Technology as a tool for learning

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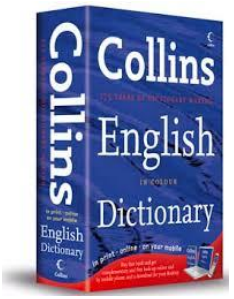
Training Manager

IPAF 2019 ELEVATION

What is technology?

➔ *Methods, systems, and devices which are the result of scientific knowledge being used for practical purposes.*

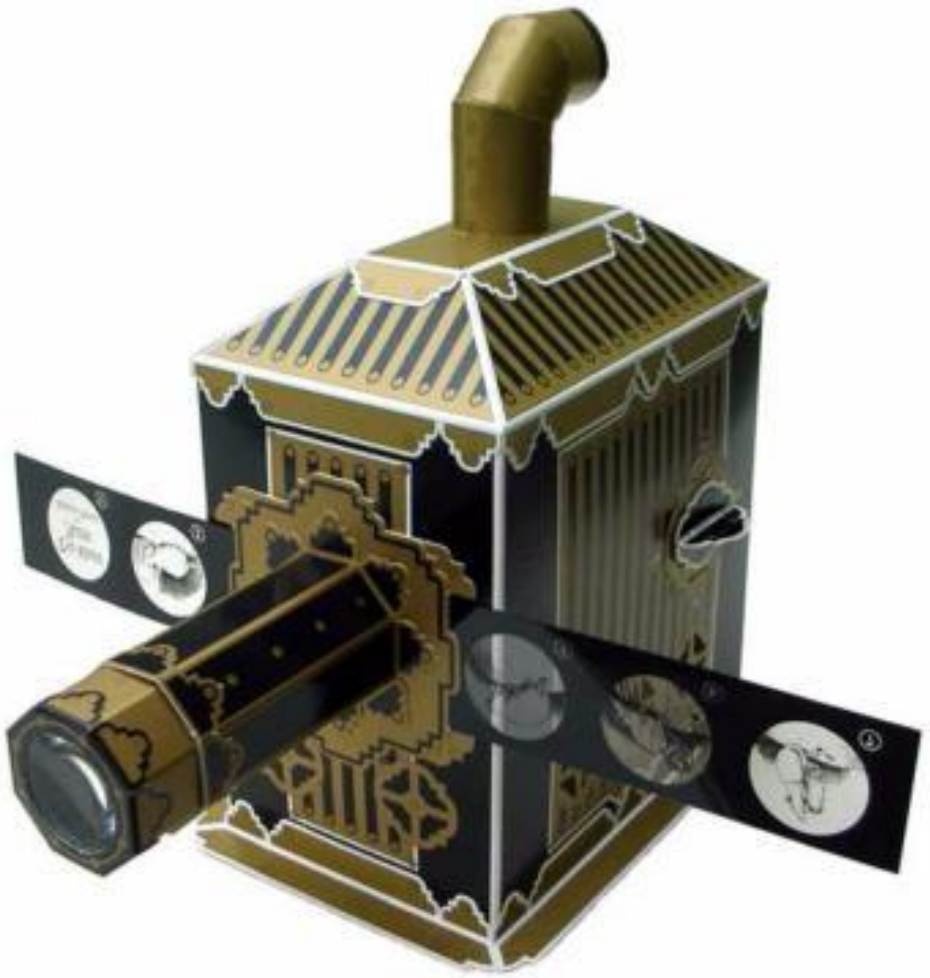
➔ Source



Evolution

- 1650
- Horn books, wooden paddles with printed information

Evolution



- 1870
- Magic Lantern, the predecessor to slide machines, projected images printed on glass plates

Evolution

- 1929
- The First Flight Simulator

Evolution

- 1930
- overhead projector

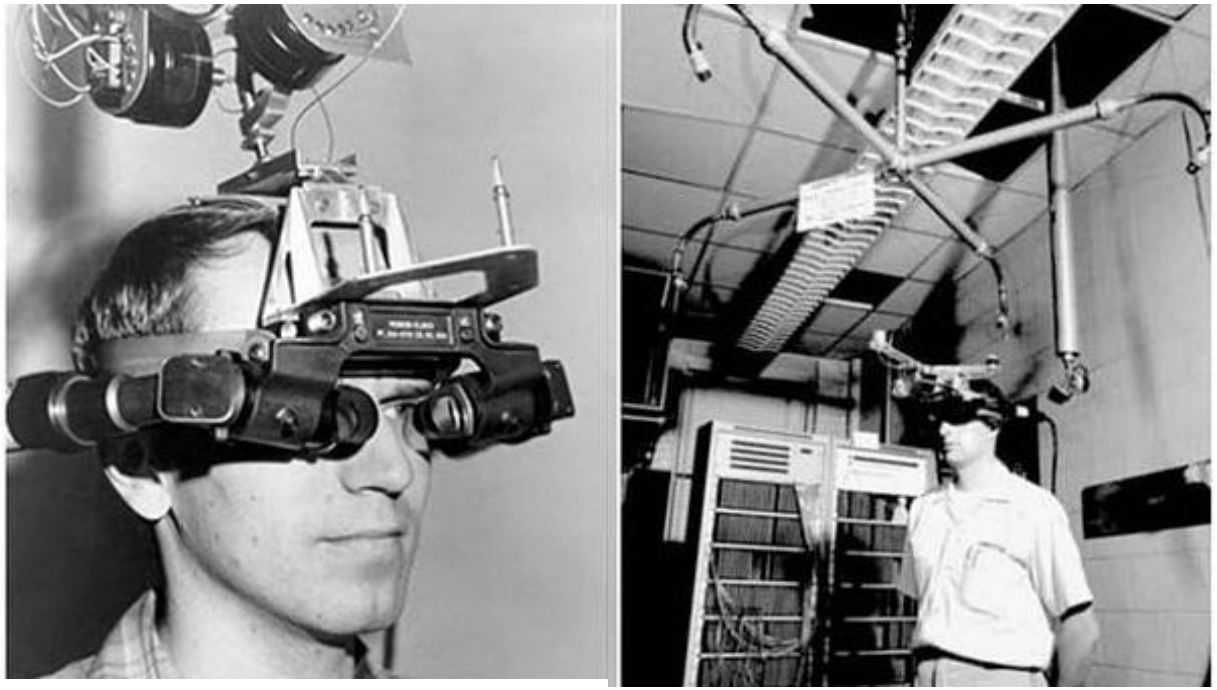
Evolution

- 1956
- First Virtual Reality prototype
- Sensorama
- featured stereo speakers, a stereoscopic 3D display, fans, smell generators and a vibrating chair

