

Mensura



this issue:

- Instrument theft
- Case study - intelligence based gully maintenance with K-Mobile
- Trimble R10 - why it's the stand out GNSS on the market
- Technical updates

2018 with KOREC

We wish you all a happy, healthy and prosperous 2018 and what better way to kick off the year than with a round-up of some of our planned highlights for the 12 months ahead.

Viva Las Vegas! Trimble's biennial showcase event is back. Dimensions will run from 5-7 November, 2018, at the Venetian Hotel in Las Vegas. We'll be providing information on how to book as soon as it's released and as in previous years, KOREC will be inviting a group of lucky customers to come as our guests to this exciting event.

Stockholm SX10 Trimble factory trips - Following on from the success of last year's KOREC hosted customer trip to Trimble's facility in Sweden, we'll be running another trip in 2018 for selected guests. Follow KOREC Group on Twitter and LinkedIn for details.



Trimble Dimensions is back for 2018!

...continued overleaf...

KOREC Reports: Survey instrument theft

Like many other companies in the industry, KOREC has been affected by survey instrument theft. KOREC Group Chief Executive, Alan Browne shares some thoughts on this worrying problem and addresses the question 'Why aren't the manufacturers doing more?'

Survey instrument theft in the UK is endemic and unfortunately something that's getting noticeably worse if the number of incidents posted on social media is anything to go by. It's also a subject that seems to create more dialogue on LinkedIn and Twitter than any other geospatial topic and one that we monitor closely at KOREC from two different - but definitely not opposing - viewpoints. That's because we are both a supplier of instruments and also a victim of theft. On the one hand, we are handling the 'why aren't the manufacturers doing more?' enquiries and on the other, we are following these incidents carefully as a business that's been affected personally by theft and doesn't wish to fall victim to it again.

Personal experience

Above all, our position is one of empathy for all those affected, especially those who have shared with us first hand just how devastating instrument theft is, not just to the daily running of their business, but also to their customer relationships, staff morale and of course their insurance premiums. One of our customers recently informed us that following several thefts over 2017 they are now confronted with:-

- An insurance company dragging its heels on pay outs
- The knock-on effect of having to hire replacement instruments pending pay outs
- Previous claims resulting in replacements on a 'like for like' policy with a big excess
- Stipulations that no '1 person' work can now be undertaken, diminishing the value of robotic equipment
- Guidelines to purchase less 'shiny' kit to deter further thefts



▲ Tracked and recovered thanks to Trimble L2P technology

continued overleaf...

Stop Press: We are becoming GDPR ready and protecting your data. Renew your preferences for KOREC communications at <http://bit.ly/KORECGDPR>

Competitions, competitions, competitions – last year we gave away Apple goodies including watches and iPads, Amazon vouchers, jackets, tickets to sporting events and of course places on our Stockholm SX10 trip. In 2018 we'll have plenty more prizes up for grabs through our monthly photography competition, customer survey participation, exhibitions and events. Again, full details by following **KOREC** Group on social media.

Shows and exhibitions – Our major outing of the year will be at the GEO Business show in May at the Business Design Centre in Islington, London, on 22-23 May 2018. We'll be supporting Trimble on an even bigger stand and of course participating in the workshop/seminar programme.

Trimble Express events – Kicking off in March, we'll be running a series of Trimble Express roadshows. Our first location will be in Hall Garth Golf & Country Club Hotel, Darlington on the 14th March.

Registration is live at <http://bit.ly/2AFTHYN> ■ ■

Congratulations!

KOREC photo competition winner

Congratulations to Rob Mclean from Archidata Limited who has been selected as the overall winner from our 2017 photo competition with this fantastic image. Rob wins £500 in **KOREC** vouchers and £150 in Amazon vouchers. His photo is also this issue's Mensura front cover shot.

Our 2018 photo competition is up and running and features great monthly prizes. Submit your entries to: www.korecgroup.com/photo-competition/ ■ ■



▲ Our overall winner for 2017. Congratulations Archidata!

New KOREC agreement with GeoSLAM



▲ KOREC is now distributing GeoSLAM's ZEB-REVO handheld scanner

We are delighted to announce that under the terms of a new agreement with 3D mobile mapping technology specialists GeoSLAM, we have become an official distributor of the company's ZEB-REVO handheld laser scanning solutions. **KOREC** will distribute this product throughout the United Kingdom and Northern Ireland.

