

'MovingDirt's Machine Control Update



Transfer of Data Files to and from Machines at Work is Integral to Trimble's successful Involvement in a Major WA Road Project

The new 70 km Perth to Bunbury Highway will take three years and it's the single largest road project undertaken in WA. But it's a very big deal for another reason.

Much of the road alignment runs through low lying country that's subject to seasonal flooding, so there's a huge task involved in elevating it—nine million cubic metres worth, to be precise.

According to Tony Cariss, construction coordination manager for the Southern Gateway Alliance, seasonal conditions, the scale of the work, and the relatively short lead time means that construction needs to follow extremely close behind the design work.

"Trimble technology has offered us precisely the solution we needed to fast track the project," said Cariss. "We needed accurate machine positioning for construction purposes and an instant two-way data transfer between the field and design office."

GPSNetwork Perth, which utilises Trimble® VRS™ Global Navigation Satellite System (GNSS) infrastructure network technology, is being extended into the construction

corridor and a network of radio towers is being built along the highway alignment.

Via a 900 MHz Trimble SNB900 radio and router at each tower, both VRS position correction data and construction data files will be transmitted simultaneously and selectively to the earthmoving machines.

At the same time a Trimble SNR900 radio in each machine transmits data back through the network to the office 100 kilometres away in Perth, where design staff use Trimble SiteVision® Office software to handle the data and view, in real time, the computer screen and site-level data at each machine's location.

With this system, the time between a machine recording field data and a new design file coming back to the machine is brief, and requires only a few computer key strokes in the design office.

To date, 25 SGA machines have been fitted with Trimble machine control systems. The systems include seven dual-antenna Trimble GCS900 grade control systems with laser augmentation and three single-antenna GCS900 systems for fully automated work on graders and 15 single-antenna GCS900 systems with indicator modes for dozers, wheel loaders and supervisors' vehicles.

For the record, Trimble says that several of their competitors claim the capacity to 'talk to machines' in this way, but Trimble is the only one who can accomplish it reliably.

Topcon perfects "Plug-and-Play" for Cat M-series graders, T-series dozers

Topcon Positioning Systems tells us that its GPS-based 3D machine control technology now offers full "plug-and-play" compatibility with Caterpillar's latest M-series graders and T-series dozers.

Prior to the release of Cat's T-series dozers and M-series graders, Topcon and Cat engineers worked closely together to ensure seamless compatibility with Topcon machine control systems, says Murray Lodge, TPS' US-based director of sales.

"Caterpillar's engineers provided us with all the necessary CAN (controller area network) messages to operate the valves and joystick controls.

"As a result, buyers of Cat's latest-technology graders and dozers can confidently specify Topcon products, knowing that the integration has been tested, and it works. The cost of fitting Topcon 3D to these latest models is no greater than it is to fit or retrofit to earlier-generation Caterpillar equipment," says Lodge.

Neil Other, TPS sales manager for Australia and New Zealand, says that customers in Australia are already specifying Topcon 3D machine control for their new-generation Cat machines.

"All Topcon's Australian and New Zealand dealers have been trained in the installation of machine control on Cat's latest products." □