Evolution

- 1960
- The first VR Head Mounted Display
- The Telesphere Mask

Evolution



- 1968
- The first AR Head Mounted Display
- The Sword of Damocles

Evolution

- 1981
- first portable computer was introduced
- The Osborne 1

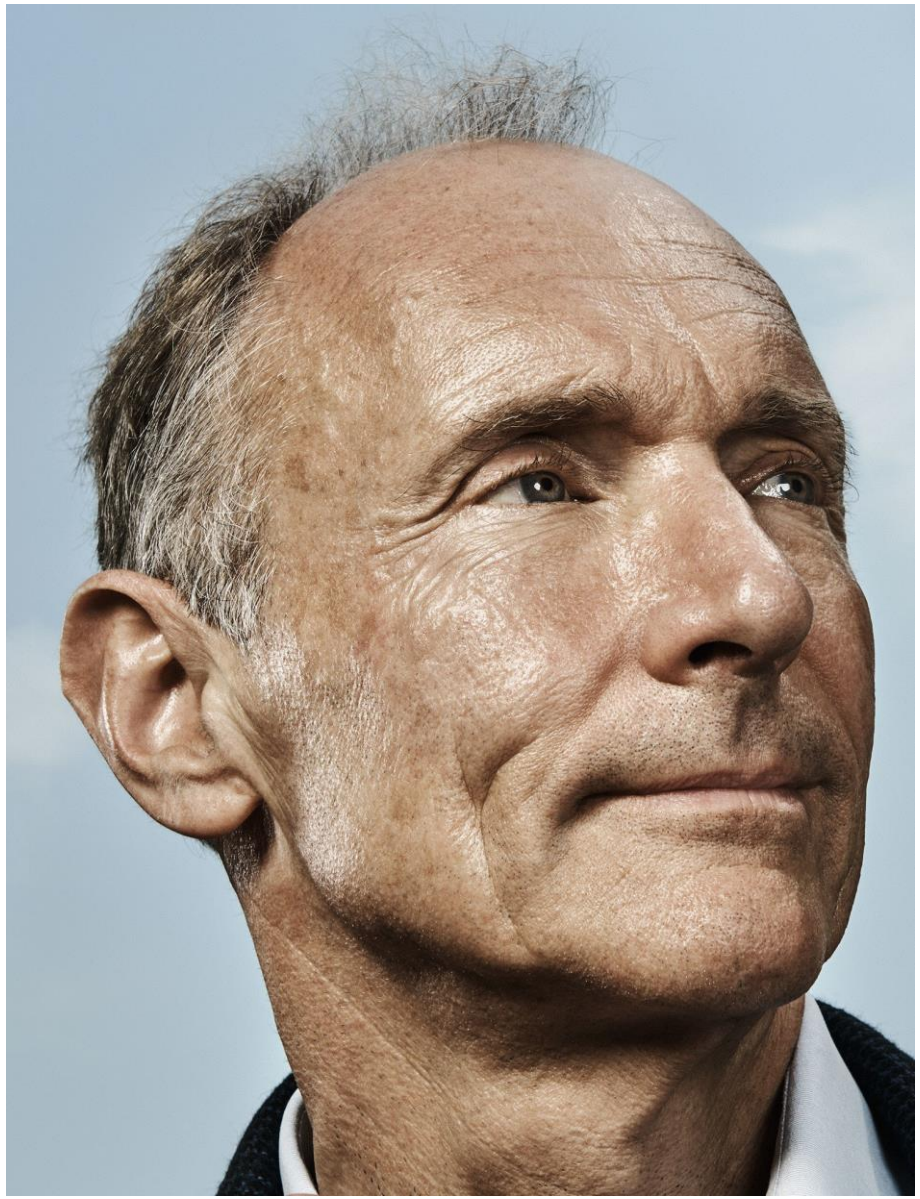
Evolution

- 1985
- Hand held graphing calculators
- Casio fx-7000G

Evolution

- 1990
- First commercial LCD projector
- Imagina 90

Evolution



- 1990
- The World Wide Web
- Sir Tim Berners-Lee

Evolution

- 1992
- first fully functional augmented reality system
- Virtual Fixtures

