

HITACHI IS HELPING TO BRING PRECISION TO AUSTRALIAN AGRICULTURE

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Hitachi Australia is working with the Japanese government, other Japanese organisations, local partners and universities to demonstrate the value of using positioning satellites to deliver a highly efficient farming system that allows agricultural machines to travel autonomously while at the same time creating highly accurate farmland maps.

In the demonstrations, the positioning satellite being used is the Japanese Quasi-Zenith Satellite System, or QZSS for short.

How does it work?

GNSS signals are tracked by stations in Australia and transmitted to Japan. At the Analysis Centre, a Correction message is generated in Japan. That Correction message is then broadcast on the QZSS L6 signal. That Correction message is received and used by the autonomous tractor, UAV or other mobile device equipped with a QZSS Receiver for precise control. And by precise control we mean a best to date of +/- 2cm horizontally and +/- 6cm vertically. And this level of accuracy can be available 24 hours a day, seven days a week meaning that when coupled with a fully autonomous tractor, farm work can be carried out around the clock.

Hitachi is digitizing farming in New South Wales



Satellite guided autonomous tractors



For improved accuracy




And higher productivity

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The work first started in rice fields in Southern NSW, progressed to sugar cane fields in Mackay QLD, avocado farms in Bundaberg QLD and now in February 2018 on a mixed farm — with particular focus on asparagus and bananas — in Carnarvon, WA.

With the Carnarvon demonstration, one of the objectives will be to use a UAV (drone), positioned by the QZSS, to accurately pinpoint weeds that can be geo-tagged for automatic spot spraying at a later date, thus resulting in the amount of chemicals needed to kill the weeds is substantially reduced.

By delivering such precision, a QZSS solution will generate on-farm productivity gains by allowing more efficient utilisation of resources, reduction in on-farm inputs and improved yield output per hectare. 

MORE INFORMATION ►

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