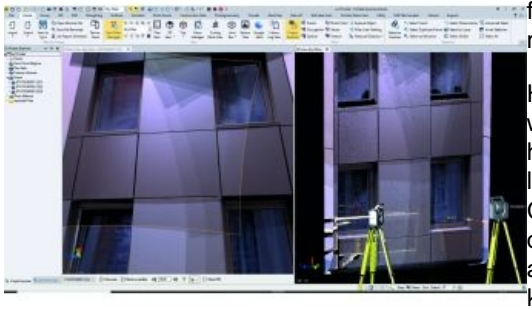
A COMBINATION OF ADVICE, TECHNOLOGY AND EXPERIENCE PROVIDES THE SOLUTION FOR A HIGH-RISE SURVEY IN A BUILT-UP AREA

Abseiling with a Handheld Scanner



Look up at Manchester's skyline and it's easy to see that this is a city undergoing a vast amount of development and construction, especially in the city centre. However, this can bring its own set of problems as the developers of a new hotel, under construction between two existing buildings, discovered. During the building process, it became evident that some sections of cladding on each of the four faces of the building would need replacing and a survey of the building was therefore required.

However, the job was challenging for a number of reasons; the rear section of the building was only accessible from an internal ladder leading to a flat roof around a quarter of the height of the building, meaning rope access would be required. Additionally, due to the location of the building, its height and restricted access meant sighting was inhibited. Confronted with these difficulties, the existing sub-contractors felt that they were unable to deliver this difficult project. The client therefore contacted North West based JWG Survey and Engineering, a company that prides itself on customer satisfaction and a high level of knowledge and expertise in demanding sectors.

KOREC, a specialist in measurement equipment, surveying solutions and mapping systems, has recently enriched its hire service as part of an approach designed to supply solutions to problems rather than products. Familiar with KOREC, Director at JWG Survey & Engineering, Jake Gaskell, contacted the hire department for assistance on delivering this complex survey, knowing that a combination of the latest technology available through KOREC could be the solution. Following a discussion of the job, a solution was finalised.

Abseiling and Combining Technologies

The most noticeable challenge of the job was that whilst the client required a high-accuracy scan of the cladding, access meant that the angle was too sharp for a ground-based laser to achieve line of sight to the top areas of the building. KOREC therefore suggested a high accuracy Trimble SX10 scanning total station for the lower areas of the building and a handheld GeoSLAM ZEB-HORIZON for the areas that would need to be accessed by rope. Lightweight and extremely easy to use, the rope access worker would have no trouble in correctly operating the ZEB-HORIZON whilst abseiling down the building.

Abseiling with the ZEB-HORIZON.

JWG surveyed the front and side elevations of the building using a Trimble total station and for the rear section used the SX10's 3D scanning functionality. Scans can be registered on site and via the large screen of the Trimble TSC7 logger, it was possible to identify 'live' the areas of cladding that would need to be collected with the ZEB-HORIZON by the rope access worker.

Back at the office, the two data sets were meshed in Trimble Business Centre software which allowed for QA checking of the handheld scanner data. The deliverables were a 3D point cloud and 2D elevations drawn from the data of cladding positions, window positions and

brickwork openings.

Gaskell reports that with KOREC's assistance, the project ran smoothly from project inception to deliverable. "We had support from KOREC at every stage of the process and there's no doubt we will be using this solution again. In particular, the ZEB-HORIZON is a great piece of kit providing surprisingly good accuracy."

Our thanks to Director at JWG Survey & Engineering, Jake Gaskell, for kindly supplying the information for this story. www.jwg.org.uk

Images from the same location as the photo of the abseiling ZEB-HORIZON operator, with photos and scanning data side by side. Scanning data from the SX10.