하늘로 띄운 꿈, 우주에서 찾는 미래

KASS program status

Korea Aerospace Research Institute

Eunsung Lee

EGNOS Workshop 2017, Athens, Greece

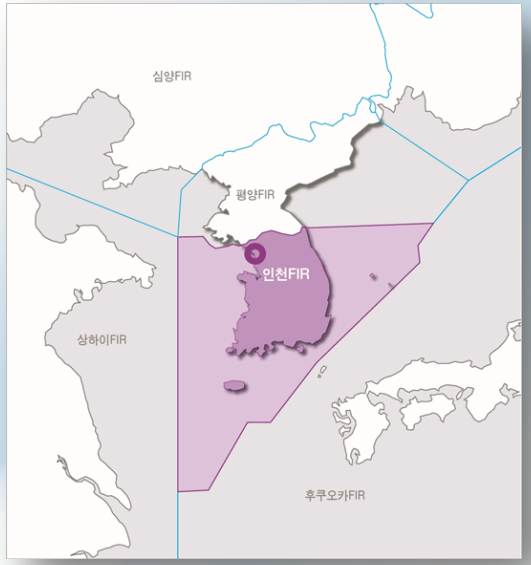
3rd October 2017

KARI Korea Aerospace Research Institute

Goal and Duration of KASS Program

Goal : To develop and establish APV-I SBAS, to be utilized as a facility to provide "sky road (airways, airport approach and landing)" information

- Provide APV-I SoL Service in Airports of Korean Peninsula Area
- Start Open Service (Jul. 2020) and APV-I SoL Service (Oct. 2022)

