

Category 1: Work Health and Safety

Virtual Reality Revolutionising Training: A Tool for Skills Development

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Hiway Stabilizers



2023 AustStab Awards of Excellence

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The objective of the initiative

To create and incorporate Virtual Reality training modules into our annual Training Programme to provide personnel with a safe and flexible training environment that decreases the risk of harm to trainee machine operators while boosting operator competency.

Pictures showing a new operator undergoing training on a GS360 stabiliser to be signed off as competent.

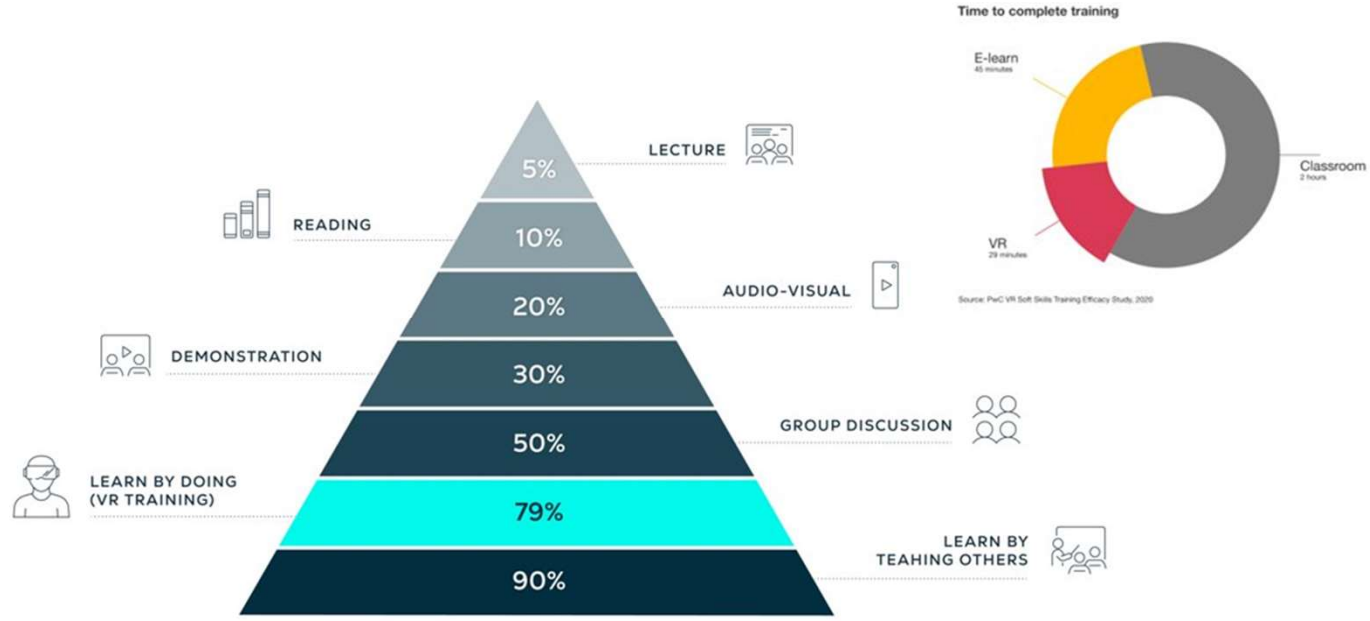


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The Initiative

Operator training and competency is a key priority that underpins our Critical Risk Controls for all employees at Hiway Stabilizers Australia, including WA Stabilizers' (HSA) and Workplace Health and Safety strategy to address Critical Risks. To provide a safe real-world training environment where operators could be exposed to a dynamic learning environment that encouraged learning from good practice and mistakes, Hiway Stabilizers developed a new Mobile Plant training tool using Virtual Reality

Over traditional training methods, Virtual Reality (VR) training encourages learning by doing and improves learning by as much as 80%. Also, VR training takes less time requiring only 29 minutes, whereas traditional classroom training methods or E-learning will take anywhere between 45 minutes t 2 hours to complete the same course content.



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Operating Environment and Context

- The Komatsu GS360 Stabilizer was chosen to create the programme because it has been used extensively within the Hiway Group to deliver and stabilize a wide range of ground-based materials. Its adaptability with a side-shift rotor and availability in rubber-tyred and tracked varieties make it excellent for this type of work.
- We engaged a virtual reality company to create a programme that would be as lifelike as possible and expose our personnel to this Plant type without putting them at risk. It was critical that whatever we devised aggressively engage our personnel, evaluate their abilities and knowledge, and highlight the possible implications of any mistakes they might make without the risk of catastrophic injury frequently connected with learning to operate Plant in real time.



