ITC
International Training Centre

COLLABORATIVE LEARNING IN XR

ITCILO SOLUTION FOR A VISUAL EXTENSION OF THE WORKPLACE
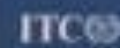
Presentation

VR vision @ITCILO

LEARNING MODELS
BECOME HYBRID JOURNEYS

| E-LEARNING
Basic Theory / Content Refresh | VIRTUAL CLASSROOM (i.e. Zoom)

Guided Exploration & Discussion | FACE-TO-FACE

Collective Practice & Communitiy Feel | IMMERSIVE LEARNING (i.e. VR simulations)
Applied Autonomous Skills Practice |

Example of a Learning 3.0 journey

Onboarding · Skill #1 Theory · Skill Practice · Skill Practice · Skill Practice · Skill #1 Debrief · Skill #2 Theory · Skill Practice · Skill Practice · Skill Practice · Skill #2 Debrief · Graduation

THE IMMERSIVE TRAINING SPECTRUM

Skills-Based

Practice with your hands

FLAIM - Fire fighting training
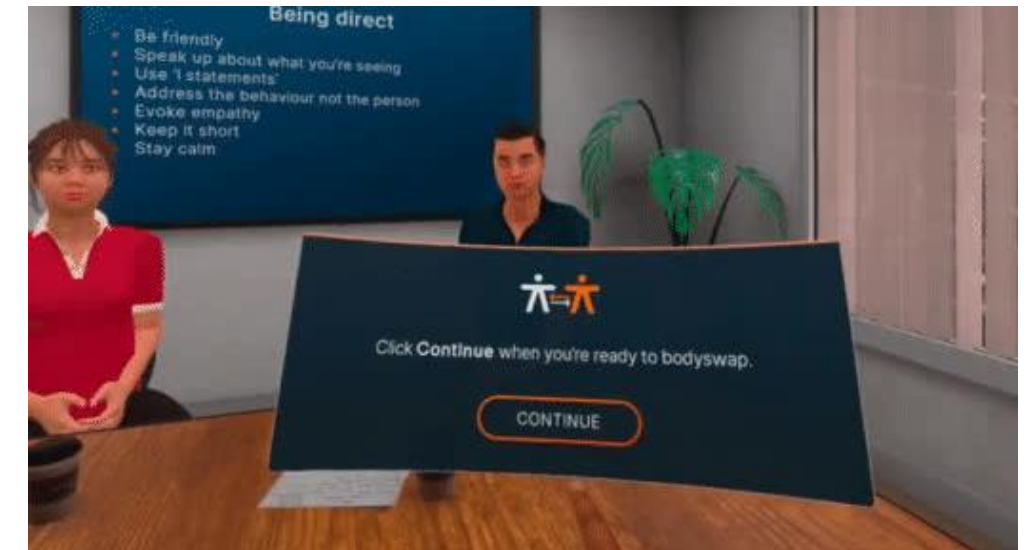
Knowledge-Based

