

Topcon RD-MC Offers Ultimate Milling & Paving Solution

Synergy Positioning Systems remains at the forefront of technology solutions for the roading infrastructure industry, with the launch of new intelligent paving and milling technology from Topcon.

Following its debut to bauma2016 in Germany, Topcon's RD-MC control system has now arrived in New Zealand.

"The Topcon RD-MC system is probably the most comprehensive amalgamation of hardware and software solutions for mainline paving or milling projects that we've ever brought to market here," says Mike Milne, Synergy Positioning Systems' Managing Director.

Instead of using robotic total stations, the RD-MC system uses GPS in conjunction with a sonic sensor to continually measure the paving depth. This way of working comes into its own when the project calls for a mill-and-fill approach, as the RD-MC system accurately compensates for an uneven sub-surface and differential compaction."

The system allows road crews to load a 3D design into the RD-MC system, complete a pick-up of the existing surface and then lay new asphalt precisely to specification thickness along lengthy stretches of road or runway.



The Topcon RD-MC (Real Dimensional Machine Control) system works by utilising the processing power of four key elements; an ST-3 Sonic Tracker which delivers real-time vertical measurements using advanced digital signal processing; an MC-R3 GNSS (Global Navigational Satellite System) receiver which is interchangeable with integrated GNSS, radio and controller to receive RTK corrections; an MC-G3 GNSS antenna to capture available GNSS satellite data; and a ruggedised GX-60 control box and touchscreen display from where the operator controls either the milling machine or the paver.

Using a hybrid approach with several solutions rolled into one, the Topcon



RD-MC control system will save roading contractors time, reduce the amount of equipment required and allow crews to accurately achieve the high level rideability specification desired by regulatory authorities, even on the most demanding rehabilitation projects.

More information on Topcon's range of specialised 3D machine control systems can be found at www.synergypositioning.co.nz

Texco Group Roll Out Topcon Machine Control

The combined operations of Christchurch based Texco Group undertake the general subdivision and commercial work of a civil contractor, but also specialise in work from the ground level down, including foundation piling, dewatering, sheet piling, wells and basement excavation.

Texco initially purchased a GPS rover in 2013 to use for set-out and as-built. After seeing the benefits of the technology, contract manager Jason Smith researched machine control systems and recommended Topcon because of its ease of use and the support and training offered by Synergy.

"Installation went smoothly," he says. "Each machine was transported from the field to our workshop facility where Synergy Positioning Systems technicians – aided by our workshop staff – installed the required componentry on each machine."

Texco operators range in age from their 20's to 70's, with differing experience levels when it comes to using technology. It was therefore important to the company that any training was practical, hands-on and pitched at a level that all operators would be comfortable with.

Synergy implemented training in the field on real projects.

"Everyone in the Texco team - from the operators to supervisors - has quickly adapted to the new tasks, responsibilities and quality control procedures associated with the introduction of machine control," says Jason.

"Having Topcon machine control is essentially about providing the crew with the tools they require to do the best job they can."

To read the full article on Texco Group go to www.synergypositioning.co.nz/case-studies/machine-control-technology



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Synergy Clients Big Winners At CCC Awards

Texco Group, Higgins and Johnstone Construction were among the big winners at this year's Civil Contractors Conference awards. Each company utilises Topcon's reliable and accurate technology solutions to meet their project goals.

Synergy Positioning Systems has extended its congratulations to three companies who took home category wins in the recent NZ Civil Contractors Conference awards.

The awards are a part of the annual Civil Contractors Conference, held this year in Auckland during August.

The awards are voted on by industry peers, are open to all construction entities and account for excellence in completing localised projects and infrastructure work of national significance alike.

Three big winners at this year's awards – Texco Group, Higgins and Johnstone Construction – are all Synergy Positioning Systems clients, with their use of accurate and innovative Topcon machine control

- HIGGINS – CATEGORY WINNER \$25 MILLION + TURNOVER
- TEXCO GROUP – CATEGORY WINNER \$10-25 MILLION + TURNOVER
- SPECIAL MENTION TO HUGH JOHNSTONE, OF JOHNSTONE CONSTRUCTION, FOR WINNING THE Z PEOPLE AWARDS – EMERGING LEADER CATEGORY

and spatial surveying hardware and software a strong through-line in their collective journey to project completion.

"We love it when our clients gain this sort of industry recognition, because we see it as a tangible outcome of the incredible talent the local industry possesses, mixed with globally recognised technology solutions that we're proud to bring to market," says Mike Milne, Synergy Positioning Systems managing director.