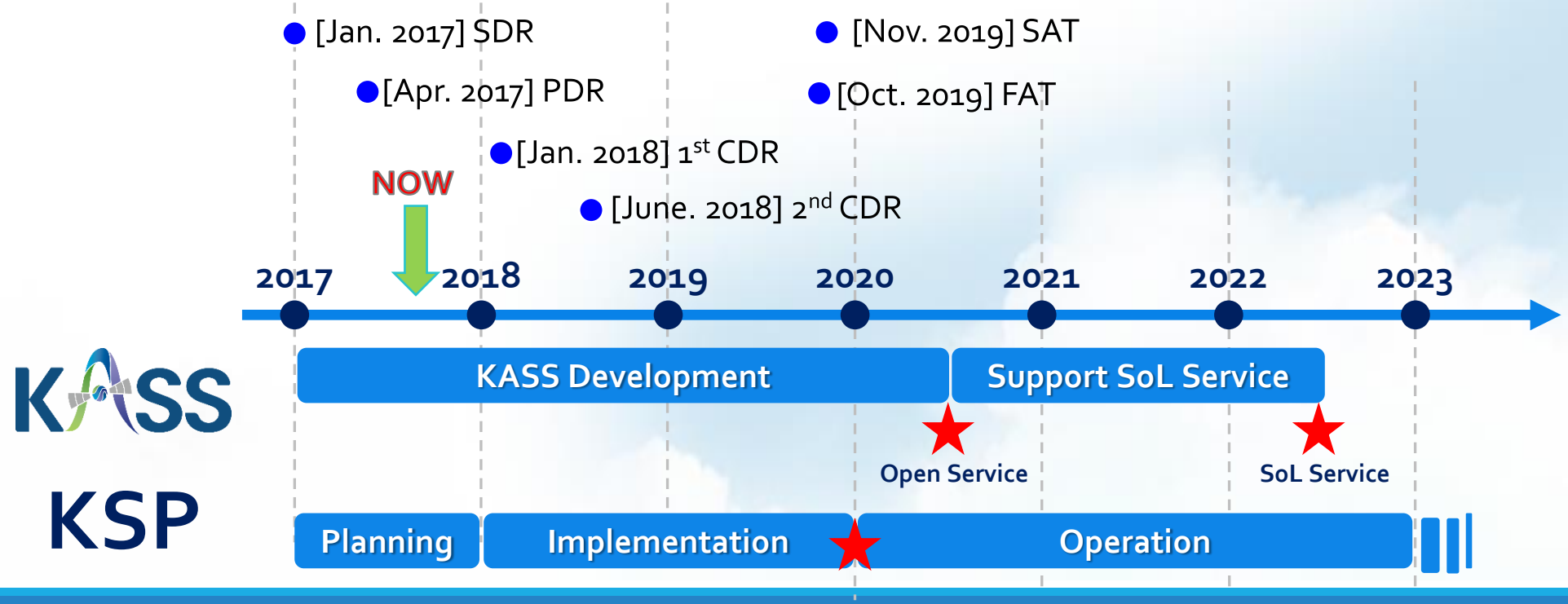


Duration: October 30, 2014 ~ October 29, 2022 (8years)

- Phase 1 (Oct. 2014-Feb. 2017): System Definition & Specifications
- Phase 2 (Mar. 2017-Dec. 2019): Critical Design, Implement, Integration, and Testing
- Phase 3 (Jan. 2020-Oct. 2022): Initial Operation and Certification

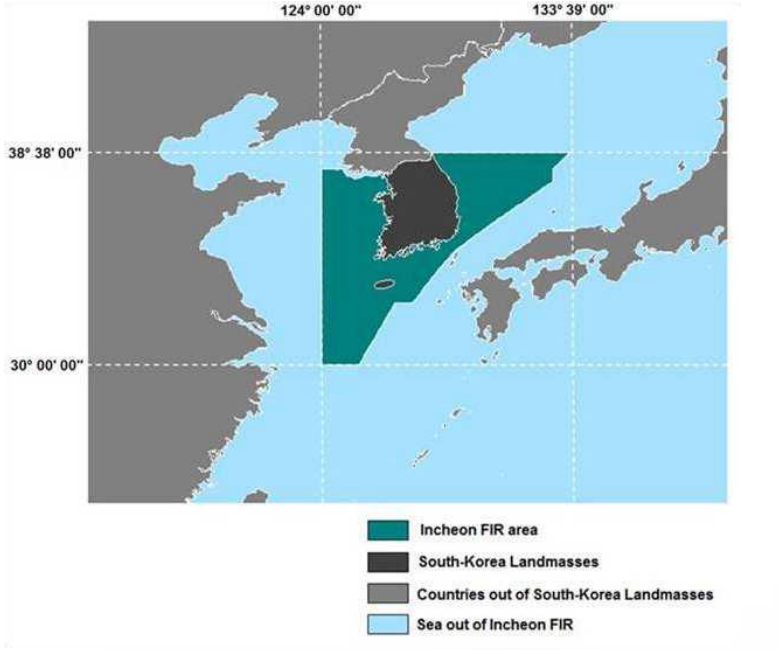
Road Map of KASS Program

- KASS Program Office (KPO) performed PDR in April of 2017, now KPO is preparing 1st CDR for determining key parameter and interface
- KPO also is setting up the plan for KSP organizing and MOLIT will establish the KSP by 2019 and be in operation from 2020

