



Size
58,000 sq. ft.



Scan time
90 minutes



Location
Vejle,
Denmark



Industry
Surveying



Scanned
Apartment
Block

Lifa Surveyors

Accurately calculating the usable area of floor space in a new residential or office building has serious legal implications in Denmark, so providing this data is big business for Danish surveying firms. One of these, LIFA surveyors, dramatically reduced the time spent on interior building survey projects from days to hours by switching to 3D mobile laser scanning technology.

Located in the Danish town of Vejle, the new-build 13-story waterfront building houses 44 individual residential condominiums totaling some 58,000 sq. ft, some of which had already been pre-sold before construction had begun.

The building contractor was obligated to provide figures on the built floor area of each apartment to the client before the purchase could be finalized. As a result, the challenge for the LIFA team was to accurately collect the floor area of each apartment as rapidly as possible in order to reveal any discrepancies in time for alternative solutions to be considered.

After reviewing available mobile products, LIFA selected the handheld GeoSLAM ZEB Revo for this job, as Nikolaj Miller, LIFA Senior Chartered Surveyor, explains:

“ We surveyed an entire 13-storey residential building in one and a half hours with only 20 minutes needed for the actual scanning ”

“We rely on the ZEB-REVO when we need to collect a lot of detail quickly and provide architects, engineers and building owners with as-built surveys requiring 5 to 10cm accuracy.”





The entire project was completed by a one-person “field crew” in just an hour and a half; 1-hour to plan the optimum walking route to survey the building, and one continuous 30-minute scan of the whole building conducted at normal walking speed.

The 3D point cloud data collected by the ZEB-REVO was imported into Bentley MicroStation to create a Building Information Model (BIM). Technicians then used this BIM to take measurements of the apartments and common spaces, such as hallways and elevator shafts, and calculate areas of each. During this process, they visually compared the model against the original design plan to ensure that all building elements had been constructed in place – and found all the results to be within 5cm (2 inches).

Within days of the scan, LIFA were able to deliver the final area measurements, and the good news, to the contractor. Increasingly, these 3D geospatial models are being used not just at the outset of a project, but by facility managers, interested in a spatial record of a building’s ongoing maintenance and operation – throughout its entire lifetime.

