

Case Study

Customer:
TP Knotweed

Project:

Defeating knotweed with high accuracy GNSS

Solution:

Trimble R10, Trimble Catalyst and K-Mobile software



Tackling knotweed with high accuracy GNSS

A combination of two Trimble GPS solutions, the R10 Receiver and Trimble Catalyst (a unique subscription-based GPS solution), are part of TP Knotweed's plans to produce the fast 'no risk' knotweed removal quotes that their clients need to tackle the problem of invasive species swiftly.

Aggressive, destructive, relentless, Japanese Knotweed is the most invasive plant in the UK and remains a major problem for the construction industry. It damages concrete and tarmac, it undermines foundations, compromises property sales and delays building projects. It's also costing the country millions to remove (clearing it from just 10 acres of park for the London Olympics in 2012 cost more than £70 million) which means that commercial enterprises dependent on its effective removal want a fast, high quality and above all guaranteed service to do exactly that.

Based in Oxfordshire, TP Knotweed Solutions is the brainchild of founder and Managing Director, Tom Payne, who started the company in 2011 with his student loan. From day one, his focus was on providing clients with clear facts, simple solutions, and a fast and efficient service

and he realised quickly that a preparedness to invest in greater efficiency through technology – whether that be CRM, van trackers or new apps etc – would aid his company's expansion.

When competition in the industry stepped up, pushing prices down, he was quick to look at how technology could streamline one of the most challenging aspects of his business, namely the ability to provide his clients with fast, accurate, and above all 'no-risk' knotweed removal quotes. Tom decided that the best way to tackle the problem would be through the fast turnaround of cm accurate surveys of the sites and infected areas.

Eliminating risk through accuracy

Removal of Japanese knotweed can be a costly process with rhizomes growing as deep as 2-3m in depth and up to 7m

across. Additionally, the plant can regenerate from the smallest pieces of stem or rhizome so complete removal is imperative. Traditionally, the company's removal estimates were based on site surveys carried out by the in-house survey team who were equipped with laser measurers, road wheels etc. The accuracy of these measurements was vital because an estimate that was slightly under or slightly over could either cost TP Knotweed

thousands of pounds or bring in unexpected additional costs for the client.

“As a company we are always looking forward...new ideas...what's next...what's better? Our investment in the KOREC supplied Trimble systems is an important extension of this approach.”

Tom Goodman
TP Knotweed

Each site survey therefore required the very accurate recording of any boundaries, infected areas, stockpiles, trees, elevations etc. Although their existing manual methods produced fairly accurate measurements, they could only be achieved through time consuming checks and by combining different measurement methods which meant there was

always an element of risk with the added drawback that extremely large sites simply weren't feasible. Tom therefore worked closely with the company's Contracts Manager, Tom Goodman, who was also a trained surveyor, to find a more efficient method. Their aim was to find a survey solution that would enable them to carry out fast, high precision surveys on a range



▲ Knotweed can grow 2-3m in depth



▲ Airside at Luton Airport using Trimble Catalyst

of site acreages and have full confidence in the quality of the data collected.

Matching sites with systems

Following extensive research on available survey solutions and advice from Trimble distributor, KOREC, Tom Goodman felt that an excellent starting point would be Trimble's pole mounted R10 GNSS with the new TSC7 controller running Access on-board field software. Whilst the R10 offered proven technology, cm accuracy and reliability in the field, the functionality of the TSC7 brought a number of additional benefits that would be key to speeding up site/office communications and improving data flow with the Banbury office in general. The Windows 10 operating system allowed for easy access to vital office tools such as the company CRM, databases, DropBox etc whilst the TSC7's 7" screen was of sufficient size for the surveyors to produce reports on site as soon as the survey work was completed. The completed survey could then be sent wirelessly from the field for the fast production of a CAD drawing and quote, all part of the full client remediation package.

Tom G felt that the pole mounted R10 would be perfect for the larger projects that often required two to three days on site and the collection of a wide range of features including invasive plant infestations, site development boundaries, vegetation and ground investigation points along with any stockpiles that would have to be

removed. Additionally, by using the R10 alongside the TSC7, TP Knotweed's surveyors could accurately calculate stockpile volumes by creating multiple surface layers and importing these into their CAD systems.

For smaller sites, Tom considered Trimble's low-cost Catalyst 'GPS as a service' system to be a better option. Catalyst is GPS software that runs on an Android smartphone or tablet. A small, lightweight Trimble antenna is then plugged directly into the phone or tablet and users can select from a range of monthly subscriptions based on accuracy.

In this case, cm accuracy was selected for all the knotweed applications and Catalyst was used in conjunction with Samsung smartphones running KOREC's intuitive K-Mobile data capture software. The Catalyst system is quick to set up and easy to use making it ideal for fast turnarounds on smaller sites.

The company therefore purchased two R10 / TSC7 systems and three Catalyst systems from KOREC.

Tom G reports that the systems are in use every day and that the quality and quantity of information they are collecting is proving vital for another of the company's aims, to build a UK wide shareable database of knotweed contamination.

All the TP Knotweed surveys are registered to Ordnance Survey National Grid using the OSTN15 transformation whilst standardised codes are used to ensure uniformity across the company. However, the main benefit of the new systems lies in the elimination of risk for

both themselves and the client.

Preparation for the future

For TP Knotweed, one of the advantages for the future lies in the structure of the company that sees a qualified surveyor in the role of Contracts Manager. Tom Goodman is already working closely with Managing Director Tom Payne and the rest of the TP Knotweed team to look at how clients can extract further value from the collected data. The company has already purchased a drone for aerial mapping and is considering further expansion into remediation work and investment in the remediation fleet to include bigger excavators equipped with GPS machine control/guidance systems.

Contracts Manager Tom G concludes, "Accuracy is paramount for our applications. If a measurement is slightly out and consequently a site plan incorrect, it can cost us tens of thousands of pounds if we are not quoting correctly. Having a choice of the R10 or Catalyst systems means that we can have cm accurate measurements on every site. This also puts our work on a par with our clients. If they have an existing topo survey, we can overlay our surveys on to theirs as additional proof of accuracy which brings piece of mind for the client that our quote will be as accurate as possible. As a company we are always looking forward... new ideas...what's next...what's better? Our investment in the KOREC supplied Trimble systems is an important extension of this approach."

Many thanks to Tom Goodman for supplying the information and photographs for this case study. www.tpknotweed.com



Contact us:

Please do get in touch for further information on any of the products or services mentioned in this case study, a demonstration, support or just a chat about your requirements.

T: 0345 603 1214
E: info@korecgroup.com
www.korecgroup.com