



Type what you want to search

Search

05/13/2021



## Charge On Innovation Challenge: Global competition launched to electrify mine truck fleets

BHP, Rio Tinto, and Vale, three of the world's biggest resource companies, have launched the Charge On Innovation Challenge, a global competition for technology innovators to develop new concepts for large-scale haul truck electrification systems to help significantly cut emissions from surface mine operations and unlock safety, productivity, and operational improvements.

BHP, Rio Tinto, and Vale are the Founding Patrons of the Challenge, in partnership with Australia's Mining Equipment, Technology and Services (METS) industry body Austmine. The Challenge is expected to attract additional interest from resource companies that maintain substantial haul truck fleets and are looking for innovative concepts to deliver electricity to large battery-electric haul trucks.

Current stationary charging systems require substantial time to charge large trucks, which would result in significant lost productivity. The mining industry needs multi-megawatt scale fast charging concepts capable of delivering around 400kWh to charge (and propel) a truck within the truck's haul cycle (load, travel, dump, return, queue).

"METS and mining companies are united on the Challenge to reduce emissions across the supply chain," said Austmine CEO Christine Gibbs Stewart. "With 80% of METS companies supplying products and services outside mining, the Challenge leverages the experience and innovation of industries in the automotive, battery makers, aerospace, defence and other sectors."

"We are confident that we will find a solution to the delivery of electricity to trucks in the complex operating environment of a large surface mine. We expect the Challenge will attract companies from a broad range of sectors including mining, automotive, aerospace, agriculture, and defence to deliver selected charging concepts to create a standard product that can interface with all trucks," Ms Gibbs Stewart said.

President of BHP Minerals Australia Edgar Basto said: "We expect the Challenge will stimulate innovative ideas, some of which could be immediately applied to existing diesel-electric equipment and help fast-track implementation of longer-term solutions. We understand that these challenges will not be solved overnight, but together we can find the best concepts that can be applied across the industry."

Rio Tinto Group Executive Safety, Technical and Projects Mark Davies said: "This is a global call-out to innovators to change the way haul truck systems operate in the mining sector. Innovation is the key to decarbonisation, and we expect the Challenge will deliver exciting new concepts that could drive huge long-term benefits for our industry and the environment.

"Partnerships and collaborations across a diverse range of sectors can drive significant technological change. This is an important, industry-wide approach that has potential to create new jobs and opportunities for suppliers, both globally and locally."

Carlos Mello, Ferrous Engineering Director of Vale said: "Mine electrification requires considerable integration between mine planning and operations. We need to develop new charging solutions that can be incorporated into our operations in parallel to the development of battery trucks, to ensure we create a truly sustainable electric haulage system in all aspects - clean, competitive and flexible."

The mining industry needs to be at the forefront of tackling the climate challenge. The Charge On Innovation Challenge is a great example of the current collaborative work being done by the mining industry and mobile equipment manufacturers to decarbonise mining fleets. In addition to providing a zero-carbon energy source, the conversion of mobile mining equipment to battery electric can potentially unlock value, as electric motors have fewer moving parts when compared to standard equipment.

Several non-traditional mining sector vendors are actively developing technologies that can be applied to mine electrification. The Challenge is expected to demonstrate an emerging market for charging solutions in mining, accelerate commercialisation of solutions, and integrate innovations from other industries into the mining sector.

The Challenge Expression of Interest process will open on Tuesday, 18 May, and candidates who make the short list are expected to pitch their concepts later during this calendar year.

For more information, visit the website [www.chargeoninnovation.com](http://www.chargeoninnovation.com).

#### More information

---



#### Media Relations Office

[imprensa@vale.com](mailto:imprensa@vale.com)

[Click here](#) to see our contacts