

University of Glasgow EON-XR Centre

Academia-Industry Partnership
University of Glasgow and EON Reality

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University of Glasgow

- Founded in 1451, Glasgow is the **fourth-oldest** university in the English-speaking world.
- The University of Glasgow is ranked **73rd in the world** (QS World ranking 2022) and was the first UK university to be rated as 5 Stars Plus overall



EON Reality

- EON Reality (<https://eonreality.com/>) is a non-profit organization focused on advancing the cause of Augmented and Virtual Reality (AVR) education and research.
- EON have more than 20 locations worldwide and have created the largest AR/VR training library with over 8,000 applications.
- The vision of EON reality is to see a future where the forces of AI, IoT, AR, and VR come to propel human-computer interaction to new levels.

University of Glasgow EON-XR Centre

- The Centre is formed as part of EON's Grant Guarantee Program
- A partnership that supports over 2000 University of Glasgow students, interneers and staff to create merged reality content.
- The Centre is expected to enhance and support students learning through immersive learning

Terminologies

Virtual Reality- interact with 3D environment

EON-XR- interactive experience with the real world environment and virtual assets

Merged XR- Scan your environment, upload, use AI for identifying interactive 3D Elements, walk - talk - interact

Spatial Meetings - Meet and learn with others in virtual spaces

XR - Why, When and How

Situational Learning in Authentic Contexts

- Easier to understand complex theoretical concepts
- Quickly build competencies in following a process or procedure
- Demonstrate understanding of key concepts in solving difficult problems

Pedagogy and Curriculum Implementation

Collaborative learning- Students being able to collaborate with their peers, share opinions and knowledge

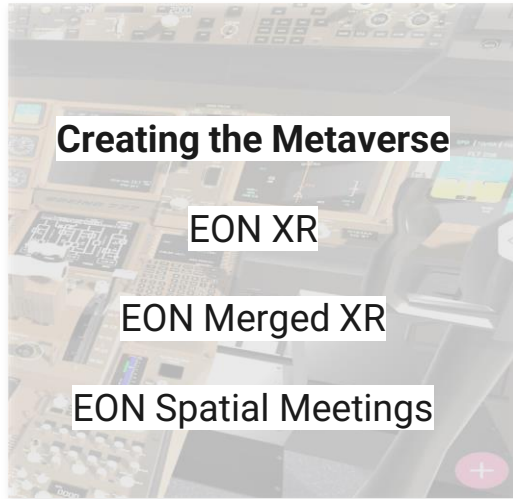
Personalized learning- Students are able to learn at their own pace, localized understanding and being able to consume knowledge on their own

Situated Cognition Theory- Knowledge needs to be acquired in the context it is collected (immersion and simulations).

Learning is a social constructivism- Students need to be allowed to explore and try new things without the fear of consequences of the real world.

Technology and Educational Philosophy

“The most effective education is experiential: Learning is achieved through personal experience and doing.” John Dewey



XR - Mixed Reality

Enables experiential learning where it may not have previously been possible

- Visit art museums, Archaeology Sites, Mount Everest
- Experience Inaccessible Sites like Mars, the Titanic, Deep Oceans

