Issue 19 2018
The Geospatial Newsletter from **KOREC**

Mensura

this issue:

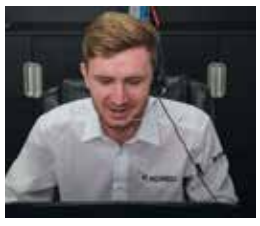
- Case study - 'Business in a box'
- KOREC support - why we've upped the game
- Introducing our new Trimble MX9 Mobile Mapping system (right)
- Product news - the TSC7

KOREC enriches support

More qualified product specialists, enhanced local service, knowledge centre and personalised 'how to' videos enhance the KOREC offering.

KOREC's annual customer survey tells us what we're doing well and what we need to work harder on. This document is part of the blueprint for what we do. Your 2017 feedback reflects a more sophisticated sales environment in which service, support and a personal approach play a key part in the buying process and in some cases, they are the deal makers and breakers.

We've therefore been working hard to bring a consistently high level to the pre and post sales support we offer so that this side of our business matches the world beating quality of the technology that we offer.



continued overleaf....

KOREC invests in Trimble MX9 system

'New Generation' mobile mapping system delivering high-density, survey-grade data with amazing detail.

Expanding our mobile mapping portfolio with the purchase of Trimble's ground breaking MX9 Mobile Mapping System has been one of the easiest KOREC decisions we've ever had to make. Combining high-quality performance, simple installation and easy operation, the MX9 is a complete field-to-finish solution that delivers high-density survey-grade data with amazing detail. This makes it ideal for use in a wider range of applications and by a broader customer base.

The MX9 will be available to KOREC customers either through purchase or as KOREC's preferred system for undertaking large-scale scanning and mapping surveys on behalf of clients using our services company, K-SERVICES.

KOREC's K-SERVICES Director Graham Beckford and his team have wasted no time in putting the MX9 through its paces on a number of high profile jobs around the world. He reports that first up, the flexibility and simple installation have been appreciated hugely by the team with easy installation on many types of vehicle in many different locations. Secondly, he's been blown away by the phenomenal quality of the data collected.

Performance

The MX9 combines a vehicle-mounted mobile lidar system, multi-camera imaging and field software for efficient, precise and high-volume data capture, delivering up to 500 scans/second. The level of density and accuracy achieved by the MX9, at normal road speeds, allows high levels of interrogation of the pointcloud. The end result is data of unrivalled accuracy, density and repeatability.

▲ Performance - high level of density and accuracy

▲ Easy installation - less than 12 minutes

continued overleaf....

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Shop now at https://catalyst.korecgroup.com/simple-home/

Support continued...

Here are some of the things that we've already done:

- Extended our office support team to the highest number of qualified staff we've ever had. They are on hand five days a week and as from 30th July, they will be available half an hour earlier, covering 8.00-17.00, to accommodate early morning requests. Already praised for their fast response, they'll solve your problem on the phone, by email or even with personalised 'how to' videos.
- Invested in a new on-line reporting system that enables us to track every one of your enquiries through to completion. Latest statistics show that since the beginning of the year 1426 support tickets were created of which 1423 have been successfully closed with just three pending!
- A satisfaction survey is sent when a ticket is closed. We are delighted to report a 97% satisfaction rate. This survey also provides us with continuous feedback allowing us to adapt and improve far faster.
- Established a consultancy room in our Liverpool office for customer visits.
- Extended our website 'Knowledge Base' area for the creation and tracking of support tickets, special product information areas, white papers and regularly updated articles.
- Personalised and expanded our regional field support teams. These are the guys who will be on hand to help you out when things get tough in the field. We've received great feedback on their efforts whether that's thanks for taking an out of hours call or arriving with the speed and efficiency of an emergency service. ■■■

▲ Regional support teams and product specialists

"… the support from KOREC has been second to none with the team sharing great advice, often out of office hours. It's the people that make an organisation and the SX10 is backed up by a support service that's worth its weight in gold."

Ted Harland, Owner,Tri-Tech Ltd.