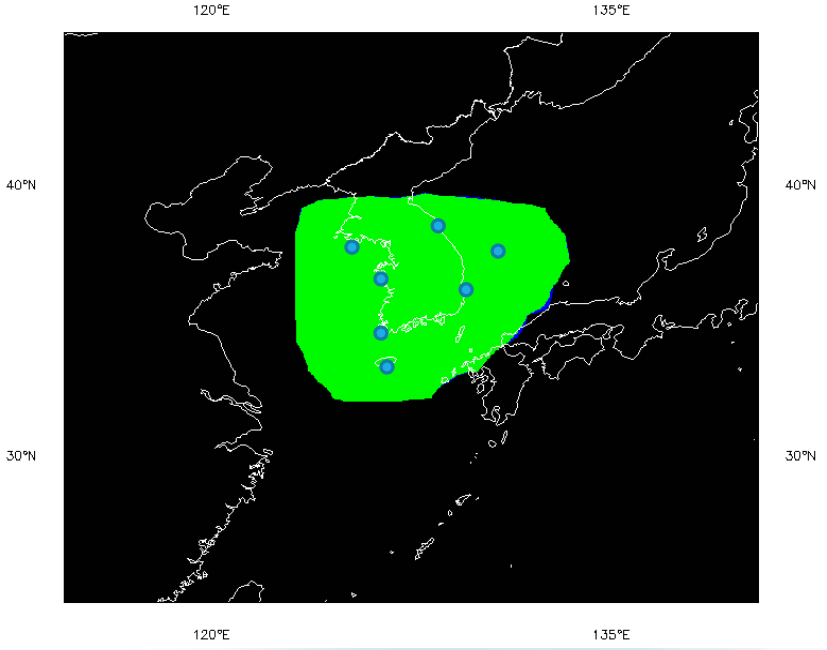


Expected KASS Performance

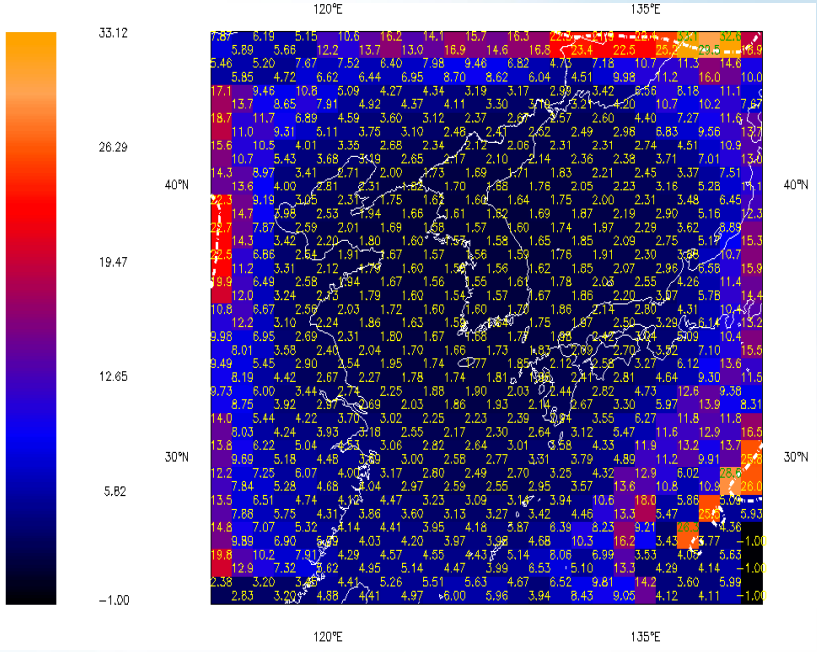
- **Landmass area meets the APVI availability (XPL<XAL) more than 99% (Green area of the middle figure present the coverage of APV-I availability more than 99%)**



