



## 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 improve productivity.

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

Comparing the design against actual at regular intervals throughout the farrowing activity ensures the paddocks adhere to specifications.

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

The 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 or other equipment.

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 Maptek™ I-Site™ laser scanner and produce detailed surface models
- Export models as dxf for import into Civil 3D or similar system
- Ceate multi-plane data for export to machine guidance format
- Upload multi-plane data to a machine guidance system

Maptek demonstrated the potential of combining the I-Site 8810, I-Site Studio and PerfectDig technology to provide a more efficient solution.

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 onboard GPS and compass were used to seed scans which were locked in using I-Site Studio™ global registration tools.

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

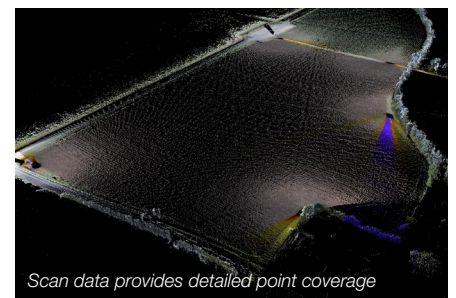
Using the I-Site system promises to improve the integrity of the initial surface as well as the accuracy and efficiency of creating it.

I-Site is able to complete 2 paddocks in the time conventional methods cover a single paddock.

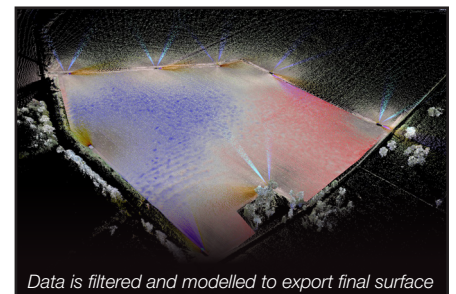
The ideal scenario is to import laser scan data directly into the machine guidance system to ensure accurate surfaces of the area are used.



*Aerial photograph of trial paddock*



*Scan data provides detailed point coverage*



*Data is filtered and modelled to export final surface*