Events news

The KOREC team never sleeps - or so it seems! After our round of Trimble Express days, here's where you can find us for the remainder of the year:

- The SX10 is on tour! Book your demo at bit.ly/SX10onTour
- National Ploughing Show Sept 18-20 - Tullamore, Ireland (Vantage, Trimble precision ag technolgy)
- Ground Engineering Basements and Transport Geotechnics Conference, Oct 2- 3, London, with Trimble. www.transport.geplus.co.uk
- Digital Construction Week, London, Oct 17-18, www.digitalconstructionweek.com
- Commercial UAV Show (with senseFly) Nov 14-15. ExCel, London.
- GeoDATA London, Nov 29 - www.geoaware.info
- We will also be attending Intergeo in Frankfurt assisting Trimble on their stand, Oct16-18, www.intergeo.de/intergeo-en/
- And of course we'll be at Trimble Dimensions in Las Vegas from Nov 5-7. This is a major event in the worldwide geospatial calendar and we'll be sharing information as it happens. Find out more at www.trimbledimensions.com ■■■

MX9 investment continued...

Easy installation

The system weighs just 37kg and due to the quick release mechanism in the roof rack and the single lead connecting the MX9 to the control box, it can be easily mounted on a range of vehicles in less than 12 minutes.

Ease of Use

Operation is through intuitive browser-based field software, accessible using a standard specification tablet running on Windows or Android platforms. This connects either through a LAN cable or through WiFi and it's ease of use means that training an operative in how to collect data can now be undertaken in less than 30 minutes.

▲ Ease of use - learn to collect data in just 30 minutes

Next steps

For a sample dataset or to discuss a K-SERVICES project, please contact K-SERVICES Director, Graham Beckford, at graham.beckford@korecgroup.com or by phone on 07919 470558. ■■■

Product Update - Trimble TSC7

The TSC7 – three months in

We launched the new Trimble TSC7 data logger in the last issue of Mensura, and since then we've had plenty of time to assess it and appreciate its timely arrival.

Although we were constantly hearing about tablet updates, it's been a while since we've seen anything new on loggers. Therefore, the launch of the TSC7 has come at just the right moment showing that the data collector market is still very much alive and kicking. This is great news for KOREC customers because many of you have told us that you favour a logger over a tablet, enjoying its ruggedness and easy handling.

However, there's no doubt that a freshen up was required to reflect the Trimble hardware and software developments we've seen, especially with the arrival of the SX10, an instrument with no eyepiece that relies on good visual information.

One of our KOREC Regional Sales Directors, Ryan Bowles, sums it up nicely:

"The TSC7 demonstrates the drive from Trimble to be ever looking for ways in which surveyors can be more productive in the field. The larger screen and modernised interface, although easily recognisable to the existing access user, are very much data centric, allowing the user to have greater visibility of the job in hand, whether that be eyes on the collected data for confirmation and reducing the risk of missed data capture or alternatively, for when it's used in setting out roles allowing the engineer to have easy access.

The upgraded computing power allows for far more data to be displayed and used and the new quick access function keys make for a smooth easy to learn workflow allowing for multiple user defined keys to be allocated.

The workflow between field and office has also taken a leap forward with the introduction of a status tab. Working with Trimble Connect, data can now be sent seamlessly to the field, with any setting out files or coordinates, then on completion of the task, once 'Task complete' is selected, data is automatically sent back to the office for back up and processing.

For those working during the dark evenings of the winter months, the back lit keypad will be a welcome addition and the new 7" display is a fantastic advancement ensuring easy visibility on even the brightest of summer days.

Finally, we've certainly tested its ruggedness and many of you will have seen the video of me dropping the TSC7 and standing on it at GeoBusiness. I'm delighted to report it didn't miss a beat and not a scratch afterwards!"

▲ A great ergonomic form factor that feels secure in the hand and easy to manage

▲ Trimble logger development over the years

Trimble Access 2018

…and with the launch of the Trimble TSC7 Controller comes a revamp of Trimble Access survey field software. This version is optimised for larger screens such as the new Trimble TSC7 Controller and Trimble T10 Tablet.

Here are our seven favourite updates to Access 2018:

1. Fresh and modern UI, to better support the larger screens on the latest flagship Trimble controllers.
2. Main menu accessible from almost every screen.
3. Application launcher integrated into Trimble Access so no need to return to the launcher screen to select a different app or to synchronize data with the cloud.
4. New project and job management for easier sharing of projects and jobs, including integrated synchronisation with the cloud.
5. Enhanced Favorites and Function key support.
6. Status bar/status line consolidated at the top of screen.
7. Trimble Roads enhanced to better use larger screen primarily around review and editing of RXL roads. ■■■

OS tender win

KOREC wins tender to supply Ordnance Survey with future proof Trimble Alloy Receivers

KOREC is delighted to announce that following a successful tender, it has supplied Ordnance Survey with fifty-five Trimble new generation Trimble Alloy GNSS Reference Receivers in support of OS Net. OS Net is Great Britain's national global navigation satellite system (GNSS) infrastructure, operated by Ordnance Survey.

