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***Vol.2, No.8, August, 2018***

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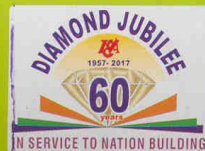
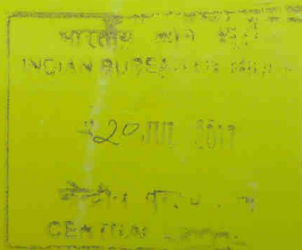
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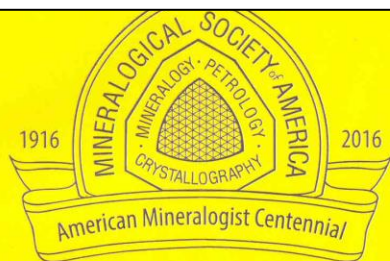
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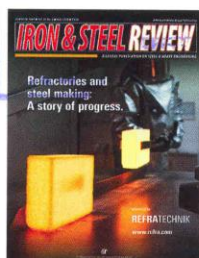
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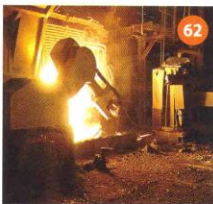
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Bhilai Steel Plant, SAIL



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JOINT PLANT COMMITTEE  
Constituted by Government of India  
AN ISO 9001 : 2015 ORGANISATION

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भारतीय खान ब्यूरो  
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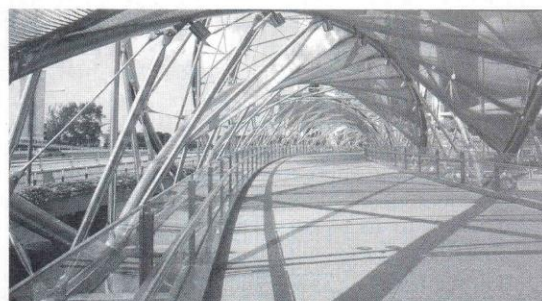
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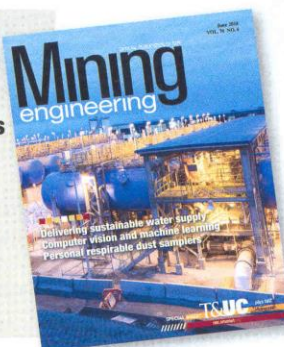
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# Mining Magazine July/August 2018

## Rio's future tech challenges

**T**he Melbourne Mining Club's annual London gala was held on June 28, with Rio Tinto's CEO Jean-Sébastien Jacques featured as a guest speaker, and *Mining Magazine* was there to get his insights. In conversation on stage with Lionel Barber, editor of the *Financial Times*, he gave a frank assessment of the challenges and opportunities ahead for the mining sector.

One of the topics he reflected upon was how technology is going to change the future of mining. Giving the example of Rio Tinto's Pilbara network in Western Australia – where the company has an integrated network of 16 iron ore mines, four independent port terminals, a 1,700km rail network and related infrastructure, all supported by an operations centre in Perth – he noted that it would be very difficult for anyone to optimise the network any further due to the limitations of the human brain. He concluded: "We're going to have to bring artificial intelligence into the system to be able to optimise it."

He continued: "The vision will be to connect the blast furnace, in terms of burden management, either in China or in Japan, and the mining plan with one of the Pilbara mines. We believe that we will be able to unlock 20-30% of latent capacity that we have in the system."

He noted that Rio Tinto recently obtained approval from Australia's Office of the National Rail Safety Regulator for its Auto-Haul project for the autonomous operation of trains in the Pilbara.

"Just imagine 1,700km [of rail network] with no drivers!" Jacques commented. "We'll have an autonomous train system, the ports are [already] more or less autonomous, we'll have autonomous trucks, and we'll have autonomous drill rigs. But the real prize is the optimisation of the mining plan, and connecting it to the needs of the customers."

Barber observed that Rio Tinto's workforce has halved over the last decade, and asked Jacques if he expected the workforce to halve again in the next 10 years. "I'm very conscious that there will be an impact on jobs," responded Jacques. "Technology will create new jobs, but different jobs."

He gave an example of five years previously, when Rio Tinto recruited 100 engineers. "I would say two thirds of them were mining-related engineers," he stated. "I've got no doubt that 5-10 years down the road, two thirds of [recruited engineers] will be data scientists in artificial intelligence, operational optimisation and so on. We will still need mining engineers, but we're going to need more and more people who can optimise systems on the back of data."

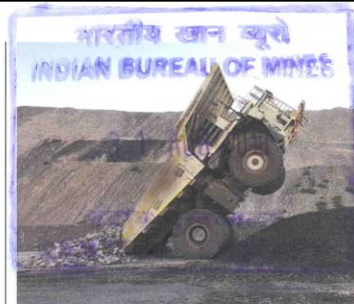
He noted that mining companies will be in direct competition with engineering companies such as Microsoft and Rolls-Royce for staff. "We need to attract the best talent that we can," he said.

The other aspect affecting workers is that increased technology will probably result in the reduction of staff. "We acknowledge that point," he declared. "That's why we're already working with communities and governments to find a way to reskill people, so if we don't have a job for them they [will be] well-placed to find jobs elsewhere."



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**"We're going to have to bring artificial intelligence into the system to be able to optimise it"**



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Fleet management  
Preparing the next generation of leaders  
Diversity in the workforce  
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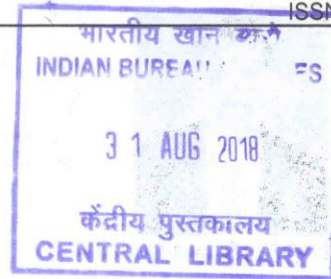
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