Hugh Johnstone of Johnstone Construction won the Emerging Leader Award, Texco Group took home the company award in

the \$10m-\$25m turnover category, while Higgins won the company award for the \$25m-plus category.

"Topcon remains at the forefront of new technology solutions and we will be seeing this again over the next few months as we launch the new Topcon RD-MC paving and milling control system," concludes Milne.

"To have provided a tool or a suite of tools that help infrastructure entities of all sizes and disciplines not only get the job done, but get it done to an award-winning standard is a real buzz.



NEW: Topcon GT Series

With the new Topcon GT Series, Topcon have released the worlds smallest and lightest Robotic Total stations. The GT Series redefine the standard of what a Total Station should be and offer a huge degree of flexibility and performance. See the Synergy website for more details on this hot product.



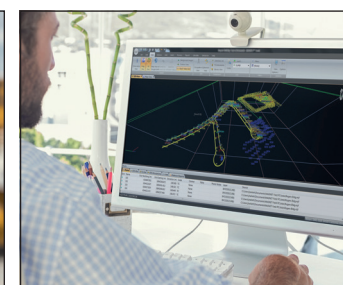
NEW: Topcon FC 5000

Intel processor, Windows 10, IP68 rated, sunlight readable 7" display, the new Topcon FC-5000 is a high performance field controller that will go the distance in the harshest environments. Get the full run down on the FC-5000 from the Synergy website.



NEW: Topcon HiPer HR hybrid GNSS receiver

If you're under tree cover, or can't get the pole plumb, or need to range widely from your base, or you need superb accuracy, or work in wet conditions, or all of the above, the HiPer HR has the features you need to succeed. See the Synergy website for more information.



Topcon MAGNET 4.0 released

MAGNET 4.0 provides software support for the hardware through MAGNET Field, MAGNET Office and MAGNET Enterprise that provides integration with Topcon's construction-focused Sitelink3D service for instant data transfer and connectivity into active project sites. More details are on the Synergy website.

Topcon Showcases Software Solutions At bauma2016

Held every three years in Munich, Germany, bauma is the world's largest trade fair for construction and mining machinery and building materials and technologies.

One of the key ideas behind several technologies Topcon showcased at the bauma2016 show was the automating of data collection to fully synchronise the relationship between the job site and the operations office.

"The way construction project data sets are managed and interact is constantly evolving," says Mike Milne, managing director of New Zealand Topcon distributor Synergy Positioning Systems.

"Now we're seeing Topcon's ability to offer end-to-end management tools growing, with an increased and improved portfolio of software systems."

Topcon now offers up to 20 different software packages designed to optimise every aspect of a project, from standalone designs right up to site traffic flow considerations for major multi-faceted infrastructure works.

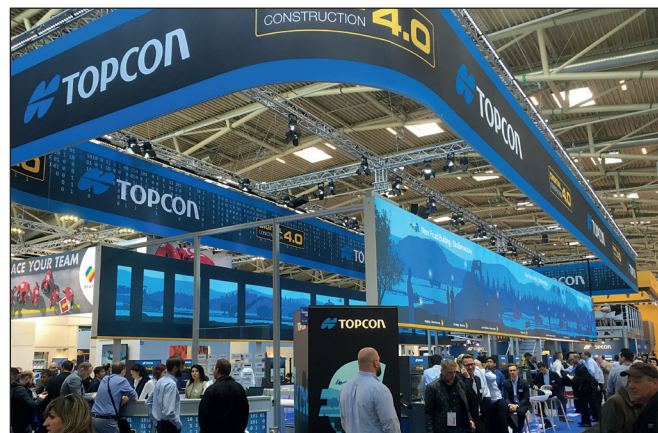
Medium scale solutions include Topcon MAGNET Office; a desktop survey and drafting tool developed by Topcon for use by land surveying professionals, contractors and engineers. At the other end of the scale is the Sitelink3D system which builds on the capabilities of Topcon's 3D machine control technology, but expands the offering to remote machine support, job file transfer and real-time project information.

Topcon and DynaRoad's impressive production control scheduling software takes things a step further again; offering up an end-to-end holistic planning tool which allows for mass haul planning at a large-scale infrastructure level.

The DynaRoad system can provide time/location overviews of a project within a single map view. This allows

for ultra-precise production orders, crew and machinery movements, haul distances, production breaks and risk zones to be fully assessed.

