



Engaging with Industry

Australian Hydrogen Council Webinar
20 September 2022

Presented by Loren Tuck

In this presentation
Hycel and industry
Hydrogen bus training
QLD training

Engaging with industry

Why?

- Expertise
- Relevance
- Employable graduates
- Meaningful research impact

Applied Research

- Partnerships and collaborations
- Infrastructure projects – suppliers, safety and regulations
- Industry Advisory Board

Education

- National Hydrogen Strategy (Hydrogen Workforce Committee)
- Identifying gaps
 - School curriculum
 - Courses for Engineers
 - Vocational training
 - SWTAFE (Gas training; site visits; bus/fuel cell training)
 - National TAFE Hydrogen Group





Hydrogen Bus Training

Relevant industry engagement

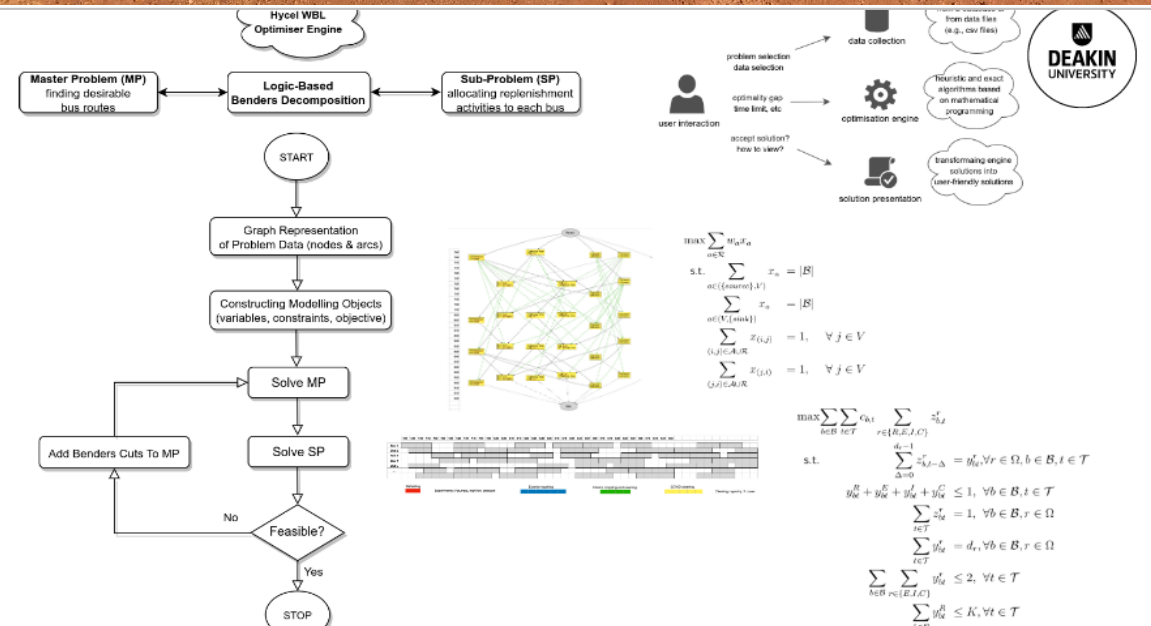
- PACCAR - fuel cell truck
- Hyzon - air filtration
- Warrnambool Bus Lines (WBL) – refueling network optimization
- Air Liquide and WBL - Warrnambool Hydrogen Mobility Project

Industry engagement

- Bus Industry Confederation Zero Emissions Committee
- OEM and operator collaboration and sharing information
- National Heavy Vehicle Regulator
- Looking overseas - EU, AC Transit
- Looking domestically - wind training

