The 24th Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-24)

Space Technology Working Group (STWG)

Concept Note

1. Background and Objectives

The Space Technology Working Group (STWG) aims to enhance and support space technology development in the Asia-Pacific region by active information exchange among experts from space agencies, academic institutions as well as from the private sector in the region. The third session of the STWG was successfully held in 2016 at APRSAF-23, and dealt with topics ranging from small satellites, end-to-end space technologies, and joint efforts with other working groups. The STWG recognized strong interest among participants for small satellites especially, and also observed increasing collaborations among various countries, universities, and pioneering private sector organizations. At the same time, the STWG was aware of the expectation of new collaborative work to increase space development capacity. Therefore, participants agreed to continue the STWG for the next APRSAF session and expressed interest in discussing a range of topics that includes small satellites, space technology for the Asia-Pacific region, and capacity building. At the conclusion of the meeting at APRSAF-23, the following recommendations were provided for the STWG:

A) To encourage information exchange on activities and experience of end-to-end space technologies, which include satellite and mission instrument technologies, ground systems and operations, launch and experiment opportunities, testing, engineering management, and data utilization of each country in the Asia-Pacific region, aiming to enable and sustain space activities, particularly in the development and utilization of small satellites, and to strengthen relationships that will bring more opportunities for participation and cooperation;

B) Further to encourage information exchange on capacity-building programs and training opportunities in the region;

C) To call for discussion and information exchange on international rules for addressing space debris toward further space development;

D) To encourage cooperation among space agencies, universities, research institutes, and the private sector for enhanced synergy and interaction;

E) To affirm the continuation of this working group in order to create an environment for new cooperation activities and promote innovation in space technology that contributes to the space industry in the region, and to continue the cooperation among working groups for topics of common interest;

2. STWG Program Structure

Based on the recommendations for the STWG activities listed above, the draft program structure of the STWG for this year's session is given below. The STWG co-chairs are pleased to call for presentations (approximately 15 minutes per presentation) on each topic in space technology from the Asia-Pacific region as well as from other regions and industries, and we expect a lively exchange of information and views among experts, researchers, and engineers in relevant areas.

Participants in this STWG are also expected to contribute to the discussion on ways to promote future collaborative activities on development of small satellites, which will be proposed by co-chairs in this STWG, and to work toward drafting recommendations for the working group output to be presented at the APRSAF-24 Plenary, which will be held on 17 November 2017.

Space Technology Working Group Sessions

Date: 14-15 November 2017

1. Opening of the session

2. General introduction and guidance for the STWG

3. Technical sessions

- Technical Session 1: Recent trends in technology development for satellites

  In this session, relevant governments, institutes or space agencies in the Asia-Pacific region are mainly expected to present information on their own nations' current trends in space technology development. In

particular, this session intends to address the following two topics regarding satellites development:

a) The current and future space technology development roadmap and its function;

b) Advanced, cutting-edge and innovative technologies (satellite bus, devices, components, satellites application facilities and ground operation facilities) that completed its development.

In each presentation, presenters will be expected to share their reason for setting their roadmaps, or introduce the technological barriers that they face or have faced. Thanks to this information, we can discuss and understand their solutions broadly and easily during the session.

- Technical Session 2: Capacity building

  This session mainly focuses on capacity building at the “higher education” level. Relevant educational entities such as national institutes or universities in the Asia-Pacific region are mainly expected to present information on their capacity-building programs which open opportunities internationally.

  *Please be aware that this session focuses on “higher education” such as university level or working engineer level. Please apply to the SEWG if you want to present about youth education.

- Technical Session 3: Industry participation for innovation

  In this session, industries—including small and medium enterprises and/or relevant governments, institutes and space agencies in the Asia-Pacific region that support such industries—are mainly invited. Presenters will be expected to introduce advanced, cutting-edge, and innovative technologies delivered by industries in their own countries or by the presenters themselves. It would be most welcome if presenters were to present those technologies that are expected to be applied commonly or to solve common technological barriers in the Asia-Pacific region.

- Technical Session 4: Space debris

  This session will share space debris countermeasures that relevant governments, institutes or space agencies in the Asia-Pacific region

are taking. The STWG specifically focuses on exchanging information from the technical point of view. Nations that launch satellites, and institutes or agencies from spacefaring nations are most welcome at this presentation.

*Topics on space debris will be also discussed in the Space Policy Workshop to be held on 13 November just prior to APRSAF in Bengaluru. This workshop will mainly focus on government policy-making issues.

- Technical Session 5: Proposal of collaborative development of small satellites in the Asia-Pacific region

  In this session, co-chairs will propose collaborative activity on small-satellite development under APRSAF STWG. This plan aims to pool the great capacities of various entities and create a new concept satellite with innovative technologies. Co-chairs will present several ideas and other current activities that bring synergies to this plan. All participants are strongly invited to attend this discussion to realize this plan in concrete form.

*The expected participants are not limited to the above. Presenters from other entities are also welcome to each presentation and will able to present as well as participate in discussion provided their contents are appropriate to the session.

*Please note that the topics of the technical sessions are subject to change.

4. Overall discussion, future work of the STWG, and drafting observations and recommendations

5. Closing of the session