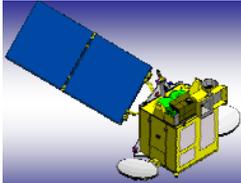


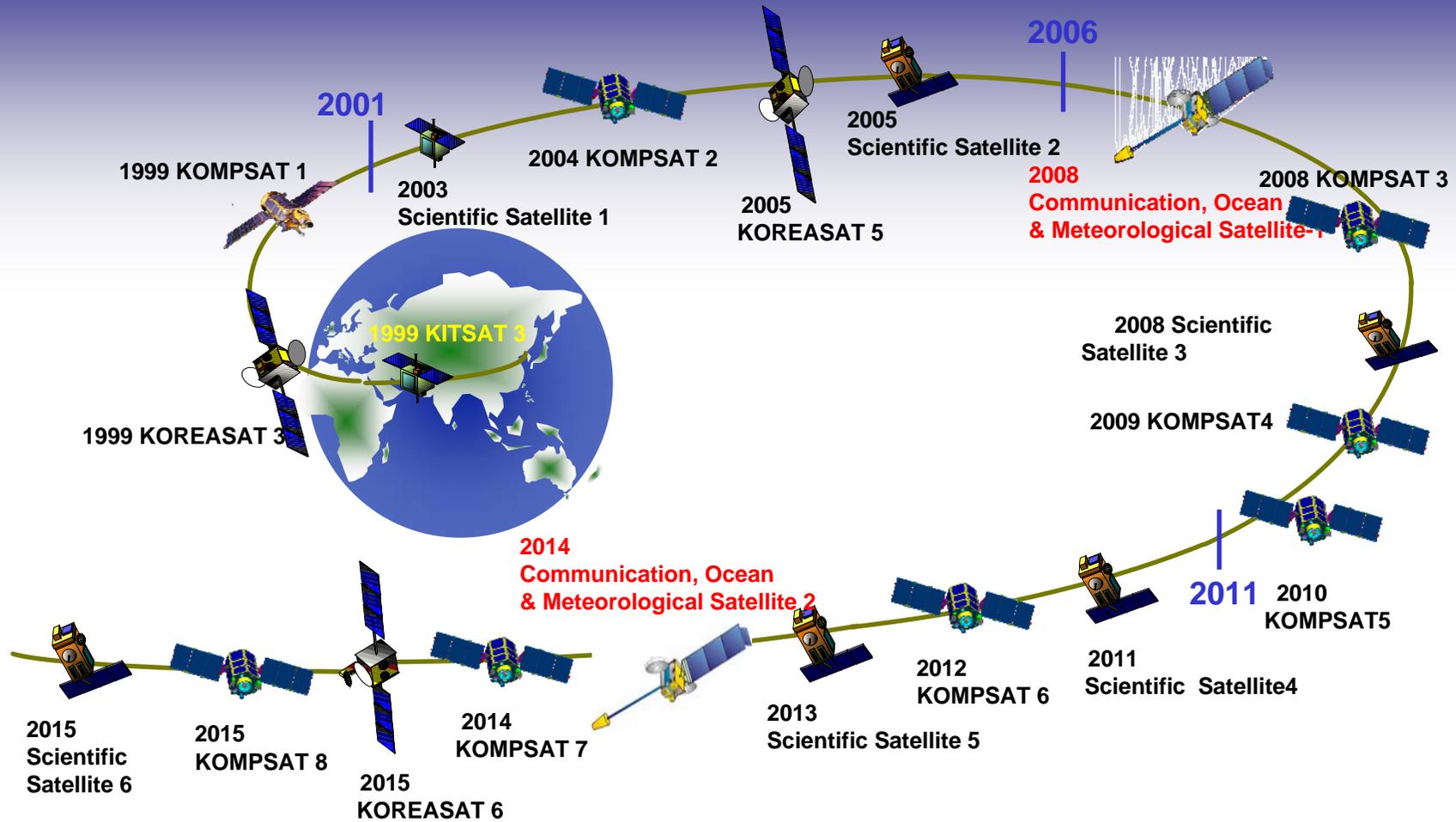
# Introduction of COMS Program

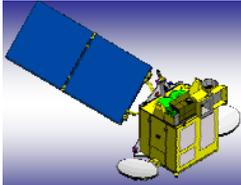
**September 2006**

**COMS Program Office  
Korea Aerospace Research Institute**

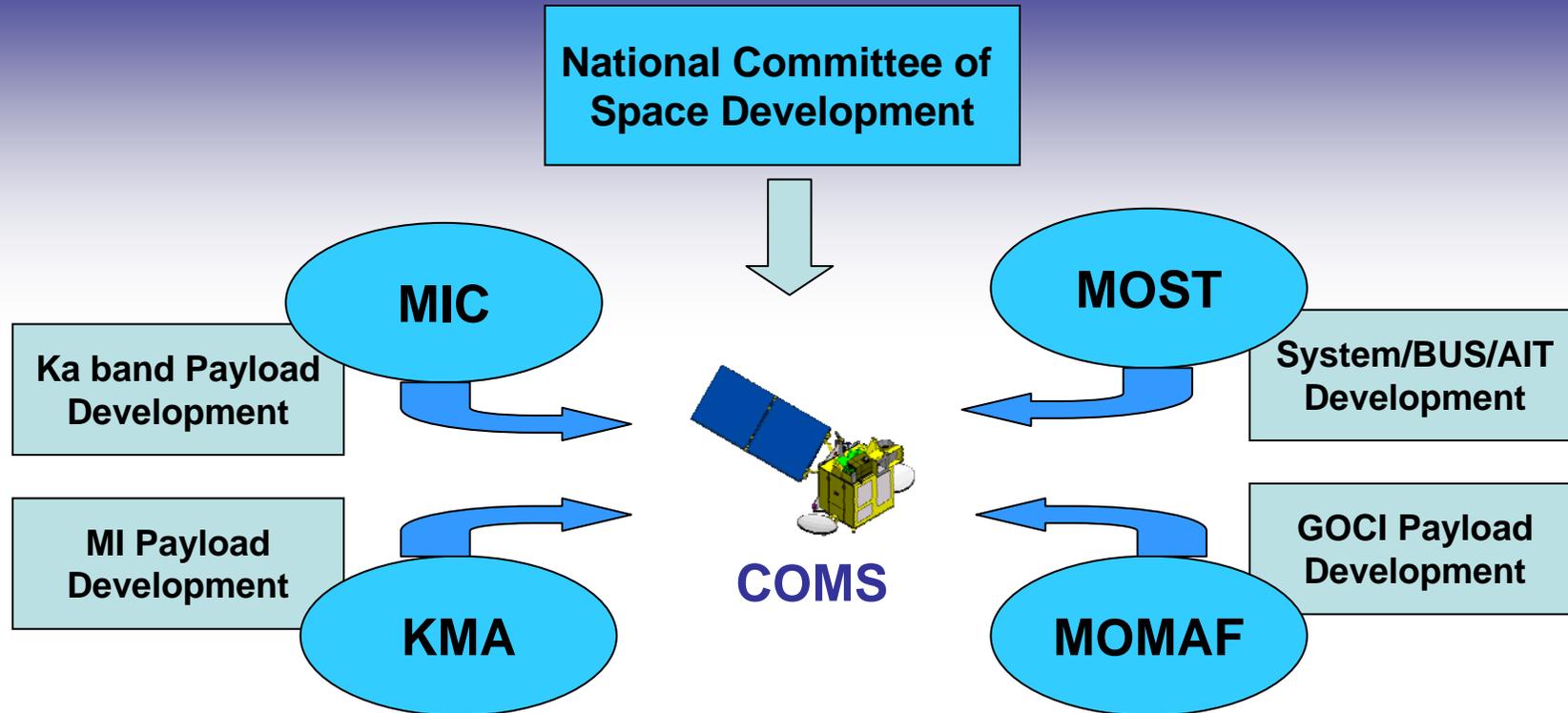


# Long-term Plan for National Space Program

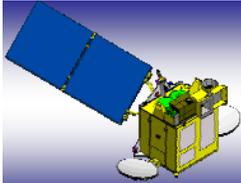




