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DE-RISKING SPACE MISSIONS THROUGH COMMISSIONING AND QUALIFICATION OF
THAILAND'S NATIONAL ASSEMBLY, INTEGRATION, AND TESTING FACILITY THROUGH THE
THEOS-2 SMALLSAT MISSION

Abstract

The foundation for a successful satellite mission relies on well-defined testing and validation process. One of the main aspects of testing includes environmental testing (EVT) and requires a specialized environmental controlled assembly integration and testing facility (AIT). Reducing the cost and risk of a satellite mission, by improving access to qualified space testing facilities is crucial to enhance the growth of start-up businesses and space technology. As a result of this intention, it is critical that all the test equipment within the facility are qualified and validated to aerospace standards. GISTDA as the leader in space infrastructure development in Thailand has set out to promote sustainable space projects through the qualification of its first AIT facility using the THEOS-2 SmallSAT and a structural qualification model (SQM). Throughout the facility commissioning phase, GISTDA has worked around challenges circling multiple aspects of the qualification process. This paper discusses and highlights the framework of the qualification process with useful insights and lessons learned throughout the qualification process; which proves to be a crucial stepping stone towards sustainable space programs and can be adapted for use by emerging countries to develop and qualify their space infrastructure, currently GISTDA's facility is qualified and operational and is supporting satellite development programs for both domestic and international missions.