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TECHNOLOGY

EST. 2016



Workforce Training and Innovation Funded Project

Enhancing workforce capability
through industrial application of Drone Technology



WTIF programs Team

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**Enhancing workforce capability
through industrial application of Drone Technology**



**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



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WTIF- ENABLED TRAINING CAPABILITY

Project Objectives

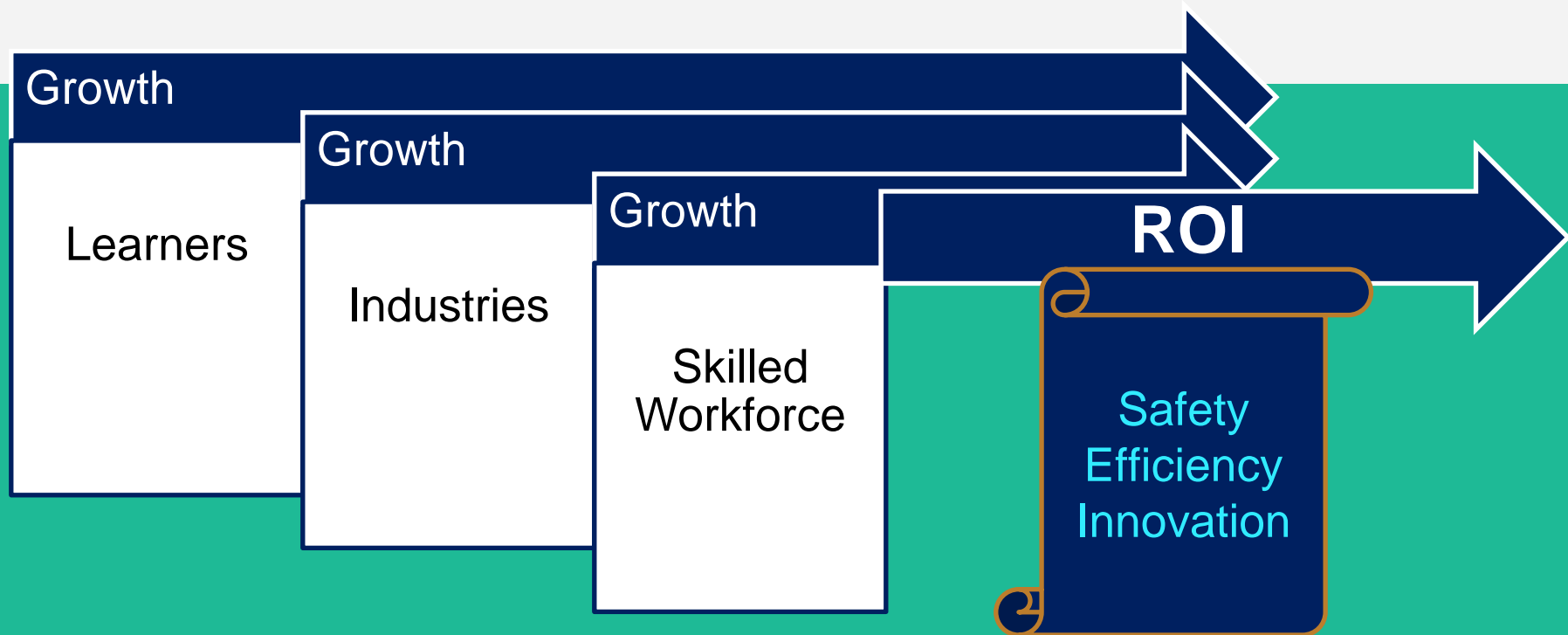
Firstly, units of competency when accredited will have capacity to be included in National Training package qualifications as either electives or skill sets

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





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

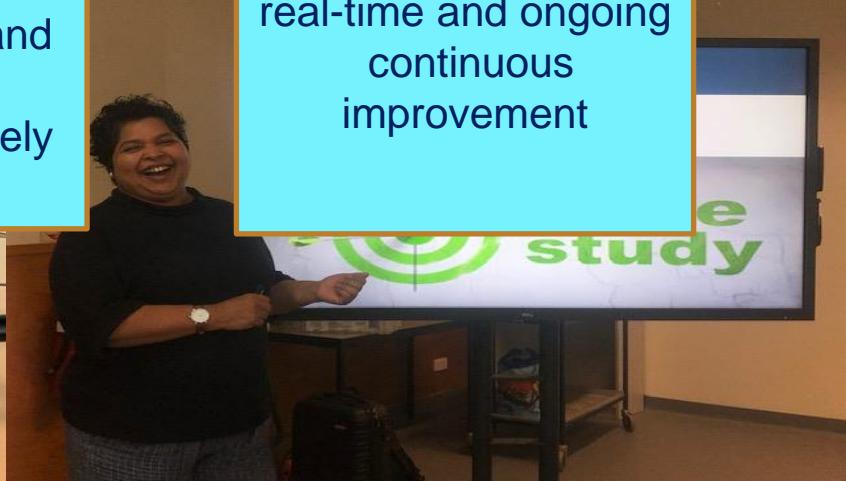
		Learning resources			
Units of competence	UoC	Generic	Assets and Facilities management	Agribusiness & Conservation and Land Management	Construction
Generic					
Learning to Fly Drones	✓	✓			
Flight Basics- Hazards, Batteries and the Law	✓	✓			
Safe Drone Operations- WHS and Situational Awareness	✓	✓			
Other units			Learning resources customised by Industry		
Data Collection, Analysis and Interpretation	✓		✓	✓	✓
Making Effective decisions using data	✓		✓	✓	✓



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





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Pilot Industry Sectors- The Prime Movers

**Facilities & Asset
Management**

**Agribusiness &
Conservation and
Land
Management**

Civil Construction



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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!!



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Pilot Group 2: BKI

**Agribusiness &
Conservation
and Land
Management**

**(BKI and Industry
Partners)**

CONTEXT

Weed Mapping

Learners: 7

Mixed group:

Educators

Students

Industry Partners

**Training: 5 Days WTIF Training program
BKI- Drone Integration**

**POTENTIAL WINS: Increased Community
Reach**

Increased Employability

Safety and Accessibility

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.



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What we know so far: The Training Model

RELEVANT

APPLICABLE

ENGAGING



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Workforce Capability Development

MUNDANE



VALUE-ADD



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Workforce Capability Growth- The movement has commenced!

Galvanised to
Challenge the
Status Quo

Explore New
Options

Apply New
Ideas/Solutions

Gain Greater
Productivity



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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



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Enterprise Solution
<http://www.dronete>



Bendigo
TAFE

*bound to industry
bound to succeed*

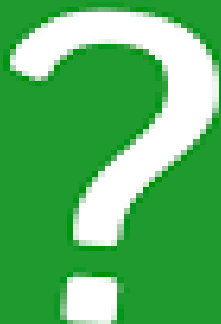
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talk to us



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Australian Government
Civil Aviation Safety Authority



Australian Government
Australian Skills Quality Authority

Australian
Qualifications
Framework



CODE

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