

IAF SPACE OPERATIONS SYMPOSIUM (B6)  
Ground Operations - Systems and Solutions (1)

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SOUTH KOREA'S NEW SATELLITE OPERATION CENTER

**Abstract**

KARI(Korea Aerospace Research Institute) built new space operation center in Jeju Island, the southern part of Korea, from 2019 to 2022. It was named KSOC(Korea Satellite Operations Center) and officially opened in November 2022. KSOC's main goal is that operates Korean national satellites during normal mission phase and enhances the user support function. It is prepared to provide operational services for satellites whose number is rapidly increasing in Korea. KSOC have KSOS(Korean Satellite Operation System) for LEO satellites operation and ground antenna network. KSOS functions are image collection planning, spacecraft mission planning, command and control, telemetry reception and monitoring, flight dynamics operations, image data processing, image data archiving, and distribution of level product to users. KSOS consists of six subsystems: USS(User Support Subsystem), IPS(Image Processing Subsystem), MCIRS(Mission Control and Image Reception Subsystem), AS(Antenna Subsystem), ITS(Information Technology Subsystem), and DS(Data Subsystem). KARI installed three antennae in Jeju site and plans to gradually add more antenna. Currently KSOC is doing flight operation of two LEO satellites and will be transferred two more satellites from KARI's Daejeon site until end of this year. Therefore Daejeon site function will shift to GEO satellite flight operation, LEO satellite's early orbit operation, and contingency operation. KARI has long term plan to expand KSOC function and performance. It will build additional new facility for satellite operations and install the reference target for optical and SAR image calibration by 2026. Also more than 10 additional ground antennas will be built by 2030. KARI anticipates that KSOC will grow into the center for satellite operating service and big data platform in the future.