

CONVERT

Dysgu Trochi ym Maes Adeiladu | Immersive Learning in Construction



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

TRANSFORMING *The* CONSTRUCTION INDUSTRY:

THE IMPACT & ACHIEVEMENTS OF CONVERT
[CONstruction Virtual Environment Resource Training]

END OF PROJECT REPORT





ABOUT *the* PROJECT

This report highlights the success of the UK-wide initiative **CONVERT**, which aimed to create engaging, safe, and innovative educational resources for educators and training providers in the construction industry.

Led by industry experts, this ambitious project involved the use of virtual and immersive technologies to develop virtual learning resources.

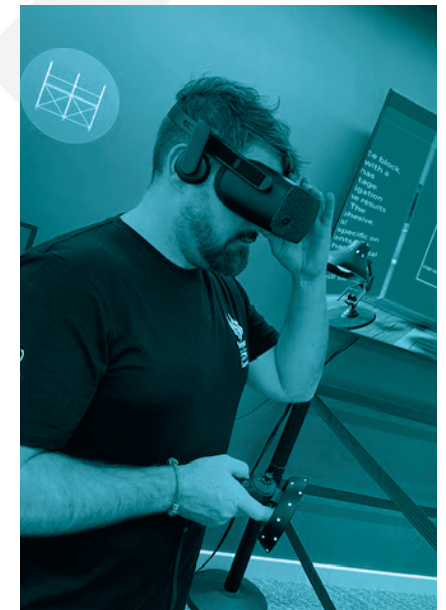
The initiative resulted in the creation of **four new programmes** that offer educators resources that closely replicate real-life construction scenarios.

The TRAINING PROGRAMMES

The four different training programmes developed through the **CONVERT** initiative were designed to provide learners with a comprehensive understanding of various aspects of the construction industry.

These programmes are underpinned by awareness of **Low Carbon Building Technology, Working at Height, Health and Safety, and Equipment Use.**

Led by the **University of Wales Trinity Saint David's Construction Wales Innovation Centre (CWIC)** it covered 4 training strands.





PROJECT PARTNERS





The PROJECT OBJECTIVES

- Provide new learning opportunities to **+2,440** further and higher education students **studying construction-related** subjects across the UK.
- Create **engaging, safe, and innovative** educational resources for construction educators and training providers.
- Provide employers with cost-effective, scalable training that **enhances** safety and productivity.
- Provide a more **engaging way of learning** about construction that's safe.
- Reduce **error, accident, time and costs** through the targeted use of immersive learning in education and the workplace.
- Enhance the **appeal** of the industry to new **learners**





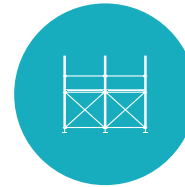
The FOUR KEY PROGRAMMES



DRONE USE *in the*
CONSTRUCTION
INDUSTRY



LOW CARBON
BUILDING
CONSTRUCTION



WORKING *at* **HEIGHT**
& SCAFFOLDING



WOOD MACHINING
& PAINT SPRAYING



PROJECT IMPACT & ACHIEVEMENTS

- **4** new bespoke VR training programmes were created, offering resources that replicate real-life construction scenarios.
- **2** Wood machining and **2** paint spraying simulators were procured to facilitate hands-on, safe training in a controlled environment.
- **26** modules developed in collaboration with industry partners across the **4** training areas.
- **206** training events held for **1,722** trainees and **72** engagement events attracted **1,170** attendees.



led by
industry
experts.



£600,000

worth of immersive
learning hardware
distributed to 6
regional delivery
hubs:

100

OCULUS QUESTS

30

LAPTOPS

40

HP REVERBS

30

ROTOR PILOT
DRONE CONTROLLERS



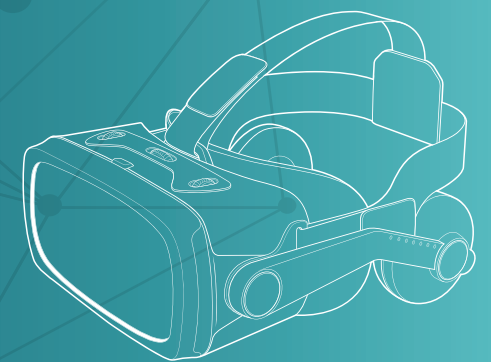
The PROJECT BENEFITS

- **Benefited** over **1,700 learners** and engaged over **1,100 individuals**.
- Introduced **new** training resources to **80+ educators/training providers**.
- **Reduced** errors, accidents, time, and costs through **immersive learning**.
- **Enhanced** safety, productivity, and engagement in the industry.
- **Improved** industry perception among learners.