Evolution

- 1993
- SEGA VR glasses

Evolution

- 2007
- Google introduce “Street view”
- Using 360° Cameras

side panel

Evolution

- 2007
- First generation iPhone

Evolution

- 2008
- First iteration of Serious Labs MEWP Simulator

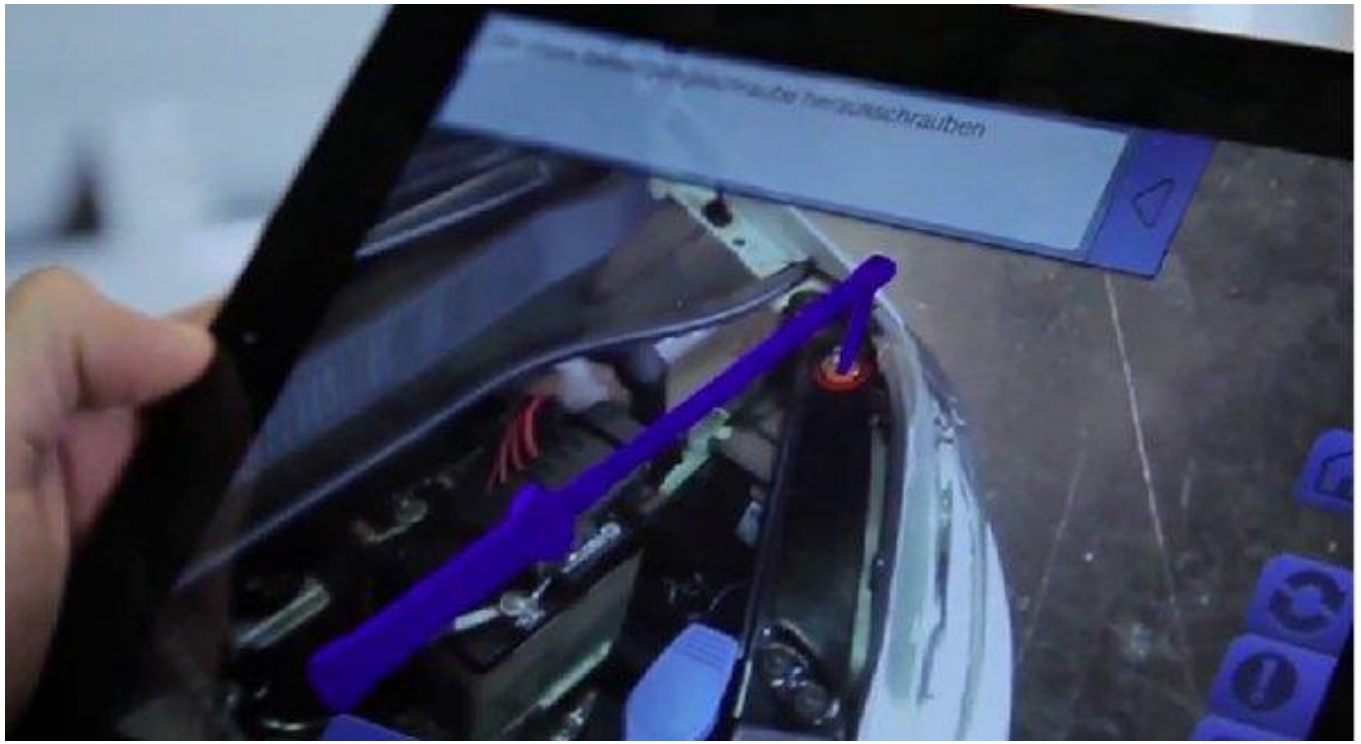
Evolution

- 2010
- First prototype of the Oculus Rift headset
- Palmer Luckey, an 18 year old entrepreneur.

Evolution

- 2010
- First generation iPad

Evolution

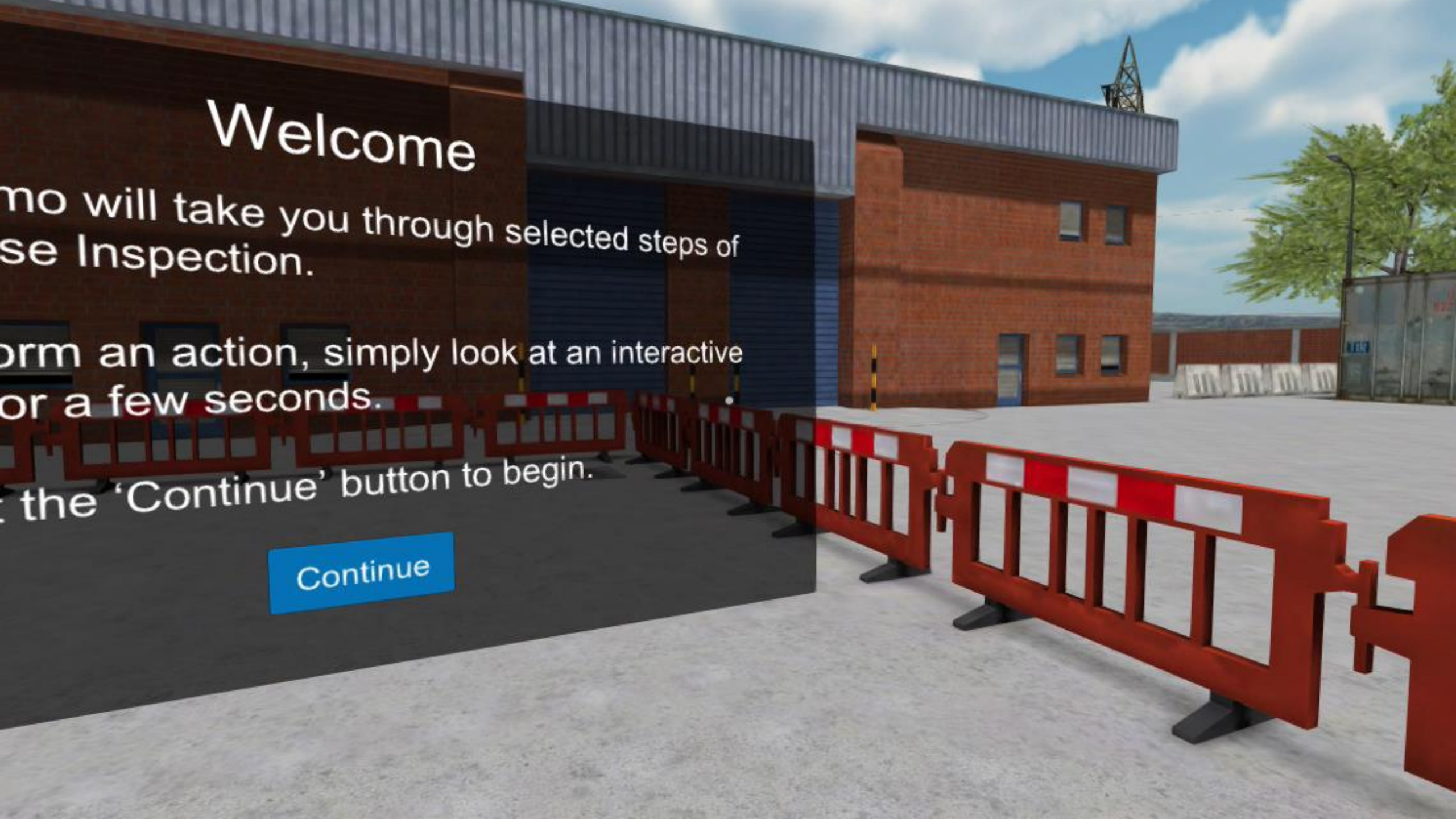


- 2013
- Volkswagen debuted MARTA
- (Mobile Augmented Reality Technical Assistance)

