

MAKER IMMERSION KIT

Full project name: The Maker Immersion Project

Lead organisation: Exner Education

Collaborators: AECOM, Real Serious Games, Built, University of Melbourne, Safety Journey, Holmesglen Institute and Federation University

A HI-TECH SOLUTION TO GET CONSTRUCTION MOVING – THE INNOVATION

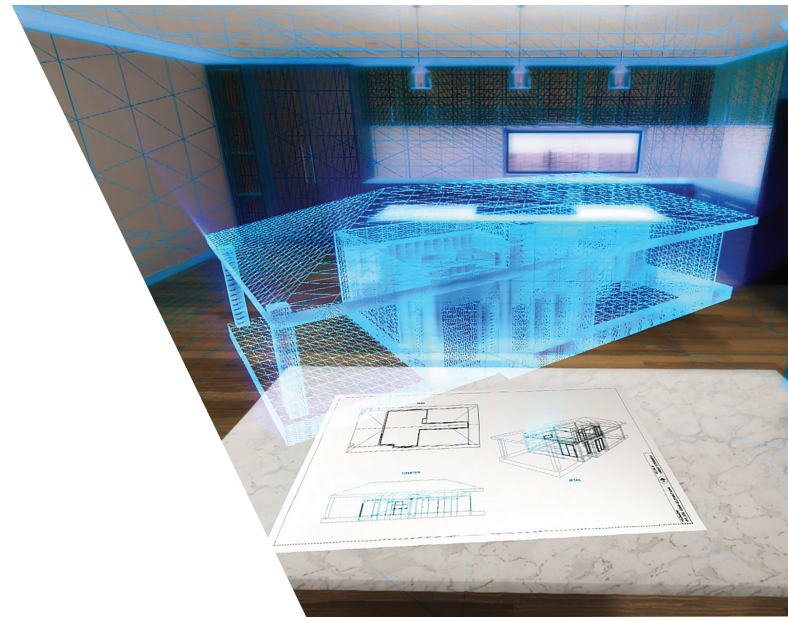
The booming construction industry is hampered by a skills shortage. Companies report that many graduates of the Cert IV in Building and Construction are not job-ready because they often lack on-site experience.

Redefining the course and developing content for Virtual Reality use is the spearhead of a bold overhaul that aims to improve the Cert IV and Diploma courses. Project leader, Exner Education and its partners have updated the entire course notes in consultation with industry and TAFEs.

They have also blended traditional face-to-face training with immersive, interactive virtual scenarios that allow students to learn concepts and then practice their skills in a virtual worksite.

While that technology is a headline grabber, it is just one of the tools in the Maker Immersion Training Program, which will be supplied to TAFEs and RTOs and includes:

- Mapped, industry-approved course notes for students and trainers. These have been developed to engage students – Exner even hired a cartoonist to make the material more appealing.
- An XBook for student material, including video and quizzes, to be hosted on the TAFEs' Learning Management System.



- Mapped VR content against required criteria to provide dedicated learning opportunities.
- A flat-packed physical kit for practical builds.

FASTER AND MORE ENGAGING – THE OUTCOMES

The VR technology was first demonstrated to students and trainers at Holmesglen Institute and Swinburne University last November and received overwhelmingly positive feedback. Holmesglen was the first TAFE to adopt the Maker Immersion Training Program, with the first module being delivered to a new cohort from July.

The feedback from this testing indicates that the new-look course will be cost effective, faster, more engaging and yield better results than its predecessor. It is expected the program will soon be available to all TAFEs in Victoria and, later, across Australia.



THE WOW FACTOR – BUILDING VR SCENARIOS

The maker immersion project team visited building sites in Melbourne and consulted widely as they prepared to build their virtual scenarios.

These habitats have been created with the look, feel and sound of the real working world. They include a construction site, a half-finished commercial area, an apartment, residential house and development site where the trainee applies what they have been taught.

For example, one module requires them to conduct a safety walk to identify hazards and apply appropriate controls. Various interfaces are used from a virtual keypad that allows the student to navigate and make decisions, spray-painting items to highlight boundaries and grabbing and positioning windows within a virtual house.

Close attention has been paid to modelling the equipment, landscapes and characters. Getting the little touches right – the vegetation, the street furniture, the sound of distant traffic and bird song – is also crucial to making the experience feel realistic.

TEST AND IMPROVE - LESSONS LEARNED

- Rachel Burke, operations general manager at Exner Group, says consulting with experts has been a key success factor. *"The educational tools must be constantly evaluated and piloted with TAFE and industry to ensure they reflect current industry practices, and are realistic,"* she says.
- It's important to allow time for this consultation, testing and feedback process. *"A significant amount of time, perhaps longer than we expected, has been spent gaining feedback,"* Ms Burke says.
- This feedback was particularly crucial for the development of the VR and the course notes and will ensure that they meet TAFE and industry needs.

Founded in 2017, the Workforce Training Innovation Fund (WTIF) is a targeted *Skills First* funding stream. WTIF creates opportunities for partnerships between industry and the TAFE and training system and encourages them to explore bold, innovative approaches that challenge existing practices in skills development and training methods.

Ultimately, these new ideas and solutions aim to enhance workplace productivity, particularly in Victorian Government priority sectors. More than \$90 million of funding has been committed to date.

The next round of WTIF funding is now open for applications.

To find out more visit www.education.vic.gov.au/training/providers/funding/Pages/wtif.aspx or email the WTIF team at wtif@edumail.vic.gov.au