# Governmental Support for COMS



- **MOST** : Ministry of Science and Technology
- **MIC** : Ministry of Information and Communication
- **MOMAF** : Ministry of Maritime Affairs and Fisheries
- **KMA** : Korea Meteorological Administration

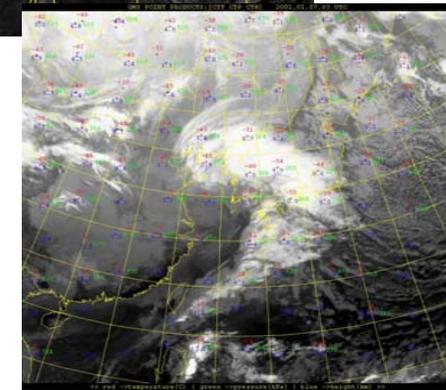
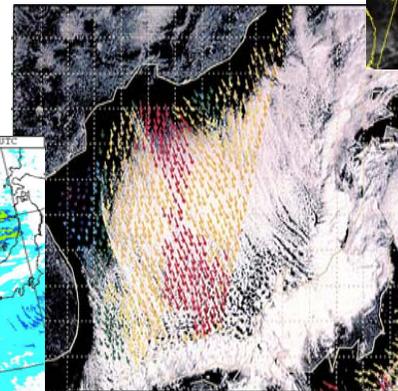
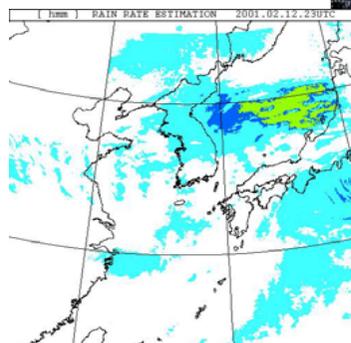


