

30th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Small Earth Observation Missions (4)

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THE FEASIBILITY STUDY OF BUILDING A SUSTAINABLY NATIONAL SPACE TECHNOLOGY
THROUGH EOS THEOS-3 MISSION

Abstract

Since collaboration between GISTDA and Airbus through THEOS-2 programme is that being developed Thai space industry ecosystem rather than looking for the Earth observation satellite replacing to THEOS which has been operating more than 15 years. The THEOS-2 programme delivers very high-resolution satellite that it's fully built by Airbus in Toulouse, France and THEOS-2A (high-resolution small satellite) is co-developed with SSTL in Surrey, United Kingdom through KHTT programme. Both is scheduled launch within 2023. In this regard, 22 Thai engineers are earned satellite build knowledge along with initiation of building space parts in Thailand to global supply chain. Moreover, in the meantime the National Assembly Integration and Test (AIT) was prepared and now being tested with THEOS-2A.

To maintain long term goal of sustainable Earth Observation Satellite (EOS) data and Thai space ecosystem, GISTDA aims to continue reusing the resource from THEOS-2 to extend more capability. THEOS-3 is one of the many parts that GISTDA have been pushing through. The THEOS-3 programme is designed to emphasize i) the building satellite in Thailand and scale of small satellite 100-150kg ii) select instruments and mission to meet the current national issues and requirements iii) the human capacity by building new local engineers which transfers knowledge from 22 Thai engineers and iv) the opportunity for Thai manufacturer to build local content serving THEOS-3 and meet the national space roadmap is at least 10 percentage of value within 5 years. The methodology to analysis and validate information which gathered from GISTDAs' stakeholders regarding the selection of the mission and instrument that is framed by Environment-Vulnerability-Decision-Technology (E-V-D-T) method. The result of feasibility study will include the prioritization of satellite instruments and missions to serve national agenda trading with encouraging local space technology and overview design of THEOS-3 satellite including future plan.