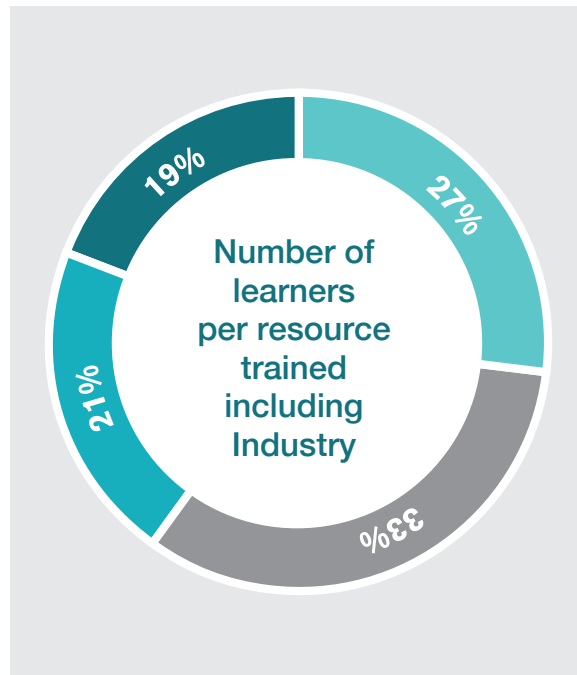
- Mirrors real-life situations & allows people to **learn through mistakes**.
- **Removes** distance barriers between people and job sites.
- Increased use of VR for **continuous professional development (CPD)** and training in the wider industry.
- **Raised awareness** among secondary teachers of GCSE and A-level 'Construction & the built environment' module, especially in Wales.

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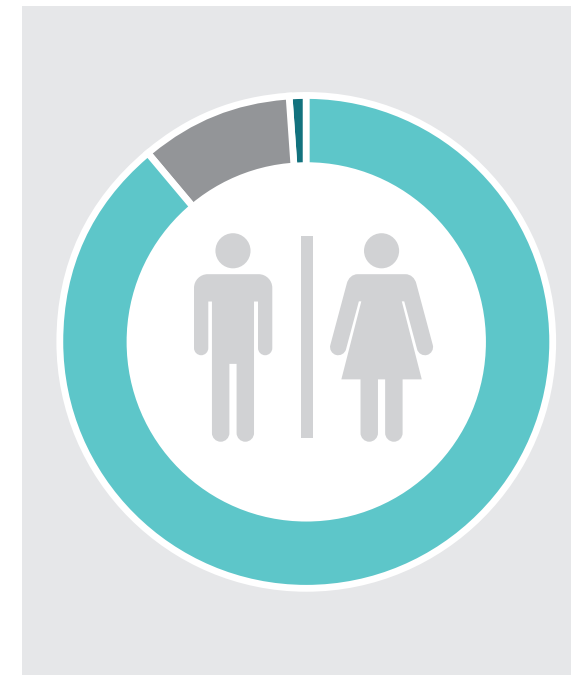
LEARNERS By RESOURCE



- Low Carbon Building Construction
470 (27%)
- Working at Height
574 (33%)
- Paint & Wood
363 (21%)
- Drone Surveying
315 (19%)

