Step-changes in geoscientific inputs to mining value chain configuration

Minerals keynote paper

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SUMMARY

The revolution in computational power and integrated geoscience modelling approaches over the past decade is set to accelerate. Geoscientists (collectively; geologists, geometallurgists, mineralogists, geochemists and importantly geophysicists) will lead a transformation in the way the mining value chain can be conceived, evaluated and operated. The emerging capability to process large numbers of stochastic images of the mineralised system – each characterised by rich multivariate information – will allow better decision-making about alternative value chain configurations in the face of uncertainty. While this decision making has obvious implications for capital decisions in project evaluation, it has equally dramatic possibilities for real-time optimisation of existing operations. The advent of more flexible, highly configurable and in many instances automated and intelligent approaches to mining and mineral processing is perfectly timed to enable these inputs to deliver step-changes in value.