Abstract

Since the space industry represents a strategic role in national security, economic society, and science and technology, every country has been fostering its own space industry under respective government initiatives. The Japanese space industry market worth about 7 trillion yen, however, Japan lags far behind Europe and the United States in market size of space systems, besides, Japan has a smaller budget for space development. The key to the growth of Japanese space industry lays on overseas market and expansion of space systems utilization and its users.

Satellites utilization has been extended world wide, especially, in developing countries that have little capability to develop satellites of their own satellite is promising market in the future. It is essential to develop “saleable” satellite systems and technologies that fulfill users’ requirements for “low cost, quick delivery, high performance, and high reliability.” In addition, as the demand increases for the systems combining satellites, rocket, ground station, data service and human capacity training in the developing countries, it is necessary to enhance competitiveness of the whole space system as a package: small & nano satellite, ground station, small-sized solid launcher, air-launch system, and constellation & formation flight.

Nano satellite has huge potential for the innovation in technology demonstration and utilization of space systems by realizing very low cost & short time delivery, despite some limitations such as lifetime and resolution accuracy. Moreover, stimulation of new ideas through nano satellite project contributes to the promotion of new entry to space industry. Regarding the expansion of space systems utilization and its users, coordinated operation of a number of satellites make it possible to gather information at high-frequency rate, required for various issues such as natural disaster, Earth’s environment and crop field monitoring.