The Alloy units will be supported by KOREC for the duration of the five year contract.

The Trimble Alloy Reference Receiver is both future proof and the most technically advanced GNSS receiver available on the market today being compliant with GPS, GLONASS, Galileo, BeiDou, EGNOS, QZSS, IRNSS, SBAS and L-Band whilst the inclusion of dual Trimble Maxwell 7 chipsets combined with a powerful processor provides strong tracking and processing power. Additionally, with 672 channels, Alloy has the capacity to accommodate additional signals as they may become available, eliminating the need to replace hardware to keep pace with technology.

Mark Poveda, Commercial Director, KOREC, said "The next generation Trimble Alloy Reference Receiver will assist the Ordnance Survey in its plans to modernise its network. Users of OS Net can now receive signals from the widest range of constellations available enabling them to be more productive in the field and work effectively in challenging GNSS conditions. KOREC prides itself on a reputation for delivering cutting edge Trimble technology backed up by a high level of service and support and we believe that this combination has helped us to win the prestigious order with Ordnance Survey." ■■■

▲ Trimble Alloy Reference Receiver

Creating a successful aerial survey business in just 8 weeks

For energy infrastructure photographer, Geraint Thomas, investing in a fixed wing survey-grade UAV was like purchasing 'a business in a box'. Assisted by qualified training and support, he delivered high quality aerial imagery in just eight weeks.

Based just below the turrets of Caernarfon Castle in North Wales is Panorama, is a gallery owned by professional, multi-disciplined photographer, Geraint Thomas. Whilst providing a wide range of services from landscape prints of Snowdonia to commercial shots for brochures, posters and websites, Geraint's speciality is energy infrastructure photography and in particular he has been producing a range of digital media for UK energy company, Horizon Nuclear Power, a Panorama client for over 6 years.

Horizon Nuclear Power develops new generation nuclear power stations and its lead site, Wylfa Newydd, is located on the Isle of Anglesey on land beside the former Magnox Wylfa Power Station (now being decommissioned). The company also has a second site near Oldbury in South Gloucestershire on the banks of the Severn Estuary.

At 1500 acres, the Wylfa Newydd site, which aims to create up to 850 permanent jobs, is the biggest infrastructure project ever undertaken in Wales and one of the largest in Europe. However, due to the complexities and size of this site, Horizon Nuclear Power was having difficult in sourcing a UAV photogrammetry surveyor to chart its development. The company therefore approached Geraint with a brief for the work to gauge his interest in taking on the project. This initial approach was made over Christmas 2017 with a requirement for the first aerial survey to be completed by the end of February 2018.

Learning Curve

Following some initial research, Geraint was confident that he could deliver the required data but he was also aware that with just 2 months until he had to deliver his first survey, he would have to move quickly. Initially time was saved because Horizon Nuclear Power had specified the UAV that they felt would be best suited to fulfil their data requirements on such a large site. In this case it was a fixed wing senseFly eBee Plus RTK with Pix4D processing software. This decision was based on the eBee's survey grade accuracy, its long flight times and battery life which would facilitate flying on such a large site and finally its ability to fly in winds of up to 40kmh, vital for a coastal location on the edge of the Irish Sea. Horizon Nuclear Power was also aware that the eBee Plus RTK had been used successfully on similar projects of this size.

Geraint therefore contacted senseFly distributor KOREC, who could not only supply an eBee Plus RTK at short notice but also organise a complete training package that would cover both product training and his CAA accreditation through its partner, The Drone Pilot Academy (DPA), a Civil Aviation Authority authorised training provider. A package of this sort meant that Geraint was looked after throughout the whole training process with just one point of contact at KOREC who set up all his training for him in the shortest time frame possible.

Following the purchase of his eBee on the Wednesday, Geraint was booked into the three-day accreditation course and exam on the following Wednesday and returned the next week for the practical which he also supplemented with a DPA UAV surveyor's one-day course. Finally, he had one day of KOREC product training.

