

## Cutting-Edge Products

# New Year Trials of GPS Guidance System

**I**n the last *Bulletin* issue we reported on a new cutting-edge guidance system for dozers demonstrated at the LOGOV Expo, which utilises 'differential' GPS.

The system—called SiteVision—was developed in the U.S. by the Trimble company, world leaders in Global Positioning System (satellite) technology.

It involves fitting each machine with GPS receivers and an on-board computer. A battery-operated local transmitting system with a radius of coverage of roughly 10km (depending upon terrain) is accurately positioned by conventional survey, supplementing the satellite positioning data and permitting accuracy within about two centimetres in both horizontal and vertical planes.

### Dozer has On-board Computer

Topographical data for the area, together with design data for the job in hand, is fed into the on-board computer. A system of guidance lights in the cab then assists the dozer operator

as to correct direction of travel and the blade-positioning etc. required to execute the design.

In association with Trimble, local Brisbane agents Herga/Ulimate Positioning are well advanced on plans to conduct field trials of the new system with Thiess, early in the New Year. The system was developed in open cut mines in the USA and has been introduced recently to NZ.


The purpose of the field trials is to demonstrate the viability of the system to potential Australian users. Thiess already have some experience in the use of GPS techniques at the Mount Owen coal mine near Singleton, NSW, where GPS guidance is used to position drill rigs.

In the field trial, Thiess are interested to assess the claimed benefits of increasing accuracy in placing fill in compaction processes. Theoretically, the system (promoted as "stakeless") will cut down on the use of grade checkers and spotters. A significant safety benefit should also result—keeping people away from machines.

The GPS system has the potential to provide accurate guidance to multiple machines operating over a considerable area (the range of the portable transmitter) whilst dramatically reducing the number of personnel required for supervision of jobs within the area.

Currently set up only for dozers, Trimble will soon be adapting SiteVision for use on graders and scrapers, seeing similar benefits on projects such as the development of cotton and rice farms, where accurate grades are a key requirement.

"Laser techniques have drawbacks," says Paul Bright, MD of Herga. "The heat conditions we frequently encounter in Queensland cause distortion of laser beams, and the range of operation of SiteVision is far superior. One base station can cover many square kilometres and handle a great number of machines."

Final details of the trial are being settled, but Thiess have a job in mind "within a day's drive of Brisbane". *The Bulletin* will be reporting on the trial in detail, as it progresses. 

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