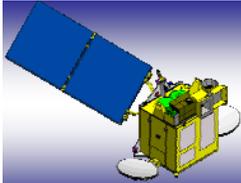
# Mission Objectives of COMS



## Weather Monitoring Mission

- **Continuous monitoring** of imagery and extracting of meteorological products with high-resolution and multi-spectral imager
- **Early detection of special weather** such as storm, flood, yellow sand
- **Monitoring of long-term change** of **sea surface temperature and cloud**



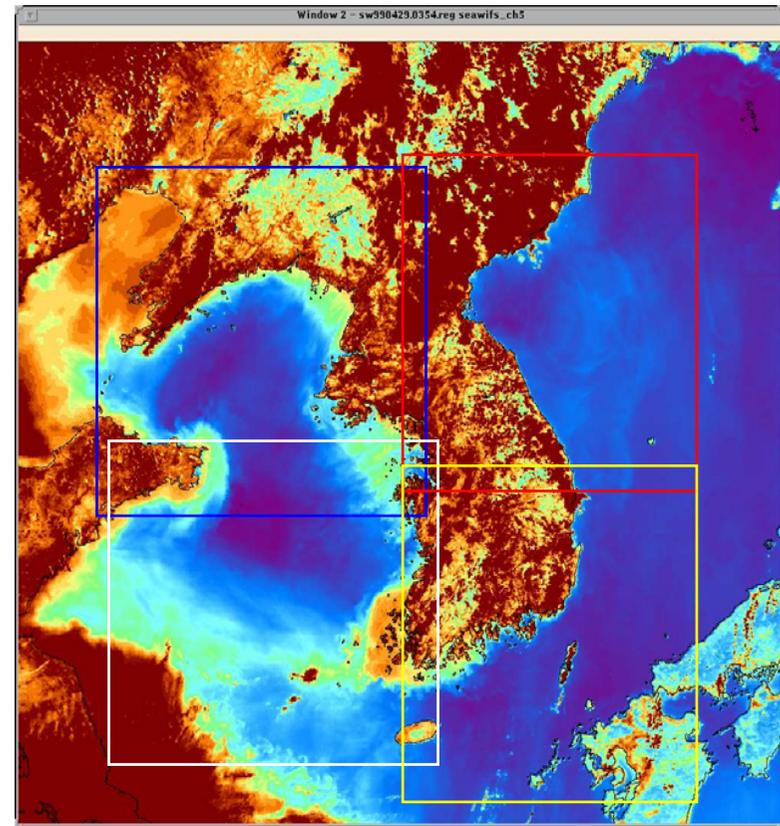


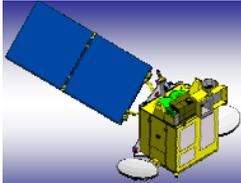
# Mission Objectives of COMS



## ● Ocean Monitoring Mission

- Monitoring of **marine environments** around the Korean peninsula
- Production of **fishery information** (Chlorophyll, etc.)
- Monitoring of long-term/short-term **change of marine ecosystem**



