

GroundProbe Pty Ltd

Innovation: Slope Stability Radar

CRC for Sensor Signal and Information Processing (1991 - 2006)

Employees: 165

Revenue: \$44 million (2010)

Operating in: Australia, Brazil, Chile, China, India, South Africa, United States

Products: Slope Stability Radar (SSR), Work Area Monitor (WAM)

Key people: Lyle Bruce (CEO), David Noon (Chief Commercial Officer)

GroundProbe markets technologies that improves safety in the mining industry globally. Formed in 2001 as a spin-off company from CSSIP, the CRC for Sensor Signal and Information Processing (1991-2006), the company's main product is the Slope Stability Radar (SSR), a device that monitors the stability of rock walls in open-cut mines.

The SSR project started in 1997 as CSSIP project funded by the CRC and the Australian Coal Association Research Program (ACARP) and supported by CRCMining. The initial results were very promising with the radar system able to detect even very slight rock movement on the slope walls from a safe remote distance. However, it took more than six years of R&D work to bring this technology from the promise of safer mining to a point where it could be commercialised.

GroundProbe's Chief Commercial Officer David Noon, one of the inventors of the SSR, has been with the company since its inception. David, a product of the CRC Program, exemplifies the superior educational benefits that the CRC system provides. CSSIP funded David's doctoral research at the University of Queensland. His PhD thesis topic was on a different radar technology, ground penetrating radar (GPR) for application in continuous surface mining.

The CRC provided David with the opportunity to interact with mining industry executives during the period of his doctoral research studies. It also allowed him to take courses on commercialisation and to work with professionals to protect the intellectual property (IP) that the Centre developed.

Although David's GPR project was a technical success it was clear at the conclusion of his thesis that SSR, a technology that was being developed with another student, was far more likely to lead to commercial success – a key driver for CSSIP. The CRC established GroundProbe to commercialise SSR. Its success has been phenomenal from the first sales of about \$1 million in 2003 to \$44 million in 2010 – a compound annual growth rate of more than 70%! The company now operates in every significant mining country around the globe.

David says the CRC provided not only the means to seek external funding and industry contacts, but fostered an esprit de corps amongst researchers which greatly increased the research team's capability.



For more information:

GroundProbe - www.groundprobe.com

CRC Association - www.crca.asn.au



COOPERATIVE RESEARCH CENTRES
ASSOCIATION

"The end-user focus of the CRC Program helped us to identify a problem of critical importance to the mining industry and allowed us to introduce to this industry technologies that had been developed for other applications – in this case radar systems used by the military" David says. "It is one thing to come up with a solution, but another to discover how to implement and package it."

Building a successful company around a genuinely new technology is difficult. GroundProbe began by making several key decisions that provided the essential platform for its later success. First, it persuaded all of the stakeholders to transfer all of the relevant IP into the company – having clear title to all of the IP that is being commercialised is an absolute requirement for any new company. Second, it appointed a board with considerable experience in the mining industry, including appointing Nick Stump (former CEO of MIM Holdings) as chairman. Third, the board appointed an outside experienced entrepreneur, Lyle Bruce, as its inaugural CEO. Fourth, they key researchers, including David Noon, left their university appointments and join the company as employees. Fifth, these key researchers were given equity in the company.

Chief Executive Officer Lyle Bruce joined the company in June 2003, and he played a key role in building up the commercial business. He also noted the important role the CRC played in establishing GroundProbe.

"At the time the technology was very immature," Lyle says. "No other organisation would have been willing to fund the research, simply because it was unique to the mining industry, and not proven."

"The CRC was willing to fund the research, and was able to bring in a number of partners and expertise that we would not have been able to access otherwise."

"The turning point came at an international slope stability conference in 2005 where the majority of papers presented were on radar technologies. It was then, eight years after the research first started, that we knew the technology was the accepted method."

Nearly ten years on since its establishment, Lyle says the company – and the technology – is flourishing. The company has grown from a team of four to more than 165 employees in seven countries. The company has made a profit every year since it was established and 2010 had revenues of \$44 million. The SSR has been recognised as a game changer for the industry.

"We've completely transformed the way that open-cut mining operations do their day to day business."

"Previously companies had to use a wire extensometer (a tool that used long wires to measure displacement between two areas) and now they can deploy our radar on the back of a vehicle, simply point it at the slope and start monitoring".

"We often have to keep a close eye on who trials our radar and for how long, because once we send it to a site, we tend to not get it back! It becomes such an essential tool for the safety of their personnel that they can't operate without it."

Lyle recalls a particular trial at a mine in Western Australia after an operator had died due to a collapsed haul road.

"The drivers had absolutely no confidence in the road system" Lyle says. "They were also extremely sceptical about our technology."

The team took the radar to the mine and showed the operators where another portion of the wall would collapse overnight, and even went so far as to mark the area with traffic cones.

"When the morning rolled around the slope had collapsed exactly as predicted," Lyle says. "The operators turned up to see a line of traffic cones next to a collapsed wall."

"We then said that we could have our radar monitoring the slopes 24/7, and they immediately went back to work!"



Contacts:
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