The South Australian Government has awarded a A\$2 million grant to Hillgrove Resources to trial new underground mining technology that is now being progressed in Australia by Komatsu. The company said the announcement marks a major moment in the company's progress towards underground copper production at the former open pit site.

Hillgrove stated: "The Komatsu MC51 continuous mining machine utilises Komatsu's DynaCut mechanical cutting technology which has the potential to revolutionise underground mine development by making underground operations safer, faster and more cost effective, in addition to reducing operational emissions for mine sites."

The Komatsu MC51 will be used to develop a portal and ~500 m underground decline at the Kanmantoo Mine in South Australia. The trial will focus on demonstrating the commercial viability of the machine and trial new materials handling and ground support processes. "The underground decline has multiple benefits to Hillgrove, including the development of underground drilling platforms which reduce drilling cost as Hillgrove continues to expand and infill drill the existing Kanmantoo Underground resource."

Also, subject to Board approval for the commencement of the underground operations, the decline brings forward first copper production and reduces development costs. Commenting on the grant, Hillgrove CEO and Managing Director, Lachlan Wallace said: "The trial at Kanmantoo is an important collaboration between the State Government, Komatsu and Hillgrove to facilitate the commercialisation of continuous mining technology which has the potential to revolutionise underground mine development by making underground operations safer and more productive, whilst taking a significant step towards zero emission mining. The development of an underground decline and drill platforms represents an exciting milestone for the Kanmantoo Underground which ultimately brings forward the potential restart of copper production and further reduces what is already a relatively low-cost mine development."

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The Minister for Energy and Mining, The Hon Dan van Holst Pellekaan said: "The Marshall Government's Jobs and Economic Growth Fund is investing A\$2 million into the 'Continuous Mining Machine' trial at Hillgrove's copper mine. This equipment could extract high value zones of economic copper ore more quickly, which is a key part of our plan to increase economic growth. This has attracted widespread interest from industry, which will observe the trial first-hand. I'm optimistic this trial will help develop ways of mining underground more safely, quickly and sustainably. All that would mean more copper, which means more jobs, more growth and more royalties back to taxpayers."

The objective of the trial is to demonstrate commercial viability and trial materials handling and ground support solutions. Successful deployment of commercial machines in the future has the potential to remove blasting from mining development, improving safety and community outcomes, as well as reducing blast related operational delays. In addition, the increased accuracy of mechanical cutting over traditional drill and blast techniques reduces rework and wastage, and has the potential to change industry's approach to mining processes and designs. As a fully electric powered machine, the Komatsu MC51 reduces the carbon footprint of mining development and is a key step towards zero emission mining.

It is anticipated that the trial will develop the Kavanagh portal, approximately 500 m of decline, and a number of drill platforms which facilitate underground drilling to infill and expand the resource, and, subject to Final Investment Decision (FID), will later serve as part of the broader underground mine infrastructure.

The grant is awarded in two tranches in arrears and based on the achievement of milestones. The first tranche is A\$800,000 at the completion of the portal, initial decline and first corner, and a second tranche of up to A\$1,200,000 at the conclusion of the trial. In recognition of the commercial benefit to the company, Hillgrove has agreed to repay half of the grant proceeds received via a 0.25% royalty on concentrate sales if the trial is deemed successful. Success is measured by the

meeting a minimum production rate over at least 350 m of decline development, and the subsequent development and production from the Kanmantoo underground mine.

Repayment of half of grant proceeds commences 12 months after first copper sales from the Kanmantoo Underground. Hillgrove has also committed to create a number of jobs if the Kanmantoo Underground proceeds. In the unlikely event that the trial is successful and the minimum job thresholds are not met, Hillgrove will repay the full grant proceeds via a 0.25% royalty on concentrate sales.

It will be Komatsu's second MC51 project with the first a collaboration with Vale at the Garson nickel mine in Sudbury, Ontario, Canada. Rudie Boshoff, Director of Hard Rock Cutting Systems at Komatsu recently stated: "Not only does the DynaCut technology provide a very controllable way of cutting rock – within 50 mm accuracy to plan – the machine itself, the MC51, is designed to advance more sustainable mining methods by reducing the amount of equipment required to get to the orebody."

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