Cloud, AI boosting supply chain software capabilities

The cloud, artificial intelligence and smarter algorithms are revving up the capabilities of pit-to-port supply chain software. ABHR editor, Charles Macdonald spoke to Steven Weeks, commercial director of Paradyn Systems, the company behind BlendOpt software.

ABOVE:
Steven Weeks.

CHOICES, CHOICES, CHOICES.

For any bulk mining operation, operators and management confront a myriad of options around pits, products, rail and ports. Which combination will deliver maximum value and profits? How will a change of one parameter affect others?

In the distant past, in an industry like coal, Excel was the tool du jour. A mine plan, in Excel, would be the starting point as companies sought to optimise their value chain, again with Excel.

In the years that followed smarter software platforms derived from Excel allowed slight improvements, but only to specific tasks at one part of the process chain.

Eventually more comprehensive solutions billed as 'schedule solvers' or 'process optimisers' emerged, but today, some of these are expensive with long deployment times.

Paradyn says that its BlendOpt product, created in 2013, is cheaper and more quickly deployed than its competitors. It harnesses the cloud and artificial intelligence for greater computational grunt.

"What we have done over the last five years is build an optimiser that looks at the whole chain from the mine site right through to the port," explained Steven Weeks. "It's about the speed of calculation, running thousands of multiple scenarios on what's the best option."

The advent of the cloud has helped the software's capabilities.

"The main capability of the cloud function is it gives you a faster processing speed rather than running a platform on your personal laptop," said Weeks. "Sending data for analysis to the cloud means you can buy time on a virtual server with a much higher speed and you can house more data."

Despite these advantages, some customers still have concerns over the security of their data.

"It's dealing with a mindset," said Weeks. "Getting people to understand it's not an issue to have their data linking externally to the cloud. It's a bit of a challenge from that stand-point."
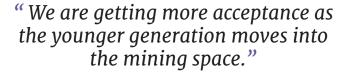
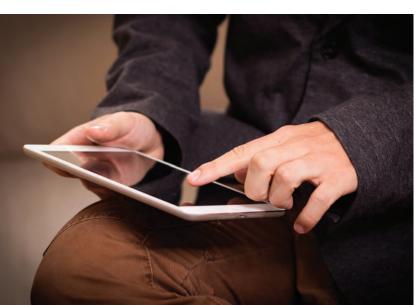Irrespective, Paradyn has secured major customers including Anglo American, Vale, BHP, and Peabody.

The generational transition in the mining industry is helping Weeks' cause.

"We are finding that we are getting more acceptance particularly as the younger generation moves into the mining space," he explained. "Our offering is quite visual so even though there are a lot of complicated algorithms and analytics behind the platform, the user interface is quite friendly and it's open to using on your laptop or ipad; it's quite visual and there's a lot of acceptance."

Steven Weeks is a mechanical engineer. He has previously worked at BHP, in its steel and coal divisions, and at Sandvik, in a variety of roles including automation, machine health and data analytics.

Paradyn was co-founded by James Whitacre, an artificial intelligence expert who previously led design of aspects of optimisation technology for Schneider–SolveIT's Pit2Port software. **B**

" We are getting more acceptance as the younger generation moves into the mining space."