Size
376 ground floor void decks

Scan time
100 hours

Location
Singapore

Industry
AEC

Scanned
Apartment blocks

Virtual Singapore

Singapore is home to some of the most profitable financial services, manufacturing and oil-refining corporations in the world. But with its accomplishments come some very specific challenges for a city-state which is limited by space but still demanding growth.

Determined to future-proof Singapore's success, the country has embarked on one of the most ambitious digital twinning projects the world has ever seen – creating a dynamic 3D city model and collaborative data platform, including 3D maps of the region.

At the initial stage of the project it quickly became apparent that aerial imagery alone would not be able to capture 'void decks' - open spaces typically found on the ground floor of the city's apartment blocks. These areas, which are sometimes underneath the tower block structure, are used for everything from games areas, bicycle parking, hosting wedding receptions and wakes, and, as estates grow, facilities such as shops, medical centres and even schools.

In the face of fierce competition, GeoSLAM's ZEB REVO was selected as the most innovative and efficient solution to collect data from these important community spaces.

> **"A huge time saving exercise which would ordinarily have taken 40 times longer using traditional surveying methods"**

With a handheld "go-anywhere" ZEB REVO, field teams quickly captured a dense and accurate point cloud of an entire void deck, which was then used to model the deck geometry and incorporate this into the existing building models.

376 buildings with void decks were scanned using the ZEB REVO, taking approximately 100 hours – an enormous time-saving exercise which would ordinarily have taken up to 40 times longer using traditional surveying methods.

The ZEB REVO is often used alongside terrestrial hardware as the products are highly complementary. The data output can be easily combined through geo-referencing or scan-to-scan matching and then used to build complete 3D models. In this instance, the combination delivered highly detailed and rapid results while significantly minimising costs too.

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