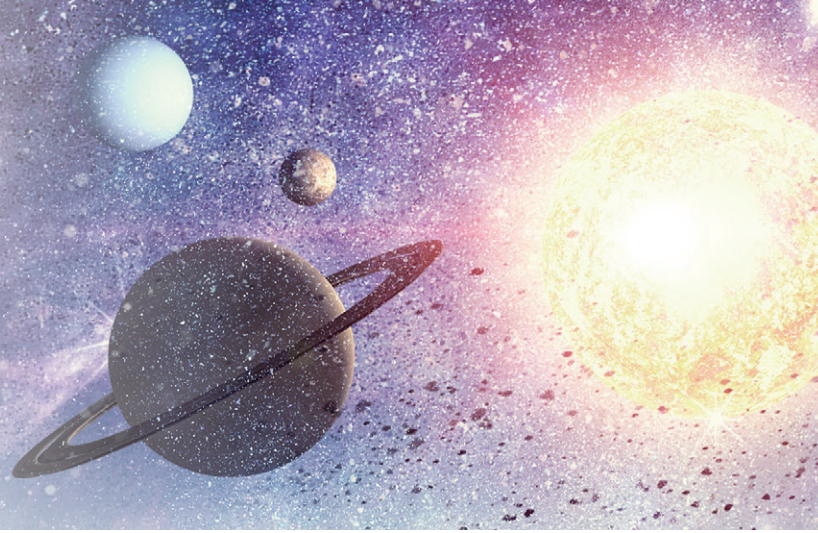


The Future of Space as Global Commons

By Naoyuki Haraoka



With unprecedentedly rapid technological progress, space is becoming more and more a venue for a wide range of purposes. A Global Positioning System (GPS) showing us exactly where we are on a road map, satellite broadcasting, and weather forecasting through satellites are good examples of how space profoundly affects our daily lives. Cyber-security is also starting to attract more attention in the media and will be affected by developments in space. There are, of course, also many scientific exploration efforts in space to discover new materials on other planets like the Moon or Mars. Such a wide range of usages of space is now leading to the birth of many ventures and entrepreneurial activities, and thus space development will be a key to promoting our economy as well.

But in spite of being such a crucial domain, space has never been governed by any international rules. Given the increasingly drastic competition among nations and businesses, will the future of this important global commons be disastrous or rosy without any governing rules? This is our starting point in thinking about the outline of this cover story. The US-Japan Space Forum is trying to achieve a consolidated US-Japan alliance as the core of future space development, and as the notion that the US-Japan alliance is the most critical bilateral relationship for global peace and prosperity was adopted by this forum, it could be expected to invigorate discussions on rules and governance of developments in space.

In line with this thought, we invited Dr. Saadia M. Pekkanen, co-chair of the US-Japan Space Forum, to respond to our questions in an interview by e-mail and talk about the US-Japan space alliance, and the following article by Ryan Shaffer, the director of this forum, then

gives a more detailed picture of the forum. We then have articles by two American space experts, one on the possible impact of the Fourth Industrial Revolution on space by Joshua Marciano, and the other by Robert Shields on the current US national security space policy. We believe it is worth having these expert assessments on US technology and national security policy first, as the United States is obviously the frontrunner in this area.

These are followed by articles from two distinguished Japanese authors. Dr. Setsuko Aoki is a Keio University Law School professor who has been involved in a number of space policy discussions and formulations, and she introduces the perspective of international law on this issue. Hidekazu Takakura, a Japanese government official working on space policy in the Cabinet Office of Japan, presents an outline of the “Space Industry Vision 2030” released by the Committee on the National Space Policy in May 2017, bringing us up to date with the latest developments in Japanese space policy.

We then have three articles on the space industry, as space business and ventures are becoming increasingly significant for our economy. Geoff Nunn, a US space historian, describes how space has invigorated overall business developments, in particular New Space, meaning entrepreneurial activities; Wallis Laughrey, vice president of Raytheon Space and Airborne Systems, who is working on actual space business, talks about his changing business environment and what his company is involved in; and finally Shoichiro Asada, who has worked in the Japanese space business for a long time as an engineer as well as a sales official at Mitsubishi Heavy Industries, Ltd., talks about the history and current reality of Japanese space development.

COVER STORY 1

Interview with Dr. Saadia M. Pekkanen, Job and Gertrud Tamaki Professor at the Henry M. Jackson School of International Studies and Adjunct Professor at the School of Law, University of Washington

The US-Japan Space Alliance — the Most Critical Bilateral Relationship for Peace & Prosperity

By Japan SPOTLIGHT

The US-Japan space alliance is the most important bilateral relationship among the two countries' economic and security linkages. Ensuring space security is vital for maintaining peace.

COVER STORY 2**Space in the US-Japan Bilateral Relationship & the Recommendations of the US-Japan Space Forum**

By Ryan Shaffer

Due to the technical nature of space activities, it is important to bring the subject into the context of real-life, practical concerns in order to promote a sound and practical approach to space.

COVER STORY 3**The Fourth Industrial Revolution Launches into Space**

By Joshua Marciano

To realize the full potential of Fourth Industrial Revolution technologies in space, policymakers need to achieve regulatory reform and create new technical standards.

COVER STORY 4**Making Space Safe Again: National Security Space Policy in the Trump Era**

By Robert Shields

The US national security space policy is in transition from defensive, resilient architectures to a more defensible enterprise.

COVER STORY 5**The Future of Space as Global Commons from the Perspective of International Law**

By Setsuko Aoki

Space debris mitigation will be the most urgent matter to maintain

the future of space as global commons. To achieve it, non-legally binding UN resolutions or guidelines would be a possible target.

COVER STORY 6**Recent Trends in Japan's Space Policy — Centered on Promoting the Space Industry**

By Hidekazu Takakura

In an increasingly competitive global market environment, there are high expectations for redoubling efforts to promote a space industry where Japan's industrial companies can exert an ever-stronger presence and rise to the top.

COVER STORY 7**New Space Innovation in Earth Orbit & Beyond**

By Geoff Nunn

We are getting into the Entrepreneurial Space Age. This is rapidly diversifying how we think about and use space.

COVER STORY 8

Interview with Wallis Laughrey, Vice President of Raytheon Space and Airborne Systems

Exploring the Future in Space in Dealing with Changes in the Business Environment

By Japan SPOTLIGHT

A decrease in launch costs will drive us into a situation where space becomes much more accessible.

COVER STORY 9

Interview with Shoichiro Asada, Executive Director of Japan Space Forum

Space as a New Business Frontier — a Japanese Space Development Pioneer's View

By Japan SPOTLIGHT

To invigorate the Japanese space business, it will be necessary to create a venue for matching up retired engineers and young people interested in space business to work as a bank of human resources for space.

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