Geraint explains, "The training process was thorough and I was rigorously prepared for the exam by the DPA. Every detail was covered and they also assisted with the production of my operations manual, double checking everything to ensure that it was spot on before submitting it on my behalf. To further my knowledge, I additionally attended the DPA's one-day UAV surveying course which was ideal for the applications I was planning to undertake and gave me a heads up on some of the issues I may come across. Finally, I had one day of eBee product training which KOREC tailored to my particular requirements and in fact I used it as a trouble shooting exercise to ensure that everything was in place for my first flight. The whole process was seamlessly organised and all the training was of excellent quality."

> "Investing in an eBee Plus RTK has been like buying a business-in-a-box but it's good training and support that makes the whole thing work."
>
> **Geraint Thomas**
>
> **Panorama**

CAA accreditation is finalised 7 weeks after the exam is passed and during this time KOREC supported Geraint on his early flights with its own CAA accredited pilot.

First flights

The Wylfa Newydd development site covers 1500 acres with Geraint contracted to carry out quarterly surveys of the whole area moving to monthly flights when earthworks began. KOREC ensured that UAV experts were on hand to assist with everything from the flight planning (taking into account land access, weather conditions and any adjustments to the flight plan due to changes in take-off and landing points) to a CAA exemption license which was required for the site as well as supporting Geraint in the field for the two days of work.

On the first day, ground control was established with KOREC's help using a Trimble R10 GNSS tying in to existing features such as the corner of road markings. Although Geraint had opted for an eBee Plus RTK, there are times when there is no mobile signal, especially in more remote areas, and therefore the Trimble VRS Now service (real-time correction service) can't be accessed. In these cases, the data needs to be post-processed back at the office.

Both flying days were wind free with perfect light which enabled Geraint to carry out his 12 planned flights of around 40 minutes duration as well as additional areas along coastal cliff edges which he thought he would have to leave until the summer. Every flight went to plan, even in the fading late-afternoon light.

As soon as the data was collected, Geraint loaded all the images in the Pix4D processing software and the resultant data was presented to the client's GIS team in two coordinate systems, all within 7 days of the flights. The deliverables included the dsm and orthoTiff contours.

Geraint found both the eMotion3 flight planning and Pix4D software easy to learn with all the features he required and none of the complications. However, it was the quality of the data supplied by the eBee which really stood out for him. He reports, "I knew there was a huge buzz about the data within hours of the files becoming available. Heads of department met for a working lunch to discuss the emerging possibilities and although the original request for the aerial surveys came from the GIS team, other departments, from design to archaeology to contracts, could also see huge value in it even referring to it as 'game changing data'!"

Geraint continues, "There's no doubt that news of these successful flights has spread beyond Horizon Nuclear Power and I'm already being approached by new clients. For me, investing in an eBee Plus RTK has been like buying a business-in-a-box but I can't state too strongly, it's good training and support that makes the whole thing work. Both the Drone Pilot Academy and KOREC have been exemplary in this. Within 2 months I've made a move from supplying my client with just site photography to supplying them with highly sophisticated UAV photogrammetry. There's no doubt that the learning curve has been steep but the potential is immense!" ■ ■

▲ Geraint Thomas with his eBee Plus RTK

▲ Anglesey data, including the coast

Time Line – Creating a successful aerial business in 8 weeks

Week 1	Purchase of SenseFly eBee Plus RTK
Week 2	Three-day training course and exam for CAA accreditation with the DPA
Week 3	Practical with the DPA for CAA accreditation
	Additional DPS UAV surveyor's course
	One day of product training with KOREC
Week 5	First flights undertaken with guidance from KOREC CAA accredited UAV pilot
Week 7	CAA accreditation comes through
Week 8	Successful undertaking of flights and supply of high quality aerial imagery to client, Horizon Nuclear Power

KOREC News

Trimble Catalyst

Catalyst now supports GLONASS

▲Catalyst now supports GLONASS

We are delighted to announce that thanks to a free Trimble software update released in June, Trimble Catalyst, the subscription-based GNSS receiver, now has GLONASS satellite tracking as well as already supporting GPS and Galileo satellite systems. The update means more satellites are contributing data which means faster operation, better location stability, and more reliable positioning results — especially if you're forced to work in challenging GPS environments. Download 'Trimble Mobile Manager' now from the Google Play Store.

▲Improved K-Mobile efficiency with new front screen

STOP PRESS! KOREC subscription website launched

The website for Catalyst subscriptions is now live and it couldn't be easier to use! You can also purchase K-Mobile and optional training to build your perfect solution. Shop now at https://catalyst.korecgroup.com/simple-home/

K-Mobile Update

Even greater efficiency in the field

The latest functionality that we've added to our K-Mobile field data capture software has been developed specifically to save time and speed up efficiency in the field, especially for those working in high density asset areas. Field workers can now select a wide range of feature points from the front screen saving at least a couple of clicks for each asset recorded.

