EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

Author: Ms. Pirada Techavijit
Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand,
ptechavi@eoc.gistda.or.th

Mr. Athit Sirikhant
Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand, athit@eoc.gistda.or.th

DEVELOPMENT OF SATELLITE CONTROL SOFTWARE FOR THEOS-2

Abstract

THEOS (THailand Earth Observation Satellite), Thailand's first Earth observation satellite on Low Earth Orbit (LEO), was launched on 1st October 2008 and is fully operated by GISTDA(Geo-Informatics and Space Technology Development Agency) at the control ground station situated in Siracha, Chonburi Province. Satellite monitoring and controlling are the main responsibility of Satellite Control Center (SCC). SCC engineers'role are to perform Telemetry downlink in order to acquire Housekeeping Data and Telecommand uplink in order to send mission program and specific operational commands to the satellite via control ground software. This requires precise operations within each visibility (lasts approximately 10 minutes). Therefore all SCC engineers need to be well trained and passed through numerous qualification processes. In order to assist the engineer and to reduce human error, specific templates of procedures are used while preparing commands and recording real time monitoring of satellite parameters. However there are still errors from data searching in limited time, error in log book recording due to the different standard of operators. Other constraints include data storage area and operational briefing discrepancy. To address these issues, SCC engineers have developed active tool to repare a set of commands and record real time satellite parameters in electronic form.This software is also capable of estimating duration which guarantee secure operation of command uplink. All operational data is then archived in electronic database system which allows quick access. This software is designed for suppporting THEOS-1 and upgrading with new feature for THEOS-2.