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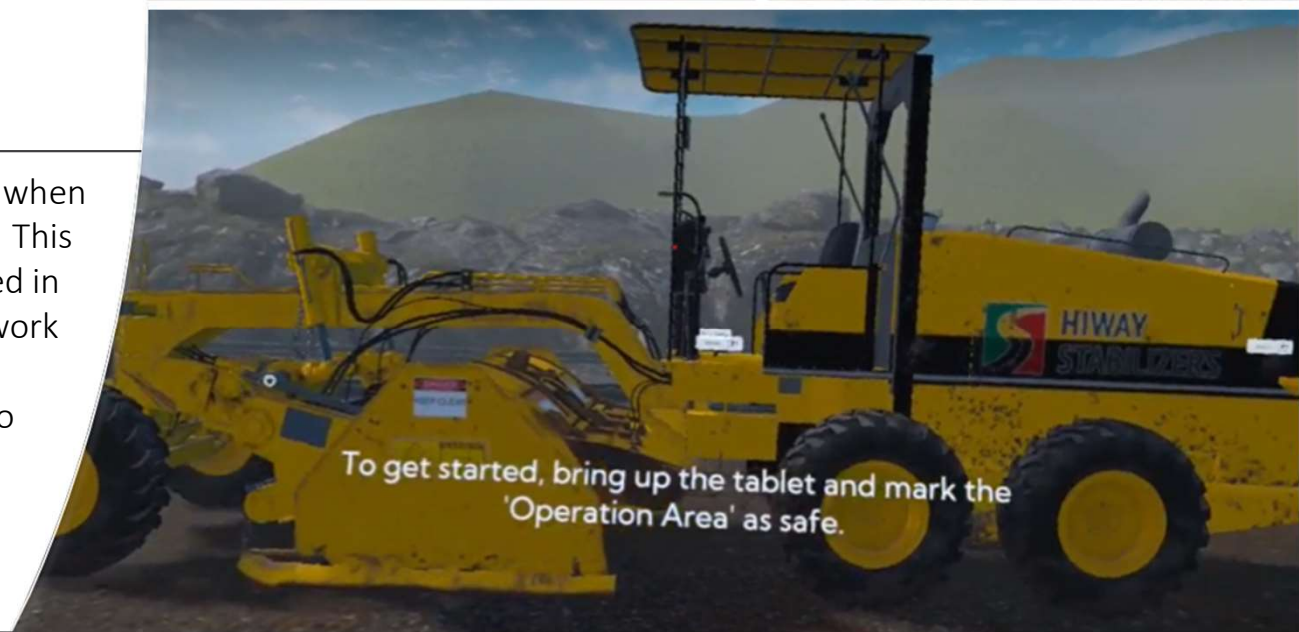
Challenges and Implementation

- One of the key challenges faced was the development of virtual images so they were as close to the real thing as possible. Our employees are quick at picking up on any variance from what they see and use daily!
- Other challenges included ensuring that the position of critical controls and safety processes were able to be integrated within the virtual environment in a way that felt and resembled daily activities and, importantly, the application of controls. Without this, the program would not deliver the right results.
- We had a very tight time frame to develop a new training tool from scratch and be ready for use in our 2023 training program. We managed to do just that and are very pleased with the results.

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Virtual Reality – where reality comes to life

With a real world GS360 depicted in the top left corner when compared to the VR model, the detail was outstanding. This served to enhance training as our trainees were immersed in an environment that closely resembled the real-world work environment. This was an important consideration to ensure there was wide acceptance and credibility lent to the program by our operators. Our operators were involved in the development of the program, they had the opportunity to review the program and suggest further improvements.



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Successful Outcomes and Impact

—
4x

faster to train than in the classroom

—
275%

more confident to apply skills learned after training

—
3.75x

more emotionally connected to content than classroom learners

—
4x

more focused than their e-learning peers



The improved training outcomes from the VR program and successful results – and pictures showing screenshots from the VR environment.

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Success and practical use of the program

Hiway Stabilizer employees participating in the VR program with the trainee's experience projected onto a large screen for all to observe.

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