

# **Efficiency of cadastral survey work through combining of GNSS device and AR technology**

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## **Summary**

Currently, Cadastral surveying in Korea has been conducted using the electronic method with total station and pen computer and the satellite surveying with GNSS device. However, due to the increase in demand for cadastral surveying today, the processing period is delayed, and the work burden of surveyors is increasing due to the use of existing surveying equipment. Accordingly, a change in the measurement method is inevitable.

In this presentation, you can see the results of pilot operation at the after the change of surveying methods and improvements in surveying products through the use of AR technology and miniaturization of equipment.

The verification method for the improvement effect was carried out by precision verification and work efficiency verification. For precision verification, the coordinates were cross-verified by observing the reference point with a total station and GNSS receiver to calculate the true value, and then observing with a small GNSS receiver. The work efficiency verification was conducted through the efficiency verification of the AR marking function and the user satisfaction survey of the light weight equipment.

As a result of the verification, a reliable reception rate and precision were obtained at the survey field, but the reception rate was low in an area with many high-rise buildings. The user satisfaction surveys showed high levels of satisfaction such as labor saving and time reduction, and the result was that productivity was improved.

In conclusion, through the improvement of the existing method, the efficiency of field work was improved and the effect of reducing labor intensity was confirmed.

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