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SWITZERLAND GLOBAL ENTERPRISE

JAPAN'S SPACE TECHNOLOGY SECTOR

OPPORTUNITIES IN JAPAN'S SURGING SPACE INDUSTRY

Japan is positioning its space industry as a future economic pillar, targeting a market value of **JPY 8 trillion** (approx. CHF 39.8 billion) by the early 2030s, mainly through their ambitious **JPY 1 trillion Space Strategy Fund** administered by JAXA. The country aims to accelerate commercialization of innovative technologies across satellite, launch, and orbital re-entry sectors, while expanding liability coverage to support private ventures.

MARKET OVERVIEW

Recently, Japan's space tech sector has been shifting from government-led missions to **networks of commercial innovation ecosystems**; these networks of startups, established companies, government agencies, investors, and research institutions that collaborate to drive new technologies into the market are becoming central to Japan's market growth in space tech. Japan's space industry, traditionally led by major manufacturers, now includes **more than 100 space tech ventures** from universities and startups, which are contributing to an innovation boost and market growth.

The market is defined by **technological innovation, national security priorities, industrial self-sufficiency, and sustainability:**

1. Technological Innovation & Efficiency
Recent market trends involve a shift to AI technologies, robotics, and advanced materials, driving the development of efficient, reliable, and sophisticated systems. Japan is expanding on innovative technologies to enhance aviation performance, address natural disaster and safety issues, and expand space applications.

2. National Security & Strategic Autonomy
The Ministry of Defence (MoD) is proactively investing in the space sector. A five-year SAR (Synthetic Aperture Radar) budget ensures stable revenue and secure demand, while rising conflict risks accelerate the need for Space Situational Awareness (SSA) and Space Domain Awareness (SDA) capabilities. Four key strategies guide these efforts: battlespace awareness, secure communications, mission assurance, and counter-space capabilities.

3. Sustainability & Disaster Response
There is a heightened emphasis on sustainable, environmentally friendly innovation, with space technologies designed to minimize environmental impact. Beyond defense, satellite imaging solutions from startups like QPS and Synspective are being rolled out for disaster prevention and early detection, strengthening the sector's role in climate resilience and societal safety.

4. Venture Capital & Startup Growth
More than 100 Japanese space start-ups are active in 2026, the largest number in Asia, surpassing countries like China and India. This is supported by a surge in venture capital investment and IPO activity in Japan, with firms like ArkEdge Space raising billions to commercialize microsatellite technology. The rise of "second-generation" startups, as well as increasing co-creation between industry, academia, and global partners, signals a dynamic commercial innovation ecosystem that is accelerating the country's space ambitions.

HYSTORY AND ACHIEVEMENTS

The **Japan Aerospace Exploration Agency (JAXA)** is Japan's national aerospace agency responsible for space and planetary research, satellite development, and space exploration missions. JAXA conducts scientific research, develops technology. Japan boasts a rich history in spaceflight, with notable achievements including the first Japanese astronaut in space, Toyohiro Akiyama, in 1990, and ongoing contributions to international space missions. Businessman Yusaku Maezawa made history as the first Japanese private citizen to visit the International Space Station in 2021. With astronauts selected for future lunar missions, Japan continues to play a vital role in space exploration.

BUSINESS OPPORTUNITIES

Recent trends show continued acceleration of private sector-led initiatives alongside government support. In June 2025, the Japanese government approved the "Basic Policy 2025," strengthening space policy with goals including:

- Increasing rocket launches to 30 per year by the 2030s
- Expanding the Quasi-Zenith Satellite System to an 11-satellite constellation
- Developing next-generation meteorological satellites and lunar crewed pressurized rovers
- Supporting startup growth through public-private R&D collaborations

Against this backdrop, the Japanese space tech market offers the following promising opportunities for Swiss companies and start-ups:

- **New technological developments and commercialization:** Japan is actively working on new space tech like space debris removal technologies, next-generation launch vehicles, and earth observation products and satellites. It's shift from pure R&D to commercialization continues to accelerate, opening up opportunities for Swiss companies to collaborate on projects and bring innovative solutions to the market.

- **International collaboration:** Japan has a long history of international cooperation in space development. Swiss companies can leverage these established relationships to participate in joint ventures and projects.

