

Using Digital Data Capture for Traffic Management â€™

Interview with John Booth



Our editor Robin Waters talks to John Booth, team leader for traffic management at Mouchel, who explains why he switched his department to digital data capture, the challenges involved and why he chose Trimble's Geo6000 series.

For over ten years, the manufacturers and suppliers of digital mapping systems have preached a simple sales message - if you want to improve your efficiency and increase your field/office productivity, then digital data capture is the way forward.

However, the realities of switching to a new way of working – which can sometimes obscure the end rewards – cannot be ignored. An initial capital outlay, introducing change, training field workers and, in some cases, overcoming an underlying scepticism towards

new hardware and software are seen by some organisations as burdens to be side-stepped by simply retaining old methods.

John Booth, Mouchel's team leader for traffic management, was able to see beyond the initial challenges in changing work practices within his department, but was still faced with the problem of finding a data collection system for which it was actually worth changing.

John has recently been involved in several data collection projects and knew that, if he was to deliver the service and value that Mouchel's clients expected, he needed a complete solution from easy, accurate recording in the field and a seamless transfer of data to the office mapping system. Past experience with underperforming technology had left him with a mistrust of fancy sales presentations. He was really concerned that the 'cradle to grave' digital data capture solution didn't yet exist. It was therefore with some reservation that he had his initial meeting with Trimble mapping distributor, KOREC.

A year later and John is in a position to explain the process that led to his team becoming one of the first UK users of Trimble's Geo6000 series devices for data collection.

GIS Professional: What is the background to this procurement?

John Booth: I have been involved in many data collection projects from the days of pen and paper to the digital systems used by Mouchel today. For the surveyor, the manager and, most importantly, for the client, it is evident that only digital systems can deliver the productivity, data integrity, accuracy and QA environment we all require. But I was still looking for the 'perfect' system offering the 'one stop shop' of easy data collection, analysis, mapping and seamless data transfer between them.

Although disappointed with previous trials, I began a new search for this 'holy grail' for the division to meet an immediate requirement from the Liverpool office, which was working with several local authorities. One of these wished to collect positional and attribute data on all signage, both directional and informative, within a 2-3 mile radius of the city centre. This information would provide innumerable benefits for the area's residents and visitors as well as the council itself. The data collected about directional signage – helping people to move smoothly around the city – could then be used for many purposes with the ultimate aspiration of placing all the information on the council website for public access. An up-to-date database of signs, positions and condition would also enable the council to become proactive in its repair and replacement programme, leading to cost savings and greater efficiency.

GIS Pro: How did you go about looking for a new system?

JB: I carried out my initial research on the internet and contacted KOREC to look at the Trimble Juno S Series, which I thought could be useful on this project and for future contracts. My first meeting with their mapping consultant, Richard Gauchwin, was a good opportunity to establish some trust. I knew from the website that KOREC was local to us and well placed to handle any technical support issues that might arise with a global supplier. Richard also took the time to listen to my requirements – including my doubts – and provide advice specific to Mouchel's needs rather than general sales talk. He identified that the Juno would fit my short-term needs but also took the time to explain what the higher spec Trimble Geo6000 Series XH model would enable me to offer my clients. At the end of our second meeting, Richard didn't leave me with a glossy leaflet but with the GeoXH itself. We were then able to test it in all the different scenarios that we might encounter.

GIS Pro: Your final system was more accurate than you had specified – why?

JB: Following an extensive and successful testing process, our final solution was the Geo6000 Series XH with Floodlight technology, VRS

Now H-Star Technology and FastMap on-board data collection software.

Whilst my original choice would have been a useful tool offering us basic data collection and 2-5m accuracy, it quickly became obvious that the decimetre accuracy offered by the GeoXH was vital for the more detailed work we envisaged – such as mapping yellow lines. I was also concerned at GPS performance in the city centre environment, but Trimble's Floodlight technology handles the 'canyon affect' well. Even in difficult conditions such as a five-metre wide street surrounded by tall buildings, we were still consistently obtaining 700mm accuracy compared to our normal 100mm.

For some of our staff, this was the first time they had seen such a device, but the software was easy to use, a vital factor when introducing change, and for many of our field workers a 15-minute briefing was sufficient to get them up and running. There were some early glitches, but these were quickly addressed.

GIS Pro: How do you see the future of the new system at Mouchel?

JB: A vital aspect of my job is listening to clients and finding out exactly what they need from us. Some immediately saw the benefits that data collection, in general, could bring them; whilst others, quite understandably, were concerned that commissioning the work would be expensive and the data hard to maintain. It quickly became clear to me that the new system would not just be a luxury to make our lives at Mouchel easier. It would also be a business tool that I could use to offer existing clients a cost-effective, top quality data-collection service and to win new business by reassuring prospective clients that project costs could be managed and collected data easily maintained by using digital methods. By working digitally, we could also offer our clients not just site-specific tasks such as sign location, but the opportunity for them to integrate all collected data into relevant layers within their GIS and build up a complete and accurate picture of their assets.

Logistics are also an important part of any data collection exercise and following a time and motion study we knew exactly how long a job would take us. This enabled us to manage our costs very closely.

By raising the profile of both our digital data-collection capability and showing how data could be displayed in various forms to serve multiple purposes for our clients, we were winning commissions based on the quality of service and the efficiency with which this work could be carried out. Using digital data capture had the additional benefit of increasing our productivity and therefore keeping our tenders competitive. With traditional techniques you can spend three times more time in the back office converting field data into usable formats than you spend actually in the field collecting the data. Using the GeoXH we are more efficient in the field and only spending as much time again processing the data – a saving of 30-50%.

GIS Pro: After a year in the field, has the new kit met your expectations?

JB: Our business aims at the beginning of this process were to win work in competitive trading conditions, to provide clients with services that they needed and could afford, to work efficiently and to increase our margins by utilising digital data capture.

A year down the line, we've had plenty of time to reflect on our progress. KOREC understood that for us buying the equipment was not the end of the story but the beginning. It was the start of new choices, new ways of working and new opportunities. In our case, the new system has paid for itself in new work won. KOREC has not only been our supplier but also our partner and because of the trust and good working relationship we established from the outset, we purchased the right tool for the job.

I believe that our biggest challenge today is to deliver more for less. Innovation and efficient working are the keys to achieving this. There is no doubt in my mind that by embracing this technology we can achieve these objectives as well as being able to amalgamate project-specific data to feed larger and more strategic data management systems. (Ed: See BIM article on page 8). Have we succeeded in our aims? Yes, I think we have.

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