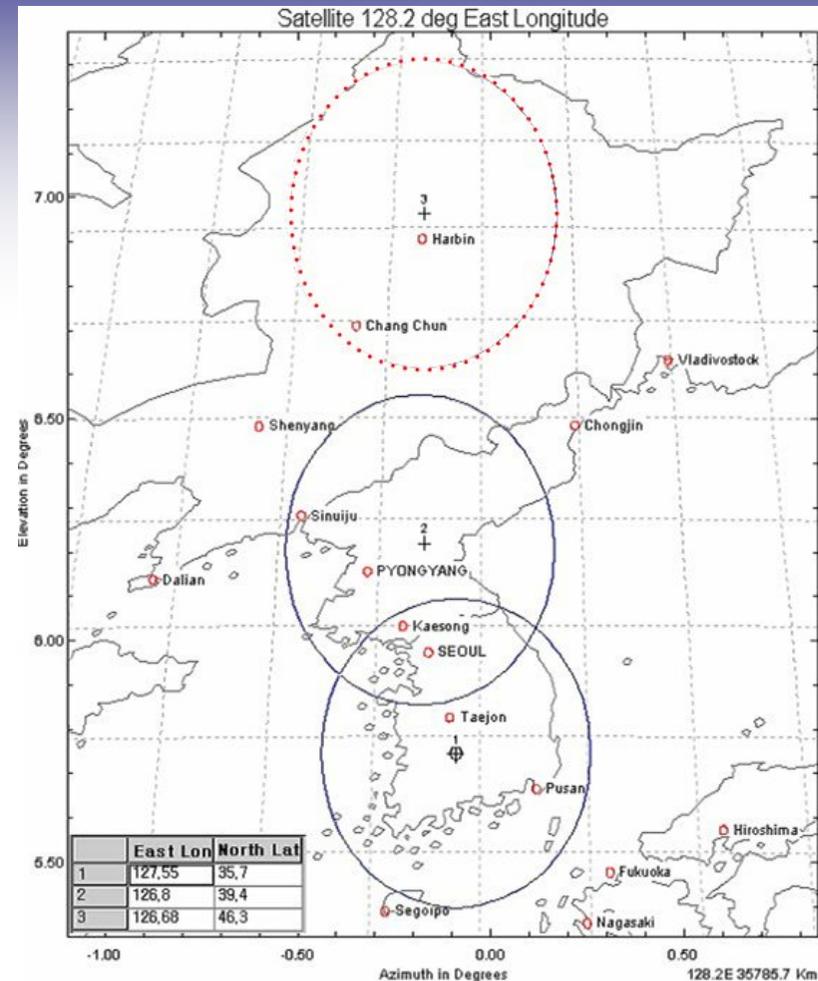


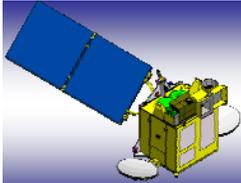
# Mission Objectives of COMS



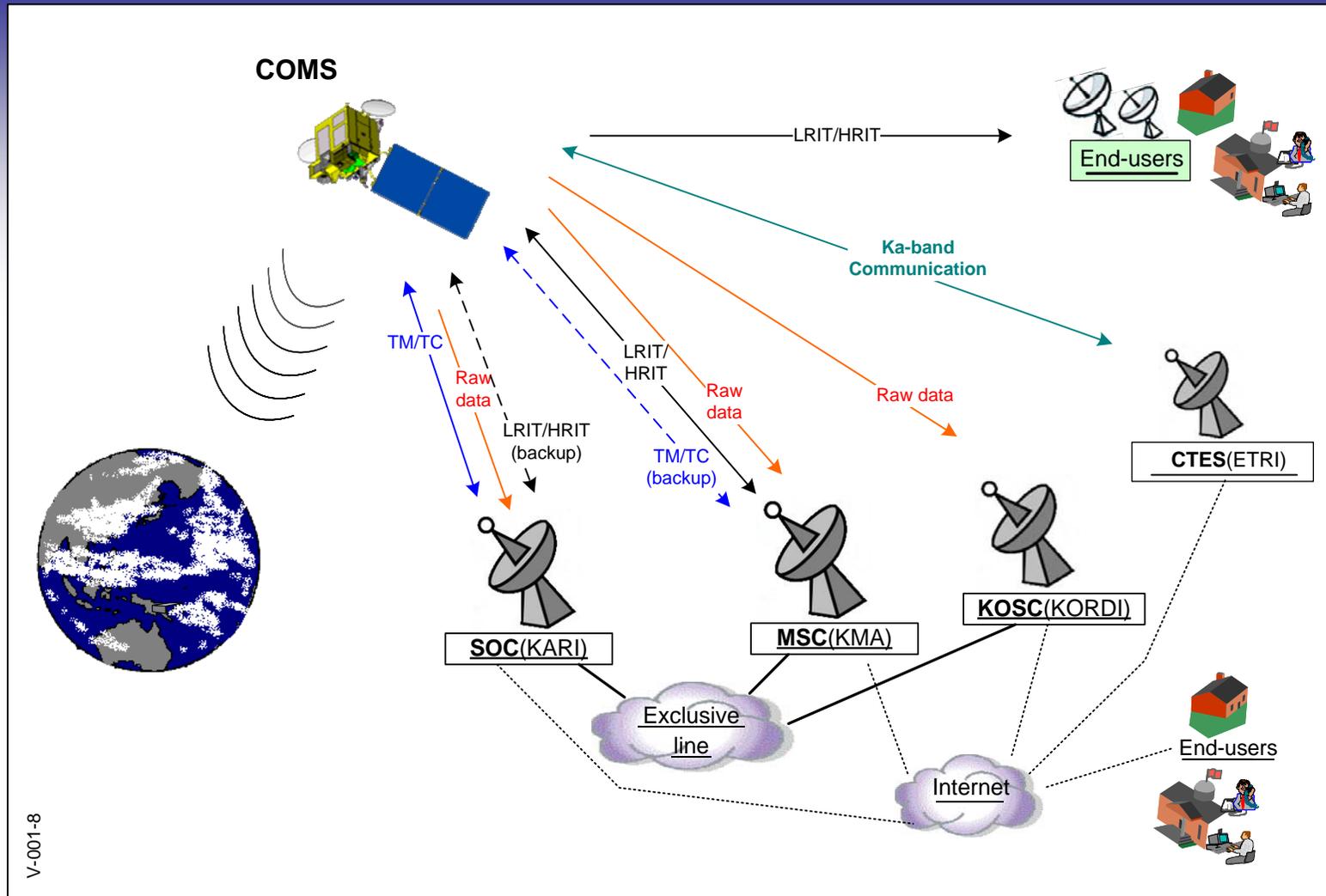
## Satellite Communication Mission

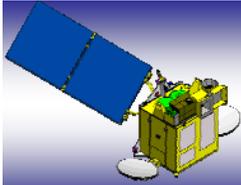
- In-orbit verification of developed communication technologies
- Experiment of wide-band multi-media communication service



