MEDIA RELEASE

For immediate release: Thursday 12 May 2022

AMPCONTROL AND TRITIUM ANNOUNCED WINNERS IN GLOBAL "CHARGE ON INNOVATION CHALLENGE" TO DECARBONISE MINING OPERATIONS

- **Mining giants BHP, Rio Tinto and Vale back eight solution concepts from around the world in Charge On Innovation Challenge**
- **Ampcontrol and Tritium (Australia) winning solution selected from 80 submissions**
- **Ultra-fast haul truck modular battery recharging station to progress to development to support the future roll-out of zero-emissions fleets**

In the global quest to significantly decarbonise mining operations, eight technology innovators' submissions, including a joint solution from Ampcontrol and Tritium (Australia), have been selected to progress beyond the Charge On Innovation Challenge.

The global challenge, launched by BHP, Rio Tinto, and Vale sought to accelerate the commercialisation of effective solutions for charging large electric haul trucks while simultaneously demonstrating there is an emerging market for these solutions in mining.

The eight innovators selected are Ampcontrol and Tritium (Australia), ABB, BluVeinXL, DB Engineering & Consulting with Echion Technologies, Hitachi, Shell Consortium, Siemens Off-board power supply, and 3ME Technology.

The joint submission from Ampcontrol and Tritium (Australia) is an end-to-end mining haul truck battery swap solution that is fully automated, relocatable, scalable, and cell agnostic. In a drive-in/drive-out recharging station, an autonomous transfer robot swaps batteries in 90 seconds, significantly reducing safety risks and increasing productivity by excluding personnel from the swap process.

On receiving the news of its winning solution, Ampcontrol Managing Director & CEO Rod Henderson said, "Technological breakthroughs are vital to our decarbonisation journey as we work toward zero emissions. Collaborative partnerships with organisations such as Tritium are critical to our research and development as they bring together innovative thinkers to deliver safer, cleaner, electrically operated solutions to the mining industry."

Focused on the sustainability of our environment, Ampcontrol and Tritium worked together to pitch for the challenge to help find a joint solution that can change the shape of the mining haul cycle forever.

"We are immensely thrilled to be named as one of the winning solutions in what has been a very comprehensive and competitive worldwide challenge. The backing by BHP, Rio Tinto, and Vale of our winning solution acknowledges both Ampcontrol and Tritium as pioneers in innovative global energy solutions that can disrupt and revolutionise the mining industry," added Rod Henderson.

BHP's Group Procurement Officer, James Agar, said, "The truly global nature of the final eight technology innovators selected, from across industries, demonstrates the level of interest that exists to work closely with the mining industry is seeking solutions to decarbonise mining fleets. The Charge On Innovation Challenge is a great example of the current collaborative work being done to reimagine traditional models and relationships, which will enable innovative solutions to be designed, tested, and implemented, fast-tracking the adoption of new technology."

The Charge On Innovation Challenge was launched in 2021 and invited vendors and technology innovators from around the world and across industries, to collaborate with the mining industry to present novel electric truck charging solutions.

The Challenge received interest from over 350 companies across 19 industries, with over 80 companies submitting expressions of interest (EOI). 21 companies were then invited to present a detailed pitch of their solution. The final eight were chosen from these 21 companies.

Rio Tinto Chief Technical Officer Mark Davies said, “With this group of innovators, we’re taking another step in the right direction towards changing the way haul truck systems operate in the mining sector. Through collaborations like this, where we all come together to create change, we can drive long-term benefits for our industry and the environment.

“We know we have a role to play in helping solve the global climate challenge. We’re looking at how we can make changes across our business to reduce our carbon emissions by 50 percent by 2030. Initiatives like the Charge On Innovation Challenge can help us reach our targets.”

These technology innovators worked together with the founding patrons – BHP, Rio Tinto, and Vale – and 16 other mining companies to accelerate the commercialisation of interoperable solutions that can safely deliver electricity to large battery-electric off-road haul trucks – reducing emissions while enhancing mine productivity.

Diesel-powered haul truck fleets are responsible for up to 80% of a mine’s emissions, but electrifying them requires charging systems capable of delivering energy at unprecedented power levels during operations. The truly global challenge saw the eight winning solution concepts from Australia, Switzerland, Japan, Denmark, Singapore, the United Kingdom, and North America.

Vale´s CEO, Eduardo Bartolomeo said, “It is with great pride that we announce the winners of this Challenge who have presented solutions that promise to disrupt the sector. The decarbonisation challenge is so extensive that the mining industry cannot tackle it alone, but with partnerships such as these, we hope to reach this goal, for ourselves, for our communities, and our planet.”

Ampcontrol and Tritium (Australia) will now collaborate with interested mining companies, OEMs, and investors to accelerate the technology development to support the future roll-out of zero-emissions fleets.