  One successful example for a private sector collaboration is the business partnership between *Swiss company Beyond Gravity and Mitsubishi Heavy Industries*, which has involved significantly since 2024: Beyond Gravity supplied the payload fairing and internal support structure for the H3-A vehicle that launched from Tanegashima with JAXA's HTV-X supply spacecraft, which continued with the H3-30 test flight that again employed Beyond Gravity components[1].

[1] Beyond Gravity rocket nose cone celebrates premiere on Japan's H3 rocket | Beyond Gravity

TECHNOLOGICAL NEEDS

The Japanese government is actively supporting the Japanese space tech sector in order to advance Japanese technologies and create new knowledge through space science and exploration, as well as to ensure space security. Based on the budget allocation of the **JAXA Space Strategy Fund**, the following technological areas with great need for Japan have been identified:

AREA	DESCRIPTION	TECHNOLOGICAL NEEDS
Cost-Effective Space Transportation	Japan is heavily investing in the next generation of its heavy-lift capability (such as the H3 rocket) and smaller, commercially responsive launch vehicles to lower costs and increase launch frequency. There is a focus on prioritizing high-frequency commercial operations and reusability to achieve international competitiveness.	• **Offshore launch systems:** Adapting and demonstrating launch technologies specifically designed for offshore environments to diversify transportation options. • **Atmospheric reentry protection:** Manufacturing low-cost, reusable, and easily maintainable thermal protection components and core systems. • **Commercial launch optimization:** Improving design, manufacturing processes, flight analysis, and flight safety assessments to scale up private rocket launches. • **Cost-efficient tracking:** Reducing the baseline cost and expanding the functional coverage of rocket tracking networks.
Cybersecurity and Space Resilience	Because space systems are increasingly intertwined with defense and critical infrastructure, space cybersecurity is a top government priority.	• **Efficient threat protection:** Threat Quantum encryption hardened satellite avionics, space-based Space Situational Awareness (SSA) to protect domestic assets from state-sponsored cyber actors and kinetic threats.
Space Sustainability, AI, & Space Traffic Management	As orbit congestion increases, automated and autonomous systems are required to safeguard space assets.	• **Physical AI integration:** Developing advanced AI models, hardware, and shared on-orbit modules to power autonomous satellite services and experiments. • **Space Traffic Management (STM):** Establishing a commercial Space Situational Awareness (SSA) data infrastructure and integrated satellite operations platforms. • **Modernized satellite manufacturing:** Standardizing satellite architectures, models, and interfaces using digital technologies to cut labor hours and production costs. • **On-orbit service frequency:** Creating low-cost, high-frequency on-orbit demonstration services to speed up process validation.
Space Exploration & LEO Utilization	Japan aims to invest heavily in Low Earth Orbit technology for international space exploration.	• **Asteroid mining & rendezvous:** Engineering high-frequency, rapid-response rendezvous and mining capabilities for arbitrary asteroids, alongside lunar sample return tools. • **Low Earth Orbit (LEO) simulation:** Building ground systems and equipment to enable rapid space experiments and low-orbit simulations. • **Commercial station reboost:** Developing autonomous reboost capabilities tailored for commercial space stations.

Advanced Communications & Sensing	To combat radio frequency congestion and security threats, hardware must become more secure and broad-ranging.	• **Anti-jamming & interception security:** Developing specialized communication hardware to counter signal jamming, spoofing, and data interception. • **Quantum & optical sensing:** Creating satellite sensors with accuracy and sensitivity improvements of two or more orders of magnitude over conventional sensors. • **High-capacity moon-to-earth networks:** Constructing advanced ground stations capable of managing high-capacity communication data to support autonomous lunar surface actions. • **Next-gen satellite antennas:** Building innovative satellite-mounted antennas and high-frequency Q/V-band equipment to expand overall communication bandwidth. • **Multi-service ground antennas:** Designing general-purpose ground antennas that integrate directly into vehicles to scale satellite communication use cases like autonomous driving.

1: Technological needs in the Japanese Space Sector; source: JAXA Space Strategy Fund[2]

Swiss companies are encouraged to explore partnerships in these areas to provide technology, components, or services.

