



Mining Industry

Economic and ESG goals come together in Triple Zero Modern Mining

It is a “best of times, worst of times” era for the Australian and global mining sector. The sector finds itself in the crosshairs of climate debates. At the same time, the sector is absolutely essential for the supply of the critical minerals for building a high-tech modern society, including the wind farms, solar panels, batteries and other technologies that pave the way to a greener future. Demand has never been so strong, with record prices for a wide range of minerals in the past several years. However, strong demand is not an excuse – the sector must act fast to improve ESG outcomes and there is still so much work to be done.

In our view, the answer is to embrace **Triple Zero Modern Mining**. We flagged this approach in 2021, and we feel that in 2022 the urgency for change has increased and the pressure is rising. Triple Zero Modern Mining is not only the right approach to strengthen a social licence to operate, it also makes sense for a more efficient and economic mining sector over the long-term. We argue this approach must become the face of the future of the industry and the investment required needs to happen fast.



The good news? The basic aims of **Triple Zero Modern Mining** are already in place:

- **Zero Harm** – structural elimination of injuries and fatalities through automation of all fixed and mobile equipment, and via technology-enabled processes using AI and big data, drone operations, industrial IoT and more.
- **Zero Emissions** – the structural shift to net zero carbon emissions and a dramatic reduction in impact on the land, water and air.
- **Zero Entry** – structurally removing people from the operational frontline via automation of all fixed and mobile equipment at a mine site to improve the efficiency of mining and structurally remove people from harm's way.

Achieving these aims as quickly as possible can transform perceptions of the industry through an embrace of industrial responsibility for the future of the planet.

As the generator of 12-13% of global greenhouse gas emissions, we must build momentum based around many well tested technologies to reduce this impact. The largest mining companies have all committed to net zero targets by 2050 or better. We're also seeing solar farms built to power mining sites as well as smart automation of vehicles and equipment to enhance safety and efficiency. Steps are being taken, but the speed of progress must improve to avoid the appearance of simply 'greenwashing'.

Importantly for shareholders in mining companies, such investments are proving value beyond ESG goals. Investment in the automation of trucks on mining sites is already proven to reduce operating costs, increase production and eliminate safety incidents – it's a fantastic example of where investment in Triple Zero Modern Mining solutions can also improve the bottom line for every mining business. By Cognizant's calculations, it can also slash capital costs and operating costs by half.

In 2021, we felt Triple Zero Modern Mining was on a decadal timeline. In 2022, we feel the imperative and the opportunity to act is now.



This paper was authored by **Kirby Johnson**, Global Client Partner – Mining, Cognizant. Kirby Johnson is the ANZ Region Industry Leader for Mining, Energy & Resources for Cognizant. He has experience across the entire minerals value chain, covering technology account leadership, mining technology digital strategy, frontline mining operations, corporate transactions, mining finance, and minerals exploration. His primary focus is to bring the benefit of this experience to bear for each customer as they navigate digital transformation of their enterprise.



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