

USING DRONE TECHNOLOGY

Full project name: Enhanced Workforce Capability through Industrial Application of Drone Technology

Lead organisation: Institute for Drone Technology

Collaborators: Macutex, Bendigo Kangan Institute, Victoria University, West Gate Tunnel Project, Barwon Water, Geelong City Council

WHAT'S THE WICKED PROBLEM? – THE CONTEXT

The rapid advance of drone technology makes it a game changer, whether it's being used to check out dangerous confined spaces on the West Gate tunnel or to survey school roofs across Victoria. Drone training is traditionally part of piloting and engineering courses – there is no standardised training for using drones in industry. This leaves businesses to rely on ad hoc training – and limits their ability to reap the safety and efficiency gains the machines have to offer.

WHY DON'T WE ... – THE INNOVATION

The Institute for Drone Technology is developing a training program for industries to teach workers to use drones. A core generic program called "the pattern" will be adapted and customised for use in different industry contexts. Using drones to gather data is just the foundation; the program also aims to teach workers crucial skills so they can analyse and interpret that data.

In addition, five key units of the program are being developed so they can be accredited and incorporated in any course run by a university, TAFE or RTO.



RISE OF THE MACHINES – PILOT PROJECTS

The training has been tested in pilot projects with Macutex, an asset management company, and Bendigo Kangan Institute. A third pilot, with the West Gate Tunnel Project and Victoria University, began in June.

Dr Joel Spencer, the Institute's chief executive, says that the way Macutex is now using drones is a prime example of how the technology can prompt a leap forward in efficiency.

"Macutex is using drones to look at every school roof in Victoria," Dr Spencer says. "Before this, you had to get someone to physically go up there on a ladder. It could save millions."

'IT WAS MIND-BOGGLING AT FIRST'

Case study: Nicole Broe, director, Food and Fibre Centre of Excellence, Bendigo Kangan Institute



“When we were developing the centre of excellence, we consulted significantly with industry about what they needed, and technology was a big focus. Some of our industry partners stressed an interest in drones and collecting and analysing the data, for example in the conservation and land management and agriculture sectors.

Some of our trainers and assessors, students and industry partners participated in the pilot training in February and March. The feedback was that it was great – it was engaging and intensive.

Separate from that, I've got a remote pilot's licence myself. It was mind boggling at first and took a while to get my head around! It's been a great exercise for me to understand the complexities of the training prior to rolling it out across the institute.

The next step will be to incorporate the feedback from our pilot and the other pilot projects. We hope to roll this training out across our Food and Fibre Centre of Excellence in 2020. It will also be rolled out across other teaching areas and applicable in a variety of courses at Bendigo TAFE and Kangan Institute.

HIGHS AND LOWS – LESSONS LEARNED

- Shobana Mitra, executive consultant for special projects at the Institute, says drone technology is developing at lightning pace. “Drone types are becoming obsolete in the middle of a project,” she says. “We have to be nimble and focus on transferable skills and capability in our training.”
- Feedback from the first pilot with Macutex proved invaluable in improving the training. The Institute recommends that similar projects adopt an agile, test-and-improve approach.
- Quality control parameters need to be agreed with all partners and implemented stringently.
- With the rapid development of drones comes a huge array of opportunities. Mrs Mitra says there are more industry contexts crying out for the adoption of drones. “I fear this project is but a drop in the ocean,” she says. “We need to do more and do it faster, expand our reach.”

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
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