



Size
13,000 sq/m



Scan time
30 minutes



Location
Budapest,
Hungary



Industry
Conservation



Scanned
Citadella

Burken Laservision

Mapping historic sites can prove challenging for surveyors mainly due to lack of up-to-date and accurate floor plans and elevation drawings, and often having to work in places without the help of GPS coverage or natural light. Uneven floors and narrow stairways and tunnels can often impact on the time allocated to complete a survey.

Budapest's Citadella proved no exception. This 19th century fortress is situated on a high hilltop overlooking the city and the Danube. The sprawling structure covers an area of some 13,000 square metres. It is comprised of an immense courtyard and a labyrinth of underground passages, tunnels, bunkers, turrets and alcoves. Taking into account the numerous difficult-to-reach areas within the building, the team at Burken opted for easy-to-use mobile, lightweight scanners as opposed to traditional static equipment. Burken were early adopters of SLAM technology and have been reselling GeoSLAM solutions for over five years.

By choosing GeoSLAM's 3D geospatial technology solutions to map both the interior and exterior of the fortress, the team was able to complete the project in considerably less time and with greater accuracy than by using terrestrial tools.

Built for hazardous and harsh environments, GeoSLAM's robust, hand-held laser scanners (with ratings up to IP64 level) operate inside, outside, in daylight and darkness – providing accurate 3D mapping without the need for GPS. This was of particular importance when scanning the Citadella as there were areas within the structure where GPS coverage was either extremely poor or non-existent.

The added advantage of GeoSLAM's laser scanners is that they can be attached to a backpack or pole for more confined or dangerous spaces where hands free operation is required, or mounted on a UAV for fast outdoor scanning. Because they're simple to operate, no comprehensive training is necessary. Meaning no precious time is wasted even if you're unfamiliar with the technology. You simply 'pick up and go'. This means you can effortlessly determine layouts, calculate room size and produce floor plans within minutes.





GeoSLAM scanners let you collect data continuously while walking the survey area – with no time-consuming and laborious set-up required. Capable of capturing up to 100,000 data points per second and high-resolution panoramic imagery at the same time, means you can digitally capture 3D data up to 10x faster than traditional techniques. And, only one site visit is required. On top of this, post-processing can be done in three quarters of the time compared to TLS data.

GeoSLAM's technology is designed specifically for surveying confined or potentially hazardous environments such as tunnels, mines, bridge-towers and underground stations. Even an impregnable fortress is no match for the technology.

