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IMMERSIVE TECHNOLOGY FOR PILOT TRAINING AND OPERATIONS IN THE LINE ENVIRONMENT

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Immersive training – Current situation

- Now organizations can simulate real-world environments, providing more affordable experiential learning with lower risk.
- With the continuous development of new technologies such as phones, tablets, VR & AR hardware, the opportunity for utilizing immersive technology for training has never been greater
- Through immersive technology, we can enhance training:
  - Improve training efficiencies for cost reduction
  - Develop tools that can be used to augment pilot flows and execution of normal and non-normal procedures in the line environment
  - Adapt to meet the growing demand for training
- Yet we lack immersive technology across our training curriculums

Types of immersive technology

Types of immersive technology:

- **Virtual reality (VR)** is the umbrella term for all immersive experiences, however typically referred to when using purely synthetic content.
- **Augmented reality (AR)** is a live, direct or indirect view of a physical, real-world environment whose elements are augmented by computer-generated sensory input such as sound, video, graphics or GPS data.
- **Mixed reality (MR)** sometimes referred to as hybrid reality—is the merging of real and virtual worlds to produce new environments and visualisations where physical and digital objects co-exist and interact in real time.

Successful examples of immersive reality include:

- 360 Degree Video
- Pervasive Games

Why should we adopt immersive technology?

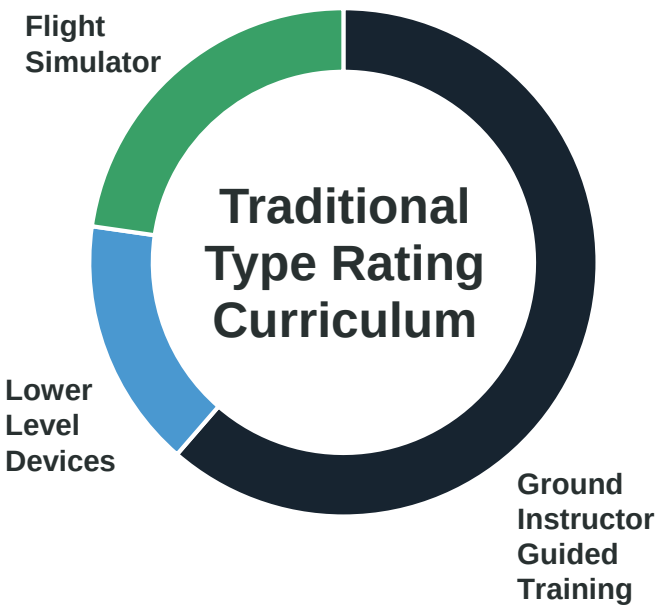
Offers the opportunity to make deep, more meaningful connections with users, especially the next generation

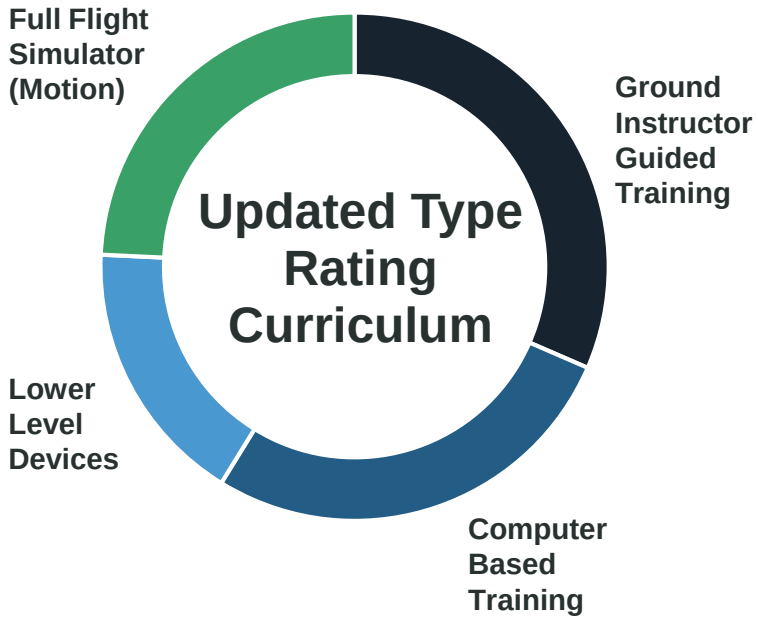
It’s technology that can blur the line between the physical world and a digital or simulated environment

