

# Leica Geosystems builds strengths in mine-production technology



*(Above): An Operator receiving real time feedback from the Series 3 9000 Dragline monitor*

*It is nearly a year since Leica Geosystems joined forces with Australian mine-production technology company, Tritronics (Australia) Pty Ltd. The acquisition reinforced the commitment by Leica Geosystems to leverage its current mining segment product offering and strengthen its overall portfolio with complimentary solutions for production monitoring, machine automation and site management for mining and construction.*

*(Below): A Dispatcher using the GPS-based FMS system to locate and report on any of the machines on the mine*



"Leica Geosystems took us over with two goals in mind - one to have a bigger presence in the mining market and the other was that we had a range of core technologies such as telemetry real time systems, data systems and they wanted to leverage these into their construction business," Geoff Baldwin, Vice President of Machine Automation and previous Managing Director of Tritronics said.

"Leica Geosystems also has a bigger vision to combine both mining and construction product developed together and use the strengths of both to increase our presence in the market. There has already been a substantial move towards

shifting that technology and know-how into the construction industry."

## GPS-based navigation solutions

The integrated solutions offered by the previous Tritronics business incorporate a range of technologies such as high precision GPS-based navigation solutions for drills and dozers, high-speed wireless infrastructure (telemetry technologies), and internet based remote monitoring and configuration.

The main product lines include:

\* FMS (Fleet Monitoring System)  
FMS is a real-time fleet-monitoring system especially designed for open cut mining. FMS uses the latest satellite positioning system - DGPS - to identify each vehicle and its location on site - from draglines, haul trucks, loaders, shovels, dozers, and borehole drills. This is incorporated with a powerful Window-driven reporting and analysis software and reliable radio telemetry. The system gives accurate production statistics, vital signs monitoring and real-time data capture so that informed production decisions can be made.

\* DrillNav Plus  
DrillNav Plus is a robust, easy-to-use blast hole Drill Navigation System, using advanced RTK GPS technology. Mines can design drill patterns in the office and download them to the drill or the operator can layout standard patterns onboard the drill. As the drill navigates around the pattern, the map moves on the operator's display. The

operator can thus see the coordinate of each hole to be drilled as well as the location of previously drilled holes.

**\* Dragline Monitor**

The 9000 series 3 dragline performance monitor is the world's most advanced dragline monitor, providing mine managers not only with the ability to manage operator feedback and production, but also with the opportunity to gain quantitative feedback on future initiatives.

**\* ShovelPro™**

ShovelPro™ is a highly-developed monitoring system which provides real-time feedback to the operator of the electric shovel. It can calculate production rates, current dipper weight, and what quantities required to load the haul truck to its target weight, offering satellite guidance for product quality control.

**\* Dozer 2000T**

The Dozer 2000 combines a Machine Guidance GPS receiver with CAD software, to allow determination of the exact position of the vehicle in "real time". A screen display in the cab clearly indicates the position of the earth moving machine relative to the desired "design" surface, enabling the operator to move left or right, and to cut and fill accordingly.

**Fully integrated systems**

All systems are fully integrated with the Tritronics' FMS. Due to the large volumes of data required for maps and GPS satellite corrections, spread spectrum radio systems are supported as well as UHF. This allows a single radio infrastructure for machine monitoring at most mines.

"As a global company with an extensive range of mine monitoring information technologies and construc-

tion machine guidance systems, Leica Geosystems is uniquely positioned to provide customers with integrated systems to improve the productivity of mine and construction sites. Most sites use machines from a variety of manufacturers. Being independent from specific machine manufacturers allows us to focus on site solutions regardless of the various machines," Martin Nix, Senior Vice President Business Unit Engineering, Surveying & Engineering Division said.

"As it stands today, few companies have such a range of mining and construction machine guidance and monitoring solutions as Leica Geosystems. This positions us strongly in what promises to be a rapidly growing market."

And indeed, mines including Tarong, Drayton, Syferfontein, Howick, Newlands, Black Thunder,



*(Above): Dozer 2000 - the position of the earth moving machine relative to the desired "design" surface is displayed to the Dozer operator*

## About Leica Geosystems Pty Ltd

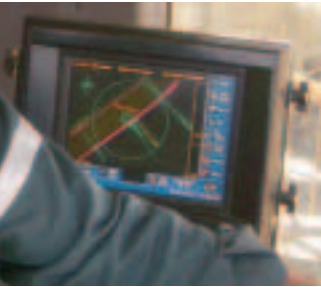
Leica Geosystems Pty Ltd, located in Brisbane, Australia is now the core of a 'Leica Technology Centre' (LTC) for mining and technology along with LTCs in Heerbrugg and Grand Rapids. This location will be predominantly Research & Development, together with sales and support.

Tritronics was established in 1975 working in the automotive industry and moved to mining in 1978. They were the pioneers of the first computer driven coal wash plant annunciator in 1979 which was the start of the microprocessor age in the world, the first dragline monitoring in 1988, and, in conjunction with Rio Tinto, developed first fleet system in 1995. Since then Tritronics became a world leader in the design, development and installation of mine machine monitoring and information systems. Prior to the 13 October 2003 takeover, it was a second biggest machine monitoring company in mining in the world.





***The Dragline monitor enables mine managers to handle dragline operator feedback and productivity***



***With DrillNav Plus, mines can design drill patterns in the office and download them to the drill where the operator follows the coordinate of each hole to be drilled***



Cordero and all of BHP's Australian coal mines, all rely on Leica Geosystems / Tritronics machine information systems to help them make informed decisions and productivity improvements.

#### **Direct product marketing**

A significant development in the industry, particularly in the United States, is the move to the direct marketing of products to the customer, rather than through dealers. "This initiative has been taken because most systems need to be heavily customised and tailored to meet the needs of the client," Geoff Baldwin said. "This is different to the traditional Leica Geosystems business model. The need for this individual customisation requires a big change in how we market our products."

Ian Rogers, Manager of Business Development Mining said: "Now with the combined strength and experience of both Tritronics and Leica Geosystems, we intend to push our mining products into bigger markets - China, Russia, India, and Africa, followed closely by Chile. Simultaneously, we are going to expand our construction industry by improving the construction product offering."

Martin Nix added: "The mining industry is a prime example of an industry where technological innovation brings significant benefits, which in turn has created strong demand for site productivity monitoring solutions which includes machine automation and guidance systems."

To address the growing demand in this, and similar engineering-oriented areas, a new business unit - Engineering Business Unit - has been established within the Surveying & Engineer-

ing division. The division also extended its reach into the growing mining segment with the acquisition of Tritronics' mining business, which has been fully integrated and is now an integral part of the recently-formed business unit.

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