KASS Service Area



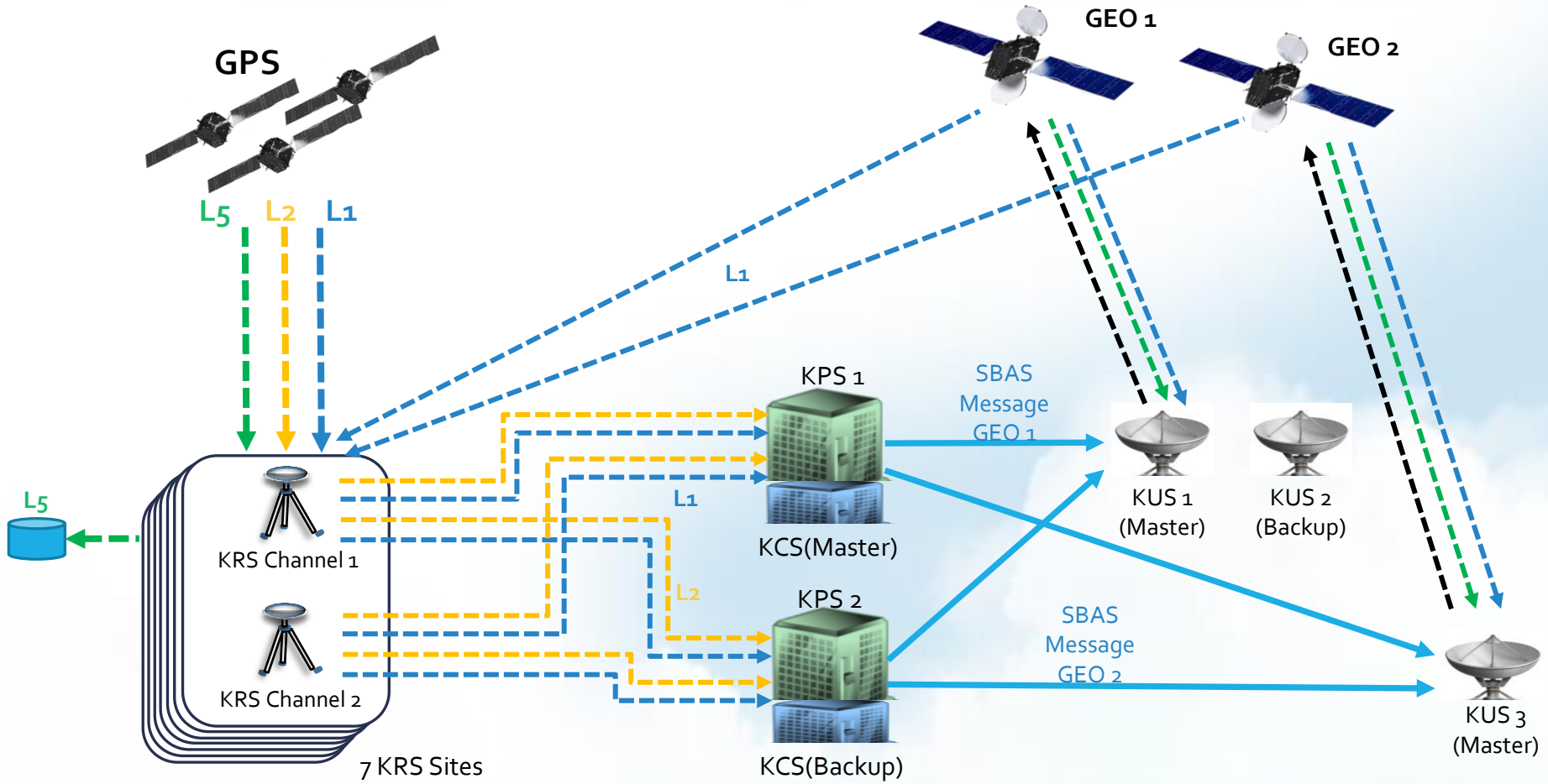
Estimated APV-I Availability Performance



95% VNSE for the APVI service level

KASS System Architecture

- KASS system will comprise the following segments obtained from different manufacturers or service providers

