Orbica Tests Ground-breaking Satellite Technology

Satellites orbiting more than 20,000km above the earth's surface are now trying to locate and record what lies beneath in a new trans-Tasman initiative spearheaded by Christchurch geospatial technology company Orbica.

Orbica and partner Reveal Infrastructure are trialling a ground-breaking satellite-based augmentation system (SBAS), funded by the Australian and New Zealand governments, to see if it can pinpoint underground assets that have been dug up in urban environments, such as waterpipes, with a margin of error less than 0.5m, and down to 0.1m or better. If successful, traditional surveying of those assets could potentially be supplemented with mobile devices.

"Often underground asset data has a large positional margin of error. Five metres is not unheard of, and the lack of understanding about the level of accuracy in digital asset records causes many headaches for the utility owner and wider community, including health and safety risks. But if you can collect asset information easily with modern mobile equipment, everything changes." said Kurt Janssen, Orbica CEO.

SBAS works by augmenting standalone Global Navigation Satellite System (GNSS) signals with additional corrections received from a GEO satellite to improve positioning. On top of that, Precise Point Positioning uses highly accurate satellite orbit and clock data to provide even more accurate coordinates.

Orbica location data specialist Andy Holt headed up the initial field trials in December in partnership with Reveal Infrastructure. The field team observed a geodetic marker for a point of reference and comparative analysis.

"We're seeing some interesting results that raise interesting questions, which is what we love as location data specialists," said Andy Holt. "The next stage of the SBAS project should give us some clarity about what those results mean."

Orbica has partnered with Enable Networks and Christchurch City Council and will test SBAS on actual exposed underground assets in the second phase of the project, commencing in March. That's when SBAS's suitability for recording the location of exposed underground assets will become clearer.

https://www.gim-international.com/content/news/orbica-tests-ground-breaking-satellite-technology