



## How IT Outsourcing May Unearth the Mine of the Future

By Stephanie Overby

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Circ. 140,000

A team of IT service providers helped mining company Rio Tinto push new ideas into adoption and improve the mine of the future.

The growth of the developing world will likely require as many mineral resources over the next 25 years as have been used since the dawn of the Industrial Revolution. But those scarce minerals will become increasingly difficult to recover from the earth.

It's a basic problem of supply and demand, but the solutions are anything but basic for John McGagh, head of innovation for mining company Rio Tinto. "We look for big problems," he says. "My shop is not about incremental innovation. We ask ourselves one question: What can't we do today that, if we could do it tomorrow, would fundamentally change the business?"

Mining practices have remained largely unchanged for more than a century. So when Rio Tinto began developing its Mine of the Future program to bring new automation and remote operations to the 139-year-old company, McGagh looked outside for help.

"We don't believe our strategic advantage is design," says McGagh, whose team of 100 people is aided by at least ten times that outside the company. To overcome that, "we build networks."

Those networks include a center for mine robotics and automation at the University of Sydney, an advanced mineral recovery research program with London's Imperial College, and General Electric's Ecomagination initiative to deliver lower-carbon solutions for surface mining.

The ideas have come fast and furious, but just two of every 100 ideas make it to pilot, and even those often don't get adopted. Suggestions include a laser scanner that drives around a mine pit to produce a real-time 3-D model of the environment and an autonomous explosives truck programmed to create precise blast holes. The goal is a safer, more efficient and more effective mining environment where people work like air-traffic controllers--supervising drills, loaders and trucks from hundreds of miles away.

"It became obvious that we needed a partner to accelerate our surface mining, data mining and robotic technologies," says McGagh. That's where Indian IT service provider **iGate** came in. "We wanted a partner who could look outside the closed world of mining and say, 'Here's ideas from biotech or automotive or aerospace,'" says McGagh, who prefers PhDs and MBAs working on the project. "We wanted to have that intellectually combative and inquisitive exchange."

McGagh refuses to use the word "outsourcing." "We were looking for technical capability insourcing--a way to bring on board an innovation center, which happens to be in Pune [India] and happens to be

operated by our partner," he says. "We had to build a lot of cultural and technical links, and it was a challenge to bring this much larger group [into the fold]."

His team has evolved to better manage the relationship, such as by incorporating "people who can speak the language of our business and translate to our network partners," says McGagh. While some Rio Tinto competitors do develop emerging technologies in-house, McGagh prefers his way. "If we tried to do it internally, it would be miners thinking like miners," he says. "Have you been to a mining conference? It's downright dull."