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[Case Study – Alexandra Palace / Worthing Pier]
3D Documentation - Maltby Surveys

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Organisations involved: Maltby Surveys

Products used: NCTech iSTAR

"iSTAR was very impressive. It's size, ease of use, portability and image quality make it a worthy companion for our FARO Focus Laser Scanners"

[Andrew Maltby MRICS. Director, Maltby Surveys.]



Maltby Surveys is a multidisciplinary Geomatics company which has developed over almost 30 years as a result of responding to the spatial data needs of its Clients. It is a family oriented business owned and managed by three brothers. We are Chartered Geomatics Surveyors and one of the UKs leading companies in our field. Richard Maltby is on the Council of Management for the Chartered Institution of Civil Engineering Surveyors and has been commended for his

valuable work in training and education across the profession.

Fellow Directors Andrew and Stephen Maltby have been instrumental in the continual development of new technologies within the company.

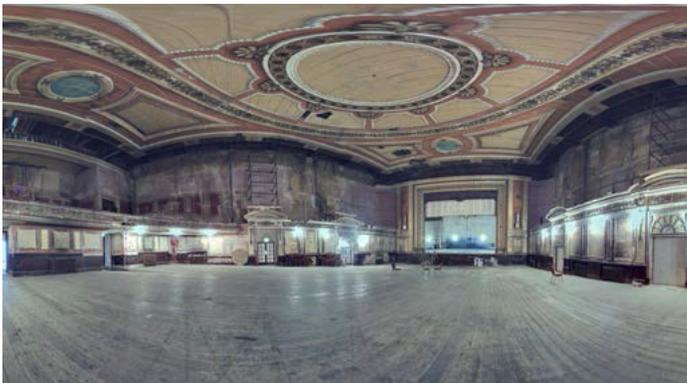
Andrew works in conjunction with RICS and RIBA promoting a greater understanding of exactly what the Geospatial Community can provide to their many and varied stakeholders.

Laser scan / iSTAR integration

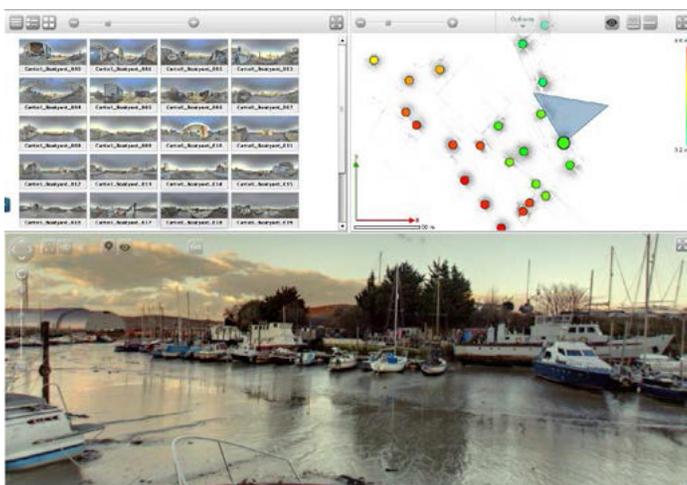
– On site, HDR colour images are captured with the iSTAR. These images can be taken before or after the laser scanning operation. The only requirement is that they are taken from the same general location as the scans.



– The images are stored on an SD card allowing for quick transfer to office desktops where they are converted to 360 panoramas using the Immersive Studio suite provided by NCTech.



– Following scan registration and webshare creation the greyscale images collected by the scanner are supplemented with colour iSTAR panoramas. An application developed by NCTech allows for the seamless integration to Scene Webshare. As well as location, this includes for re-orientation of the iSTAR images to match the greyscale images.



– Webshare is hosted online but now includes high dynamic range imagery captured with optimum exposure settings. Image overlay to point cloud data can be achieved by matching common scan data to iSTAR image data to create true colour mapped point cloud. This process currently requires manual matching but we understand developments are underway to automate this process.

Two projects were carried out using the iSTAR, one at the iconic Alexandra Palace more affectionately known as the "Peoples Palace" or "Ally Pally". This was the home of the BBC for many years and is now the recipient of Heritage Lottery Funding to restore and update parts of the building.

Maltby Surveys were awarded the measurement contract and saw this as the perfect opportunity to put iSTAR through its paces. We were very impressed! The second project was for Adur / Arun District and involved the measurement and documentation of the Pavilion at Worthing Pier.



The iSTAR camera operation and menu navigation were very intuitive and well thought out. There are a variety of image settings and means of capture not least to allow the user to be absent from the capture process. It is possible to operate the latest iSTAR via a wireless connection although the unit that we tested was not equipped with this feature.

This would obviously be a useful function and allow for additional remote operations along with timer and manually controlling which cameras are in use at any one time. The key benefits for us were the weight of the camera coming in at 1.4kg it really is truly portable and with its small footprint it can go anywhere our scanners can and lots of places it can't. This will prove extremely useful where we need access to additional dimensional information. The unit captures images very rapidly and processes the exposures in real time. As an average using HDR 3 setting which takes three exposures from each camera the process takes approximately 20 secs. This is a huge saving to us when we are capturing colour imagery with the Faro Scanner as it currently takes about 2 to 3 minutes per setup and although you can allow for different exposure settings it falls short of the quality produced by the iSTAR.

The projects at Alexandra Palace and Worthing Pier involved the complete range of light conditions from bright external conditions to very dimly lit internal spaces - the resulting images were surprisingly true to the detail and this was using full automatic settings.

Depending on the requirements of our clients the images can either be integrated with online webshare data, stitched to the point cloud or hosted completely independently as a photographic tour. NCTech allow this to be hosted via their website.

Conclusion

The iSTAR is a highly effective camera, a cube, light weight, highly portable and has many intuitive features. Maltby Surveys, is a company at the forefront of measurement technology so any device that can supplement our workflow and provide added value to our clients is essential especially in today's market.

With local measurement capability directly from the photography we are keen to incorporate the iSTAR into our working processes. For us, we see the iSTAR fitting neatly alongside our portfolio of measurement devices. The seamless collaboration between iSTAR and FARO in the onward development of this device is crucial. This will ensure that we are able to continue to provide our clients with a range of deliverables both on and off-line for mutual benefit.

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