

CUSTOMER
Three Sixty
Group

PROJECT
Surveying five
residential holiday
parks

SOLUTION
Trimble R12i GNSS and
TDC600 Data Logger



Neil Pollock with the Trimble R12i GNSS

CASE STUDY

Staycation boom!

The rise in demand for domestic holidays has presented the Three Sixty Group with some interesting measurement challenges following a contract to carry out a topographical survey of five residential holiday parks in Cornwall and Devon.

Tight travel restrictions have created the highest level of interest in UK domestic holidays for decades with VisitBritain predicting that home tourism spending will reach £51.4bn this year, up 51% on 2020 (although this is down on 2019 levels due to the lockdown). Consequently, investor interest in areas such as holiday parks is high with owners and developers alike wanting to know exactly where their assets are located and what they entail.

In particular, following the purchase of a number of holiday parks in the Cornwall and Devon area, Enzygo and Park Holidays wished to establish exactly what its investment covered to better understand each and every asset for valuation, development and maintenance purposes. With site survey information for these recently acquired parks either non-existent, incomplete or out of date the company contacted the Three Sixty Group to undertake a full topographical survey of the locations in question.

Challenging sites and a tight schedule

With head-quarters in North East England, the Three Sixty Group operates nationally through an expanding network of local offices and is known for its wide ranging expertise and commitment to innovative technology. These factors made it an ideal choice for the surveys of the five holiday sites and the challenges they presented, namely:

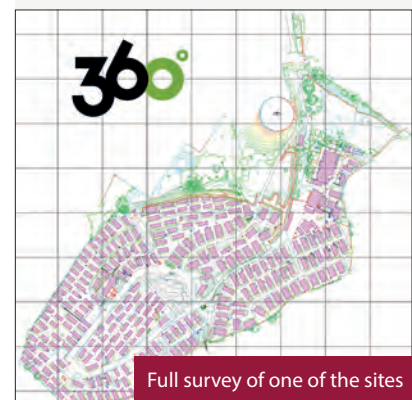
A limited time period of just eight weeks in which the survey work could be carried out before the start of school holidays.

The scope of the survey and level of detail required including the accurate position of every static caravan and chalet and all the attendant utilities for each plot, usually located alongside the edge of the homes. Sites were typically fifty acres in size with around three hundred plots on each.

A beautiful, natural environment which meant that the sites were often in remote locations, surrounded by trees and dense vegetation.

Trimble R12i benefits

1. Total confidence - the data collected, even under trees and close to caravans was always accurate
2. Speed – estimated time savings of 40%
3. Working to a tight schedule - using the R12i has enabled Three Sixty to deliver a finished survey to the client far faster than anticipated
4. Light-weight system – truly appreciated when covering 3-4 miles daily
5. Easy to use and 100% reliable – eliminates all the usual GPS concerns such as tree coverage and speed of initialisation
6. No base station required - 100% reliable with VRS Now real-time correction service



Full survey of one of the sites



Combined aerial imagery and survey data

The extent of the sites which could require three to four miles of walking each day with heavy instruments.

Under the guidance of Three Sixty Group Managing Director, Paul Henzell, a specification for the job was drawn up with the company deciding that the bulk of the work would be undertaken by drone. However, with the variety of assets to be recorded and the heavy tree canopy on most of the sites, Paul was concerned that the additional information required to infill the areas that the drone data could not cover might prove extremely time consuming to collect if multiple total station set-ups were required in any areas where a GNSS lock could not be achieved.

An innovative solution

The Three Sixty Group had recently acquired two Trimble R12i GNSS System from UK distributor KOREC and Paul, along with Director Neil Pollock, felt that this was the perfect job to make full use of the R12i's two tried and tested technologies. Firstly, Trimble ProPoint which can process multiple constellations and signals for a superior performance (around a 30% gain) in degraded GNSS conditions such as under tree cover and up close to the sides of the chalets and caravans and secondly, Trimble's no-calibration TIP Tilt compensation. This technology avoids the need to plumb the pole for every measurement, again particularly useful in this case for recording utilities near the chalets and caravans where it would be time consuming to ensure the pole was always vertical.

To complete the system, the R12i GNSS would be used with TrimbleTDC600 data loggers running Access software. These elements combine to make one of the lightest systems on the market, ideal for the Three Sixty Group surveyors covering several miles a day. Corrections would be achieved through

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“Simply, we could not have completed this job within the time scale without the Trimble R12i”

Paul Henzell,
Managing Director

“ The Trimble R12i has shaved days, if not weeks from the survey time of this project. ”

Paul Henzell, Managing Director

Trimble's VRS Now real-time service which would allow Paul and Neil to save the site time it would have taken to set up a base station and also remove any risk of a base station being moved or stolen.

