KPS & KASS
Status Updates

21st March 2023

Ministry of Science and ICT
Overview of KPS (Korean Positioning System)

Objectives

Providing high-precision PNT information required in the era of the 4th industrial revolution

Goals

Development and construction of KPS system that stably provides PNT services to meet various satellite navigation needs

Program

KPS R&D Program (including Space, Ground and User Segment)

Period

2022~2035 (14 years)

Governing

Ministry of Science and ICT

R&D

KARI
KPS System Configuration

Satellite Segment

- KPS(GEO)
- KPS(IGSO)

Ground Segment

- Operation Center
- Satellite Control Center
- Antenna Station
- Monitoring Station

Satellite Control

Navigation Message

PNT Signal

User Segment
KPS Satellite Constellation

It consists of 3 GEO satellites and 5 IGSO satellites.
Launching 1st KPS-IGSO in 2027, Finishing Deployment until 2035

System Design (‘22~’24)
- KPS R&D start and application for international satellite network registration
- Navigation signal and Constellation design

System Development (‘25~’28)
- Development of satellite bus, payloads, and ground segments
- Launch of the 1st IGSO satellite in 2027

Deployment and Validation (‘29~’35)
- Development and launch of the 4 IGSO and 3 GEO satellites
- Development of all of the ground segments, Test during IOC and FOC
Main Goals

- Provide APV-I SoL Service to Airports located in South Korea
- Start APV-I SoL Service after 2023
KASS Status (2)

KASS 1st Satellite Launch

- (Satellite) Malaysian Measat-3D launch with KASS payload
- (Date) 23rd June in 2022
- (Vehicle) Ariane 5 ECA+
- (Launch Location) Ariane Launch Area 3, Kourou, French Guiana
- (GEO Location / Lifespan) 91.5 ° E / 18 years
KASS Status (3)

Launching 1st KPS-IGSO in 2027, Finishing Deployment until 2035

Status

- (‘21.6) KUS Infrastructure Facilities Construction Completion
- (‘22.6.23.) KASS 1st GEO satellite launch (Measat-3D with KASS payload)
- (‘22.7.4.-6.) KASS Navigation Payload IOT (In Orbit Test) Completion
- (‘22.7.19.) KASS FAT (Factory Acceptance Test) Completion
- (‘22.10.-11.) KUS ↔ GEO#1 (Measat-3D) integration test
- (‘22.12.) KASS 1st signal broadcasting (MT0/0)

Future Plan

- (‘23.6.) KASS 2nd signal broadcasting (MT0/0 or MT0/2)
- (‘23.11.) SQR (System Qualification Review)
Thank you