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DEVELOPING THAILAND SPACE MANUFACTURING CAPABILITY AND ENHANCING
COMPETITIVENESS BY USING THE THEOS-2 SMALLSAT MISSION

Abstract

The THEOS-2 SmallSAT mission objectives are not only to have a High-resolution Earth Observation System but also to build Thailand's space cluster and develop national capabilities.

This paper reveals how GISTDA utilizes the THEOS-2 SmallSAT program to engage with target industries and individuals in Thailand to be part of a space manufacturing supply chain.

The THEOS-2 SmallSAT is currently under co-development with SSTL in the United Kingdom. Some modules of this 100-kg satellite are built in Thailand by local manufacturers to initiate the space industry readiness for future national space projects. The selection of potential local suppliers is intensively done by collaboration between GISTDA, SSTL, and local industries through the space technology standard processes which have not been done before in Thailand.

THEOS-2 SmallSAT is the first to use the newly build GISTDA's Satellite Assembly, Integration, and Test (AIT) facility before launch. The satellite AIT would allow local manufacturers access to state of the art test facilities to ensure their products comply with the rigors of space qualification assurance requirements.

A key element of the THEOS-2 SmallSAT is GISTDA has the right to the intellectual property of the satellite design. This allows achieving the middle to long term end-to-end capacity building target to have all components sourced locally and satellite assembled in country.

The lessons learnt and challenges during establishing the sustainable space cluster are summarized and examined in the paper.