

# Meet Tony Le

**T**ony Le, a second-year PhD candidate in Robotics Engineering from the University of Technology Sydney (UTS), has

recently joined Ausdrill as part of a four-month internship to assist with the HALO (High Access Localised Operations) project. Tony, who has a bachelor's degree in Mechatronics from UTS, is exploring using XR technology, such as virtual reality (VR) and augmented reality (AR), to enable intuitive and efficient interactions between humans and robots.

The HALO project is a multi-phase research and development collaboration between Ausdrill and UTS, focused on enhancing safety in rock scaling, a geotechnical challenge. Tony explains, "We're developing a remote-controlled robotic platform, aptly named the HALO robot. The project has been underway since early 2020, with multiple smaller prototype projects. At the end of 2022, UTS delivered a working, scaled prototype robot to Ausdrill. This person-sized, 117kg robot can navigate rough terrain, abseil using winches, and chip away at rock walls with its manipulator arm.

"The prototype is also currently at a stage where rapid modifications can be made, allowing it to serve as a versatile testbed for ideas that could enhance safety and autonomy in mining, such as remote-controlled equipment, immersive live 360-degree streams, and dynamic digital twins," he said.

Tony's primary objective while at Ausdrill has been to test HALO on

an actual mining site, overcoming engineering challenges related to the robot's robustness and incorporating user-focused design principles.

from HALO will help shape the future of Ausdrill's ongoing *Enable tomorrow* initiatives," said Tony.

Tony describes his experience at Ausdrill as overwhelmingly positive. "Ausdrill has a strong sense of openness, inclusivity and mutual respect. The commitment to safety and "doing things the right way" (*No shortcuts*) is also prevalent. The office atmosphere is delightful; everyone is friendly and welcoming. I truly enjoy chatting with the guys in the office, and they make me look forward to coming to work just for the banter.

"I also greatly appreciate the personal support and feel that my well-being is cared for. In this regard, I am especially grateful to Clint Ricetti, who hosted me during my initial weeks and has remained incredibly helpful, and to Mat Gemzell, my unofficial "babysitter", who has greatly guided my transition into working at Ausdrill and shown me the 'ropes' at the mine site for our trial".

Living in Perth during his internship has been a fantastic experience for Tony.

**"The slower pace compared to Sydney has been a refreshing change, and it's surprisingly helped me achieve a healthier work-life balance. Since my move, I've had a little adventure each weekend, whether exploring the CBD and Fremantle or heading out to the beaches. One of my most memorable experiences was a day trip to Rottnest Island, where I finally ticked off a long-standing item on my bucket list: taking a quokka selfie!" ■**



Recently, Tony and members of the Ausdrill Geotechnical team conducted a successful site trial with HALO at the Newmont Boddington Gold Mine. "We managed to put the robot through its paces, achieving everything we had planned: descending the rock wall, chipping with the arm, experimenting with VR controls, and practising a few rescue scenarios," Tony said.

"By the end of my internship, I hope to have contributed to the transition to the next phase of HALO, which entails upscaling the prototype to a production level. I also hope that the insights we get