

## Bis adding automation abilities

TRANSPORT and logistics specialist Bis has formed a joint venture with Israel Aerospace Industries that will give it a mine site automation capability.



*An autonomous Rexx could be on the cards.*

[Noel Dyson](#)

Called Auto-mate, the 50:50 joint venture will allow Bis to tap into IAI's automation capabilities and give IAI a way to get its technology into the hands of miners.

IAI has been designing and deploying robotic and autonomous vehicle and asset solutions for air, sea and land for more than four decades.

It has automated many of the types of equipment used in mining for use in very harsh environments.

One of the challenges technology providers such as IAI face is getting miners, who are traditionally very conservative, to even think about giving their technology a chance.

Even major original equipment makers such as Komatsu, Caterpillar and Hitachi, have found it difficult to get them to buy their automated equipment.

Bis CEO Brad Rogers said the advantage Bis had was that it was an operator too.

"We have our own assets in mining," he said.

"We can be an initial case of automation and prove it up through our own operations.

"IAI recognises that if they were to come to mining on their own they would have struggled."

Rogers said the Auto-mate JV was two years in the making.

"It came about through a piece of strategic thinking we did a couple of years ago," he said.

"Miners were increasingly becoming interested in automation and we felt we should have a position on it."

Bis conducted research and found that most mining players had their own plans for automation, which led it to look outside the industry.

"We came across IAI, which had been developing automation technology for aviation and ground-based applications," Rogers said.

"They have 5000 engineers just focused on robotics."

According to the Mining Magazine Intelligence **Automation Report** there is an estimated US\$910 million of automated surface and underground mobile equipment operating at mines around the world, including new and retrofitted systems. More than \$1.29 billion of mobile equipment is slated for activation in mines and projects.

Bis and IAI want a piece of that market.

The plan is to tailor Auto-mate's technology to each mine site's requirements.

The system uses an open architecture model that connects any asset to the operation's fleet management system regardless of brand, age or type of asset or desired level of automation.

"Auto-mate is a game-changer because of its exceptional utility," Rogers said.

"It is a gateway to automation for small and big miners. It is uniquely flexible so that a customer can choose how far down the pathway to automation they want to go. It is asset agnostic. It can be deployed at any mine, on any asset and to any degree of automation the customer chooses.

Rogers said a miner's automation journey could involve fully autonomous Bis-made Rexx trucks, semi-autonomous road trains or remote controlled or semi-autonomous dozers.

"Auto-mate makes automation a reality at mines where it would previously never have been

thought possible," he said.

"It can be delivered efficiently and at a lower whole of life cost than other technologies in the market."

IAI subsidiary ELTA CEO Yoav Tourgeman, said the interoperable scalable system was the perfect union of cutting-edge technology and practical application.

"Auto-mate delivers a flexible approach to automation, delivering usability for multiple levels of automation across all haulage assets and ancillary equipment, with one central command centre," Tourgeman said.

Another point of difference in the Auto-mate offering is the technology itself.

Rogers said it gave the asset it was fitted to a "brain" and communications platform.

"This technology was developed for remote border patrol and defence applications," he said.

"It gives good flexibility. If you are mining a satellite pit that can work for you.

"The technology can also work underground in areas where the communications might be a little patchy."

Besides its automation push, Bis is continuing to develop its Rexx hauler.

The "R" and "e" in Rexx stands for roam everywhere, while the "xx" represents the 20 wheels it has.

The Rexx is a rigid hauler with a 160t payload and a 35km range.

It has two engines too. When the truck is under light load it can run off just one to save fuel. Also, if one engine fails the other can be enough to limp it back to the workshop.

Bis has taken an atypical approach to commercialising its hauler.

Rather than selling them to miners like other OEMs do, it puts the trucks out on service contracts.

Rogers said Bis was essentially guaranteeing the productivity and cost saving benefits it said the truck would deliver through those service contracts.

Bis has one of those Rexx service contracts with the Newlands coal mine and Rogers said there were some others going to a site in Western Australia.

There are plans to put out a larger payload version of the Rexx and there is also the possibility of developing autonomous versions with the IAI technology.

It has also developed the Razor underground grader to go with its underground coal services business.

The Razor is about a year behind the Rexx in terms of its development but already winning respect in the underground coal market.

Rogers said Bis was taking a different approach with the Razor.

It will own the graders outright and hire them out to customers alongside its other underground coal hire equipment.

Bis had planned to add to that coal hire fleet by buying Cougar Mining Group, excluding Australian Mining Equipment, which was formerly Cougar IME; CH4 Drilling, which was formerly Cougar Drilling; and Cougar Stratajacks.

The Australian Competition and Consumer Commission said it feared the deal would lead to a lack of competition in the underground coal mining market, leading Bis and Cougar decided to walk away from the deal.

Rogers said he was happy with the way Bis' underground mining business was performing and would look to grow it organically rather than through further acquisitions.

However, he said Bis might consider acquisitions on Australia's west coast to add to its surface logistics and haulage business if suitable ones could be found.

A stock exchange listing could be on the cards for Bis too, although that could still be some time away.

Rogers said that was a possibility in a post-COVID world when investor appetite was a little clearer.

He said the company's main investors, private equity players Carlyle Group and Varde Partners were happy with the way things were going at the moment.