

FOCAL POINT ON COMMERCIAL SPACE EXPLORATION IN JAPAN

PRODUCED IN PARTNERSHIP WITH JAXA

THE RISE OF JAPAN INTO NEW SPACE

A QUIET REVOLUTION IS UNDERWAY IN SPACE EXPLORATION and development, and Japan is well placed to be a part of it

“The world’s space industry is in the throes of a major transformation,” says Masayasu Ishida. An energetic Tokyoite, Ishida is a principal at the management consulting firm A.T. Kearney and co-founder and president of the Spacetide Foundation, an organization dedicated to promoting space businesses globally.

Historically, space has been the exclusive domain of government and multinational projects, but increasingly private enterprises are venturing above in a movement dubbed ‘new space’. Entrepreneurs such as Jeff Bezos, Elon Musk and Richard Branson have captured the headlines, but this movement is not restricted to famous entrepreneurs or huge corporations. Increasingly, small to medium-sized businesses are becoming involved.

Ishida, who has written a book on promoting the space industry to the private sector, is excited about Japan’s involvement in new space. “I think Japan has the potential to be one of the world’s new-space industry hubs,” he says.

“Future space exploration needs innovative technologies like robotics, artificial intelligence, advanced communication, and new materials, which will be brought by non-space industries,” he explains. “Japan is home to many of the world’s leading industries, and has a variety of technological assets. Their involvement could be of help in the global space exploration effort.”



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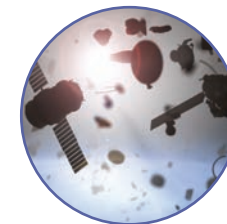
SOFTBANK, a major telecommunication provider in Japan, **HAS INVESTED US\$10 BILLION IN ONEWEB**, which is building a mega constellation of hundreds of satellites to provide internet service all over the world.



In March 2018, Japan will host the **SECOND INTERNATIONAL SPACE EXPLORATION FORUM**, a meeting for high-level government representatives and private businesses.



In December 2017, the **UK SPACE AGENCY AND THE JAPANESE GOVERNMENT** signed a joint initiative that will proactively tackle the problem of **SPACE DEBRIS**.



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Yasuhiro Yukimatsu, deputy director-general of the National Space Policy Secretariat, Cabinet Office, notes that Japanese companies and universities have developed micro-, nano- and even pico-satellite technology, which allows countries that have yet to join the space community affordable access to space. Ishida concurs: “Japanese space-related business players have unique technologies and are working on projects such as small launchers, space debris removal, and space resource mining.”

JAPAN IN SPACE

Japan has a proud history of ‘old space’ government-funded exploration. It was the fourth country to venture into space, and the third one to send spacecraft to both Mars and the Moon. It has the distinction of being the only country to have brought a sample back from an extraterrestrial body besides the Moon, when Hayabusa landed in the Australian outback in 2010 with a sample collected from the surface a deep-space asteroid.

But times are changing. “For the industry to realize sustainable growth, a shift from the government to the private sector is urgently needed,” says Masanori Tsuruda from the Ministry of Economy, Trade and Industry (METI). This shift is driven in part by shrinking government budgets for big projects as well as the many emerging possibilities for enterprises to profit from space.

However, business cannot go it alone in space because the capital costs and risks are too high. Companies need a supportive environment to be able to flourish in space. The Japanese government is now undertaking various initiatives to nurture the domestic commercial space industry. Ishida notes three areas in which government can help businesses invest in space: law and legislation, government procurement, support of innovation, and contests.

In the legal realm, Ishida considers

the enacting of the Basic Space Law in 2008 and the Basic Plan on Space Policy in 2013 as a significant turning point. These spelled out the three main goals of Japanese space policy, namely encouraging the private sector to invest in the space industry, enhancing national security by utilizing space, and maintaining and strengthening the science and technology and industrial basis. In 2017, the Japanese government published its Space Industry Vision 2030, which sets an ambitious target of doubling the size of the space industry by the early 2030s. The strong government support of the private sector is one of the advantages that Japan has in developing new-space technologies, says Ishida.

In terms of government procurement, Japan’s space agency JAXA seems to be following NASA’s example of moving from government owned and operated systems to contracting companies to work on specific projects. In this model, the government agency serves as the lead investor and customer.

The government is also actively seeking to support innovation in space technologies through funding research and development and it has started a competition to stimulate ideas from the business community for space-related commercial ventures. Called S-Booster it offered prizes of up to three million yen.

The transition is not without its challenges. “Japan’s domestic market size is considerably smaller than those of the US or Europe,” says Yukimatsu. “As a result, the Japanese space industry is not as globally competitive, since the world’s space industries still depend on public demand.” But Ishida is upbeat about the prospects for new space gaining ground in Japan. “Looking to the future, I expect an influx of new players, new investments, new business models, and new customers from outside the industry,” he says. “We need all these elements to create an ecosystem.” ■



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