PRIVATE SECTOR ENGAGEMENT AND KEY PLAYERS

Japan's space industry is driven by a number of large corporations that contribute to various aspects of space technology, from manufacturing space transport machinery to satellite launches:

Heavy industry & aerospace services:

- **ANA Holdings:** ANA is leveraging its aviation expertise to expand into space tourism, orbital services, and crew/cargo transport concepts.
- **IHI Aerospace:** IHI Aerospace specializes in the development and production of rocket systems and components, such as turbopumps for rocket engines, and has been a major contributor to Japan's space missions.
- **Kawasaki Heavy Industries:** Kawasaki Heavy Industries focuses on the development of payload fairings and attachment fittings for H-IIA and H-IIB rockets. They are also involved in the design and construction of launch complexes and participate in projects for reusable space transport vehicles and space robotics.
- **Mitsubishi Heavy Industries (MHI):** Known for its development of solid fuel rockets, MHI is a key player in Japan's space industry. MHI's focus has firmly shifted to launching their flagship H3 rocket. They are also developing the HTV-X to resupply the International Space Station and working on lunar missions in collaboration with JAXA

Electronics & IT:

- **Fujitsu:** Known for its IT services and products, Fujitsu is also involved in space technology, particularly in satellite communications and data processing.
- **Hitachi:** Hitachi is engaged in various space-related projects, including satellite systems and space exploration technologies.
- **NEC Space Technologies:** NEC Space Technologies is a prominent player in the space tech sector, specializing in the development and manufacturing of satellite components and systems. Additionally, NEC is

[2] 技術開発テーマ一覧 | JAXA 宇宙戦略基金 (Jap.); Overview_of_The_SpaceStrategy_Fund.pdf

involved in innovative projects like the “InRange” project and collaborates with various space ventures to advance space technology

Telecom & connectivity:

- **KDDI:** KDDI's efforts include launching satellites with direct-to-cell capabilities, which will enable better coverage and connectivity for their users. They have partnered with SpaceX to provide satellite-to-cellular services using Starlink satellites.
- **NTT Docomo:** NTT Docomo develops High Altitude Platform Stations (HAPS) and space-based non-terrestrial networks (NTN). NTT Docomo collaborates with companies like Space Compass and SKY Perfect JSAT to advance these technologies, focusing on integrating space-based networks with terrestrial mobile networks for G and future 6G Services.
- **Softbank:** SoftBank is significantly involved in the space tech industry, primarily through its investments in satellite communications and related technologies. One of their notable investments is in OneWeb, a UK company developing a constellation of low-Earth orbit satellites to provide global broadband internet. Additionally, SoftBank’s Vision Fund has invested in various space-related start-ups.

Satellite manufacturing & services:

- **Mitsubishi Electric Corporation (MELCO):** MELCO is a significant player in the space tech sector, primarily focusing on the development and manufacturing of satellites. They are the lead contractor for JAXA’s Innovative Satellite Technology Demonstration-2, which aims to create a standardized platform for small 100kg-class satellites.
- **Mitsui Bussan Aerospace:** Provides a range of services, including satellite launch services, CubeSat deployment from the ISS’s Kibo module, and commercial space station services.
- **SKY Perfect JSAT:** Japan's largest satellite communications and broadcasting operator. They are major stakeholders in the growing commercial satellite internet sector and various Earth observation projects.

Mobility & space logistics:

- **Japan Airlines (JAL):** JAL has entered the space industry as of 2026. According to their latest press release, JAL launched the “ARGO Project”, which is described as the world’s first lunar transport service initiated by an airline.
- **Toyota:** Toyota is collaborating with JAXA to develop a manned, lunar rover called the Lunar Cruiser. This rover is designed to support long-duration missions on the Moon; the Lunar Cruiser will use Toyota’s fuel cell technology to generate power.