We've also introduced a new form 'Clipboard' feature. This is ideal for anyone who has a number of forms to fill in, but not all in one go. Users can now revisit the same form at intervals throughout the day, without the risk of duplicating the form, and add information as and when it's collected. Coloured 'white', 'amber' and 'green' icons for each form provide a quick glance progress report as to how much information has been collected for each of these forms. Useful! ■■■

Technical news

- The Trimble Community provides a great forum to ask questions and exchange information. Also a good place to learn about new software releases and tips from Trimble staff. Visit: community.trimble.com
- There is a new firmware release for the Trimble SX10, version S2.0.6, please use Trimble Installation Manager to install the upgrade at your earliest opportunity.
- If your are having issues with Robotic Total Station radio range, the cause is often the condition of the antenna. An initial check is that it hasn't become separated and then reconnected the wrong way round, causing the internal wire to stretch when bent.

- Trimble Business Center 4.1 now includes projected surfaces, so surface formation isn't restricted to the horizontal plane.
- The latest release of RealWorks, v11, includes a very useful registration wizard which supports multiple sphere sizes for target based registration and integrated point extraction.
- Here is a useful resource page for Trimble Business Center and RealWorks licensing: https://geospatial.trimble.com/trimble-business-center-license-support.

KOREC comp photo winners

We couldn't decide between two fantastic photos so they both won our May KOREC photo competition. Congratulations Chris Lowres and Peter Nelson of Landform Surveys

Our June winner was Tim Connolly of ReenconUK with this stunning photo of the R10 and SX10 in action measuring as built wind turbines! Email your entries any time to marketing@korecgroup.com ■■■

▲Winners from the top are Tim Connolly of Reencon UK and Chris Lowres and Peter Nelson of Landform Surveys

Rail Update

KOREC launches Trimble's GEDO IMS to key players in the UK rail industry

The Doncaster campus of The National College of High Speed Rail (NCHSR) was the location for KOREC's UK launch of Trimble's GEDO IMS, a lightweight, flexible and fast system that combines the GEDO 2.0 TMD with an Inertial Measurement Unit (IMU) and supports the addition of other geodetic sensors such as laser scanners, profilers and GNSS.

This makes surveying and constructing railway lines and documenting assets along the track significantly more efficient, as well as much safer.

The day was attended by key players from the UK rail industry who all enjoyed presentations and live demonstrations from KOREC and Trimble rail specialists Matthew Lock and Tom Williamson (KOREC) and Matthew Moss (Trimble).

For further information on Trimble Rail Solutions supplies by KOREC, please contact matthew.lock@korecgroup.com

Network Rail Survey Innovation Event

We were also proud to attend the 2-day Network Rail Survey Innovation event near Stoke in June where we showcased the range of Trimble GEDO TMD solutions including GEDO Scan with the Trimble TX8 and of course the new GEDO IMS system which drew a lot of positive attention.

Also on display was the Trimble MX2 mobile scanner mounted on our buggy and the fantastic SX10 fixed on an elevator tripod, highlighting the benefits of being able to scan, survey and take photos remotely. With the continued drive for more efficient and safer ways of collecting survey data, our solutions proved a big hit.

Thanks to Nick Matthews of Network Rail for putting on such a great event. ■■■

Monitoring news

Our recent webinar covers everything you need to know to get started.

Construction intelligence has valued UK contracts in 2017 at £71bn. A great number of these will require some form of monitoring which is why adding deformation monitoring to your survey portfolio can be highly profitable.

And it's easier than you think. More often than not, you already have the equipment to do it with basic systems requiring nothing more than a Trimble Total Station with FineLock technology and the stake-out function in Trimble Access software running on a controller.

Alternatively, you may already have a laser scanner for creating surface models and of course surface to surface comparisons, ideal for detecting a bulging retaining wall, without the need to put prisms on structures.

The next step would be investing in Trimble's modestly priced 4D monitoring app for setting up a measuring regime. Full information on all these options, and more advanced ones, is available from our webinar at bit.ly/MonitoringWeb ■■■

▲Key industry players attended the GEDO IMS launch

Contact us:

For further information on any of the products or services mentioned in Mensura, please contact your nearest KOREC Sales Consultant or visit our website

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