Proposed training project

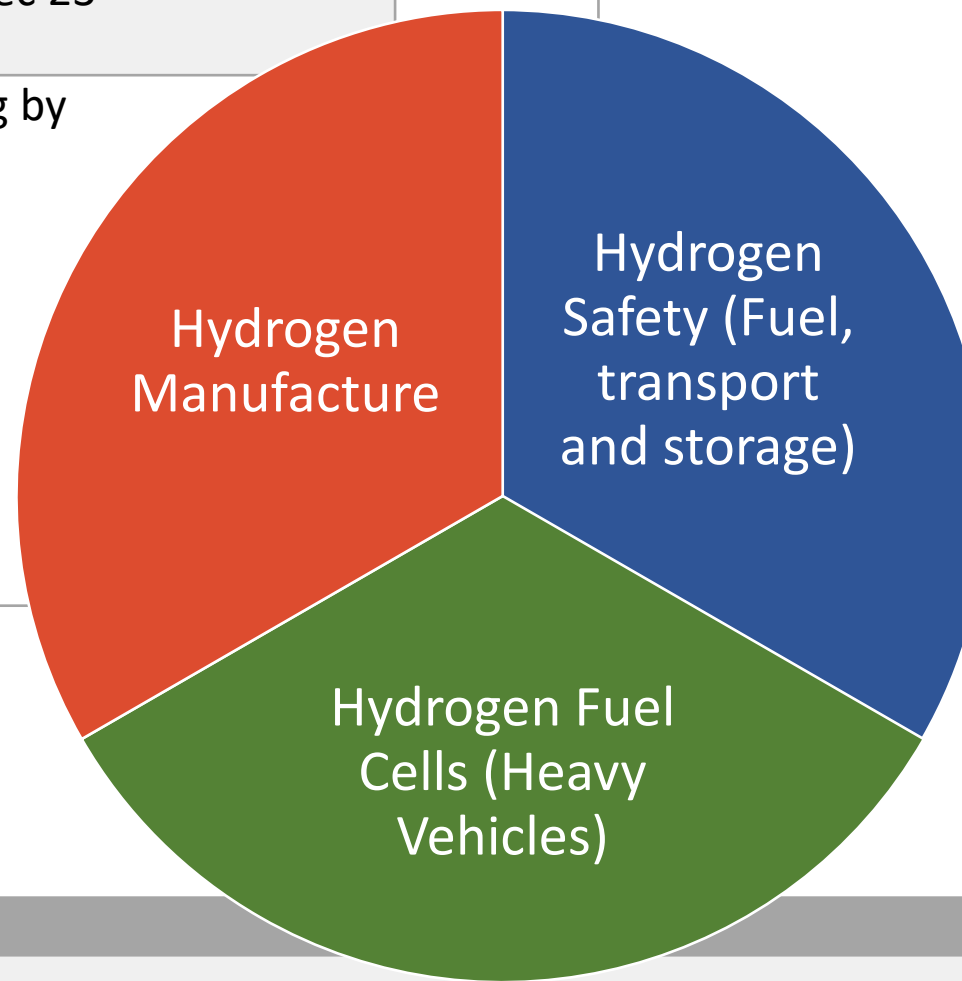
- Industry-led
- Scalable and flexible
- Collaborative





| PROJECT NAME | DELIVERABLES | KPIs |
|--|--|---|
| Hydrogen Manufacturing Skillsets | Develop new products for UEG (Gas fitters package) <ul style="list-style-type: none"> Basic H2 safety skillset; Inject H2 into distribution networks; Monitor H2 using control systems Pilot program: 10 x fully funded cohorts | Consultation by Oct 22 Skillsets by Dec 22 First 14 places by Jun 23 Remainder by Dec 23 |
| Hydrogen Plant VR Safety Training | Develop Virtual Reality training to safely shut down and operate Hydrogen Electrolysers with no risk of harm; how to maintain safety when operating in the context of a Hydrogen plant. Pilot program: 2 x fully funded cohort - 1 day non-accredited VR training program | Develop VR training by Mar 23 Delivery of first cohort by Jun 23 |

| PROJECT NAME | DELIVERABLES | KPIs |
|---|---|---|
| Hydrogen basic fundamentals | Development of 1 x non-accredited basic hydrogen safety fundamentals online program. Pilot Program: 42 x places Hydrogen fundamentals micro credential. | VR training by Mar 23 Delivery of first cohort by Jun 23 |
| Hydrogen Process Plant (PMA) Units | Develop new products: MSM (Manufacturing): Undertake minor maintenance; Conduct hazard analysis PMA (Chemical, Hydrocarbons and Refining): Create and conduct isolations in the workplace: Prepare and isolate plant: Operate filtration equipment: Operate and troubleshoot process control systems: Operate and troubleshoot gas treatment process; Operate safety, protection and shutdown systems | Consultation by Oct 22 Developed by Jun 23 |



| PROJECT NAME | DELIVERABLES | KPIs |
|--|---|---|
| Hydrogen Fuel Cells (non-accredited training) | Develop 2 x non-accredited short courses on operating safely around hydrogen and refuelling. 1 x non-accredited training on driver operations/mobility training. <u>Pilot Program:</u> Train the trainer 2 x cohorts fuel-cell driver operation safety training 1 x cohort how to operate safely around hydrogen 1 x cohort how to safely manage storage and refuelling | Develop by Mar 2023 Deliver first pilot by Jun 23 Remainder by Dec 2023 |
| VR Training for BEV and H2 Fuel Cell vehicles (partly funded) | <u>Product Development</u> 1 x VR safety bolt-on program for Hydrogen Fuel Cell Electric vehicles (identify component parts, safely depower and reinitialise, etc) <u>Pilot Program:</u> 1 x cohort delivery of H2 fuel cell safety. | Project mapped and scoped by Dec 2022 Resource development by Mar 2023 Students enrolled in pilot by June 23 Program completed by Dec 23 |

hycel



Relevant

Collaborative

Scalable