

# Washroom Immersive Training

Immersive Reality - Equipment Training - Washroom

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## Project Description

The meat processing industry is facing significant challenges in terms of labour, workers are often transient with many having English as a second language. The ongoing training of staff is time consuming and therefore presents an ideal opportunity for innovation. AMPC identified an opportunity to develop immersive training on critical biosecurity processes and procedures for washrooms, sanitisation and entry and exit points, and Think Digital have developed these.

The project objectives as specified in the research agreement were:

“Using a blend of photography and computer generated environments (CGI), we will build a realistic environment for users to access either in VR (headsets) or via the web. Combining photography and CGI will provide a realistic platform for the user to experience, while incorporating a high level of interactivity.

Once in the environment, the user will be guided through a series of decision points and activities. Some of these will be multiple choice style questions (why is this sign here), and others can be physical activities (wash your hands here for 20 seconds).”

To deliver on these objectives, the washroom and locker room environments at a processing facility were captured using a combination of 360 and 2D imagery. Biosecurity procedural documentation was also gathered. These informed the design and development of two distinct 3D environments with multiple 3D assets (tools and equipment) within each. Four immersive training experiences were created utilising these environments and including multiple learning activities to guide users through the biosecurity steps to be undertaken in each.

The four experiences underwent multiple rounds of internal and external testing, and external user feedback was gathered including at the AMPC Innovation conference. The experiences are available for deployment on Oculus Quest and HTC Focus Headsets.

## Project Content

The project activity was undertaken in 3 stages:

### Stage 1 - Planning & Preparation

- ◆ Filming on location at a processing facility capturing 360 and 2D footage of the locker room and washroom environments and the associated biosecurity processes.
- ◆ Scoping sessions with the AMPC team.
- ◆ Storyboard creation for the proposed experiences.

### Stage 2- Development & Testing

- ◆ Two 3D environments and multiple 3D asset models created.
- ◆ Four immersive training experiences with multiple training steps built to the storyboard designs.
- ◆ Testing and deployment of the training experiences in VR

### Stage 3 - Deployment & Testing

- ◆ Deployment of experiences on HTC Focus 3 Headsets for testing.
- ◆ Onsite user testing with processor training managers and floor staff at different processing facilities.
- ◆ Demonstration of experiences at the AMPC Innovation Conference 2022.

## Project Outcome

The following virtual reality training experiences were developed:

1. Locker room - Entering the facility
2. Washroom - Preparing to enter the processing floor
3. Washroom - Upon leaving the processing floor
4. Locker room - Leaving the facility

During the development of the experiences, we made the following observations/ learnings:

- ◆ There is a thirst from the industry to adopt and utilise VR technology to complement and enhance their existing training.
- ◆ Using a generic VR experience to train on washroom biosecurity procedures presents challenges as each facility has different washroom set ups and procedures. Tailored training solutions may offer more value to the processor.
- ◆ From a trainers perspective the one-at-a-time VR headset delivery of procedural training is less efficient than a washroom tour for a large group, however there is an opportunity for this to be complementary training or used as an assessment method.
- ◆ The onsite visits to processors was crucial, and filming the training taking place in a real environment meant the final virtual environments are as close to reality as possible.
- ◆ The user testing was very popular with the front line workers – as it was fun, different, engaging and educational at the same time.
- ◆ The experiences were designed to be intuitive and as a result most users did not require help (in the form of direct trainer guidance) to complete them.
- ◆ VR environments and the interactivity within those environments do not transfer seamlessly to an AR experience. AR is best suited to training when digital content can be overlaid on real world objects. An example would be instructional cues on a piece of physical machinery.

### Benefit for Industry

The VR training experiences are available for anyone with access to Oculus Quest 2 or VIVE Focus 3 headsets, and AMPC are able to share these.

These will benefit processors by enabling them to:

- ◆ Excite and entice staff by offering the opportunity to experience VR training in-house.
- ◆ Allow new staff to 'fail-safely' - they can explore and make decisions using VR with no potential for risk or harm to themselves or the tool.
- ◆ Users can also develop muscle memory through rote learning and repetitive use.
- ◆ Multiple people can access and interact with it over and over again saving on training costs.

However a key learning from this project is that facilities have different washroom environments and biosecurity processes so generic training in this area may not add significant value. However it is possible to tailor these experiences to facilities, and our observations are that they would be ideal to complement existing training, and could also be used to assess staff.

There is a lot of enthusiasm from industry to adopt immersive training into their operations. The training teams at the processors we visited were overwhelmingly positive about the opportunities and benefits that immersive training could offer to complement their existing face to face training and they see a real potential to integrate it into their classrooms. VR and AR are seen as key pieces in the training toolkits of the future.