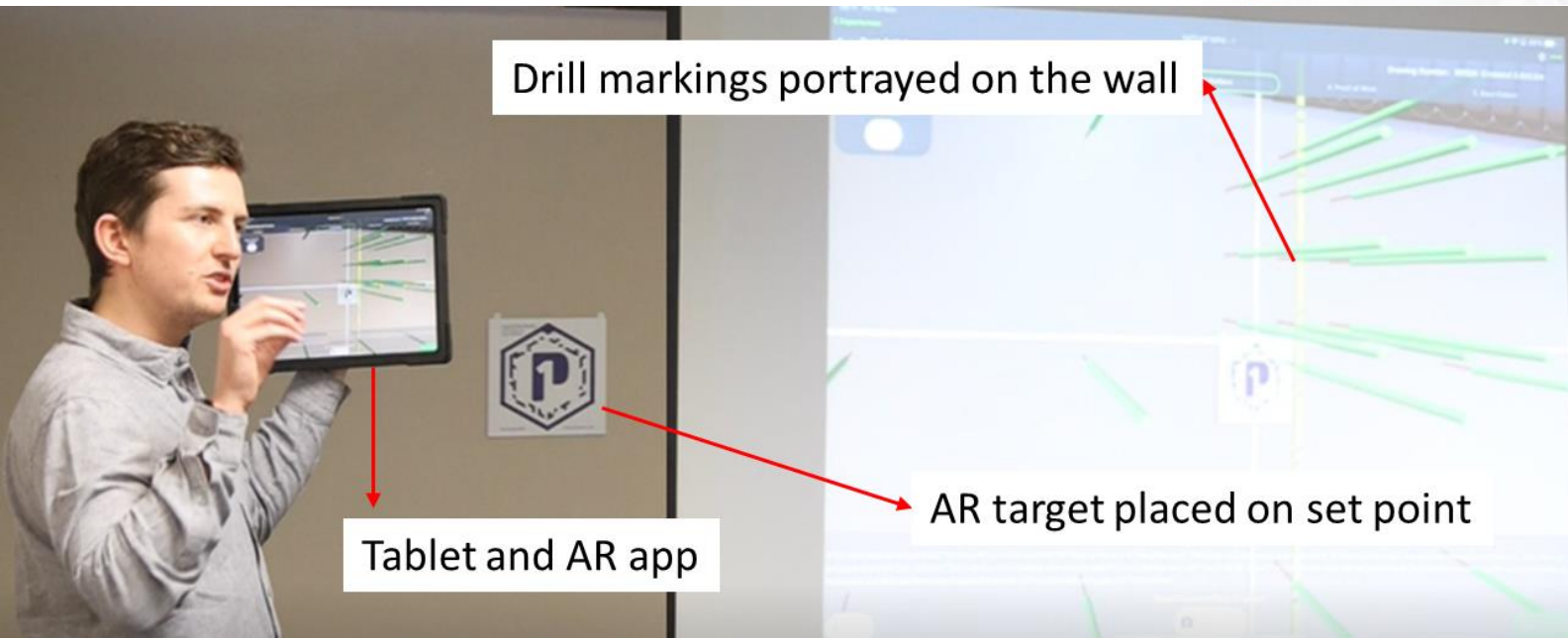




AUGMENTED REALITY SOLUTION FOR ROCK DRILL OPERATORS AND MINERS

Technical Detail:

The AR training solution for rock drill operators was developed during COVID-19 using virtual collaboration and simulations. Demonstrated in controlled settings like UJ's mine simulator, the project highlighted that mining training must be tailored to each mine's modernization, infrastructure, and workforce. The solution enables blended learning with multilingual content, guides, SOPs, and videos. While it improves remote learning, physical training remains vital. It is available for industry use through the Mandela Mining Precinct, with options for licensing and customization. Future rollout requires attention to digital skills, infrastructure, funding, and alignment with mine-specific needs

Benefit:

This project demonstrates the transformative potential of augmented reality (AR) in modernizing training for rock drill operators (RDOs) and miners in gold and platinum group metal operations. By developing and piloting a simulated AR solution, the initiative supports upskilling through immersive, just-in-time learning experiences that reflect real underground conditions. The AR system enables training directly at the stope without the need for network or power infrastructure offering last-mile intelligence, automatic safety monitoring, and optimized shift handovers. Integrated with SAMERDI research and designed for broad industry use, the solution empowers mines to enhance safety, productivity, and workforce readiness through accessible, scalable digital training tools.

