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TENTATIVE PLANS FOR FOLLOW-ON SATELLITES

This document reports on tentative plans for follow-on satellites to COMS. Currently, KMA plans to launch a follow-on satellite in 2017 before COMS complete its operation.
The follow-on satellite is tentatively planned to carry an imager comparable to the Advanced Baseline Imager (ABI) or the Flexible Combined Imager (FCI).

1. Introduction

The Korea Meteorological Administration (KMA) started operate its Korean first geostationary meteorological satellite, COMS (Communication, Ocean and Meteorological Satellite) since April 2011. KMA is planning for the follow-on geostationary meteorological satellite to continue the COMS's meteorological mission. From 2009, KMA has prepared a feasibility study for COMS follow-on mission under the cooperation with Ministry of Education, Science and Technology (MEST), Ministry of Land, Transport and Maritime Affairs (MLTM), and Ministry of Environment (ME) of Korean government. As a result, the COMS follow-on satellite development program approved in September 2010 and kicked off in the middle of July 2011.

The follow-on consists of a pair of satellites for multi-purpose. One (follow-on A) is for meteorological mission-only. The other (follow-on B) is for ocean and environmental missions. Ocean mission is to monitor the ocean color using an advanced GOCI (Geostationary Ocean Color Imager) continuously. The environmental mission is to monitor atmospheric environments globally with the first payload carried on the geostationary satellite. The A and B satellites will be launched in 2017 and 2018, respectively.

2. Overview of the Follow-on

Observation mission

The KMA is considering a meteorological instrument comparable to the ABI (GOES-R) or FCI (MTG) as follows:

- Multi-channel capacity : 16 channels (including 2~3 visible channels)
- High spatial resolution : 0.5-1.0 km for visible and 1-2 km for infrared channels
- Fast imaging : within 10 minutes for Full Disk observation
- Flexibility for the regional area selection and scheduling

The draft specifications suggested from the feasibility study are summarized in Table 1.

Table 1. Draft specifications of the imager for the follow-on A satellite

Channels		
	Spatial resolution	Number of observational bands
VIS (<0.7 micron)	0.5 km - 1.0 km	2~3

	NIR (0.7-3 micron)	1km - 2 km	2~3
	IR (>3 micron)	2 km	9~11
	Total Number of Channels		16
Observation Capability			
	Imaging Rate	< 10 min	(Full Disk)
	Scan Capability	Full Disk: normal operation Area: flexible schedule and location definition	
Lifetime of meteorological mission			
	10 years (TBD)		

In addition to meteorological mission, follow-on A satellite will carry an payload for space weather observation depending on specifications of meteorological imager which will be decided in 2012, such as weight, power and so on.

The preliminary studies for ground segment and meteorological data processing system have been carrying out in 2011, and the development will be kicked off in 2012.

3. Satellite Operation Plan

The schedule for follow-on A and –B is shown in Figure 1.

Figure 1. Schedule for the follow-on satellite to the COMS