



Huski is Top Dog for 2001

Willtrac Toyota has won the skidsteer stakes in Queensland for 2001, with sales of 111 machines, beating their nearest rival by a good dozen or so units.

For the fourth time in a row, Willtrac were also awarded Australian Dealership of the Year by Toyota. The award doesn't merely reflect sales (although they'd have won it anyway, if it did) but involves a separate evaluation of other operations such as service and parts.

"The award has only been going for four years," says Paul Allen, Willtrac's sales manager, "And so far none of the other Australian dealers has had a sniff."

"We aim to keep it that way."



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If you live in Queensland, northern NSW, or the Northern Territory, and you're an earthmover, civil contractor, or owner/operator, you are entitled to be on our regular mailing list—free of charge.

We are currently updating our list, so simply give Andrew a call on 07-5546 7740 and he'll make sure you get future copies of the magazine, posted direct to your home or place of business.



Happy Birthday, John!

The Shape of Things to Come: A Commercial VRS Network Will be Operational in the Southeast This Year

Occasionally there occurs a technological breakthrough that you look back upon and think, "Boy! We take this for granted, these days. How did we ever live without it?" Mobile phones are an obvious example.

VRS probably means nothing to you right now, but in less than five years it will be a tool that tens of thousands of people will use every day, for an almost unlimited number of applications.

Positioning Accuracy of One Inch—Anywhere!

Your mobile phone permits you to go almost anywhere, and stay in touch. VRS will allow you to go almost anywhere and use a stick-like instrument with a small antenna on top to identify the location of its pointy end to an accuracy of one inch.

Just like mobile phones, the service will initially be available in built-up areas. But as infrastructure is progressively put in place, it will expand into rural areas.

Earthmovers will be able to establish the top and toe of a batter, or the position of an access chamber in a stormwater line. House builders will be able to confirm they are starting on the right block of land, and accurately position their structures, walls, and so on. Excavators will be able to identify the location of underground services. Councils will be able to quickly and easily log the precise location of assets, as humble as bus stop seats.

All without the delay or expense of involving surveyors, but with the same accuracy.

Commercial VRS Network Launched in Queensland

In a previous article (www.kerville.com/gps) we reported in detail on a recent trial held by QDNR (the Queensland Department of Natural Resources and Mining) and Trimble Navigation Ltd. Using a network of GPS receivers in Brisbane,

Ipswich, and Bundall on the Gold Coast, a large triangular test area was established.

Anywhere within that triangle, operators of GPS rovers could 'phone in' to a central computer, to establish the rover's position to an accuracy of one inch.

A GPS rover consists of a two-metre pole with an antenna on top. A GPS receiver and a computer are either attached to the pole, or carried by the operator in a backpack.

In a VRS network, the instrument may use a dedicated mobile phone module to call in, although since the trial started Nokia have released a phone with the necessary built-in modem.

While other states are still considering it, Queensland DNR has committed to the establishment of a permanent commercial operation. New stations have been established at Caboolture and Beaudesert, and Coolangatta will be added in the second half of the year.

This will give coverage from the top of the Sunshine Coast to the NSW border, and west to beyond Ipswich and Beaudesert, comprising the most populated and fastest-growing regions of southeast Queensland.

DNR will run the network, and sell the service. This is the first such VRS network in the Southern Hemisphere, and one of only a handful throughout the world.

The trial used Trimble hardware, but Jim Hawker of QDNR emphasises that the network will be accessible to users of other brands.

Other States Certain to Follow

Queensland has been at the forefront of GPS applications since machine guidance systems were introduced two years ago. So it's not surprising that the first VRS network is up and running in the state where Trimble located their Australian office.

Continued on Page 30...

A Commercial VRS Network Will be Operational in the Southeast This Year

(Continued from Page 7...)

However, Dennis Lewis of Trimble tells us that the company is deeply engaged with interested parties in other states. So a rapid roll-out of the technology can be expected, around Australia.

Whereas GPS survey operations and machine guidance projects thus far have required the establishment of base stations with a range of 7-10km, the VRS network is essentially doing away with the need for fixed local installations. Anyone operating within the network coverage, which is hundreds of square kilometres, now has the same accuracy available to him.

The network offers the added advantage of reliability. Whereas a lone base station can go down and disrupt operations, a coordinated group of receivers can work together to compensate.

Of course, for large localised operations, using base stations may still be the way to go. For an earthmoving project of some duration, it would undoubtedly be less expensive to dispense with mobile phone connections, and pipe the data in by landline from the DNR

computer, to be locally distributed by UHF radio.

Who Will Use It?

Ultimately, a better question would be "Who *won't* use it?"

Typical operations might involve locating underground services, to avoid damage during excavations.

Contractors quoting on large earthmoving jobs might rent a rover for a day or so, install the antenna on the roof of a 4WD drive vehicle, and traverse the site in a grid pattern. In a relatively short and painless process, an accurate topographical model of the existing site can be constructed. Superimposing the design of the finished job will permit a quick and accurate calculation of the amount of material involved in the cut and fill.

Such a process by a tenderer will allow him to rely upon his own calculations, rather than depending upon potentially inaccurate data supplied by the client.

A contractor with a relatively short job of two or three days requiring high accuracy might load up the job design into the onboard computer of his excavator, using a number of mobile phone calls at critical phases of the job to establish accuracy, rather than going to the expense of setting up a local base station.

A council might rent a rover for a couple of weeks and subscribe to the DNS service, to engage in a program to accurately log and map the positions of all its stormwater assets.

A Glimpse into the Future

In the early days, network access will run to some hundreds of dollars per day, and the rover equipment (although it can also be rented) currently costs \$30/50,000

There are so many potential



Matt Higgins of Queensland DNR

applications, however, that the same reduction that we saw in the cost of mobile phone equipment and call charges will surely be repeated in VRS technology, putting it within reach of more and more users.

This heralds an era in which we'll all take for granted our ability to fix the position of objects, anywhere, any time, with great precision. We'll be able to do it easily, without years of training.

I hope surveyors are paying attention, lest they risk going the way of steam locomotive drivers! **PK**

Little-Known Health facts...

A) The Japanese eat very little fat and suffer fewer heart attacks than the British or Australians.

(B) On the other hand, the French eat a lot of fat and also suffer fewer heart attacks than the British or Australians.

(C) The Japanese drink very little red wine and suffer fewer heart attacks than the British or Australians.

(D) The Italians drink excessive amounts of red wine and also suffer fewer heart attacks than the British or Australians.

*(E) Conclusion: Eat and drink what you like. It's speaking English that kills you. **□***

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