Evolution

- 2015/16
- HTC Vive
- Playstation VR

- Samsung Gear VR
- Google Cardboard
- Google Daydream


Welcome
mo will take you through selected steps of
se Inspection.
orm an action, simply look at an interactive
or a few seconds.
the ‘Continue’ button to begin.
Continue

Evolution

- 2016
- Microsoft HoloLens

Augmented Reality glasses as the central user interface in the workshop while having both hands free.

Evolution

- 2017 IAPA Awards
- Serious Labs won the Innovative Technology Prize
- For the Reach EX motion base

Evolution

PROMOTING THE SAFE AND EFFECTIVE
USE OF POWERED ACCESS WORLDWIDE
TECHNICAL ADVICE AND INFORMATIO
SAFETY PROMOTION AND DEVELOP
PROMOTING THE POWERED ACC
INFLUENCING AND INTERPRETI
MANAGEMENT AND OPERATOR T
MEWP VR CONSULTATION

05:18

TEREX
Genie

JLG

ACCESSREADY VR
VR Training
equipment and required skills together

H 14 TPX
Haulotte

H 14 TPX
Haulotte
Haulotte

ACCESSREADY XR
VR Training
equipment and required skills together

Evolution

- Complicated?
- Confusing?
- Should IPAF be involved?
- What is actually happening out there?

CNBC
THE
thewild.co
(VRX)
Tyrone Rubin

Evolution

The IPAF Board:
One primary area of focus is:

"Developing and implementing a strategy to optimise the use of virtual reality (VR), simulators and our expanding eLearning offer, while integrating the Smart PAL Card into systems to deliver a full digital experience."

Source: Section 2 of IPAF's three-year strategic plan 2018-2020

Evolution

- 2018
- IPAF Launch Global consultation
- Strategy published December 2018
- www.ipaf.org/XRstrategy

Evolution

	Visual feedback	Auditory feedback	Physical feedback	Realistic physical input	Realistic physical feedback
VR & simulator (with motion/haptic feedback)	Y	Y	Y	Y	Y
VR & simulator (without motion/haptic feedback)	Y	Y	Y	Y	N
VR (with motion/haptic feedback)	Y	Y	Y	N	N
VR (without motion/haptic feedback)	Y	Y	N	N	N
AR	Y	Y	N	N	N
360° videos	Y	Y	N	N	N

- IPAF should
- Not become engaged in trying to <u>develop</u> this technology
- Be at the forefront of the <u>use</u> of XR.
- Approve or accredit the technology

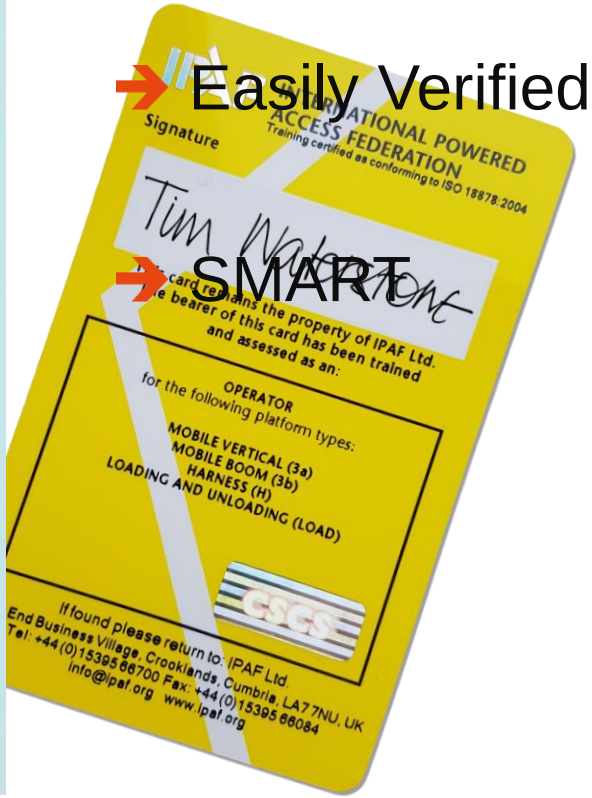
Evolution

- VR simulators could play a major role in:
- *refresher training*
- *high-risk scenarios* e.g. PAL+

How are we using technology now?