GeoSLAM specialises in the manufacture and development of "go anywhere" 3D mobile mapping technology, including its ZEB-REVO handheld, lightweight scanner, ZEB-CAM camera, and the recently launched ZEB-REVO RT (real time) scanner. With no requirement for GPS, GeoSLAM technology allows users to rapidly build a highly accurate 3D models within minutes, whilst on the move. It is adaptable to any environment including complex and enclosed spaces, and especially GPS-deprived spaces – such as indoors or underground.

Once mapped, the synchronised ZEB-CAM imagery and ZEB-REVO point cloud data can be viewed in GeoSLAM Hub software - in both 2D and 3D formats. For larger projects, multiple datasets can also be merged. Results are available in all major industry standard formats and users can select from a variety of export options and configurations to enable greater integration with 3rd party post processing software.

KOREC will be supplying the ZEB-REVO system which includes the handheld scanner, data logger and desktop pointcloud processing software, all backed up by **KOREC's** world class support and training. ■ ■

Instrument theft continued from front page...

This customer's report is just one of many that we have received over the last twenty-four months and sadly reflects our own experiences. In recent years we have seen two thefts from our office stores that saw us lose Trimble stock worth over £500k. These thefts were clearly planned and a harsh lesson to us as a business. Inevitably our insurance premiums rose dramatically, we were required to add additional security measures which included CCTV and arranging for all our stock to be stored in cages with strict key holder stipulations and of course with no instruments to hire or sell, our business took a hard financial hit.

The knock-on effect for surveyors and manufacturers alike is that we are in danger of taking a backward step as an industry because there will simply be less adoption of new technology, it just won't be worth it.



▲ A real-time instrument location provided for the police as a result of Trimble L2P technology

Responding to surveyor's concerns

Understandably on social media there has been much criticism along the lines of manufacturers seeing instrument theft as the gateway to an easy replacement sale and therefore doing little to prevent it. I cannot say too strongly, that this is not the **KOREC** way. We do not see instrument theft as just a customer problem, we see it as our problem and an industry problem and we will do all we can to assist in its prevention.

Already, all **KOREC** supplied new Trimble S-Series Total Stations come with L2P tracking technology built in and additionally **KOREC** automatically supplies a free one year subscription to this service. Of all Trimble's distributors worldwide, **KOREC** leads the way in the adoption of this technology and to further assist our hire customers and to protect ourselves, we are also working towards 100% installation on our robotic hire fleet. In short, we are putting our money where our mouth is.

In the event of equipment being stolen, our aim is to provide you with the fastest possible assistance in tracking that instrument. Only last week a **KOREC** hire customer called us to report that following a van break-in, all equipment had been stolen including an instrument from **KOREC's** hire fleet, a Trimble S9. Within 25 minutes of the email arriving we were able to supply the customer with the serial numbers he required for the police and also to answer his query as to whether the S9 had L2P installed. For our part, we logged into the Trimble AllTrak software and were able to provide the police with the coordinates of the stolen S9's location along with a screen grab of its exact position by midday. At 4.00pm we received a call from the police informing us that the S9 had been recovered along with additional stolen goods and that, following a forensic examination, it would be released

back to **KOREC** for checking. This is a particularly encouraging story for the survey industry for two reasons: Firstly, the speed with which the police responded to this incident thanks to having a 'real-time' position for the stolen instrument and secondly, thanks to the recovery of the instrument, no insurance claim has been necessary.

L2P this year alone has been the contributing factor in five different cases of recovered Trimble instruments, several of which included police involvement and consequent prosecutions. Often, these instruments have been recovered within hours of the theft. However, we appreciate that technology isn't a golden bullet. Indeed, our own experiences have shown us that sometimes these instruments can be at an airport and out of the country on the same day as the theft making any UK or Irish location with good communication links a particular hot spot for these offences. The truth is that in many of these situations we are up against organised crime rather than chancers and opportunists.

Whilst very little of this stolen equipment turns up on eBay, the market for second hand survey equipment is another area that needs careful consideration. We hold a list of all product numbers of stolen Trimble equipment which we share around the world with other Trimble distributors. Our advice to anyone thinking of buying second hand equipment would be to call us before any money changes hands to check the history of a proposed purchase. We will then check with other Trimble distributors on your behalf. Inadvertently buying stolen equipment has proved costly for several survey practices in the past.

