



LAND FORMING BENEFITS FROM LASER SYSTEM

More than 400 million hectares, or approximately 53% of Australia's total land area is used for agriculture. The industry is looking to laser scan technology to help realise productivity gains.



Land forming is the process of applying a man-made slope on land to be used for irrigation. Laser scanning brings accuracy and efficiency to the process to ensure the correct grade for pre-determined watering and drainage systems.

Comparing the design to actual at regular intervals throughout the farrowing process ensures the fields are designed to specification.

The current method is to use survey GPS on a vehicle and pick up a point every 5 to 10 metres along tracks spaced 15 to 25 metres apart.

These survey points are imported into proprietary design software where a surface is created. That surface is used in a design package to create a simplified

multi-plane surface that is then imported into the machine guidance system for the tractor, scraper etc.

MAPTEK DEMONSTRATED THE POTENTIAL OF COMBINING THE I-SITE 8810, I-SITE STUDIO AND PERFECTDIG TECHNOLOGY TO PROVIDE A MORE EFFICIENT SOLUTION.

The field trial proved that the Maptek method was faster, safer and more accurate for collecting and processing data for land forming.

- > Survey the paddocks using the I-Site laser scanner and produce detailed surface models
- > Export models as DXF for import into Civil 3D or similar system

- > Use Civil 3D to create the multi-plane data for export to a machine guidance format
- > Upload the multi-plane data to a machine guidance system

The scanning was completed quickly using the I-Site 8810 vehicle mounted stop-go scanning system. Most areas required only 4 or 5 setups, averaging 3 minutes at each setup location.

The on-board GPS and compass was used to seed scans and they were locked in using the Global Registration tools in I-Site Studio.

Filtering and modelling of the scans took less than a few minutes. The method is faster, safer and more accurate than the current process.

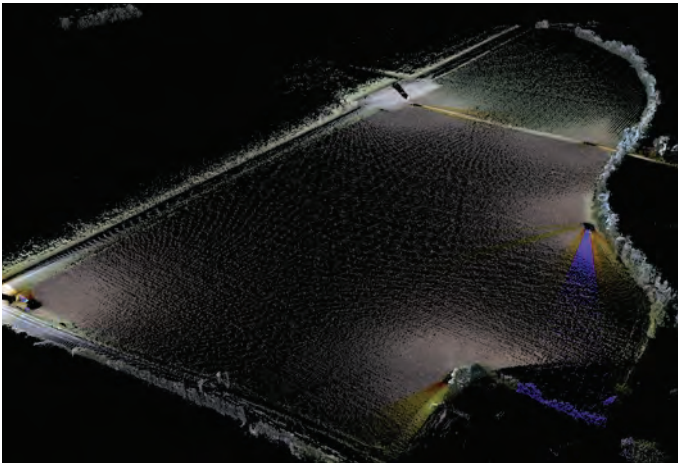


Aerial photograph of trial paddock

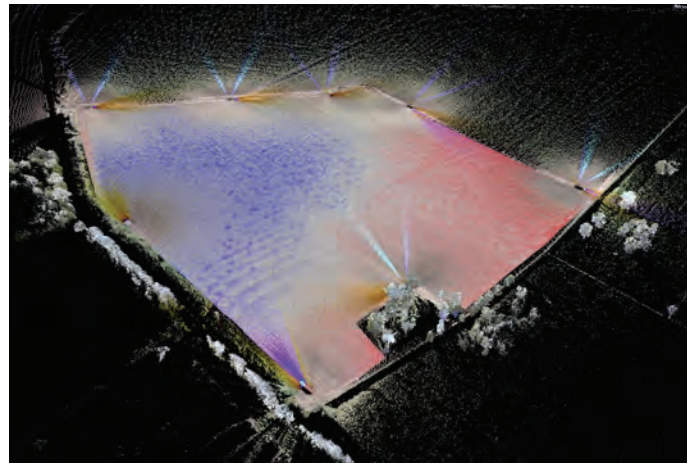
Using the I-Site 8810 laser scanning system promises to improve the integrity of the initial surface as well as the accuracy and efficiency of creating it.

Completing 2 paddocks in the time conventional methods would cover a single paddock, makes for an efficient process.

Ideally laser scan data would be directly imported into the machine guidance system to ensure accurate surfaces of the area were used.



Scan data provides detailed point coverage



Data is filtered and modelled to export final surface