The PAL Card

- Easily Verified
- SMART

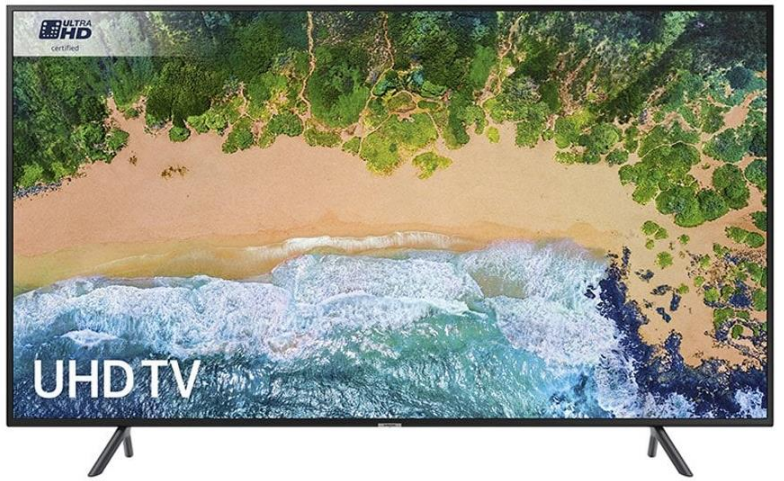


Training

- eLearning

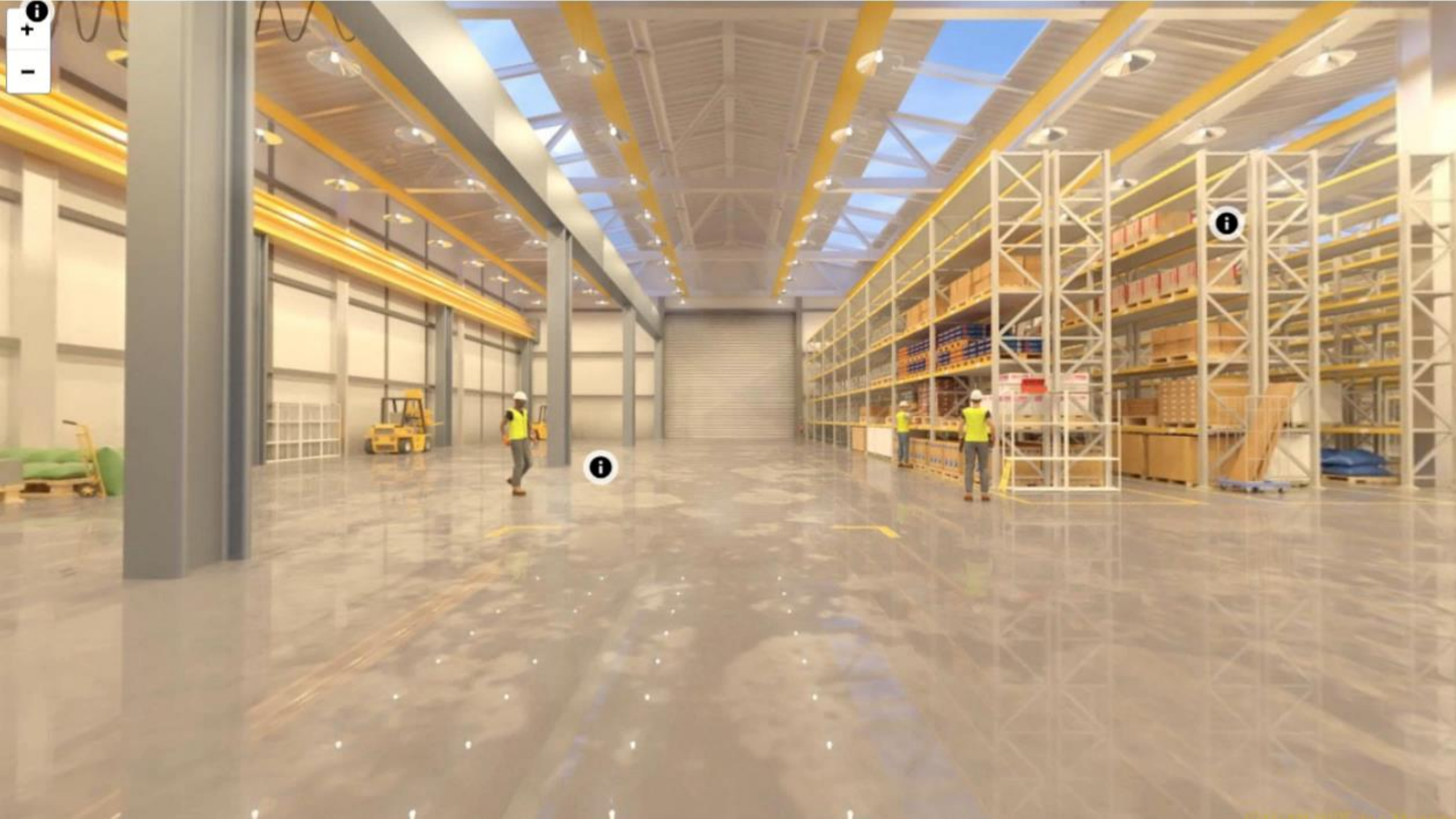
- Operator Training
- MEWPs for Managers
- MEWP Supervisor (USA and Canada)
- Annual refresher (Germany)

