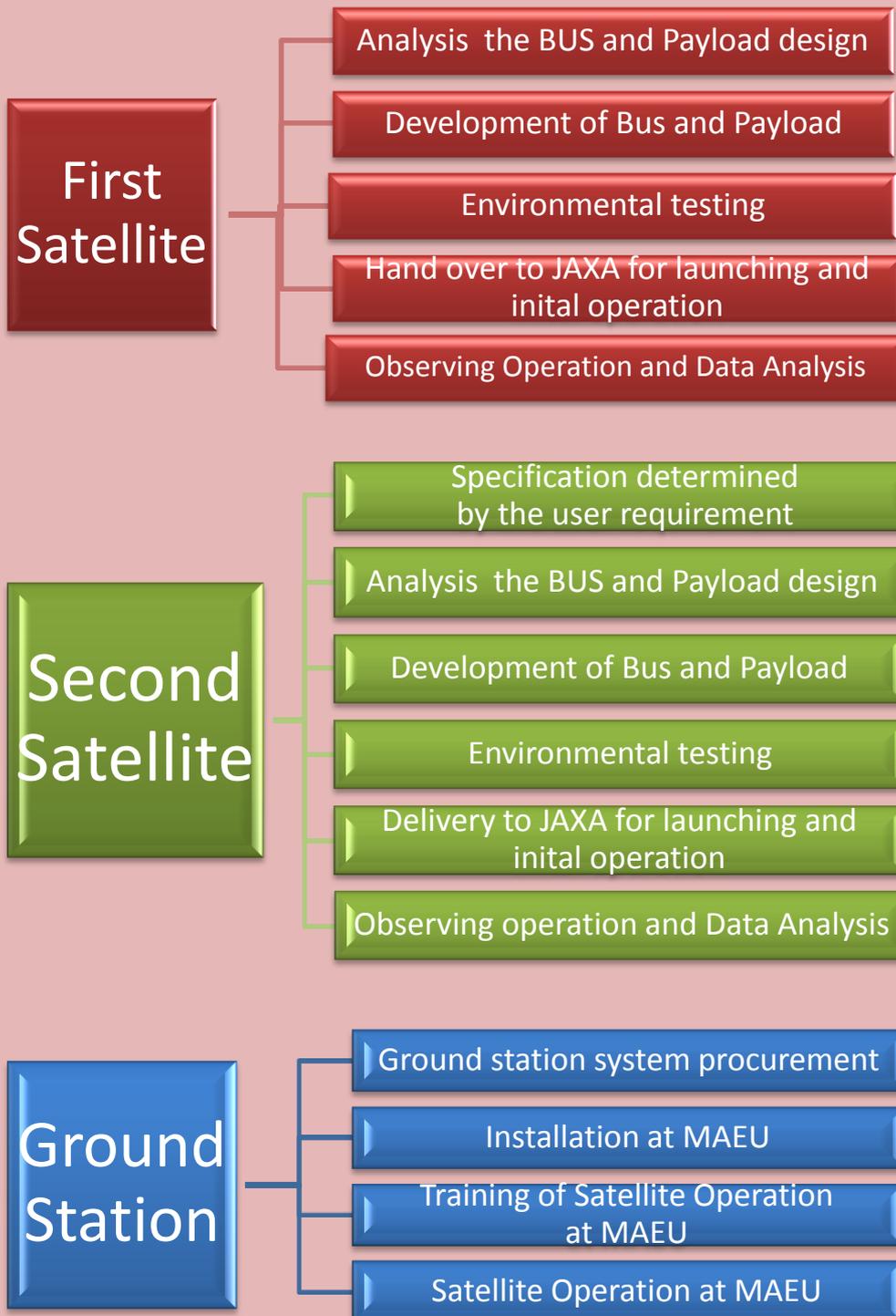
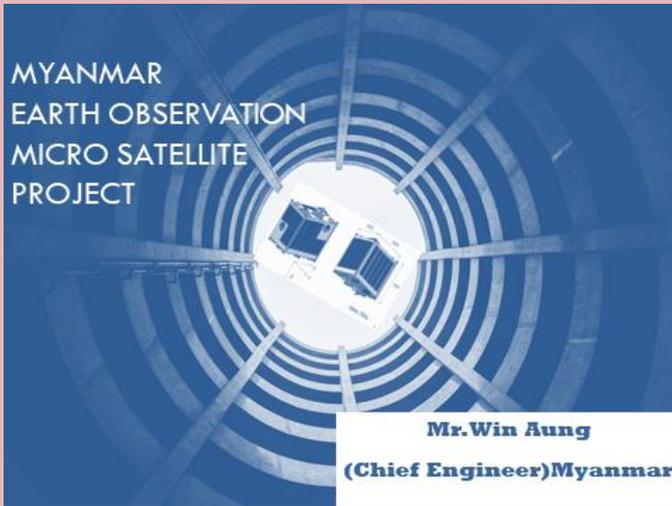


