## BUSINESS INNOVATION SYMPOSIUM (E6) Unique Perspectives of Space Entrepreneurship and Investment (3)

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## SPACE ENTREPRENEURSHIP CHALLENGES TO CREATE COMMERCIAL SPACE PROJECTS IN JAPAN – ENGINEERING AND IDEAS TO OPEN NEW SPACE MARKETS

## Abstract

Space commercialization is now inevitable everywhere. Government space budgets are limited in every country; even NASA (with 70

Several space entrepreneur companies have been successful and become leaders in space business. Most of them are in the US but there are few companies in the rest of the world including Europe and Japan. Also, there are .revolutionary entrepreneurship methodologies such as one stop shop, PPP and game changing breakthrough technologies. To realize these entrepreneurial projects, there are policies and programs in the US such as COTS, CCDev, CCiCAP, SBIR, Flight Opportunity program, Lunar Data Purchases, Technology Transfer Program, and tax credits which all contribute towards space commercialization with NASA as a customer.

Meanwhile, the Japanese space budget has been flat, with industry sales almost the same as the national space budget and a dramatic decrease in space employment. In 2008, a new Japanese space basic law was issued where policy is shifted from space development to space utilization. The new space law will encourage space commercialization, with total space sales in all sectors growing to 180Bfromcurrent90Bwithin five years. There are still negative factors for entrepreneur companies such as small space budgets, no venture capital on space projects, no space entrepreneur success story, and slow return on investment. However, active regional space development, retired veteran experiences, unique technology, entrepreneurship in big companies, and self-funded space developments have been growing. To encourage space entrepreneurship in Japan, it is necessary to have a "following wind" with successful examples of regional collaboration, development of solid markets such as small satellite and microgravity experiments, PPP, technology transfer system, tax credit etc. JAXA continues to have a major role in PPP and technology transfer projects.

This paper introduces examples of Japanese entrepreneur companies and projects to create commercial space markets in Japan. Also, issues for entrepreneur companies to perform their businesses are considered. Space should be profitable, and open for all of us.