Total Number 1,722

LEARNERS By SEX



- Male
89%
- Female
10%
- Prefer not to say
1%



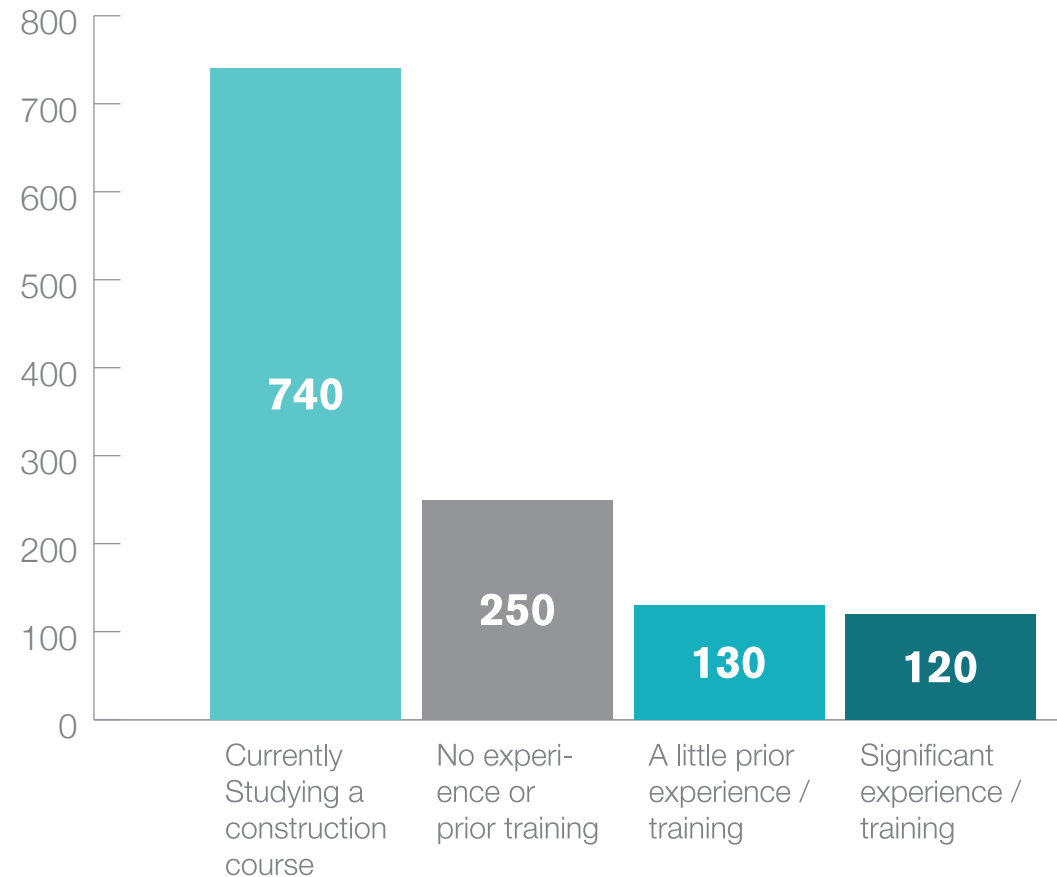
“LOVED DOING THE TRAINING”

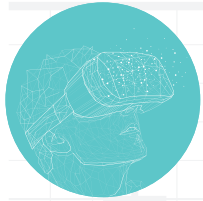
~ CONVERT Trainee

LEARNERS

by EXPERIENCE

- Delivered training to students in construction-related subjects at **further and higher** education levels.
- Introduced CONVERT at **conferences, training centres, skills-shows, construction sites**, to **further and higher education students** and **organisations** e.g. **prisons**.
- Significant interest received from **educators, younger learners**, and the **wider construction industry**.
- Successful collaboration with **industry experts, educators**, and **training providers**.
- Expanded **learning opportunities** for construction-related **students**.





FEEDBACK From BENEFICIARIES

- CONVERT's **Low Carbon Construction** digital programme was **nominated for an award**.
- We received **over 185 positive feedback** reviews
- **CONVERT's** contribution to construction education has been **well received** at a number of Estyn inspections in Wales.

“

“I am a lecturer, and I used the working at height module. Once I got the hang of it it was really good. It made a subject that is usually quite dry to deliver interesting and kept me engaged. The software would need to match up with the SQA assessments that we deliver to make it a valuable training experience. The first part when the man fell was quite hard hitting and would get the message across to learners the dangers of working at height early on. I look forward to using this more often in the future”.

“Make this more available”.

“Interactive learning really helps to solidify the information. Being able to experience each element is extremely valuable. Safer and more accessible than a building site”.

“It was a good change of scenery, and great for the visual learner”.

“It was very impressive; I think the more you used it you would get better at its functionality and where it could be used best in the curriculum”.

“I think it has amazing potential to teach others”.

“Excellent learning experience. The working at height modules were much better than the current Access platform unit and can be completed in a safe environment with a better understanding. VBEE again was a great experience, had a few set-up issues to begin with but can see this backing up learning in sustainability and generic units. A similar set up for Health & Safety would be brilliant. This could be developed for so many avenues and will be a great aid to the candidates learning”.

“Something different to just classroom work”.



“

I found immersive training to be a useful first step and will now undertake the paid training and buy my first drone.
~ ROOFER

A great piece of equipment especially for people looking to improve their skills at no cost.
~ SIMSPRAY USER

Interactive learning really helps to solidify the information. Being able to experience each element is extremely valuable. Safer and more accessible than a building site.
~ CONSTRUCTION MANAGER

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