Workforce Training and Innovation Funded Project

Enhancing workforce capability through industrial application of Drone Technology
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**WTIF programs Team**
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Rapid global uptake of drone technology in multiple industries

Industry need for greater efficiencies and productivity gains forcing potentially unsafe usage of drone technology

The imminent need for widespread, relevant training to enable workforce
WTIF- ENABLED TRAINING CAPABILITY

Project Objectives

Firstly, units of competency when accredited will have capacity to be included in National Training package qualifications as either electives or skill sets.

Secondly, fit for purpose learning resources that address specific workforce needs of the partner organisation and have the capacity to be replicated across additional industry sectors.

Thirdly, the project will most importantly produce graduates who are more able to meet the growing and changing workforce needs in priority sectors.
The Vision

Growth

Learners

Growth

Industries

Growth

Skilled Workforce

ROI

Safety

Efficiency

Innovation
The Vision

Safety
- Working at heights
- Site Inspections/Oversight
- Confined spaces

Efficiency
- Speed of work
- Accuracy of data

Innovation
- Accurate mapping
- New data gathering
- New data analysis/products
## Developing the Pilot Training Program

<table>
<thead>
<tr>
<th>Units of competence</th>
<th>UoC</th>
<th>Generic</th>
<th>Assets and Facilities management</th>
<th>Agribusiness &amp; Conservation and Land Management</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning to Fly Drones</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td><strong>Flight Basics - Hazards, Batteries and the Law</strong></td>
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<tr>
<td><strong>Safe Drone Operations - WHS and Situational Awareness</strong></td>
<td>✓</td>
<td>✓</td>
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<tr>
<td><strong>Other units</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Data Collection, Analysis and Interpretation</strong></td>
<td>✓</td>
<td></td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td><strong>Making Effective decisions using data</strong></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
We consulted widely with Industry SMEs and involved Industry partners and specialists in development of contextualised training.

We secured key Industry partnerships in target sectors and involved Industry partners/ SMEs to train our trainers and tested training materials extensively.

We set up feedback mechanisms and key evaluation processes for real-time and ongoing continuous improvement.
Pilot Industry Sectors- The Prime Movers

- Facilities & Asset Management
- Agribusiness & Conservation and Land Management
- Civil Construction
Pilot Group 1: Macutex

Facilities & Asset Management (Macutex)

**CONTEXT**
School Roof Inspections using Thermal Imaging

Learners: 5
Mixed group: Graduate Project Engineers, Surveyors, Risk and Compliance Mgr.

Training: 5 Days WTIF Training program
5 Days RePL
Macutex- ReOC

**WINS:**
- Increased Organisational Capability and Productivity
- Safety

Every school roof in Victoria on the way to being inspected using drone technology safely and efficiently. Not only are we saving millions, but mainly, we are keeping workers safe!!
Bendigo Kangan Institute is taking the lead from a Regional TAFE network perspective in the communication of project findings along with IfDT. BKI is currently integrating drone technology operations into the organisation and progressing to include resources in existing and new qualifications for the benefit of their Industry partners’ workforce.
Pilot Group 3: VU & West Gate Tunnel Project

Civil Construction (VU, John Holland and other Industry Partners in WGTP)

- CONTEXTS
  - Volumetric Surveying
  - Construction project Progress - Situational Variance mapping
  - Confined spaces - Tunnels

Learners: 12
- Mixed group: Educators Industry Partner Workforce

Training: 5 Days WTIF Training program

POTENTIAL WINS:
- Increased Capability and Reach - VU
- Increased productivity and Safety - WGTP
- Greater accessibility - Construction Project Management

VU Polytechnic is working towards integrating drone technology training into Civil Construction qualifications for the benefit of its Industry partners. West Gate Tunnel Project team considering safe and efficient integration of drone operations into project. Valuable feedback gained from training various layers of the workforce.
What we know so far: The Training Model

- RELEVANT
- APPLICABLE
- ENGAGING
Workforce Capability Development

MUNDANE

VALUE-ADD
Workforce Capability Growth - The movement has commenced!

- Galvanised to Challenge the Status Quo
- Explore New Options
- Apply New Ideas/Solutions
- Gain Greater Productivity
RISKS, LAGS & CHALLENGES

The risk of interconnectedness between training and drone operations’ integration:

Not integrating drone technology in the right way and at the right time
May hamper increase in productivity and affecting pilot evaluation

BAU causing delays- Not core business though advantageous
Scheduling- Release of workforce for training
Big wheels turning slowly
Process delays

Drone technology moving at a rapid rate- Drone types becoming obsolete right in the middle of the project
Fear that this is but a drop in the ocean- we need to do more and do it faster- Expand reach
Trainees as ambassadors: Documenting for Continuous Improvement

Every new idea through this program

Any particular ways that they think they may be able to use new knowledge and skills gained through this training program

What works well and what can be improved in the design and delivery of training program
Additional organisations queued for part or full pilot training

- Infrastructure (Utilities-Barwon Water and Geelong City Council)
- Infrastructure and Facilities Management (Knight Frank)
- Agribusiness (East Gippsland)
Project Progress Overview

UoC Framework developed for 5 Units
Learning Resources Developed for 3 Pilot Groups and 4th set in progress
Evaluation in Progress pre and post training program
Digital Development piloted and to commence fully post procurement of delivery partners
Communications plan to be executed in collaboration with partners
Massive amount of learning for all
Early indicators of project success and excellent feedback from all
Come and talk to us