Meanwhile, Topcon's MAGNET Enterprise software offers a web-based project visualisation solution that allows for field management from secure cloud-stored data. This allows management personnel the luxury of accessing all project data in one place, in real-time, wherever they might need to access it from.



Grant Hood Contracting Gets Up To Speed With Topcon 3D-MC² Machine Control

James Greene from Grant Hood Contracting says investing in Topcon machine control technology was a smart move for the award-winning civil engineering and contracting company.

"It's the way everything is going, so really it was a no-brainer for us to adopt the technology," says James.

"We installed Topcon machine control on our excavator first, just as a big six-month pipeline contract came up. We could see the time-saving benefits straight away; our guys in the field just got on with the job without us needing to continually feed instruction through."

"We laid four kilometres of pipe without any survey pegs or lasers, which is pretty impressive."

The speed with which GPS machine control technology allows James' team to work is what really impresses him, he says. The Ashburton-headquartered company recently completed some water race work, which would have traditionally been a two-man job; now the project was easily – and quickly – completed by just one staff member.

Topcon machine control allows operators to dig or grade to the correct elevation as shown on the touchscreen display inside

the cab. This means complex multiple elevation/slope build work can be completed without resetting the machine, laser or waiting for a surveyor to place elevation stakes on site. Thanks to Topcon machine control's accuracy, rework due to over excavation is all but eliminated, and waiting around for staking or re-staking is a thing of the past and the support from Synergy has been outstanding.

To read the full case study on Grant Hood Contracting, visit www.synergypositioning.co.nz



Exaro Contracting A Cut Above With New Topcon X53i



Nick Griffin from Exaro Contracting has been utilising Topcon GPS machine control for around nine months now and says he wouldn't look back.

The company started out hiring the equipment but, after realising the benefits of it, purchased a Topcon machine control unit for its hire fleet.

"It's a great plug-in for our rental fleet; it's the sort of technology that is relatively simple to utilise but makes such a big difference in machine efficiency on the job site."

With a growing ledger of clients – and sub-contracted machines deployed with a number of big players including Hicks Construction, Fletchers and McConnell Dowell – Nick has just overseen the install of Exaro's latest Topcon machine control unit on their third excavator.

Exaro's most recent investment in accurate and efficient machine control technology is the new Topcon X53i.

The latest evolution of Topcon's comprehensive suite of 3D excavator control systems provides earthworks contractors like Exaro with a versatile system for digging and cutting, offering real-time tracking of every bucket movement and the ability to shape complex slope designs.

The elevation and location of the cutting edge is constantly tracked using a combination of GNSS receivers, antennas, tilt sensors and graphical 3D-MC software. Powered by the

absolute precision of GNSS technology, the Topcon X53i directs the operator to centrelines and guides the bucket to the grade; an intuitive-to-use GX55 control box and touchscreen display in the cab ensures visual awareness at all times and eliminates over-excavation.

"To be able to say up front we're going to ensure the job is done accurately and on time is a great thing for the business. We actually pride ourselves on using machine control now; it's a benefit of the service that we're quick to highlight to clients."

Nick says that it isn't just the consistency and performance of the product that keeps Exaro Contracting with the Topcon brand either.

"It helps that Topcon is distributed and backed-up in New Zealand by a great team. The Synergy Positioning guys are great to deal with and, because they really know the product, they can offer us great advice."

"The other thing they excel at is turning around new GPS equipment quickly too," he adds.

Recently Exaro needed a hire excavator on site for a client quickly. The machine needed GPS machine control fitted, so Nick required a quick turn-around on installation work. Nick says that the Topcon system was on the machine and the machine working in a very short space of time.

"We couldn't have asked for better service to be honest. Thanks to Synergy, we actually managed to get that machine kitted out and deployed on-site with absolutely no downtime on the project."

At the sprawling new extension to the Millwater development near Orewa, north of Auckland, Exaro's Mark Eggers is equally happy with the back-up Synergy Positioning has provided, although suggests that the technology is so intuitive to use, operators don't need much in the way of training.

"It's really user-friendly and anyone who uses it will pick it up pretty quickly," says Mark.

"You probably have a bit of reluctance initially from some of the older guys, but even they see the simplicity and accuracy of the technology after a short while.

"When they realise they can get everything completed so quickly and all in one hit – with no need for re-trimming – then they're sold on the machine control system.

"It's the way the whole industry is going, so it's good to have our machines ready-fitted with it. We want to deliver the best service we can, straight out of the gate. Machine control technology certainly helps make that a reality."

To read the full article on Exaro Contracting go to www.synergypositioning.co.nz/case-studies/machine-control-technology