In the classroom

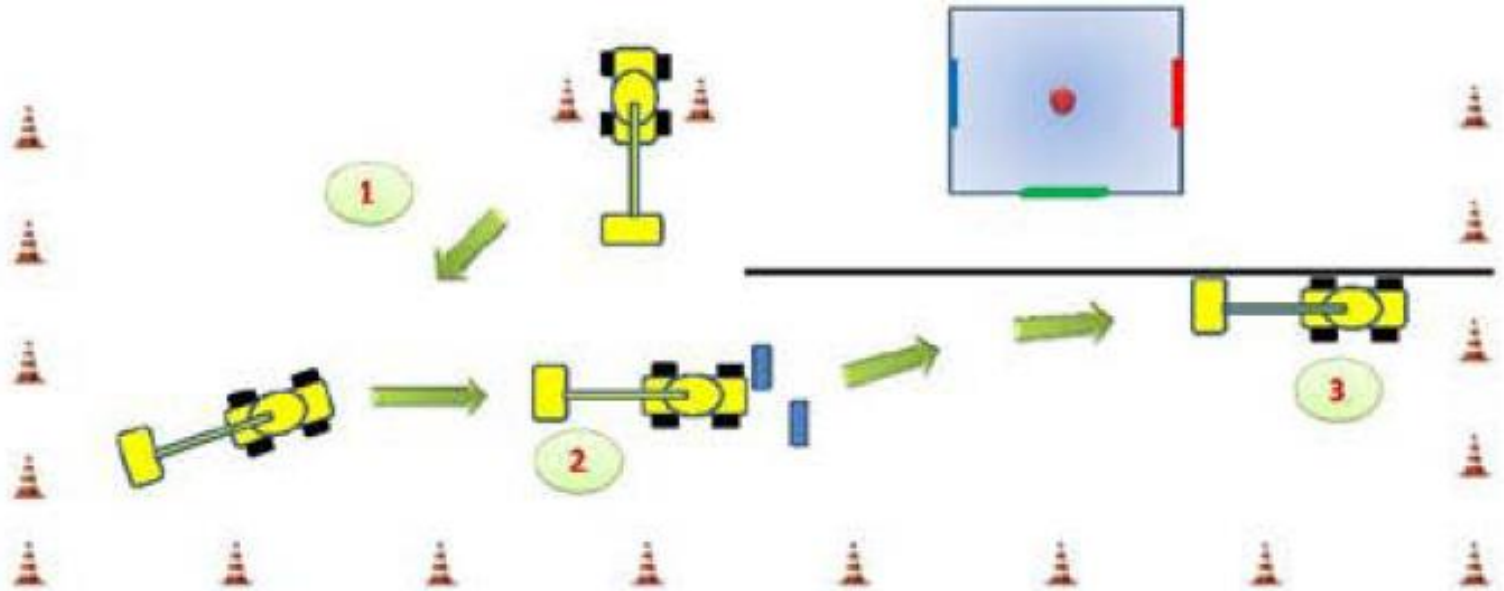


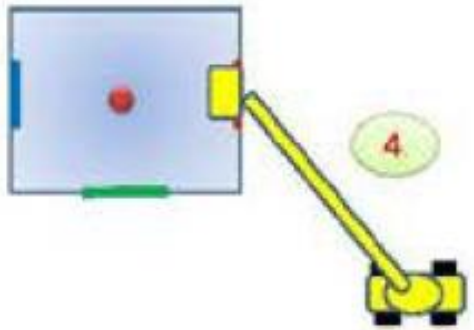
Immersive learning

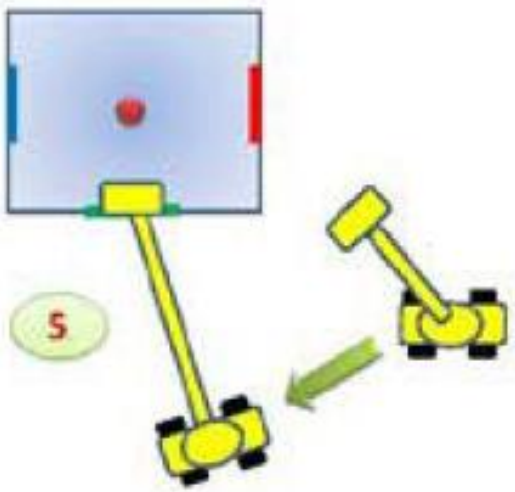
- 360° images
- Realistic challenges
- Contextualise the learning

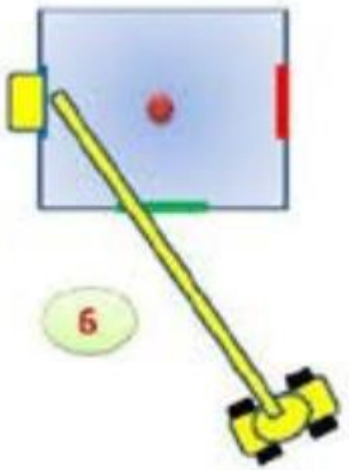


PAL+ Practical Test









PAL+ Practical Test

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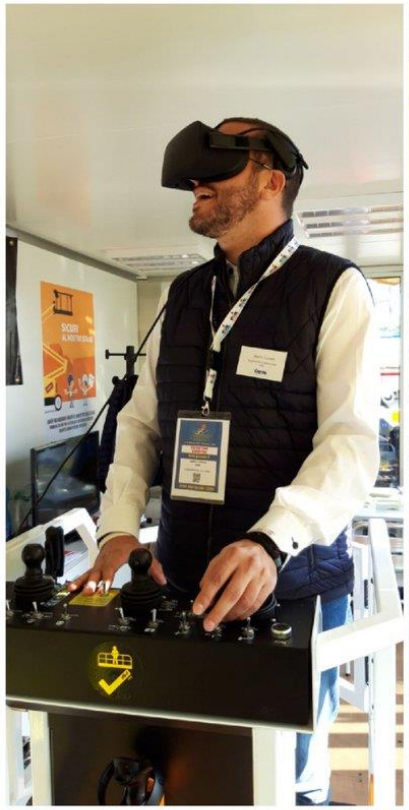

