

Twenty-first Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-21)

ST (Space Technology) WG activities

Proposed Outline

1. Background and Objectives

The Space Technology Working Group (ST-WG) of APRSAF was established in response to the recommendations of APRSAF-20 in 2013, Hanoi, Viet Nam, and the discussion that followed by the APRSAF Executive Committee (ExCom) suggesting renovation of the framework of the working groups. ST-WG aims to exchange information on unmanned space technology to meet needs from countries in the Asia-Pacific region desiring to acquire space technology, and to provide information on opportunities for capacity-building as well as technology demonstrations in order to expand technological development and utilization of outer space.

The growing number of countries in this region are now engaged in various types of space activities. Technological applications combining ground- and space-based assets such as Earth observation, telecommunication, navigation and positioning satellite systems are contributing to sustainable development and socio-economic benefits of people around the world.

The acquiring of technologies to bring such benefits to society is an important pillar for many nations. In order to successfully conduct space projects, from the planning and development phase through to the full operation of a spacecraft, it is indispensable not only to gain various types of technological knowledge but also to establish comprehensive management skills and expertise. In addition to the nations which have already pursued space activities for many years, the emergence of new players could also lead to new types of applications and breakthrough. Industrial promotion, technology innovation and fostering of the next generation are some of the areas still being currently explored in space technology development.

The former Communications Satellite Applications WG (CSA-WG) dealt with topics mainly on telecommunications, positioning and navigation- related technologies and their applications. ST-WG at APRSAF-21 will focus on the following matters where many participating nations in the past sessions of APRSAF have expressed their interests: Small Satellites, Engineering Management, and Advanced Technology.

2. ST-WG Programme Structure

The draft programme structure of the ST-WG session is shown below. The Working Group calls for presentations and expects active exchange of information and views in relevant areas. Participants of this working group will also contribute to the discussion on ways and efforts for future collaborative activities, and to consolidate recommendations as the working group to the APRSAF-21 Plenary held on 5th December 2014.. Please note that the topics described in the technical sessions are subject to change.

1. Opening of the Session
2. General Introduction and Guidance of ST-WG
3. Technical Sessions

Technical Session-1: Small Satellites

Current topics on development and applications of small-scale satellites (small, micro- and nano-satellites) and their capabilities are considered in this session. Information on launch opportunities for small-scale satellites will also be shared among participants.

Technical Session-2: Engineering Management

Engineering process management is an essential part for the reliable development of spacecrafts. Presentations on Systems Engineering (SE), Design and Test Standards and relevant areas are expected. Space debris issues and efforts for sustainable use of outer space are also discussed.

Technical Session-3: Ground Infrastructures

Presentations on ground systems for small satellite operations, environmental test facilities and their latest trends are expected in this session.

Technical Session-4: Advanced Technologies

Presentations on state-of-the-art technologies such as high performance components and devices are expected. Some advanced applications such as Space-based Automatic Identification System (AIS) technologies are also presented.

Technical Session-5: Capacity-Building

Information on capacity-building and educational opportunities relevant to this Working Group topics are shared among participants.

4. Overall discussion and the future work of ST-WG
5. Closing of the session