Ends.

Ampcontrol is Australia's largest privately-owned electrical engineering company leading advanced global manufacturing of award-winning innovations, products, solutions and service to the resources, infrastructure and energy sectors. Founded in Newcastle NSW in 1968, Ampcontrol has grown to over 850 employees across 30 operations worldwide.

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About Ampcontrol

- Ampcontrol is Australia's largest privately-owned electrical engineering company leading advanced global manufacturing of award-winning innovations, products, solutions and service to the resources, infrastructure and energy sectors.

- From humble beginnings founded by four friends in a small shed in Newcastle in 1968, Ampcontrol has grown to over 850 employees across 30 operations worldwide.

- Ampcontrol co-founder, Peter Cockbain AM, is named by Engineers Australia as one of Australia's top 100 influential engineers and in 2015 he became a Member of the Order for Australia for his significant services to engineering.

- Locations include New South Wales, Queensland, Victoria, South Australia, Western Australia, Northern Territory, ACT, Asia, India, Mongolia, UK, and France.

- Consists of 6 member companies; Ampcontrol, Captech, CPS National, ResTech, Verico Group, and Austech.

- The largest operation is located in the Hunter, NSW, with a combined manufacturing space totalling over 21,000sqm spread over 10 different sites.

- Designed and built lifesaving emergency ventilator prototypes for the NSW Government in response to the COVID-19 pandemic.

- Developed the world's first IECEx certification for an explosion protected, hermetically sealed, nitrogen filled and pressurised mining transformer.

- Developed the industry's first 132kV emergency response mobile substation that has received RTA approval as a new special class type of vehicle due to its innovative design and ability to meet all road safety requirements.

- Developed Australia's first variable speed drive (VSD) installed on a longwall armoured face conveyor in Moranbah North Longwall.

- Designed and developed a breakthrough remote water treatment system that transforms undrinkable water into pure water. Pilot project currently installed in a remote indigenous community in Gillen Bore, Northern Territory.

MULTI-AWARD WINNING ENGINEERING, DESIGN, AND INNOVATION

- 2021 Good Design Award for Excellence In Engineering Design (Solar Qube)
- 2021 Hunter Manufacturing Award for ‘Excellence In Product Design’ (Solar Qube)
- 2021 Hunter Manufacturing Award for ‘Collaboration Partnership’ (Hybrid Diesel Electric Boat)
- 2020 Hunter Business Award for Excellence In Innovation & Adaptability for 'Emergency Ventilator Project'
- 2020 Hunter Manufacturing Award for Collaboration Partnership for 'Emergency Ventilator Project'
- 2020 Hunter Manufacturing Award for Manufacturing Pivot for 'Emergency Ventilator Project'
- 2020 Lake Macquarie Business Excellence In Innovation for 'Emergency Ventilator Project'
- 2020 Consult Australia Awards for Excellence for Technological Innovation for 'Gilghi'
- 2020 Institution of Civil Engineers Chris Binnie Award for Sustainable Water Management for 'Gilghi'
- 2020 Engineering Excellence Award Newcastle Division for 'Gilghi'
- 2020 Good Design Award winner for Social Impact for 'Gilghi'
- 2020 NSW Mining Supplier of the Year
- 2020 Australian Water Association NSW Water Infrastructure Project Innovation Award for 'Gilghi''
- 2019 Hunter Business Excellence Award for Innovation' Gilghi'
- 2019 Good Design Award winner for Product Design – Commercial and Industrial for 'Rockstarter'
- 2019 Good Design Award winner for Engineering Design for 'Rockstarter'
- 2019 Scottish Engineering Awards – President's Award winner
- 2019 Lake Macquarie Business Excellence Award for Innovation for 'Gilghi'
- 2019 Mine Electrical Safety Conference Innovation Award for AFC VSD Moranbah North Longwall Project
- 2018 HunterNet Chairman Awards Excellence In Work Health Safety
- 2018 Hunter Business Awards Excellence In Business (20+ employees)
- 2018 NSW Minerals Council Outstanding Supplier for 'H3RO'
- 2017 Hunter Manufacturing Awards Excellence In Product Design for 'VoiceComm Phone'
- 2015 Engineers Australia Newcastle Engineering Excellence Award for 'Arc Fault Venting – Simulation and Practice'
- 2013 Australian Engineering Excellence Award winner for Engineering Innovation' Management of VSD earth leakage currents in fault limited networks'
- 2010 Australian Engineering Excellence Award winner for Engineering Excellence' Blakefield South 11kV longwall in partnership with Xstrata Coal and Joy Global'
- 1998 Australian Engineering Excellence Award winner for Engineering Excellence 'iMAC'