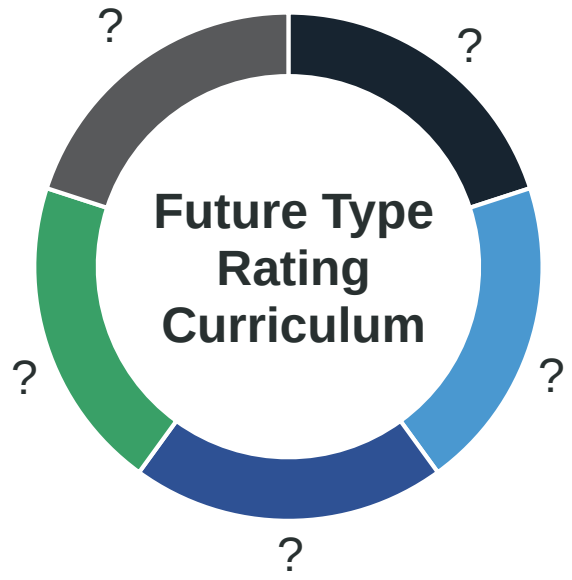
Immersive technologies could completely change the way we both learn and work

Potential to significantly decrease costs associated with pilot training

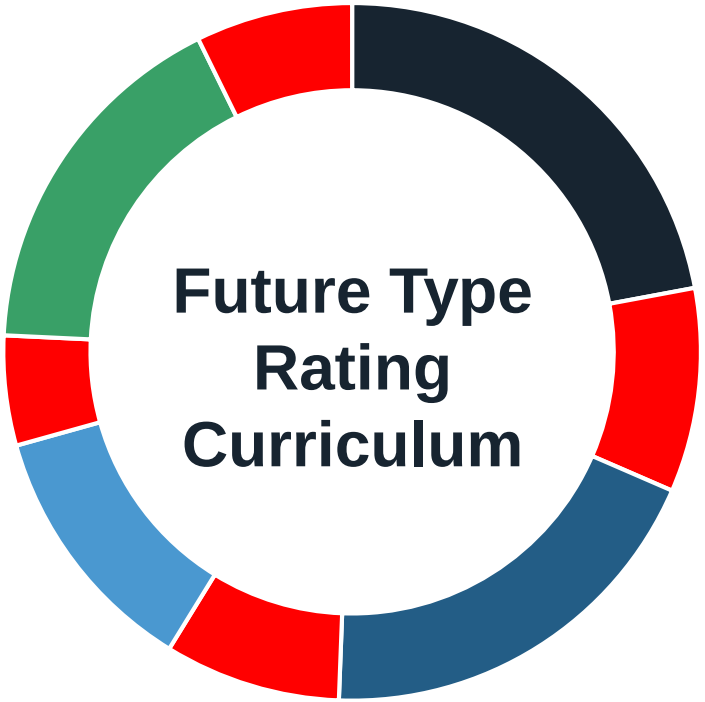
Todays training framework







Adopting immersive technology into pilot training



Immersive technology can be integrated throughout each stage of pilot training

- Integrated into new and lower level devices, and up to full fidelity simulation
- It can not replace all existing technology but does offer offloading

Its important that we utilize immersive technology in a way that is beneficial to trainees

- What does the trainee gain vs existing training methods?

The following examples have been developed by L3Harris to support the pilot training continuum:

- Pre-flight walk around
- Cockpit flows

Experience our immersive training demonstration at the L3Harris booth - 408

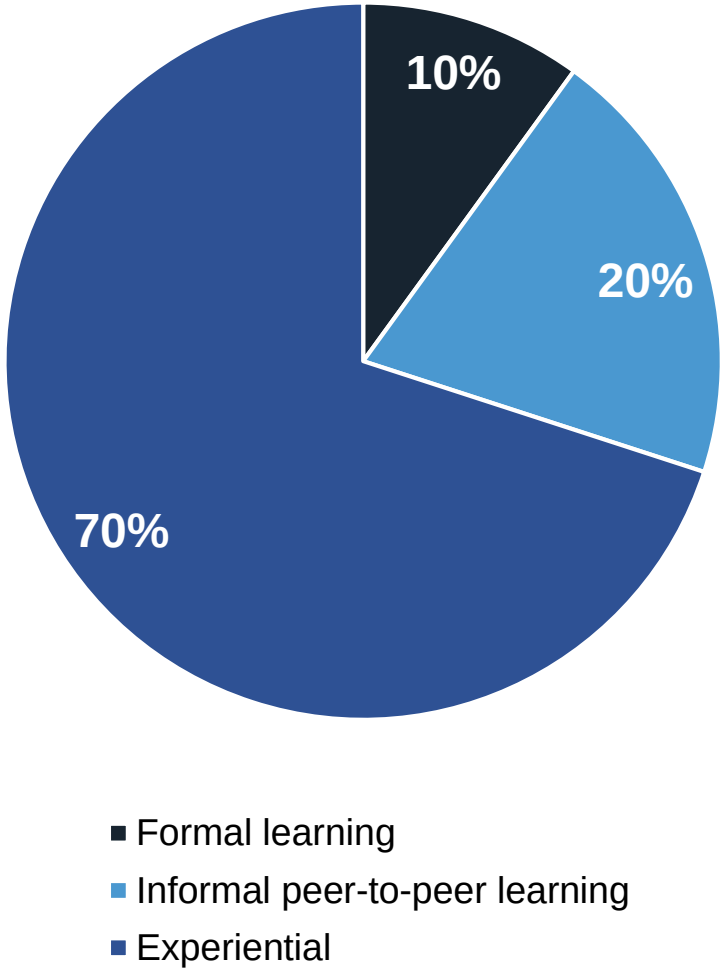
Supporting evidence

70:20:10 Framework

- 10% percent of what people learn comes from formal learning events such as courses and classes
- 20% percent comes from informal peer-to-peer learning
- 70% percent is experiential

This means that the clear majority of what people learn comes from on-the-job training, trial and error, and simply learning by doing.

Immersive training is a way to bridge the gap between formal learning and experiential.



www.trainingmag.com/impact-and-potential-virtual-reality-training-high-consequence-industries

Supporting evidence

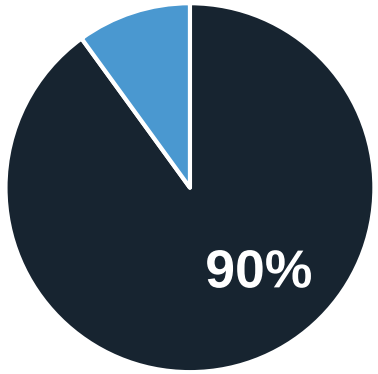
A research report based in China conducted using VR found that VR-based education delivers rewarding outcomes in the classroom.

The research was performed with a pool of 40 evenly distributed high school students

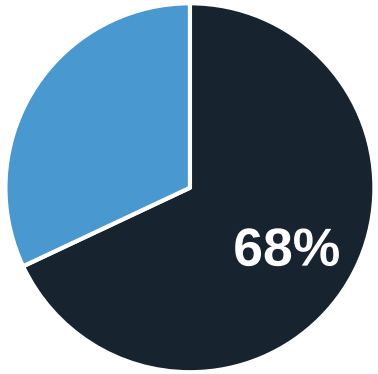
The VR-enhanced curriculum was found to improve learning comprehension and retention vs traditional training techniques.

A test was given two weeks after the end of the curriculum to measure knowledge retention, and the results clearly demonstrated that students in the VR group outperformed those in the traditional learning group.

Students in the VR group scored an average of 90%



Traditional education group scored an average of only 68%



https://www.prnewswire.com/news-releases/new-research-suggests-vr-offers-exciting-new-ways-to-unlock-student-potential-300375212.html

What’s the future for immersive training

- L3Harris are currently working with major airlines across Europe to integrate immersive training technologies into their training curriculum
- With further software and technological development, immersive training has the potential to become an integral part of training throughout the aviation industry.
- Technology is quickly advancing with better hardware and software becoming widely available
- We have already developed and begun training military aviators on the BlueBoxerXR, our fully immersive training device
  - Training both basic and tactical KSA’s (knowledge, skills, and abilities)
  - Measures human performance input parameters (learning objectives)
  - Measures biometric input parameters (stress & engagement)
- We are now looking for new airlines to work with on developing next generation of training technology


Questions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