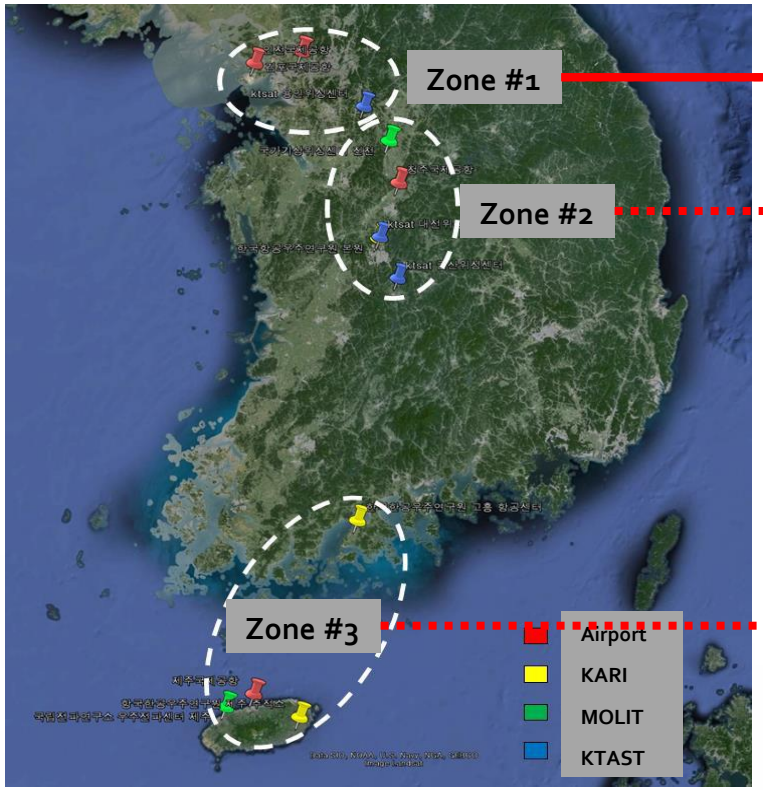


Site Preparation for KPS, KCS

- The buildings are prepared for KPS, KCS at cheongju airport (Primary) and Incheon airport (Backup)

Site Survey Status for KUS

To find the sites for KUS, Sequential survey and analysis are under progress



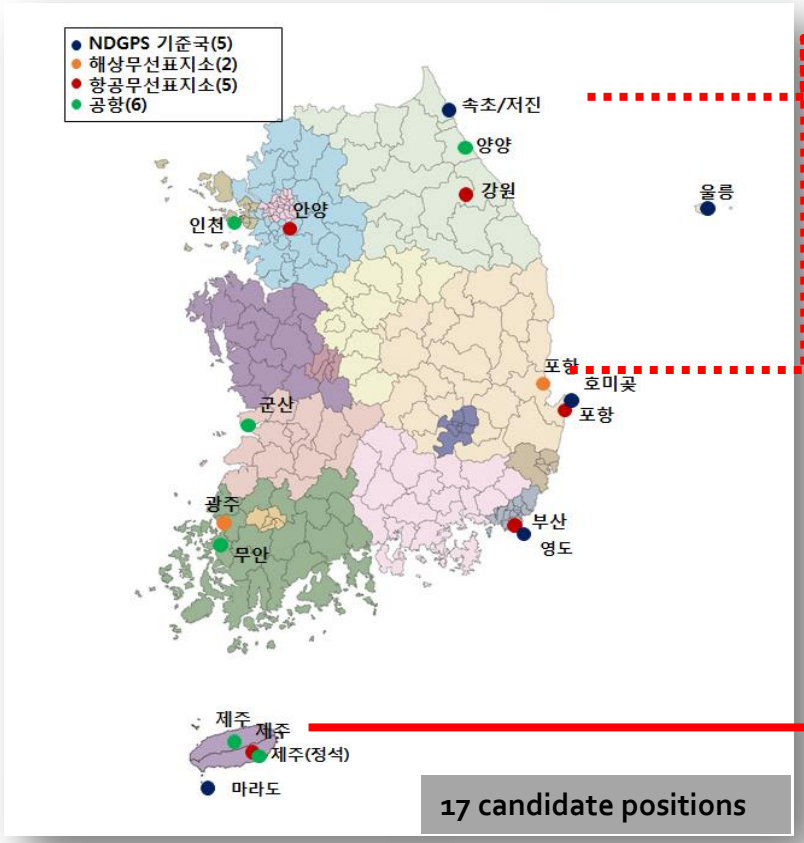
Final Two Sites will be selected by end of 2017