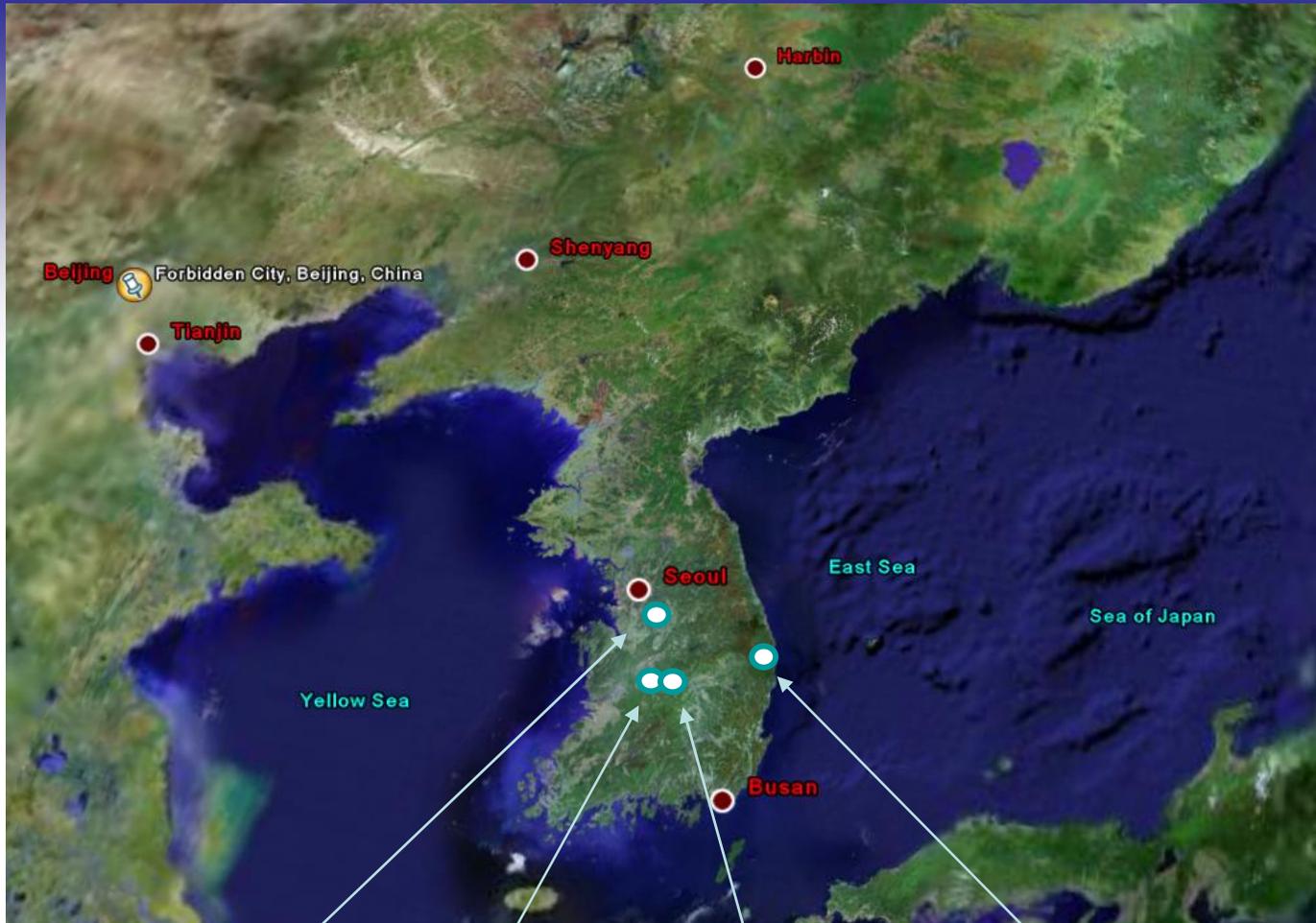


# COMS System Architecture



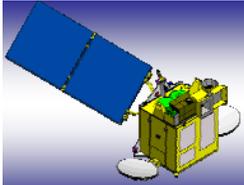


# COMS Ground Station Locations



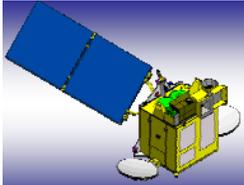
MSC(진천) SOC(대전) CTES(대전) KOSC(동해)

