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CAPACITY BUILDING IN SPACE TECHNOLOGY DEVELOPMENT: ACTIVITIES OF THE
UNITED NATIONS BASIC SPACE TECHNOLOGY INITIATIVE

Abstract

Since the turn of the century and in particular following the promulgation of the CubeSat design specification, the development of small satellites has become increasingly more accessible and affordable. This has resulted in the creation of a very active small satellite development community around the World, spreading to countries that previously neither had the capabilities nor the resources to conduct space activities. Taking account of this development, the Basic Space Technology Initiative (BSTI) was launched in 2009, implemented by the United Nations Office for Outer Space Affairs in the framework of the United Nations Programme on Space Applications. The purpose of the initiative is to assist Member States of the United Nations with building capacity in space technology development for the exploration and peaceful uses of outer space and to provide support to addressing the relevant legal and regulatory aspects, including frequency allocation and coordination, satellite registration with the United Nations and adherence to voluntary standards and guidelines, such as the space debris mitigation guidelines of the Committee on the Peaceful Uses of Outer Space. Between 2009 and 2011 the Office for Outer Space Affairs organized a series of annual symposiums on small satellite programmes, held in Graz, Austria. They considered the role of small satellite programmes for capacity building in space technology development with a particular focus on countries and organizations with limited resources for space activities. Starting from 2012, international symposiums on basic space technology development were held in Japan, the United Arab Emirates, and Mexico. The symposiums bring together representatives of the world-wide small satellite community and contribute to international cooperation in the field. In coordination with the Human Space Technology Initiative, BSTI is promoting the United Nations/Japan Cooperation Programme on CubeSat Deployment from the International Space Station Japanese Experiment Module Kibo ("KiboCUBE"). The initiative also aims to contribute to educational activities, through the on-going development of a space technology education curriculum and the establishment of a long-term fellowship programme in cooperation with Kyushu Institute of Technology in Japan. This paper presents an overview of the BSTI activities conducted between 2009 and 2016 and provides an outlook on future planned activities.