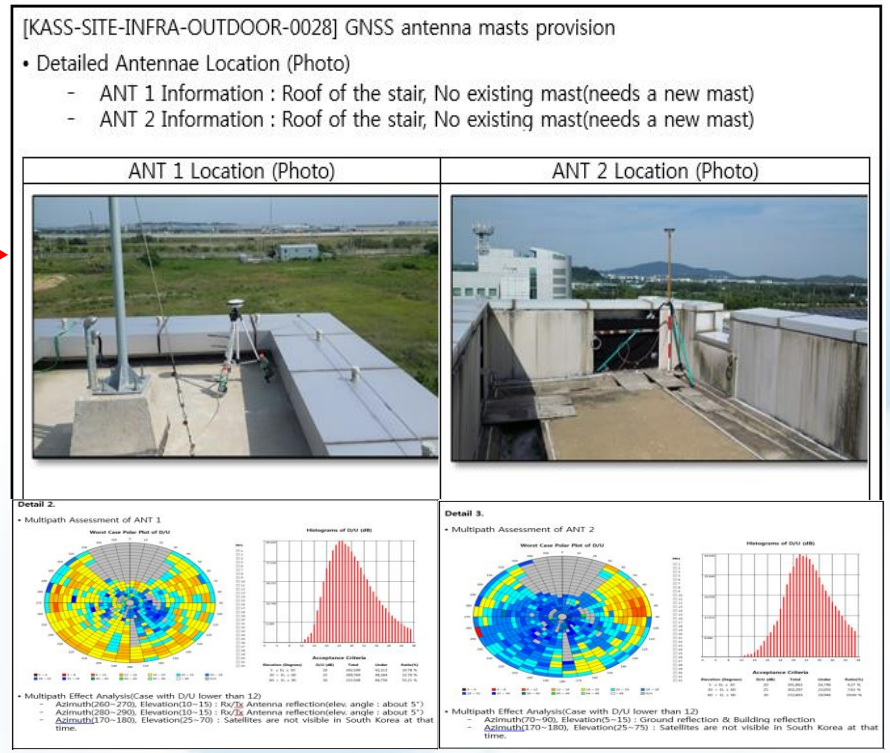
NOW

12 candidates → Preliminary Site Survey, Elementary Analysis → 8 candidates → Intermediate Site Survey, Observation Analysis → 4 candidates → Detailed Site Survey, Detailed observation Analysis → 2 sites

Site Survey Status for KRS

To find the sites for KRS, Sequential survey and analysis are under progress





Final Seven Sites will be selected in October of 2017

NOW

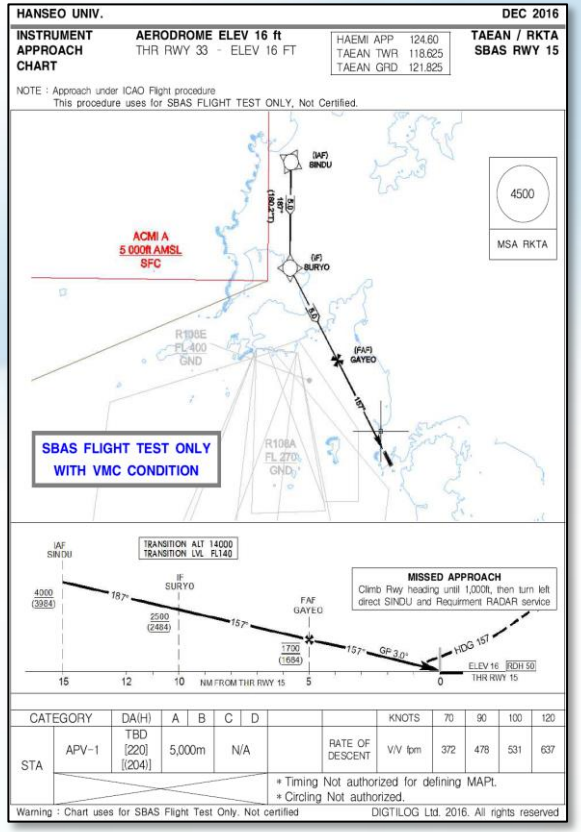
60 candidates → Elementary Analysis → 17 candidates → Detailed Site Survey, Detailed observation Analysis → 7 sites

Near Future Plan

- KPO will participate 4th ICAO NSP meeting to amend ICAO SARPs (Annex 10, Volume 1, Appendix B, Table B-27) by specifying SBAS service provider identifiers of KASS in mid October of 2017.

- KPO was submitted PRN assignment documents to the SMC and KASS filing documents to ITU in 2016. KPO will acquire the PRN from SMC with related activities.

- After the open service of KASS will start the flight test will be performed to check the signal on the air. The procedures and the test equipment are developing for the flight test



Thank You!

KARI Korea Aerospace Research Institute