←~110km←   ←~4km←   ←~135km←

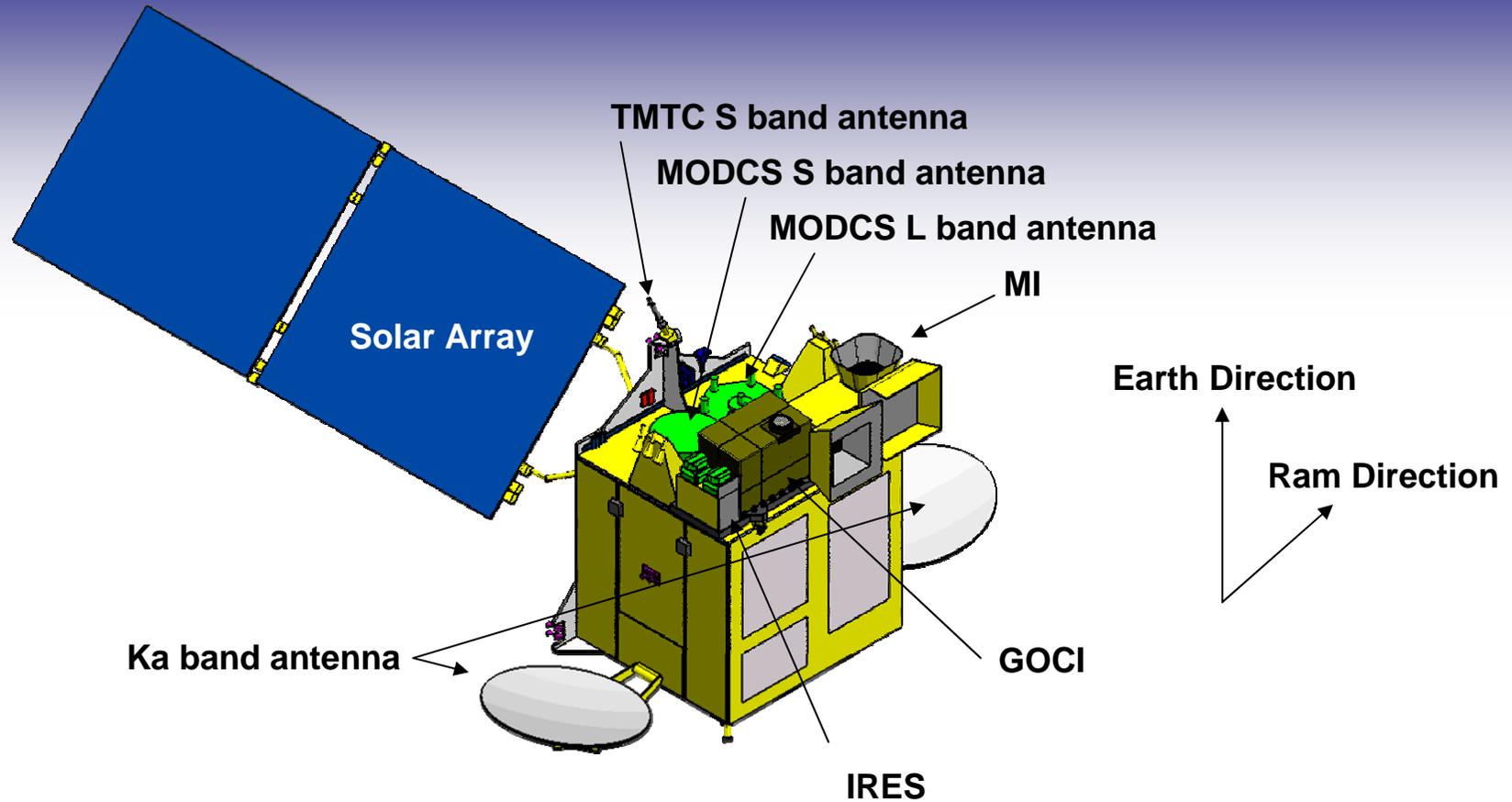


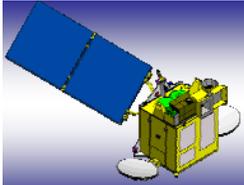
# KARI Ground Station Operating Room



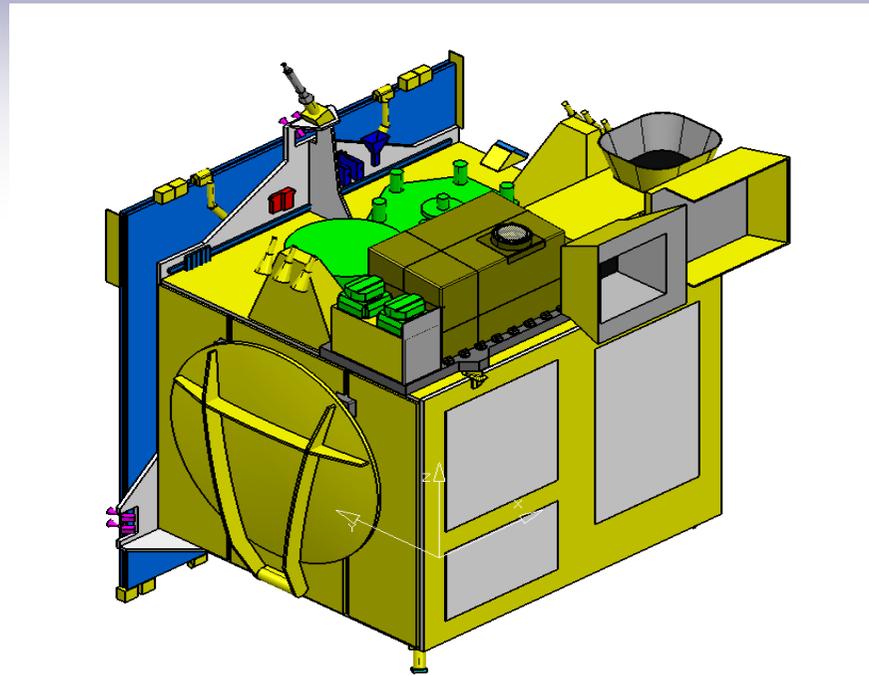


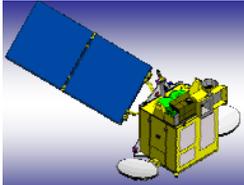
# Flight Configuration of COMS Satellite



