

✔ The recently released C-Astral Bramor rTK UAV is now available to buy from Synergy Positioning Systems.

The BRAMOR rTK UAV utilises innovative, industry leading rTK technology and is ideally suited for surveying and remote sensing applications that need a quick and industry leading high precision set of results down to centimeter level also in the absence of a grid of ground control points.

To find out more about the C-Astral Bramor rTK UAV and rTK technology visit the Synergy website or call us directly on 0800 867 266.



# SYNERGY™

SURVEY TECHNOLOGY AT WORK

Autumn 2015

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# Synergy Specials!



5 Year Warranty



➤ Topcon RL-H4C Laser

Laser with Tripod & Staff

Topcon RL-H4C high power auto levelling laser but with added millimetre detector. Includes Free Tripod and 5m Staff.

RRP \$2,015 **\$1,495 + GST SAVE \$520**

5 Year Warranty



➤ Topcon RL-SV2S

Dual Slope Laser with Tripod & Staff

Multi-purpose dual grade rotating laser. Designed for multiple tasks and ideal for both sloping and vertical applications!

RRP \$3,340 **\$2,995 + GST SAVE \$895**

Less than 1/2 price!



➤ Topcon LS-80L

Topcon LS-80 Laser Sensor

Offers alerts for heights, out of range & low battery situations. Providing exactly the information needed at the levelling staff.

RRP \$595 **\$279 + GST SAVE \$316**

## ➤ Multi-machine control's a winner for BG Contracting

Progressive Christchurch construction firm BG Contracting takes on a wide variety of roading, drainage, general earthworks and surveying work. No two projects are quite the same, with a multitude of disciplines requiring various skills and machinery the company has in its possession.

One increasingly uniform aspect of the BG Contracting heavy equipment fleet though, is the company's use of machine control technology on a number of different machines in order to help capture best-result accuracy, project speed and staff efficiency.

"Honestly, I could see machine control technology almost doubling our production rates within the first few weeks of adopting it," says BG Contracting general manager Stephan Rattray.

"We were also motivated to eliminate rework and this technology ensures that what is done is paid: no more, no less. Having the ability to build the job to a 10mm precision with the GPS machines ensures we do just that."

"On straightforward tasks such as constructing services trenching, it's all about position and height. With machine control providing all the data, key parameter information is right there for the operator in the cab. That means there's no need for a guy with a level standing in a hole; he can go off and be utilised elsewhere."

Stephan says that the technology has essentially freed up the company's in-house surveyor to allocate more time to data management.

"Our survey team manager, Jason Bastings, has totally embraced this tech and has effectively grown his team to include the machine operators. Thanks to Topcon's Sitelink3D system, which we're in the process of establishing, the machine operators are able to perform setout without Jason needing to leave the office"

"We've been involved in a lot of landscaping work lately where we're shaping bunds; machine control effectively means we're not relying on pegs everywhere. We still peg everything out when it comes to kerb and channel work, but the way this technology is going it probably won't be long before the same GPS technology is available for this task too."

To say the company has been involved in plenty of landscaping work lately is a bit of an understatement, with work completed on a huge variety of green- and brown-field development around Greater Christchurch, including the Izone Business Hub and Faringdon residential subdivision, both in Rolleston; the Halkett Grove subdivision in West Melton; and the large scale Tait Business Centre Campus where carparks, roading and services to a variety of infrastructure were required.

Topcon machine control technology played a vital part at each job site.

Ask Stephan if there was any initial hesitation from BG operators in adopting machine

control systems on the gear, and his answer is unhesitating.

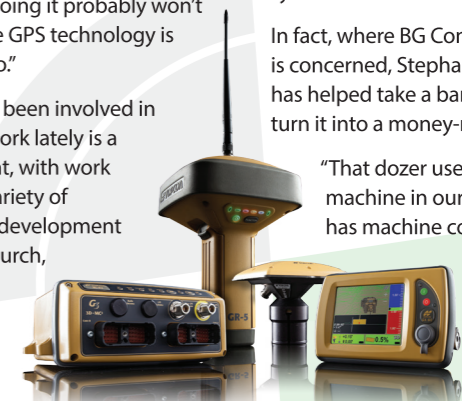
"Quite the opposite actually: we've got a lot of young guys on staff and, rather than any reluctance, as soon as they saw what the technology could achieve and how simple it is to use, they were all asking 'Where's my one?'"

What began with one trial unit on an excavator has expanded to include seven Topcon machine control units, including four on excavators and two on graders, as well as a Topcon 3D-MC<sup>2</sup> system on a dozer.

