Improving the efficiency of disaster assessment using smartphones and other devices utilising three-dimensional (3D) point cloud data

Shizuoka Prefecture

Situation (background, aims, etc.)	In recent years, natural disasters have frequently occurred in various parts of Japan due to abnormal weather, etc., and this has caused extensive damage. In order to quickly restore damaged public civil engineering facilities, it is necessary to carry out surveys and prepare materials, but this requires a lot of work at present. In Shizuoka Prefecture, the efficiency of the work was improved by using mobile devices to carry out 3D measurements of the damaged areas.
Details (project outline, etc.)	1. 3D measurements of damaged areas using mobile devices with LiDAR sensors 2. Measurement data is used by the staff themselves to create cross-sectional line diagram data
Results (features and innovations, future developments, etc.)	1. Visualisation of the disaster situation A 3D model of the disaster site is used to share information with staff and as explanatory material during office assessments. 2. Reduction of the number of people needed for on-site surveys and no need for post-measurement Possible to carry out on-site surveys with a minimum of two people by using mobile devices. Since the numerical values can be confirmed with 3D models, no post-measurement is necessary and the number of surveys can be reduced. 3. Expectations for future use Shizuoka Prefecture is promoting the VIRTUAL SHIZUOKA concept, involving the acquisition of 3D point cloud data of the entire prefecture and making it openly available. In the future, we are hoping to improve productivity by aiming at infrastructure management based on VIRTUAL SHIZUOKA and mobile LiDAR.