Changing attitudes to GNSS

Following the project's completion, the aerial imagery and R12i GNSS and S7 Total Station data were combined to create a single, comprehensive, topographical survey with additional plans and elevations of any buildings.

Paul Henzell concludes, "The R12i has shaved days, if not weeks off this project and we simply couldn't have delivered the data within the tight time schedule without it. On average, we estimated a 40% time saving each day and that's at a period of the year when tree cover is at its most dense. We've been able to cut use of our Trimble S7 Total Station to the bare minimum and that's also saved us extensive time in avoiding set ups. This was particularly in evidence when we were recording the positions of the static caravans which are often in a fan formation. In short, the technologies within the R12i have completely changed our attitude and approach to surveying with GPS - we're now using it in conditions that we would never have considered previously and we are massively more efficient in the field."

Three Sixty Group completed their work with one final piece of innovative technology. They used their Trimble X7 3D Laser Scanner to survey the site club houses.

Our thanks to Paul Henzell, Managing Director and Neil Pollock, Director, Three Sixty Group, for supplying the information and images for this case study. The company now owns four Trimble R12i GNSS. www.360hq.co.uk

The Trimble R12i - two stand out technologies:

- Trimble TIP Tilt Compensation Technology - offering calibration-free Inertial Measurement Unit based tilt compensation with immunity to magnetic interference. Ideal for easily obtaining accurate measurements on obstructed points like building and property corners or utility inverts and of course for staying out of harms way
- Trimble ProPoint GNSS Technology - bringing increased accuracy, reliability and productivity near tree canopy and a robust performance in urban environments.

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.

(UK) 0345 603 1214

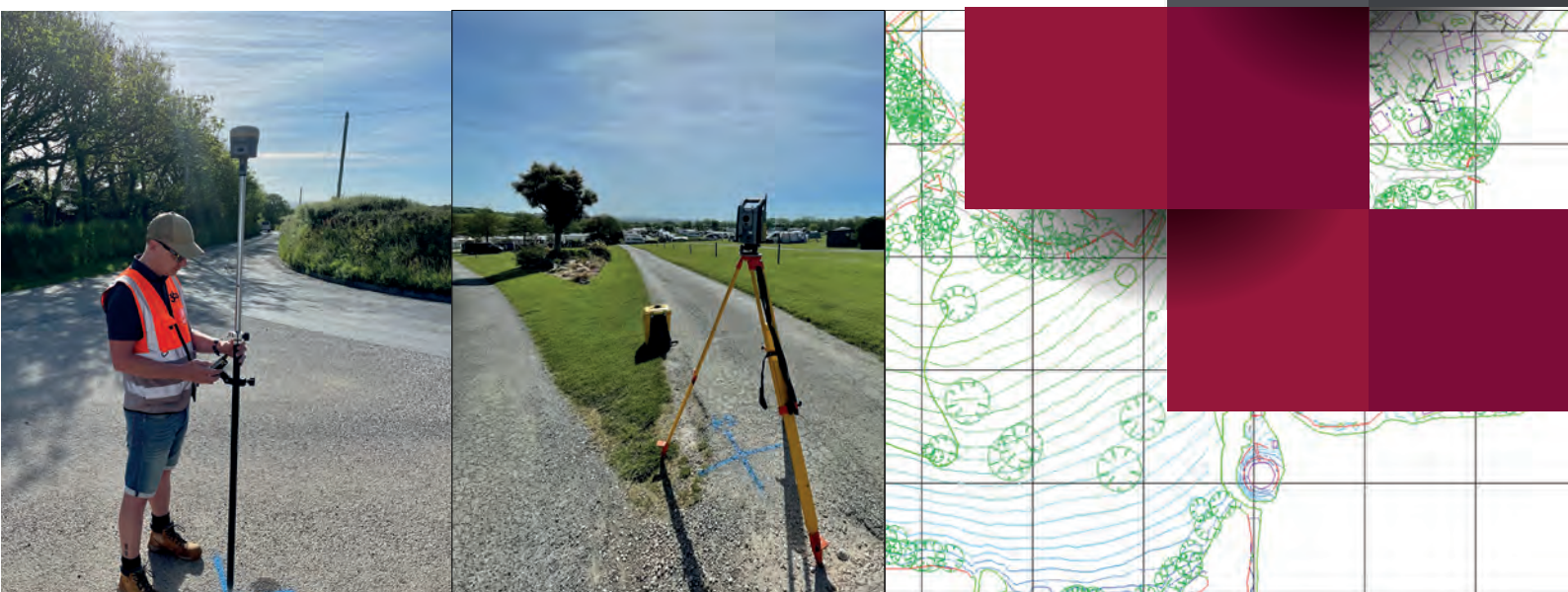
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Neil Pollock with the Trimble R12i GNSS

Trimble S7 Robotic Total Station

One of the finished drawings