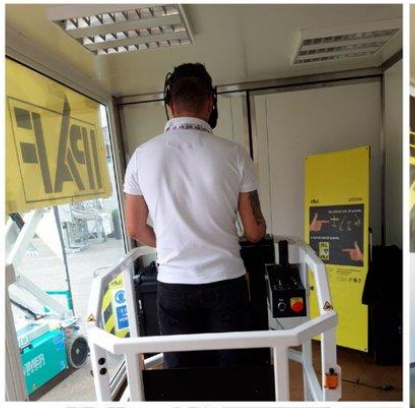

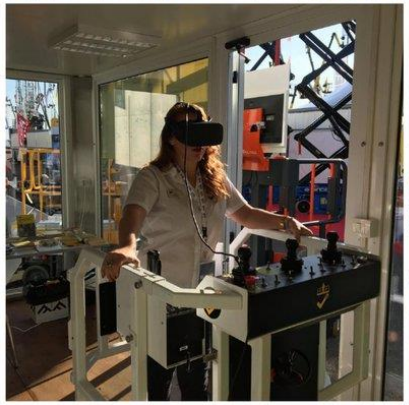

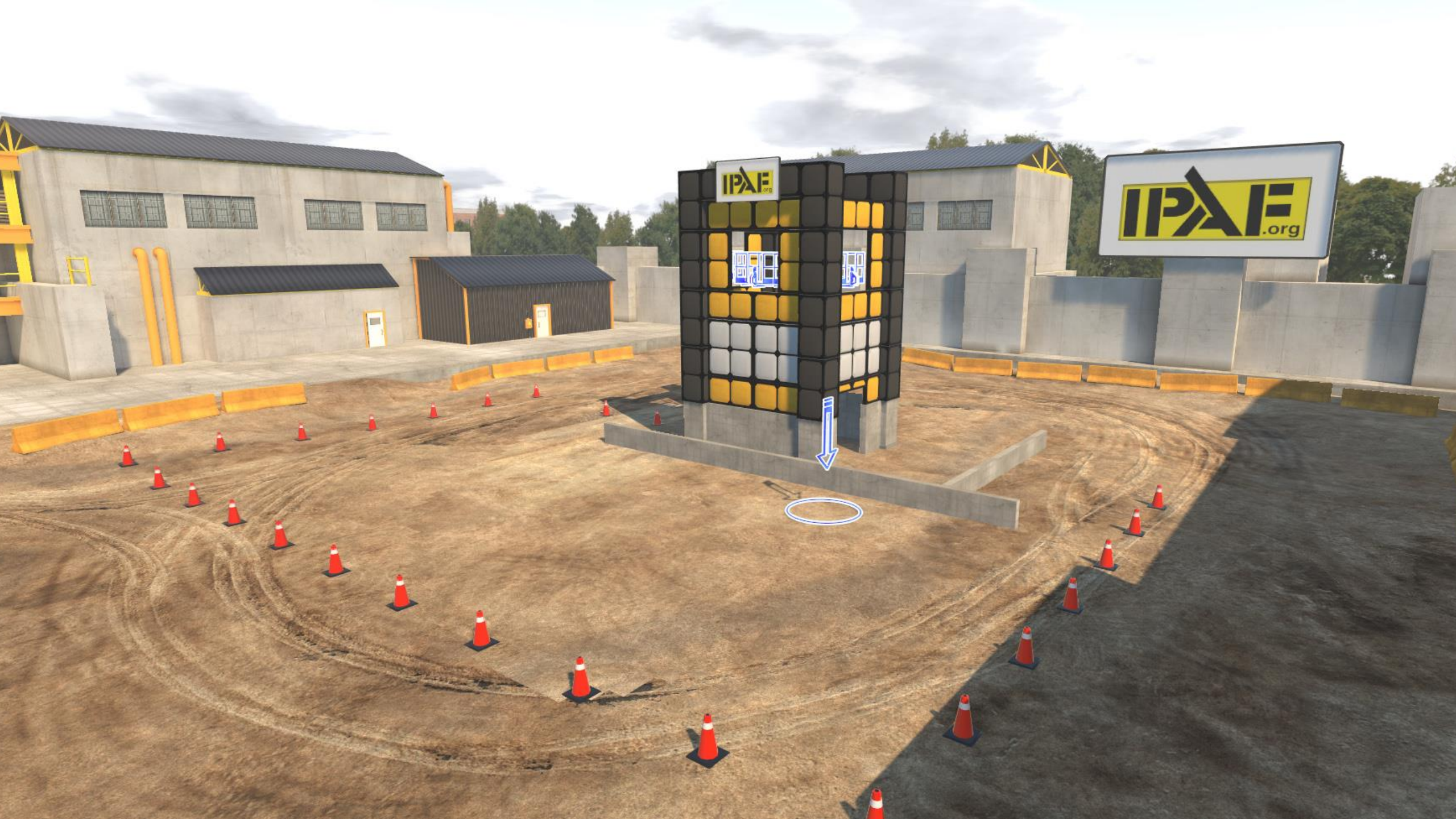
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PAL+ Practical Test

