Case Study:

Scanning a Caribbean Hospital with mobile LiDAR ahead of renovations

Urban Studio | URBANSTUDIO.BE/

Providing Healthcare to a Caribbean Island since the 19th century

Constructed in 1855 with the help of the Franciscan sisters, the St. Elisabeth hospital has played an important role in the Otrobanda City district on the Caribbean Island of Curaçao, for over 160 years. The large hospital served as the main hub for medical care in Curaçao and historically it was a place of healing for other island nations nearby.

No longer fit for purpose according to international standards in 2011, it was decided that a new hospital would be constructed next to St Elisabeth's. In 2019 the Curaçao medical center was opened to the public and the St. Elisabeth hospital was closed in November 2019.

Appointed by the survey bureau "Landmark," Ellen de Brabander from Urban Studio mapped the hospital in anticipation of renovation projects. Ellen chose mobile LiDAR for the task and later created an accurate 3D model using the point cloud data. In addition, Ellen is working on creating a virtual tour of the hospital for virtual reality.

Scanning with Mobile LiDAR

Due to the large, complex nature of the building, with several floors and many individual rooms, the task of capturing the hospital was enormous. The hospital divides into six sub-buildings, an average of three floors per building and individual rooms per floor. Furthermore, with difficult-to-access areas, the versatility of a mobile LiDAR solution was the fastest solution for capturing all areas in a suitable time.

A mobile 3D scanner is ideal due to its lightweight nature, speed of capture and ease of use. Ellen chose a SLAM solution for the job and was able to seamlessly walk through the hospital's complex buildings, capturing data as she moved.

> *"The 3D scanner was able to reduce the time of the measurement and as a result, the delivery time was met. The measurement time would normally take several months, which was reduced to days."*

Having decided on a mobile solution, Ellen captured both the interior and exterior of St. Elisabeth's hospital in six full working days. She conducted 52 scans in total, with each taking approximately 20 minutes. The area covered was 22,346 square meters. The maneuverability and compactness of the scanner made data capture nearly effortless.

Post-Scan

After processing and merging the data, it was converted using Autodesk® Recap® and imported into Autodesk Revit® for modeling. The client received the model of the hospital within the allotted time frame and to a suitable standard.

© 2023 FARO Technologies, Inc. All Rights Reserved. This case study is for informational purposes only. FARO makes no warranties–express or implied–in this case study. FARO is a registered trademark of FARO Technologies, Inc. in the United States and other countries.

REV 07/24/2023