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[Case Study – St Paul Cathedral / St Mary Magdalene Church]

3D Documentation - Survey Operations

Author: Dave Birchal, CAD Room Manager at Survey Operations

Organisations involved: Survey Operations

Products used: NCTech iSTAR and ColourCloud

*"Getting jobs done quickly and effectively is our priority.
We have 212 surveys on our system at present and
we are using iSTAR every week"*

[Dave Birchal. CAD Room Manager]



Survey Operations is one of the UK's leading survey companies, with over 80 surveying personnel in 20 surveying teams covering the whole of the country. The company comprises

land, building, utilities, engineering and inshore/inland hydrographic surveying departments geared to meet the needs of design consultants and construction professionals.

Profile

Initial information on iSTAR was gleaned from a laser scanning forum and, based on this, an approach was made to NCTech to provide a demonstration of the system's capabilities at Survey Operations' offices in Lancashire.

Dave Birchall, CAD Room Manager at Survey Operations, comments: "Basically, we bought an iSTAR camera on the strength of the demo. The speed of using it on site was very impressive, as was the speed of the processing. And it's easy to use; you can train anyone to use it within about two minutes."

"Our initial approach was to use iSTAR as a stand-alone asset without using a laser scanner, but we have progressed to use the iSTAR and ColourCloud, NCTech's automatic HDR point cloud colourisation, in conjunction with laser scanners. The outputs are superb."

"We've used iSTAR a lot more than I thought we would. We do a huge amount of historic buildings surveys and rather than spend a large amount of time drawing every little bit of the building for clients, costing them significant sums of money, we've been taking out the images from the laser scan on the point cloud, then colouring these using iSTAR photography and the ColourCloud software and producing images of the historic buildings. This is much quicker for us and we can do more jobs in the same amount of time, thereby increasing our overall revenue.

"Happy individual clients - they're paying less and getting the results quicker - and increased overall turnover for us."

"We go out to each location and laser scan internally and externally, then we use the iSTAR imagery and import the colour from that image on to our laser scan point cloud using ColourCloud."



Adding value

"iSTAR adds value into what we do on site and it is a very robust piece of kit and it's a lot cheaper than a laser scanner. It is also really easy to use iSTAR and ColourCloud, and another beauty of iSTAR is that you can use it on its own - if it's something photographic you need, it's perfect. Not every job needs laser scanning. For example, if you need to give a client a record of what they have in a building, its condition, what's in the individual rooms, then using the iSTAR for 360° photography is a very helpful output."

The most useful function for us is the 360° photography and its ability to go into ColourCloud."

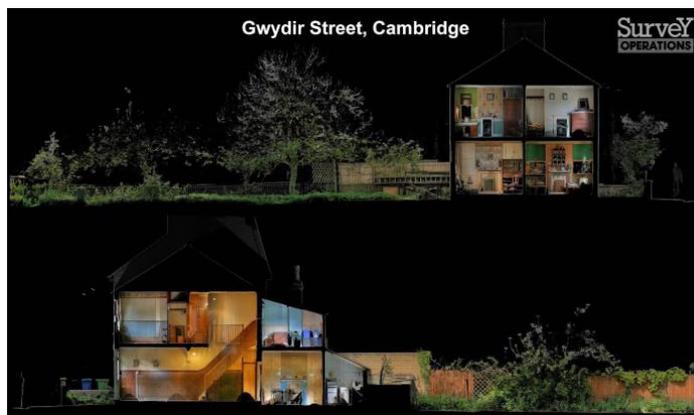
"Another positive is the support from NCTech - when we have needed it has been very good."

Quick capture

"You can go on site, do a quick capture with the iSTAR and then show the client where issues lie and, when appropriate, this helps explain the need to do a full scan survey. Then, when we do the laser scan and use the iSTAR image and ColourCloud, it makes it much easier

for a client to understand - and much easier for us to explain - what they have got. A client may look at a point cloud and find it difficult to understand it - and where the value of the survey is - but once you start to add the photographic colours to it, it makes everyone's lives easier, the client's and ours."

"Getting jobs done quickly and effectively is our priority - we put pressure on ourselves to get jobs done. We have 212 surveys on our system at present and we are using iSTAR every week."



Building surveys using iSTAR

"We are doing on-going surveys at St Paul's Cathedral and we are using iSTAR here to help us produce full CAD drawings of parts of the Cathedral. iSTAR is small and it's light to carry. It's a tricky building to manoeuvre around and we also have to be aware of times when people are worshipping or praying there, so making minimum disruption is important."

"Recently, at the Town Hall in St Albans we did laser scanning and photography. We were on-site for about a week, but this has produced enough output for about a month's worth of work for four CAD operators, producing between 40 and 50 drawings."

"We have also been working at St Mary Magdalene Church in Paddington, London, which is used for a lot of TV filming. They are going to do some restoration work on the church and need to raise funding. In order to prepare a brief of what is required we had to do the surveying up front and then have to produce drawings in a year or two's time. They also wanted images out and iSTAR was brilliant for this. Instead of drawing elevations and sections, we survey it and extract that information for the point cloud. The images go into CAD drawings and then the architects can draw up a brief of what they would like to do, work out how much it is going to cost and that way they can approach the fund raising required."

Virtual Tours

"We have found it to be particularly impressive in producing virtual tours. It's like Google Street View but we are doing it inside buildings. We create a map of the building and then link all the 360° images to it and this gives a guided tour round the premises. We did not anticipate this use when we bought the iSTAR, but we have done quite a few of these. It originated when a client did not want to pay for a full survey but wanted a record of his factory building, allowing it to be looked at remotely."

"We have since found other clients who did not want a full survey using laser scans, CAD drawings etc. but really value the guided tour."

NCTech greatly thanks Survey Operations www.survops.co.uk, especially Dave Birchall for his collaboration in this Study Case.

For further information about iSTAR or NCTech software visit www.nctechimaging.com or contact us sales@nctechimaging.com