- PAL+ Practical

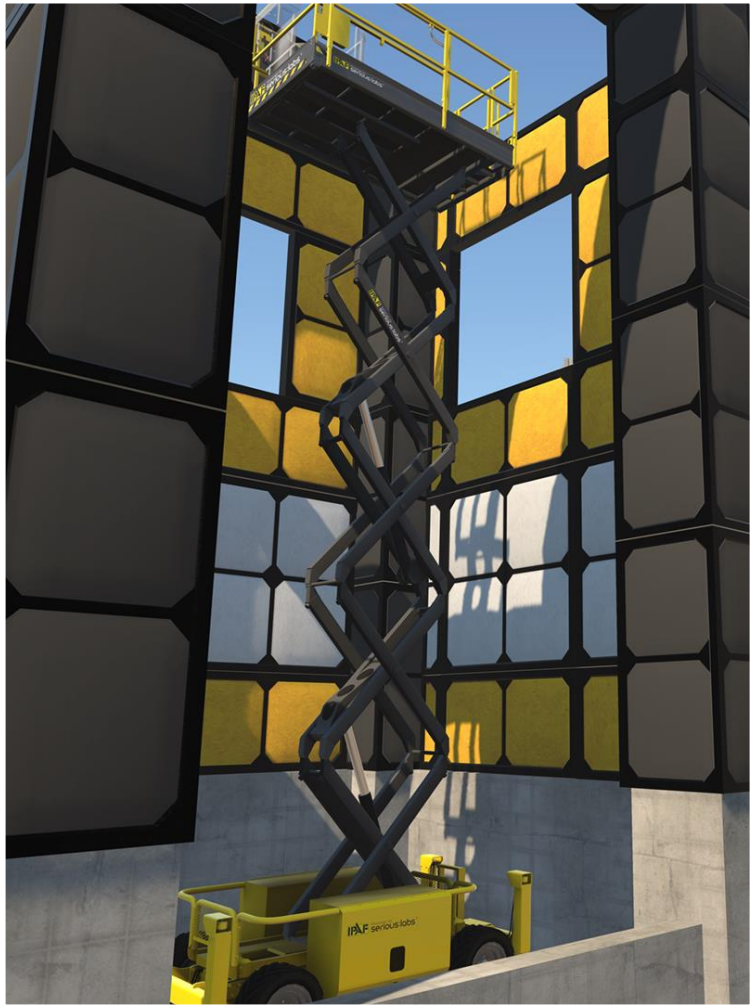
PAL+ Practical Test

➔ PAL+ Simulator Practical

PAL+ Practical Test

- PAL+ Practical

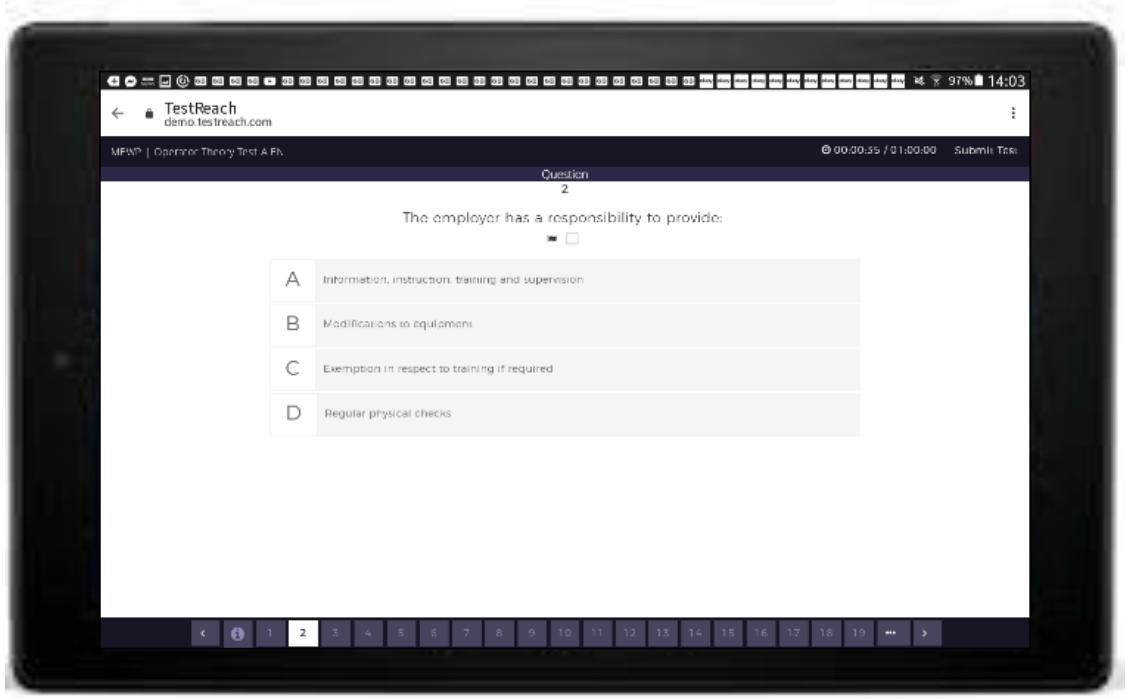
PAL+ Practical Test



- PAL+ Simulator Practical

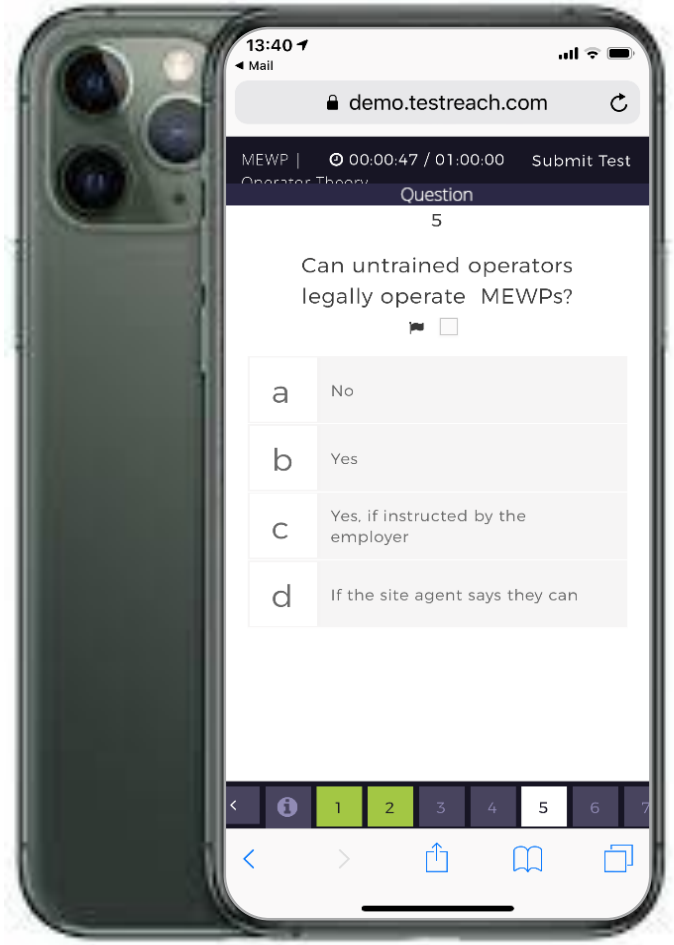
Looking ahead

Digital forms and question papers



- Reduced Administrative Burden.
- Increased Security.
- Simple language selection
- Global Assessment Reporting.

Digital forms and question papers



- Reduced Administrative Burden.
- Increased Security.
- Simple language selection
- Global Assessment Reporting.
- Tablet or Phone

Digital

➔ Digital PAL Card?

Digital

- Digital PAL Card?
- Pre use inspection App?

Digital

- Digital PAL Card?
- Pre use inspection App?
- Digital Operators Safety Guide?

The future?

Communication

Collaboration

Information

- Thank you for safe and effective use of Powered Access worldwide