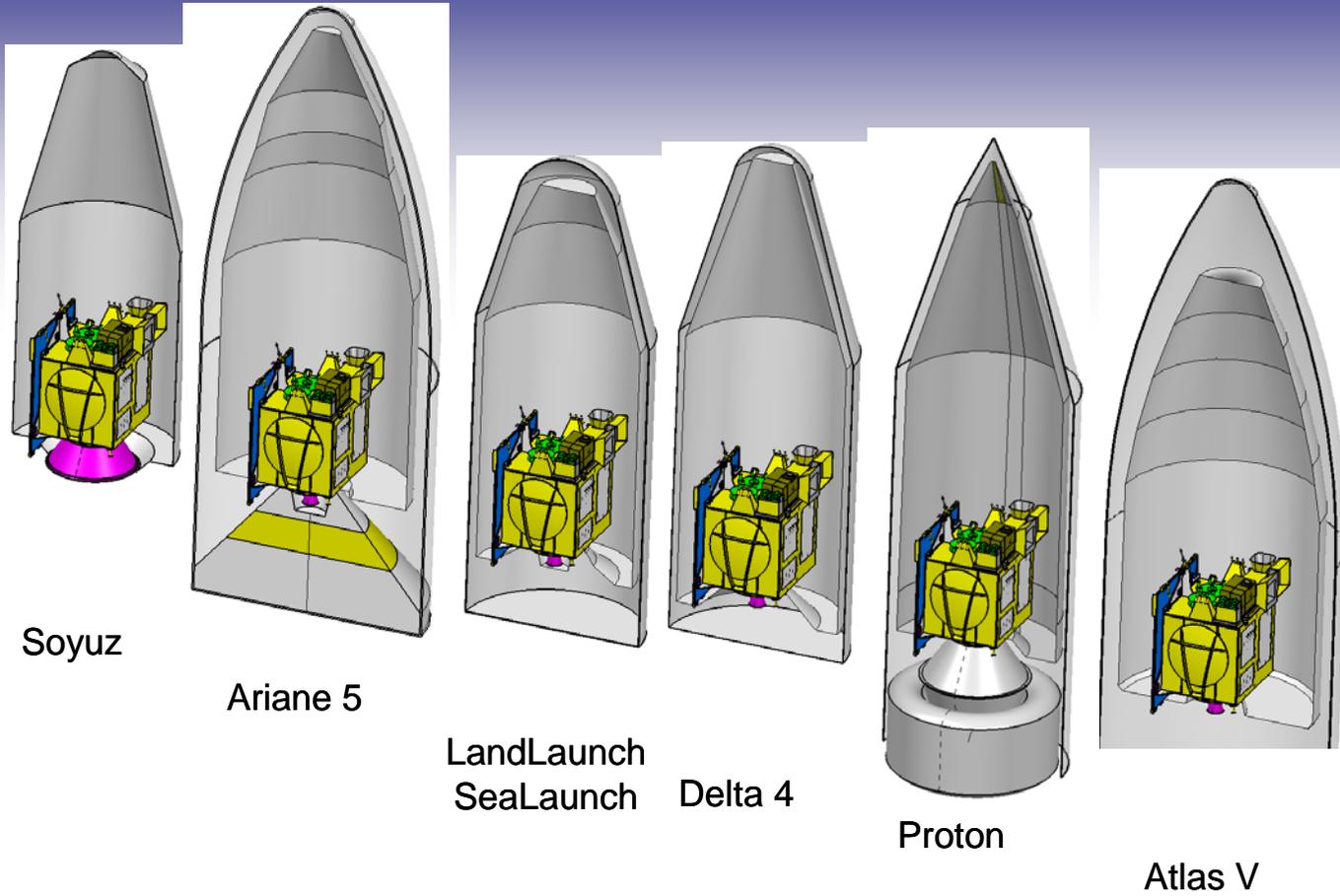


# Stowed Configuration of COMS Satellite





# Launch Vehicle Compatibility



Soyuz

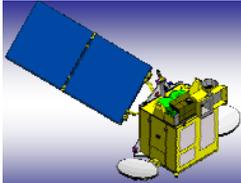
Ariane 5

LandLaunch  
SeaLaunch

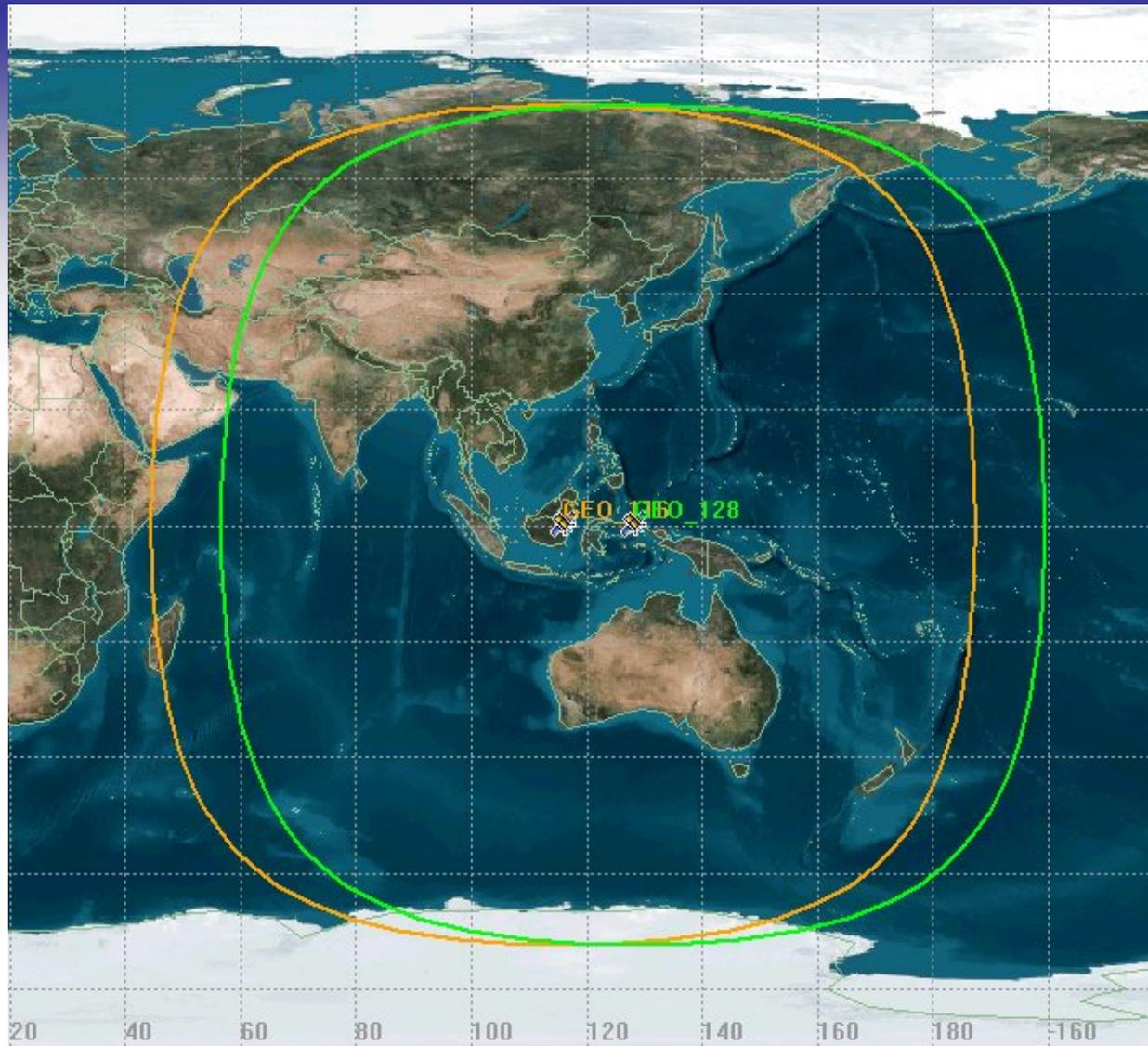
Delta 4

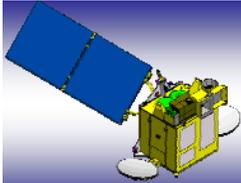
Proton

Atlas V



# Processed Data Distribution Coverage





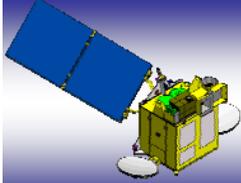
# COMS Frequency Registration



**ITU Registration Orbit : 116.2 °E, 128.2°E**

## **ITU Registration Frequency Band**

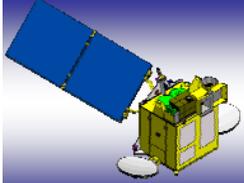
- **For Ocean and Meteorological Service and Satellite Operation**
  - : 1,670 ~ 1,710 MHz(L-Band): Sensor Data & Processed Data Downlink
  - : 2,025 ~ 2,110 MHz(S-Band): Processed Data & Command Uplink
  - : 2,200 ~ 2,290 MHz(S-Band): Telemetry Downlink
  
- **For Communication Service**
  - : 27.5 ~ 30.8 GHz: Ka-Band Uplink
  - : 18.3 ~ 20.7 GHz: Ka-Band Downlink



# COMS S-Band Ranging Service Requirement Overview



- **COMS satellite Location: Geostationary Orbit**
  - 116 deg, east or 128.2 deg east
- **On-station S-Band Ranging measurement support is required during IOT phase. During IOT, ranging measurement shall be done by KARI, Korea and by service provider**
- **Ranging Standard: ESA Tone Standard**



# Major Milestones for COMS Development



- Prime Contractor EDC(EADS Astrium): 27 April 2005
- Kickoff Meeting at Astrium: 18-19 May 2005
- System Requirement Review: 13-14 June 2005
- System Design Review: 8-9 August 2005
- Preliminary Design Review: 9-13 January 2006
- Critical Design Review: March 2007
- Launch: End of 2008