

# INTEGRATION OF REMOTE- AND IN-SITU SENSING TECHNOLOGIES FOR THE KOREA LAND MONITORING

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## ABSTRACT:

As one of five core projects initiated by the Korean Land Spatialization Group, the Korea Land Monitoring Research Center was established on Sep. 11, 2007 with a group of more than 200 researchers and scientists from academia and industry. The Korea Land Monitoring Research Center includes three sub-groups divided by the methodology of land monitoring. Land monitoring can be achieved by remote sensing, in-situ sensing, and the integration of both technologies. As introduced by the previous talk on the in-situ sensing approaches, it is somewhat early stage to implement the USN/RFID techniques, particularly for the land monitoring purposes. Therefore, the integration of remote sensing and in-situ sensing technologies has not been well established and requires a great amount of research efforts before any practical application.

Unlike the other two sub-projects of remote sensing and in-situ sensing, this research work of integrating these different types of sensing data will begin one or two years after the remote sensing and the in-situ sensing researches actually provide necessary data for the integration. The integration research project has two distinct research goals: 1) to develop data processing and management technology of combining both remote sensing and in-situ sensing data and information, 2) to develop a state-of-art applicable monitoring systems for government agencies and public organizations who are actually in charge of a part of land monitoring operation in Korea. These integrated land monitoring systems includes:

- 1) Automatic land cover change detection and updating system
- 2) Large-scale watershed monitoring system
- 3) Forest disaster monitoring system
- 4) Environmental monitoring system of N. Korea
- 5) Portal system of land monitoring information services

Primary outcome expected from the Korea Land Monitoring Research Center is mainly to enhance societal benefits by providing suitable and correct information for various land monitoring practices. Therefore, this research work will begin with the careful analysis on the technical requirements in which most public agencies are needed for their land monitoring operations.