Wednesday 22 nd November	
9.00	Amey surveyor informs police of theft
10.00	Theft reported to Amey Line Manager
10.45	KOREC receives email from Amey's Survey Manager informing us of theft of hired Trimble S9 and TSC3 and requesting serial numbers from us
11.15	Amey Survey Manager informs police that stolen S9 has L2P tracker installed
12.00	Police call KOREC for coordinates of the S9's position
4.00	Police call KOREC to inform us that the instrument has been recovered

▲ Timeline for a police recovered L2P protected instrument

KOREC can't offer a solution to these problems, we can only offer advice based on our own experiences, a fast response to tracking stolen instruments with L2P technology onboard and of course liaison with the police providing them with as much information as we can for instrument recovery and prosecutions.

It is not just our livelihoods that are under attack from these thieves but also the safety of our engineers and surveyors with some threatened or even hurt. I don't know what the solution is or even if we will ever find one but **KOREC** will continue to share experiences with other manufacturers, with professional organisations such as the TSA who have always taken the theft of survey equipment very seriously and of course with the police in the hope that further prosecutions will take place.

Please do share your thoughts, suggestions and experiences and let's keep this discussion 'live'.

Alan Browne, Group Chief Executive at KOREC Group ■ ■

KOREC Rail

Supporting Trimble at the opening of the National College for High Speed Rail



▲ Matthew Moss (Trimble) and Matthew Lock (KOREC) at the Doncaster opening

At the end of 2017 we were proud to support Trimble during the build-up and televised opening of the National College for High Speed Rail (NCHSR). Special thanks to our **KOREC** support team of Dominic Gregory and Tom Williamson who assisted in creating a 3D scan of the Doncaster college, surveying the track layouts and setting up the displays for the launch of the two campuses, Doncaster and Birmingham.

The NCHSR has also received a significant gift from Trimble to expand its training and research in railway design, construction and maintenance. The gift will establish a Trimble Technology Lab at the new campuses in Birmingham and Doncaster and will include a broad range of Trimble geospatial hardware and software including the Trimble GEDO Vorsys system. **KOREC** Rail will be assisting Trimble where necessary with the training and support of the donated equipment as well as having access to both facilities for meetings, demonstrations, product launches and training sessions. ■ ■

K-Gully adds value for Enviroflow

Delivering a 'value added', intelligence based, drainage program with K-Gully



Enviroflow Management's digital capture of gully data is proving to be a rewarding step forward in the delivery of a 'value added' intelligence based drainage maintenance program on behalf of its client, Calderdale Council.

Value for money, improving processes, efficiency savings and best use of resources are the drivers behind Calderdale Council's recent award of a gully cleaning and maintenance contract to West Yorkshire based Enviroflow Management.

Enviroflow Operations Director Mark Jordan felt that a successful bid would be based on providing Calderdale with 'added value' in the form of a continuous data collection exercise that would enable Calderdale to build up a history of each gully under its care. This would enable the council to develop a proactive gully cleansing schedule based on silt levels and behaviour, rather than one based on habitual maintenance.

However, the success of this approach would be reliant on high quality, accurate data collection, something which would require the council to abandon pen and paper based data collection – a process which was time consuming and lacked detail and positional accuracy – in favour of digital data collection.

Whilst Mark had researched and trialed various mobile GIS data capture systems previously, he had found their complexity to be more suitable for engineers than Enviroflow's gully cleaning operatives for whom data collection was a secondary rather than primary task. However, during a more recent search for a system, Mark had contacted KOREC. The KOREC team had recently released K-Gully, a full, gully recording and reporting system designed specifically to tackle the challenges of the drainage cleansing and maintenance market by taking into account the requirements of client and contractor alike.

The K-Gully system comprises a handheld Trimble GNSS with K-Mobile data collection software on-board designed to fulfil the contractor's data collection obligations and a

K-Gully portal which allows logged in Calderdale staff to visualise, manage and interrogate the Enviroflow collected information.

In the field

Mark felt that the data collection side of the work would be key to the success of the overall project. K-Mobile was selected because the form could be easily customised to provide drop down menus and tick boxes that would ensure the integrity of the data collected. A typical record would include two types of information. Firstly, an accurate GNSS recorded position backed up by descriptive location information, all selected from picklists such as the street and ward, and secondly, all the relevant attribute

information required to build up an individual gully's history. This could include silt levels, cleansing dates, defects, a geotagged photograph etc. Additionally, if a gully was deemed to have a dangerous defect, the K-Mobile software would automatically email this information to Calderdale for immediate action. Otherwise collected data could be synchronised at any point during the day and sent via the cloud. This would ensure that Calderdale received automatically generated daily progress reports and overall project reports without having to wait for Enviroflow to generate them.