In fact, where BG Contracting's Deere 450j dozer is concerned, Stephan reckons the technology has helped take a barely-used piece of kit and turn it into a money-making machine.

"That dozer used to be the least used machine in our yard, but now that it has machine control on it, we're using it constantly. We utilise it for trimming the kerb base, trimming sub-grades... there's always a use for it. It's good that we can get more out of it as a result."

So after almost seven years utilising machine control systems, Stephan and his team are certainly sold on the benefits the robust and accurate technology offers. Adaptable systems from Topcon for a variety of heavy equipment are proving themselves worthy investments across the busy Canterbury construction scene and beyond.



➤ Want to know more?

See the full range of Synergy products and services online [www.synergypositioning.co.nz](http://www.synergypositioning.co.nz)

- ✔ Auckland 0800 867 266 or 021 877 037 3/52 Arrenway Drive Albany, Auckland info@synergypositioning.co.nz
- ✔ Hamilton 0800 867 266 or 027 886 5819 info@synergypositioning.co.nz
- ✔ Wellington 0800 867 266 or 027 720 0023 info@synergypositioning.co.nz
- ✔ Christchurch 0800 867 266 or 021 877 546 Unit 6, Jade Court 211 Ferry Road, Christchurch info@synergypositioning.co.nz

Free call 0800 867 266 info@synergypositioning.co.nz www.synergypositioning.co.nz



web: [www.synergypositioning.co.nz](http://www.synergypositioning.co.nz)

email: [info@synergypositioning.co.nz](mailto:info@synergypositioning.co.nz)

phone: 0800 867 266

## ➤ Topcon accepts Wichmann Innovation Award for LN-100



**Topcon Positioning Group announces it has won the Wichmann Innovation Award for best product or best application.**

The Wichmann Award is awarded annually by an independent jury of leading geospatial professionals at the Intergeo trade fair in Germany. Selected first place out of nine nominations, the Topcon LN-100 one-operator layout system was chosen with the criteria of "innovation, user-friendliness and practicality" in mind.

"The current acceleration of BIM implementation combined with the necessity for easy-to-use precise positioning solutions that the LN-100 offers, made the Topcon choice a clear winner," said Ian Stilgoe, director of geomatics for Topcon. "The unique features such as



self-leveling, seamless data workflow from design to the field and simplicity of operation were obvious user benefits.

"By removing the unnecessary and to some 'intimidating' features of a robotic total station, the LN-100 delivers an ideal dedicated instrument reducing the learning curve for layout and quality control measurement tasks," said Stilgoe.

This is the third year the Wichmann Innovation Award has been bestowed. "I look forward to next year's competition where we will once again demonstrate how Topcon innovative solutions improve productivity and quality of its customers projects," said Stilgoe.



## ➤ Topcon MAGNET Office arrives in New Zealand.

**Synergy Positioning Systems is well known for helping clients gain a detailed bird's eye view of wider scale landforms thanks to their continued use and development of cutting-edge UAV technology.**

But thanks to Topcon, the Synergy Positioning team is also set to give their many survey professional and civil infrastructure clients a detailed bird's eye view of any job site as well, thanks to the all-encompassing Topcon MAGNET Office software.

Specifically developed by the world-leading geospatial measurement tool manufacturer, Civilcad MAGNET is CAD software developed exclusively by Topcon to provide a toolbox of real time desktop survey and drafting solutions for surveyors, heavy highway construction and earthmoving entities.

Civilcad MAGNET is a total package, working seamlessly with other Topcon work site management software such as MAGNET Field, MAGNET Enterprise and SiteLink3D. Together the multiple modules available to site managers utilising the software provide for an absolute 360 degree view of all aspects of any work site, allowing for cleaner data, real time results and faster answers for stakeholders, as well as a safer and more efficient working environment – both out on-site and in the office.

Civilcad MAGNET supports all surveying and construction applications, is fully 3D machine control compatible and offers full road design and resurface functionality. The system works with project files that can contain all survey data, raw data, surfaces, roads, drainage designs and drawings. The system even acts as a file store for archive projects.

