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COMMERCIAL HUMAN SPACEFLIGHT DEVELOPMENTS IN JAPAN - THE STATUS OF  
VEHICLES AND SPACEPORTS

**Abstract**

New Space evolution and revolution have been changing the landscape in the global space industry as parallel space commercialization drivers. This phenomenon is also happening in Japan, which has adopted policies encouraging commercial space business development. There are now about thirty space venture companies in Japan and several of them have gotten VC funding, including the largest Series A funding anywhere in the world, which is about \$100M for a space resources utilization company. Furthermore, experts, investors as well as traditional big, middle, small space companies are now becoming active.

Two new laws on space activities and satellite remote sensing have been passed in November, 2016 and activated in November 2018, that are now driving space commercialization in Japan. The third space policy proposal was released by the LDP in April, 2017. Following that, the Space Industry Vision 2030 was issued by the Cabinet Office in May, 2017, with the goal of expanding the space industry from the current 12Bto25B in the next 10 years. To realize this space economy expansion, the government established S-Net as a networking platform in 2016, Space Business Court as business support platform in 2016, S-Booster as a space business idea contest in 2017, S-Matching as a space business fund matching platform in 2018, and J-SPARC as a space innovation partnership with JAXA to promote commercial space in 2018.

In these circumstances, efforts toward human spaceflight have been performed. There are two manned suborbital spaceplane companies, which are PD Aerospace and Space Walker. Both of them are developing winged vehicles. There are several spaceport activities, for example Hokkaido, Wakayama, and Okinawa. Hokkaido, which has been active to realize its spaceport since 1986, will have a spaceport enterprise company formed this spring. Spaceport Japan was also established last November to encourage space industry based on commercial spaceports including becoming a spaceport hub in Asia for human spaceflight. The commercial human suborbital space transportation committee has been established to discuss the law and policy for suborbital human space flight since November 2018. The initial effort will be done in March 2019 and will make a proposal to begin the law making process.

Human space flight has been game changing and space tourism has a huge growth potential furthermore. Japan is aiming for the future with domestic human space flight to become the center of gravity in Asia and ultimately in the emerging global P2P market.