STARTUPS DRIVING INNOVATION

Japan has witnessed a **surge in space startups in the past 5-6 years,** with over 100 currently active in various segments of the industry. As Japan embraces privatization in space exploration, startups are playing a crucial role in driving innovation and competitiveness. Below is a list of some of the top-funded Japanese ventures:

- **Axelspace:** Axelspace is a pioneering Japanese startup specializing in microsatellite technology. Established in 2008, the company has developed and launched several practical microsatellites, expanding on the GRUS microsatellite constellation, which provides Earth observation data for various applications such as agriculture and disaster assessment. It is also known for its project to remove debris from orb.
- **GITAI Inc:** GITAI Inc. is a Japanese space robotics startup focused on providing safe and affordable labor in space. They develop advanced robotic systems for various space applications, including the Inchworm Robot for space station maintenance and the Lunar Rover R1.5 for lunar Exploration, which are now part of international partnerships.
- **Interstellar Technologies:** Founded in 2013, the company advanced from MOMO suborbital rockets to testing the ZERO orbital launch vehicle, supported by major funding rounds. It focuses on developing low-cost and accessible space transportation services. They are now seen as Japan’s flagship private rocket company.
- **ispace:** The lunar exploration startup focuses on developing micro-robotic technology for low-cost and frequent transportation services to and on the moon, and has expanded partnerships with the European Space Agency and JAXA. Their vision is to extend human presence into outer space by exploring and developing lunar resources, such as water, to support a space-based economy.
- **Space Walker:** This startup is focused on developing winged reusable suborbital and orbital spaceplanes to make space travel as accessible as air travel by creating sustainable and cost-effective space transportation

solutions. The company collaborates with JAXA and other partners to advance their technology and has secured significant funding to support their projects.

- **Synspective:** Synspective designs, builds, and operates a fleet of SAR satellites for earth observation. Their high-frequency, high-resolution SAR satellites provide geospatial data and analytics services, enabling wide-area monitoring regardless of weather conditions or time of day. They are now one of Japan's most commercially successful space start-ups.

MAJOR SPACE TECH TRADE FAIRS IN JAPAN

Below is an overview of applicable trade fairs in this field.

TRADE FAIR	WHEN & WHERE	FOCUS SECTORS
SIEX - The International Space Industry Exhibition	Usually in Q1 in Tokyo Big Sight (Next event: 17.-19.03.2027)	Broad aerospace showcase: satellites, robotics, debris removal, lunar exploration
OPIE – Space & Astronomical Optics Expo	Usually in Q1 in Pacifico Yokohama (Next event: 21.-24.04.2027)	Optics, photonics, sensors, astronomical instruments
SPEXA – Space Business Expo	First edition in May 2026 at Tokyo Big Sight (Next event: 12.-14.05.2027)	Comprehensive space business expo: rockets, satellites, data services, CubeSat salon; *featured a successful Swiss Pavilion in 2026*
Japan International Aerospace Exhibition (JIAT)	Held every four years (Next event: October 2028 in Tokyo)	Aircraft, spacecraft, propulsion systems, satellite technologies, defense systems, and advanced materials

Source: JETRO

YOUR MARKET ENTRY: HOW S-GE CAN SUPPORT

In Japan's dynamic space technology sector, S-GE stands ready to guide you through this evolving ecosystem. Our Zurich, Renens and Lugano-based consultants are working closely with the local market experts at the Swiss Business Hub Japan, and we offer tailored support to seize emerging opportunities.

Japan's space tech industry presents **significant opportunities for growth.** Venture capitalism is on the rise, attracting investment in space startups, while collaborations between government agencies, private companies, and academia foster innovation and competitiveness. **Effective collaboration between public and private sectors, and between large companies and innovative start-ups** will be essential for sustainable growth in this sector. However, ensuring smooth cooperation as well as finding the right contact person in Japan's large companies can be challenging.

The Swiss Business Hub Japan can help you overcome these first hurdles and offers the following support:

- Conducting a market analysis and competitive assessment to determine if you can offer a unique value proposition in Japan.
- Identifying suitable business partners in Japan's space tech sector and arranging B2B meetings, either online or in person.
- Providing support to navigate potential regulatory and bureaucratic challenges.
- Offering advice on localization and Japanese business etiquette to help you adapt your products and services to meet local preferences and standards.

Whether you're a startup eyeing market entry or an SME pursuing strategic partnerships, S-GE delivers customizable solutions. Reach out to explore how S-GE can tailor its services to align with your objectives. Let's unlock the potential of Japan's space technology sector together and cultivate impactful partnerships.

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