



# WHAT'S IN THE BOX?



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Over the past few years we have witnessed advances in sensor technology as never before. So what is likely to become the new 'norm' in the surveyor's toolbox?

**Chris Harris** looks at likely candidates

The technology in which you invest as a business undoubtedly has an impact on the projects you can handle and how your business is viewed from the outside. For many, Total Stations and GNSS are already regarded as 'standard equipment', but what about laser scanners, drones and mobile mapping systems – are these now becoming the norm?

## Sensor fusion

In terms of unit numbers, we see more investment in Total Stations and GNSS

- along with the data collector of choice - than in any other area. This has been so for a number of years, but the 'scanning' Total Station is not now far behind and catching up fast. The reason why is not hard to fathom, for it allows the user to do all the normal things they may wish to do with either a Total Station and/or a laser scanner. This is the true 'sensor fusion' I mentioned in a previous column.

Tomorrow's well-equipped surveyor?



We are now starting to see surveyors adopting the hybrid system as a replacement for a Total Station or a dedicated laser scanner simply because they can do so many more different tasks with just one instrument. Additionally, it is a single investment, and with so many different technologies available, people are rightfully keen to make a product pay for itself quickly.

“If you can take on more tasks then you will become more valuable” is something a previous manager told me on many occasions! This is nowhere more true than in the choice of equipment a surveyor employs. It helps explain why, in less than two years since its launch, the SX10 scanning Total Station is now not just one of Trimble’s most desirable geospatial products but one of its best-selling, out-performing all dedicated laser scanners and the majority of Total Stations.

### Drones: on the rise

Let’s also take a look at drones which, while increasing in use, aren’t yet an everyday item. I have worked with several different systems over

the last seven years and their usage has gone up dramatically both in terms of the number of companies buying them and the type of jobs to which they are applied.

The technology has improved significantly over this time but the processing times still leave a bit to be desired. They are therefore less commonly found in the surveyors’ toolbox, with many practices outsourcing this type of survey to companies specialising in aerial mapping.

### Out of a niche

Then we have mobile mapping systems. Certainly not for every geospatial business, but very niche? I wouldn’t say so, not anymore.

Two reasons. Price is the first, and here we have seen significant price reductions. A mobile system does not necessarily need to include LiDAR, so this can influence how much you will pay, and here, it’s worth noting that our ‘imaging only’ system significantly outsells the LiDAR systems. Taking measurements directly off a photograph may not

be quite as accurate but it is highly intuitive, making it quick and easy for a data analyst to master.

The second reason is the requirement to handle large datasets of up-to-date, accurate geospatial data from many different stakeholders. The data that a surveyor measures is a valuable commodity, with each point measured on-site specific to a feature. But mass geospatial data can be given to anyone to view, measure and draw from. Everything from precision surveys to GIS databases can be collected and managed in the same way, at least in theory.

People say the mobile mapping system is being used because it’s so much faster, but only sometimes is this true. For many, it’s all about cost. Deploying the people to capture the same volume of data that a mobile system can capture in an hour would be incredibly expensive, so speed doesn’t normally come into it.

Let’s see if, in the next year or two, the drone and the mobile mapping system attain the same level usage as today’s scanning Total Station. Will this technology be in your equipment stores in 2020 ... or are you already offering it today?

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