During the one month trial an Enviroflow drainage team was equipped to undertake the data capture with a

"K-Gully delivers accuracy, a high quality of data and evidence of work done."

Mark Jordan,
Enviroflow
Management

KOREC supplied rugged Trimble Geo7 handheld GNSS capable of cm accuracy. Designed to withstand the daily rigours of use in an outdoor environment, the high accuracy of the unit ensured that the council had complete confidence in the positional data collected.

In the office

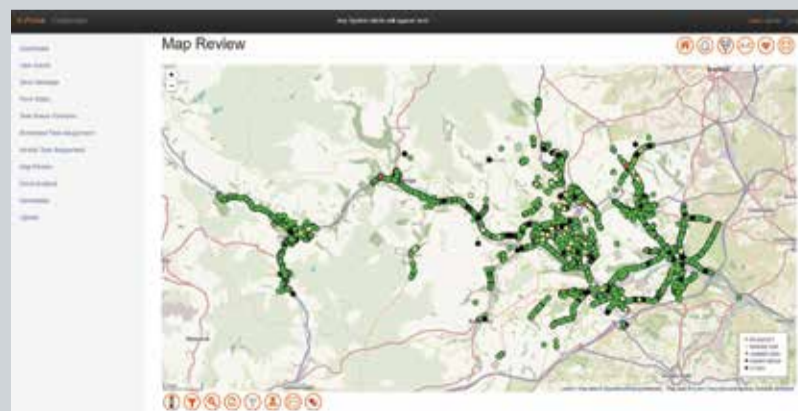
Back in the office the K-Gully portal aspect of the system allows Calderdale Council staff full visibility of the history of each gully as a separate inspection record, almost as it happens. Via the portal, logged in staff can use the system to assign new jobs (and send them via the cloud to Enviroflow field operatives), monitor existing projects and produce high quality informative reports. If a blocked gully is reported, staff can use the Google maps and StreetView function to assess the area around the site for details such as over grown vegetation, potential invasive roots or if traffic management is required to undertake work. The system also includes a 'raindrop' button to alert field operatives if a storm is imminent in their area so that they can react to local weather conditions.

"Accuracy, evidence and quality"

Following the success of the one month trial, Enviroflow was awarded the Calderdale gully cleansing and maintenance contract and the system is now in daily usage. "K-Gully is a system designed specifically for this type of work," explains Mark Jordan. "Calderdale Council has a tight budget but we can help them meet their key performance criteria with this solution. By building up a history of each gully, the cleansing schedule can become 'intelligent' with work based on need rather than habit, for example, gullies prone to high silt levels can be placed on a 3 month schedule rather than a 12 month one. Using K-Gully we can also provide Calderdale with complete visibility of the work done by our field crews through K-Portal."

Mark continues, "The K-Mobile on-board software offers extensive functionality and yet it couldn't be simpler to use. For us this was a key requirement. Our operatives were up and running without the need for any specialist training beyond a short phone call to get them started and rarely have problems.

"What's particularly impressive is that they are carrying out a major data collection project collecting highly accurate, attribute rich data and yet the impact on their primary job function has been minimal. They feel more involved with the work they are doing and that in itself brings rewards. K-Gully delivers accuracy, a high quality of data and evidence of work done. For Calderdale Council and ourselves, that's a win, win situation." ■ ■



▲ Interactive maps and dashboards – project progress can be easily visualised and interrogated



Product Focus

Trimble R10 GNSS

Since its launch in 2012 the R10 has proved to be one of **KOREC**'s best selling products. It's generated more **KOREC** case studies than any other Trimble instrument and provided us with a CES magazine front cover photograph that became recognisable across the world.

But what do **KOREC** customers value most about their Trimble R10's performance? Of course there are honourable mentions for all the R10's patented technologies including:

- Trimble CenterPoint RTX delivering GNSS corrections via satellite or internet connection with unprecedented speed and accuracy for a PPP solution
- Trimble xFill ensuring less downtime in the field, with continuous RTK coverage during connection outages from an RTK base station or VRS network
- Trimble SurePoint fully compensating for pole tilt for the convenient measurement of points that were otherwise inaccessible with complete quality assurance

But coming in at number 1 is the R10's cutting edge Trimble HD-GNSS processing engine which simply enables surveyors to measure points more quickly!

