IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Enabling the Future - Developing the Space Workforce (5)

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THE MAURITIAN JOURNEY TO SPACE

Abstract

On the 12th March 1968, Mauritius was proclaimed independence from the United Kingdom and achieved to the status of Republic on the 12th March 1992. 50 years later, in June 2018, through the KiboCUBE Programmed organised by UNOOSA and JAXA, the Republic of Mauritius will launch its first satellite into space from the International Space Station. The Republic of Mauritius was at its second attempt at the competition. Both attempts were supported by AAC-Clydespace from the United Kingdom. Upon the announcement, the whole country was made aware of this ground-breaking achievement through local media and social media and an announcement was made to the National Assembly. The project was of such importance that a high-level steering committee chaired by the Minister of Technology Communication and Innovation (MTCI) was setup. The MRIC and AAC-Clydespace agreed to collaborate on the project. The project was officially kicked off in November 2018. Through the programme, the Engineers were taught how to write CONOPS documents, identifying Mission and System Requirements. Reaching this point, the team and the Glasgow company realised that some major design changes had to be done to ensure the project is feasible given the tight schedule and where maximum technology and knowledge is being transferred. Hence it was agreed that some components had to be removed or replaced. The PDR and CDR were carried out and a first JAXA Safety Assessment was conducted. Most of the satellite components were specific to MIR-SAT1, and therefore they took 7 months to manufacture and test. The AIT phase then followed. In parallel, the ground station was being setup. The radio spectrum and terrain analysis were conducted for the antenna location. A design for the antenna support was made to ensure it met the location's requirement and the climatic conditions. The antenna system will include VHF, UHF and S-Band. The control room will consist of a clean partition with a flatSat equipment. Training was also provided and will assist the Mauritian satellite team when the MIR-SAT1 will be deployed. Another team was involved in the capacity building of young students whereby a low-earth orbit receiving ground station was designed, manufactured and tested. The programme has been launched by the Ministry of Education and the Ministry of MTCI where every school in the Republic of Mauritius will get an antenna and trained how to collect satellite data. The aim is to incite them to go towards STEM.