Myanmar Earth Observation Micro Satellite

Now, Myanmar is implementing the state-owned project to launch Earth Observation Micro Satellite (EOS) and planning to launch in end of 2020. The Myanmar Aerospace Engineering University will implement the project co-operating with Hokkaido University, Japan. Total budget shall not exceed 1,680 million Japanese Yen (15.3 million USD). This project is divided into three parts with the following procedures.





The Project period is five years and it is started from 2019 to 2024. Mission bus and payloads have been already determined for the first EOS satellite.

Mission objective: Daily monitoring the natural resources and disasters from 400-km altitude

Benefits: demonstration of satellite missions, operation of ground control station and education or experiences for engineers, scientists and students.

Life time: will be 2 years and more, depending on solar activity.

Mission payloads:

Name	Features
1) High Precision Telescope (HPT)	2.2-m spatial resolution 3.6 x 2.7 km FOV 4 CCDs (R, G, B, NIR)
2) Space-borne Multispectral Imager (SMI)	50-m spatial resolution 80 x 60 km FOV 2 LCTFs (430-730nm, 730-1020nm) total 590 available wavelength with setting accuracy of 1-nm
3) Mid Field Camera (MFC)	70-m spatial resolution 116 x 87 km FOV Bayer-array color CCD
4) Wide Field Camera (WFC)	7-km spatial resolution 180 x 134 deg FOV Bayer-array color CCD



Ground Station Specification:

Manufacturer	Antennas and satellite tracking system: ELM Inc., Japan Transmitter and Receiver: Addnics Corp., Japan
Specification of antenna	3.5-m diameter dish S-band uplink/downlink, and X-band downlink 2.4-deg half beam width, gain 35 dBi for S-band 0.7-deg half beam width, gain 47 dBi for X-band 2.025 - 2.12 GHz for S-band uplink 2.2 - 2.3 GHz for S-band downlink 8.025 - 8.5 GHz for X-band downlink
Specification of transmitter and receivers	1kbps - 4kbps command uplink, using S-band (IF = 70MHz) 10kbps - 2Mbps BPSK, telemetry downlink, using S-band (IF = 70MHz) 5Mbps BPSK, 10Mbps - 20Mbps QPSK, 40Mbps 16APSK downlink using telemetry X-band (IF = 720MHz)
Power	AC 220V

Payloads to be installed in Myanmar EOS

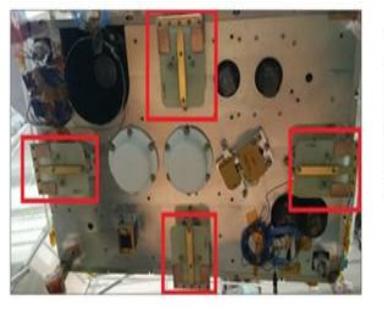


Fig 1. UANTs (UHF-band antennas),



Fig 2.URX (UHF-band receiver)



Fig 3. STX (S-band telemetry transmitter)

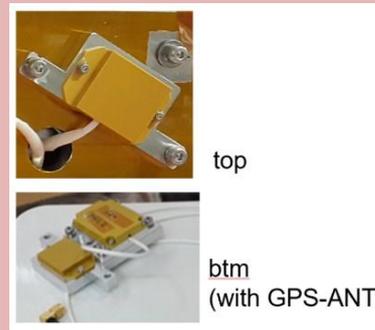


Fig 4. SRX-ANT-TOP/BTM (S-band receive antennas)



Fig 5. STX-ANT-TOP/BTM (S-band transmit antennas)

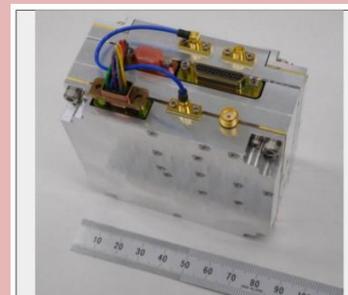


Fig 6. XTX (X-band telemetry transmitter)



Fig 7. XANT (X-band transmit antenna)