Also, the option of including

- Reflection
- Self-Assessment
- Reanalyzing Learning Outcomes



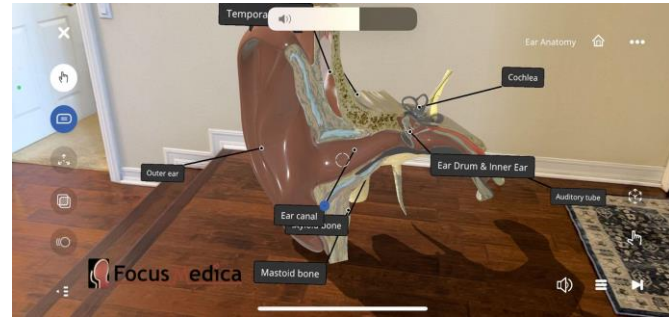
XR - Mixed Reality

Do things impossible in the physical world

Navigate inside veins or arteries, manipulate entire environments

Train for difficult situations in a safe environment

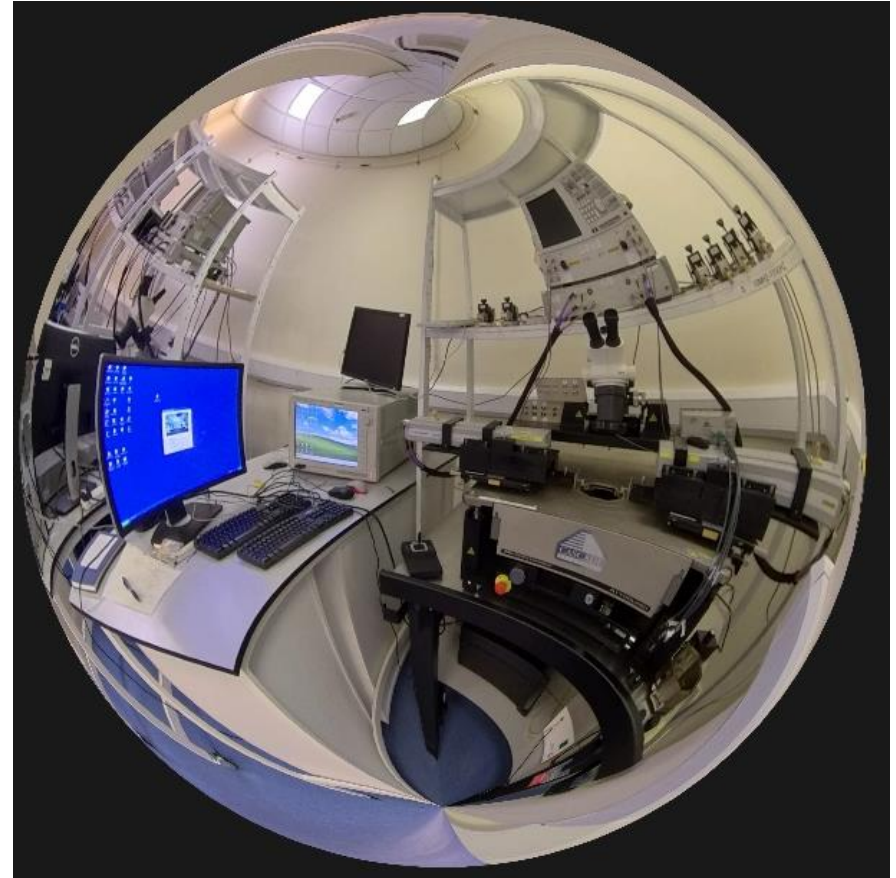
Train firefighters, work on an oil rig



VITALISE

VirTuAL training of reSearch cEntres

- University of Glasgow is providing an immersive experience of the state-of-the-art research facilities and the training to the students of cutting-edge equipment available at its various research centers and labs
- The target audience is both undergrad and post-grad students who cannot access these facilities under normal circumstances.
- Virtual tours and trainings of research centers are prepared using the EON-XR platform.



RF and Microwave Lab

VNA E8362B (10 MHz-20 GHz)

Power Button

Calibration

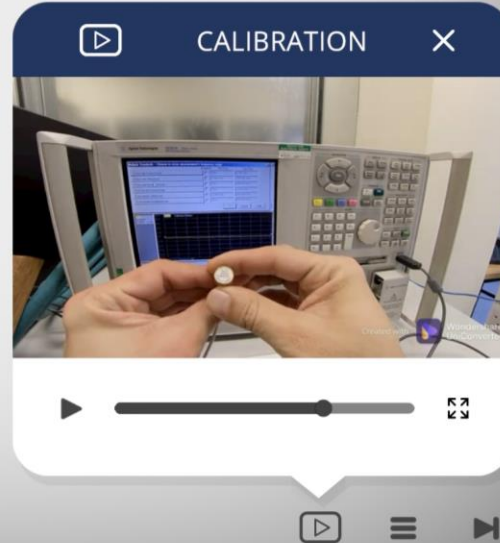
Marker

Port 1

Port 2

eon XR

**Calibrating the Vector Network
Analyser**



Conclusion

- Through academia-industry partnership in the form of University of Glasgow EON-XR Centre, students and staff can efficiently create AR/VR content without any coding requirements
- Through immersive learning, the Centre can enhance University of Glasgow student learning experiences in the UK and its TNE provisions
- The integration of 5G research at Glasgow's 5G Centre and XR has a great potential in contributing to various sectors such as healthcare, medicine, science and engineering.

Thanks!

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