

MAPPING ON THE MOVE



Chris Harris traces the evolution of mobile mapping systems and how their popularity goes from strength-to-strength

Let's turn the clock back to 1999, a time when KOREC's software development team was involved in developing a completely new concept ... one that can best be described as a forerunner to the sophisticated vehicle mounted mobile mapping systems that we have today. This development work resulted in the launch of FastMap GPS Video Surveyor, a simple system that merged a windscreen webcam (at 5 fps) with positions every metre delivered via a magnetic roof-mounted GPS receiver. Very interesting indeed for anyone who wanted to capture a lot of data quickly - in particular we saw early take-up from local authorities that required fast and basic positioning of their street furniture.

Fast forward

Fast forward to 2010 when we saw the release of the Trimble MX8 mobile mapping platform. This revolutionary system merged two high specification laser scanners with cameras, GPS and inertial measurement systems for true, accurate data en masse. The technology was getting very exciting and the applications endless, although the price was too high for many potential users. It was also a complicated system and required a vehicle with a bespoke computer interface. Additionally, capturing this much data challenged most company's IT infrastructure - the file sizes could be staggering! Nevertheless, it could scan areas in minutes - perfect for jobs that would otherwise take days for a team of surveyors. So for certain large-scale projects, it was well worth the price.

We've seen this device deployed on many large-scale road projects in the UK for accurately measuring features and structures. The projects have been varied; to measure a newly completed smart motorway scheme; for undertaking bridge strike surveys, or simply to check how many potholes an area has accumulated over the winter. The technology has also been adopted to capture large city areas for asset management purposes. Everything from bus stops to hanging baskets (position/condition) scanned, with the majority of data capture projects performed in a single visit, generally with a small amount of infill afterwards. Best of all, there is no need for road closures ... a major benefit, particularly in cities.

Options galore

Following on from the MX8, we have seen various platforms

introduced by manufacturers that give customers options galore. Today, you can choose from vehicle-mounted, backpack or hand-held systems, as well as systems for indoor use and those offering LiDAR or video-only as an economical alternative. All are designed to swiftly gather data on the move which, back at the office, can be analysed, digitised and worked from. While the 'video only' systems lend themselves very well to asset management, the higher specification platforms are typically deployed on engineering/surveying projects where accuracy and repeatability are paramount.

This year has seen the release of the MX8's much anticipated replacement, the MX9. Not only can it record super accurate xyz data at an alarming two million points-per-second, but the user interface is now brought fully up-to-date, meaning anyone can use it (on a laptop or tablet device) with minimal training. The advancements in the device itself bring to life even more possibilities - deformation monitoring from a mobile system? - this is now an option.

It will be very interesting to see where the next few years take us, but according to Trimble, the initial quota of MX9s have already been sold. It's clear that the demand for mobile mapping is getting bigger and bigger - much like the datasets themselves!



Trimble's MX9: a mobile mapping solution for large-scale scanning and mapping missions

UNIVERSITY OF **WICKED EARTH** SOLUTIONS.

SPATIAL ENGINEERING: UNIQUE, NEW MASTER'S PROGRAMME,

If you're a professional or graduate eager to tackle some of our world's most wicked problems by combining technical and socio-economic knowledge with spatial data analysis & modelling – and you're already skilled in at least one of those three fields – the University of Twente has an offer you will find hard to resist: a new two-year Master's programme in Spatial Engineering.

- ✓ GET EQUIPPED TO TACKLE SOME OF OUR WORLD'S WICKED PROBLEMS, SUCH AS FOOD SECURITY OR CATASTROPHIC CONSEQUENCES OF NATURAL DISASTERS
- ✓ COMBINE TECHNICAL AND SOCIO-ECONOMIC KNOWLEDGE WITH SPATIAL DATA ANALYSIS AND MODELLING
- ✓ BE THE ANSWER TO GROWING DEMAND IN THE INTERNATIONAL CORPORATE WORLD FOR SPATIAL ENGINEERS
- ✓ BENEFIT FROM HANDS-ON, PROJECT-LED EDUCATION AT ONE OF THE WORLD'S LEADING CENTRES OF EXPERTISE
- ✓ ENJOY OUTSTANDING CAREER OPTIONS AS A MASTER OF SCIENCE WITH UNIQUELY UP-TO-THE-MINUTE CAPABILITIES

UNIVERSITY OF TWENTE.

**FIND OUT MORE OR
APPLY TODAY AT
[UTWENTE.NL/GO/SE](https://utwente.nl/go/se)**

HIGH TECH HUMAN TOUCH