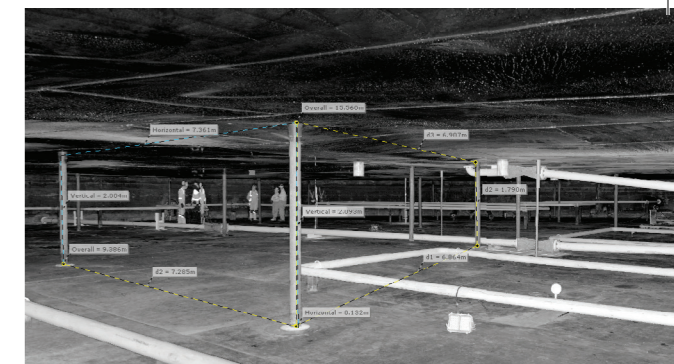
Offering comprehensive editing capabilities, Civilcad MAGNET also enables the easy reprocessing of survey data and is endlessly customisable to suit individual client or project needs.

Did we mention bird's eye view? With Topcon Civilcad MAGNET, you don't have to leave the ground to see the entire picture all at once.

Topcon MAGNET Office is available in New Zealand exclusively through Synergy Positioning Systems from November 29. Contact the Synergy consultancy team for more information.



## ➤ From historic ruins to demolition sites, Opus trusts in FARO technology



**From archaeological dig sites in historic areas to tank deformation reporting for the oil and gas industry, to scanning subterranean tunnels and monitoring structural integrity in major demolition works: the FARO Focus3D X330 is helping Opus do it all.**

Graham Watson, Senior Engineering Surveyor for Opus International Consultants says that FARO's Focus3D X330 laser scanner has proven itself both trustworthy and in high demand on a number of different projects for Opus.

"Prior to the X330 we hired a FARO S120 through Synergy Positioning Systems," says Graham.

"The hire unit worked well for us at the time, but we could see the increase in demand for this technology as an ongoing part of our operation, so we decided to invest in the new laser scanner when it arrived on the market."

Graham says the majority of Opus' work with the X330 is within the short-to-medium scanning range. The nature of a lot of the consultancy's work means that scan detail from confined environments or engineered surfaces is required. So to this particular entity, a 50m scan is more relevant than a full 300m scan.

"The main impetus to even start using the laser scanner was when we began monitoring storage tanks for the oil and gas industry," says Peter Troon, Opus New Plymouth's Survey Team Leader.

"We perform regular checks of the tanks and utilise the laser scanner to record against existing data for signs of tank deformation. We're looking at the health of the steel in the structure,

completing verticality checks of the walls and scanning the tank floor as well."

While oil tanks are one interior the X330 is used in to ensure there are no unexpected changes to the structure, another interior environment being scanned regularly nearby is constantly changing: the large scale demolition project at the decommissioned New Plymouth power station.

"Naturally the environment at the power station is a hazardous one," continues Peter. "There are a lot of structural elements to consider and a lot of these elements are actually suspended from the ceiling, so the dismantling happens from the bottom up."

"We started structural stability checks with the laser scanner last year, spending five full days on-site initially. This sort of work is ongoing and we work with the contractors to go back in as separate sectors of the site are demolished."

In Christchurch, Graham Watson says that the FARO Focus3D X330 has also recently been used to scan some sites of archaeological importance at Lyttelton.

With the scanner Opus was able to record the position of the original footprint of the Lyttelton Borough School (1875) which was unearthed by Opus archaeologists.

"I can see the laser scanner being utilised for this sort of archaeological work more and more in the Christchurch area as the city's rebuild continues and developers strike sites of potential historic significance," says Graham, who adds that Opus has been very pleased with both the robustness of the FARO unit and the technical back-up they've received from FARO distributor Synergy Positioning Systems.

"The technology that's built into laser scanners like the FARO Focus3D X330 represents a huge step in our industry," concludes Peter Troon.

"It comes in a small, portable package but I think the likes of the X330 represents for scanning what the total station represented for surveying 20 years ago. It's fantastic to be able to utilise a tool of trade like this."



## ➤ Faro Freestyle now available for pre-order

**Synergy Positioning Systems announces the release and availability for pre-order of the innovative Freestyle3D Scanner from FARO Technologies.**

The FARO Freestyle3D is a top-quality, high-precision, handheld 3D scanner that can be used independently or in conjunction with the Focus3D scanner. It quickly and reliably documents rooms, structures and objects in 3D and creates high-definition pointclouds. With unbeatable precision it is suitable for all applications in which installations or properties must be quickly measured from various perspectives.

The applications of the FARO Freestyle3D are diverse and range from construction to industrial production and forensics. Thanks to its lightweight carbon fibre body, the handheld scanner weighs less than 1kg and is extremely portable and mobile.

To find out more about the innovative FARO Freestyle3D Scanner, click here or for pricing information, call Synergy Positioning Systems directly on 0800 867 266.

