a more commercially sustainable ecosystem**
- C) A reduced interest in scientific discovery and a sole focus on commercial ventures
- D) The development of a new, cheaper launch vehicle that makes private space ventures more accessible

7. What strategic role does Japan aim to play in the Asia-Pacific region's growing space economy, particularly concerning Earth Observation (EO) data and the development of national space agendas?

- A) To become the sole provider of satellite data for the region, excluding other nations
- B) To facilitate co-creation, act as a hub for information exchange, and create platforms for regional cooperation to accelerate use cases for space technology**
- C) To exclusively focus on its own domestic space market without engaging in regional collaborations
- D) To export its space technology at significantly higher prices than international competitors

8. The Japanese government, through initiatives like the Space Strategy Fund, is heavily investing in its space sector. What is a key objective of this fund beyond simply increasing the market size of the domestic space industry?

- A) To exclusively fund research into theoretical physics
- B) To subsidize traditional industries unrelated to space technology
- C) To contribute to finding solutions for global, societal issues using space, and to foster the commercialization of innovative technologies**
- D) To nationalize all private space ventures operating within Japan