

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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HOW CAN UNISEC ACTIVITIES CONTRIBUTE TO SPACE WORKFORCE DEVELOPMENT IN
NON-SPACEFARING COUNTRIES?

Abstract

This paper introduces the CanSat/CubeSat Leader Training Program (CLTP) provided by UNISEC, and it discusses how CLTP has contributed and will be able to contribute to space workforce development in non-spacefaring countries.

CLTP is a hands-on training course using HEPTA-Sat kits, a model satellite for hands-on study of satellite engineering. Participants can learn the basic subsystems of a satellite, including structure, electrical power supply, command and data handling, communication, ground station, and sensors, as well as integration of those subsystems towards a well-functioning satellite. We used CanSat as a training tool in 2011-2016. We changed the training tool from CanSat to "HEPTA-Sat," a model satellite of CubeSat, in 2017.

CLTP has contributed to increasing the teaching staff for hands-on satellite training, enabling participants to experience the whole satellite building process. Hence, CLTP has directly contributed to capacity building in the space field. It could multiply the number of people with knowledge and experience in space engineering because the graduates who have experienced satellite training are expected to go home and teach their students in each region. So far, 134 participants from 54 countries participated in the CLTP.

However, we notice that it is challenging for well-educated students obtain space job opportunities in non-spacefaring countries. Still, the regional space industry's immaturity has resulted in a need for more local job opportunities.

This paper will present the "HEPTA-Sat global ecosystem program" to increase job opportunities. HEPTA-Sat training has been provided to about 1,000 people and received a good reputation. One proof is that HEPTA-Sat training was adopted for Japanese astronaut training programs. We want to provide HEPTA-Sat training worldwide and contribute to space workforce development in non-spacefaring countries. Localization is one of the keys. We explore effective ways to fulfil the desire to increase the workforce in non-spacefaring countries through the "HEPTA-Sat global ecosystem program."