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# Are 2D deliverables things of the past?

Chris Harris wonders why anyone would prefer 2D line drawings as we enter an age of feature-rich, photo-realistic and spatially accurate 3D, but accepts that more work is needed to spread the message

2D line drawings might still be the number one go to for many survey professionals and their clients but as an industry, we are now firmly moving into the land of mainstream 3D. A land that is easily within our grasp, a 3D, glossy, photo-rich paradise for anyone who wants quality geospatial data.

## Crazy, but true!

The journey has been long and not always straightforward. Take the laser scanner for instance. It's still not used by many surveyors, and there is confusion as to what people want from the data afterwards – often nothing more than to interrogate the point cloud, take dimensions, measurements, draw some line work and end up with ... a 2D drawing! Crazy when you consider the added information the client could access if they thought about what was available and what format they'd like from the deliverable.

The laser scanner has long been viewed as a specialist piece of equipment and that certain skills, software (and computer power) are needed if you are to be successful with a scanner. There is some truth in that and as with any major purchase, the business case should be carefully considered.

Something else to consider is site photography. Whilst commonplace, it's typically regarded as no more than an aid to give the client ... a 2D drawing! Photography is very often given to the client, but aside from looking at it to 'help them appreciate site from the desk' doesn't offer much else.

I'm being slightly unfair of course as some individuals and companies do amazing things in 3D. They can create fabulous models and can now present them in virtual or augmented reality if they like, but the drawback is that the majority of their customers just do not have the facility to take the data. And in all honesty, those pushing 3D as a deliverable are still in the minority.

What can we do to change this?

## Multi-station solution

The first step has to be boosting the number of surveyors able to create a 3D deliverable, and this is where technology can help. The idea of the 'multi-station' will now be familiar to many, and Trimble's SX10 in particular has been much written about and reviewed as it approaches almost a year in the market place. Fundamentally, it captures traditionally surveyed Total Station information, point cloud data and calibrated photography from which you can measure.

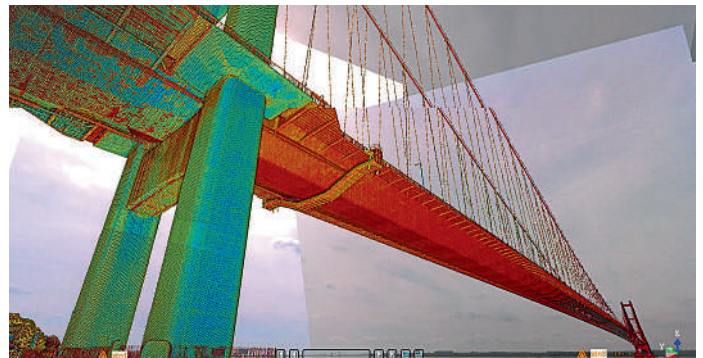
The reason this is such an important step forward for our industry is that it puts point cloud AND calibrated photography into the hands of the traditional site surveyor, engineer or GIS professional

in a format they understand, and without the need for things like – scan/pointcloud registration, specialist expertise or super computers.

Terabytes of information have now been brought back down to just sensible Gigabytes again – a smallish job might now even be Megabytes, something thought impossible for a scanner only a year ago, and for those who still struggle to accept a point cloud file, the humble photo has the potential of being every bit as accurate and useful!

With devices like this set to become an everyday piece of equipment for surveyors who do a variety of work, the 3D world will become closer to everyone. Sharing the data will become easier, and viewing the data a much more rewarding and informative experience.

The 2D drawing will always be favoured by some, but with data on offer as good as this, you'd have to be crazy to ask for one!!



Limitless Potential. The photo above shows the point cloud sitting on top of the calibrated photography. Where the point cloud is sparse (at the centre of the bridge), accurate measurements can be taken using the pixels in the image



Feature-rich data, showing measured survey points, point cloud and calibrated imagery. All measured in the field using one device