Why the R10's HD-GNSS processing engine makes it the industry's turn to GNSS solution

Trimble has a strong history of in-house development which is why we have HD-GNSS, the 'quiet' hero of the R10. In keeping with Trimble's ability to produce systems aimed specifically at the needs of the land surveyor, the HD-GNSS processing engine of the R10 provides markedly reduced convergence times as well as high position and precision reliability when compared to earlier processing engines, especially in poor GNSS environments. Key benefits Trimble HD-GNSS delivers include:

- Increased initialisation speed
- Improved real-time measurement precision
- Elimination of the possibilities of a "bad fix"
- Increased reliability of precision reporting
- Reduced post processing complexity for the user

The R10 is based around the Trimble Maxwell-6 custom integrated circuit technology for GNSS signal processing RTK calculations are performed in the R10 with a microprocessor that has more magnitude and is more powerful than anything before it and also more energy efficient. The shift to this new methodology makes it possible for Trimble to continue to improve performance as GNSS constellations develop.

Fully scalable through firmware and software updates, HD-GNSS is well positioned to take full advantage of additional GNSS satellites and signals to further improve surveying in increasingly demanding field conditions.

All this is possible because, unlike most other providers of survey grade GNSS, development is in-house and fully under Trimble's control allowing the company to meet a very specific set of requirements, namely those of the surveyor in the field.

Download the Trimble HD-GNSS white paper at <http://bit.ly/2CsCY0K> or call your **KOREC** survey consultant for a demo. ■ ■ ■



Technical news

Training

Trimble Business Center course: We are booking now for a 3 day training course running in Huntingdon from 20th – 22nd February. The course is open to anybody to attend and costs £450+VAT for the three days. It will cover all main aspects of TBC including traverse adjustment, draughting and GNSS data processing.

Total Station firmware

There is new firmware for all S-Series and VX instruments. Visit the Total Station page at <https://geospatial.trimble.com/products-and-solutions/total-stations>, select the applicable instrument and then choose downloads.

S5, S7, S9, S9HP Instruments

S3, S6, S8 & VX Instruments

GNSS Firmware

Version 5.32 firmware update is available for the following receivers with a warranty expiration date of June 2017 or later..

Trimble R10, Trimble R8s

Trimble R8 Models 3 & 4

Trimble R6 Models 3 & 4

Trimble R4 Models 2 & 3

Trimble R2.

For best results, users should upgrade to Trimble Access 2017.10 or later when using Survey GNSS Receiver Firmware version 5.32.

Catalyst / Trimble Mobile Manager Update

An update for Trimble Mobile Manager (TMM) for Catalyst is now available. This update includes a number of improvements and enhancements including local datum support and the inclusion of more detailed position metadata through the Android location API for applications accessing Catalyst via location sharing. Download the latest Trimble Mobile Manager from the Google Play Store.

RealWorks Updates

Please install the latest version of RealWorks 10.4 to take advantage of recent fixes concerning the transfer to AutoCAD function, plus other updates. ■ ■ ■

Careers with KOREC

Ever wondered what it would be like working for **KOREC**? You can get a taste of **KOREC** life at www.linkedin.com/company/328211/life/

We're always interested in talking to people who feel they could make a great contribution to **KOREC** and fit into a culture that promotes hard work but with lots of fun. Current opportunities can be viewed at www.korecgroup.com/opportunities/



▲ The KOREC team enjoying a staff day in Dublin



KOREC Monitoring

Our real-time monitoring installation at **KOREC** Huntingdon has been running faultlessly since early September 2017.

The system comprises a Trimble S5Ti-M monitoring total station connected to a Settop M1 communications hub continuously sending data to Trimble 4D Control software via a SIM card. The equipment was set up and geo-referenced from scratch in just a few hours including creating the custom images used in the web-based viewer software, T4D Control Room Web.

The icon driven software is intuitive to use and a variety of alarms, reports and charts can be created in a very short time including the extremely useful Composite View, which shows all the data you need at a glance.

Because the software is web based, the information can be easily accessed via your smart phone enabling you and your clients to keep track of your monitoring projects wherever you are.

If you would like to know more about how Trimble's monitoring solutions can benefit your business, please do get in touch with Matthew.lock@korecgroup.com ■ ■ ■

◀ Access monitoring data via your smartphone

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

T: **0345 603 1214**

IRE: **01 456 4702**

E: **info@korecgroup.com**

www.korecgroup.com

Stay in Touch