Understand and learn

TLN - The Gemba, LEAN Leadership University

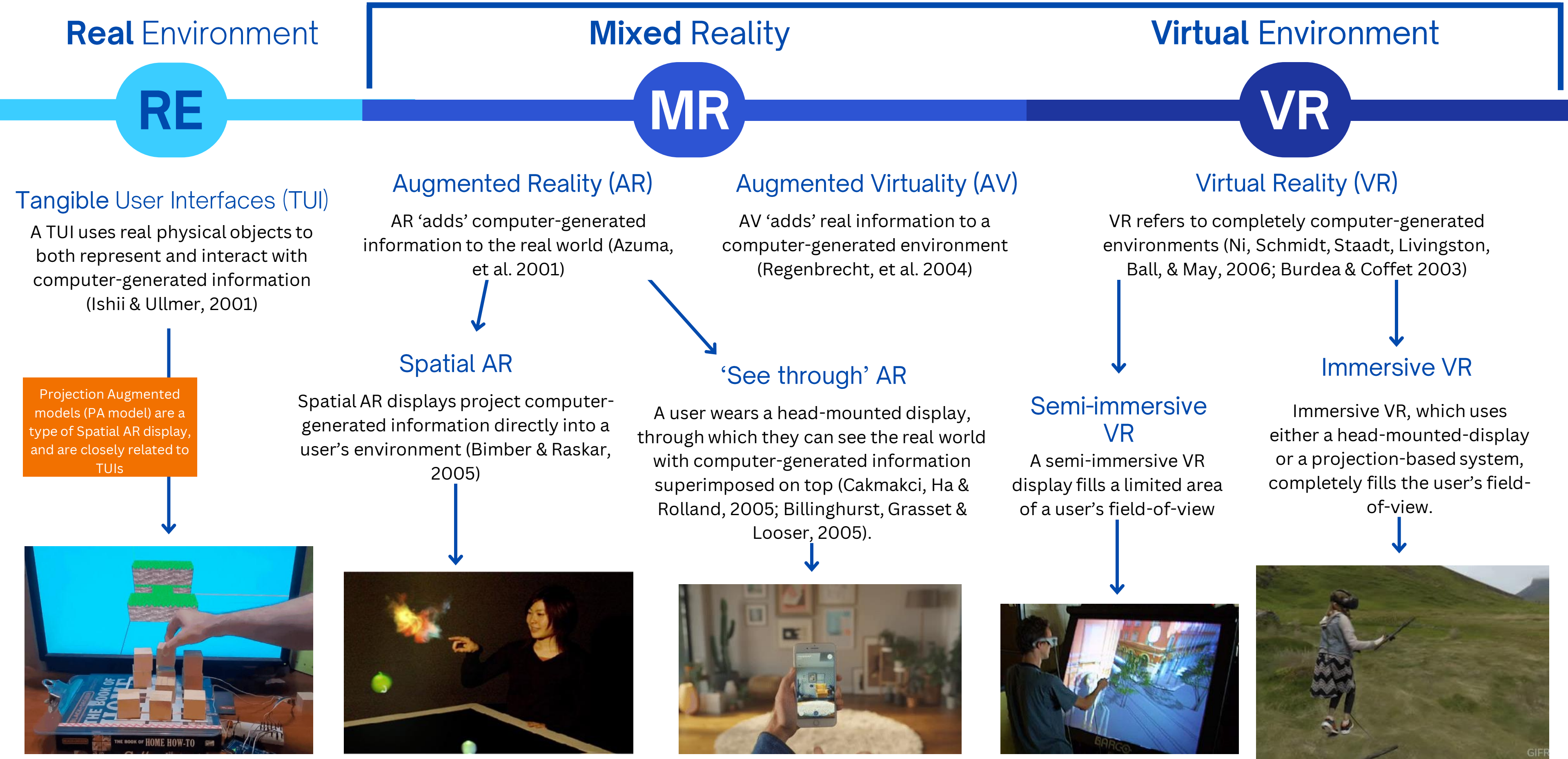## Behaviour-altering

Act out and change behaviour

ILO/ITCILO - saying no to sexual harassment, becoming a better bystander.

Extended Reality

Real Environment

RE

Mixed Reality

MR

Virtual Environment

VR

Tangible User Interfaces (TUI)

A TUI uses real physical objects to both represent and interact with computer-generated information (Ishii & Ullmer, 2001)

Projection Augmented models (PA model) are a type of Spatial AR display, and are closely related to TUIs

Augmented Reality (AR)

AR 'adds' computer-generated information to the real world (Azuma, et al. 2001)

Spatial AR

Spatial AR displays project computer-generated information directly into a user's environment (Bimber & Raskar, 2005)

Augmented Virtuality (AV)

AV 'adds' real information to a computer-generated environment (Regenbrecht, et al. 2004)

'See through' AR

A user wears a head-mounted display, through which they can see the real world with computer-generated information superimposed on top (Cakmakci, Ha & Rolland, 2005; Billinghurst, Grasset & Looser, 2005).

Virtual Reality (VR)

VR refers to completely computer-generated environments (Ni, Schmidt, Staadt, Livingston, Ball, & May, 2006; Burdea & Coffet 2003)

Semi-immersive VR

A semi-immersive VR display fills a limited area of a user's field-of-view

Immersive VR

Immersive VR, which uses either a head-mounted-display or a projection-based system, completely fills the user's field-of-view.

Collaborative learning
in XR: case studies

The First Emergency Logistics Full-Scale Simulation Training

Five annual LRT Simulation Trainings

Design of a VR airport assessment simulation

Design of a VR warehouse assessment simulation

The First Emergency Logistics Full-Scale Simulation Training

Due to the hindered emergency response trainings carried out annually by the Global Logistics Cluster, a solution was found to create an immersive VR simulation to **mimic real-life emergency scenarios**, to successfully bridged the gap left by traditional e-learning methods. It allowed participants to **interact** in a virtual environment, **effectively meeting training objectives** and fostering team connections remotely. These LRT trainings in VR have continued happening at around 5 times a year since it's inception.

HOW CAN WE ENHANCE THE FORESIGHT LEARNING EXPERIENCE THROUGH VR?

VR foresight labs to envision the future

How does the VR experience impact the learning process? Which new modes of learning does it enable? how can we render foresight methods more insightful through VR? Which new methods might we devise which benefit from/are inspired by the VR experience?

TREND

RESOURCE

SYSTEM

ACTOR
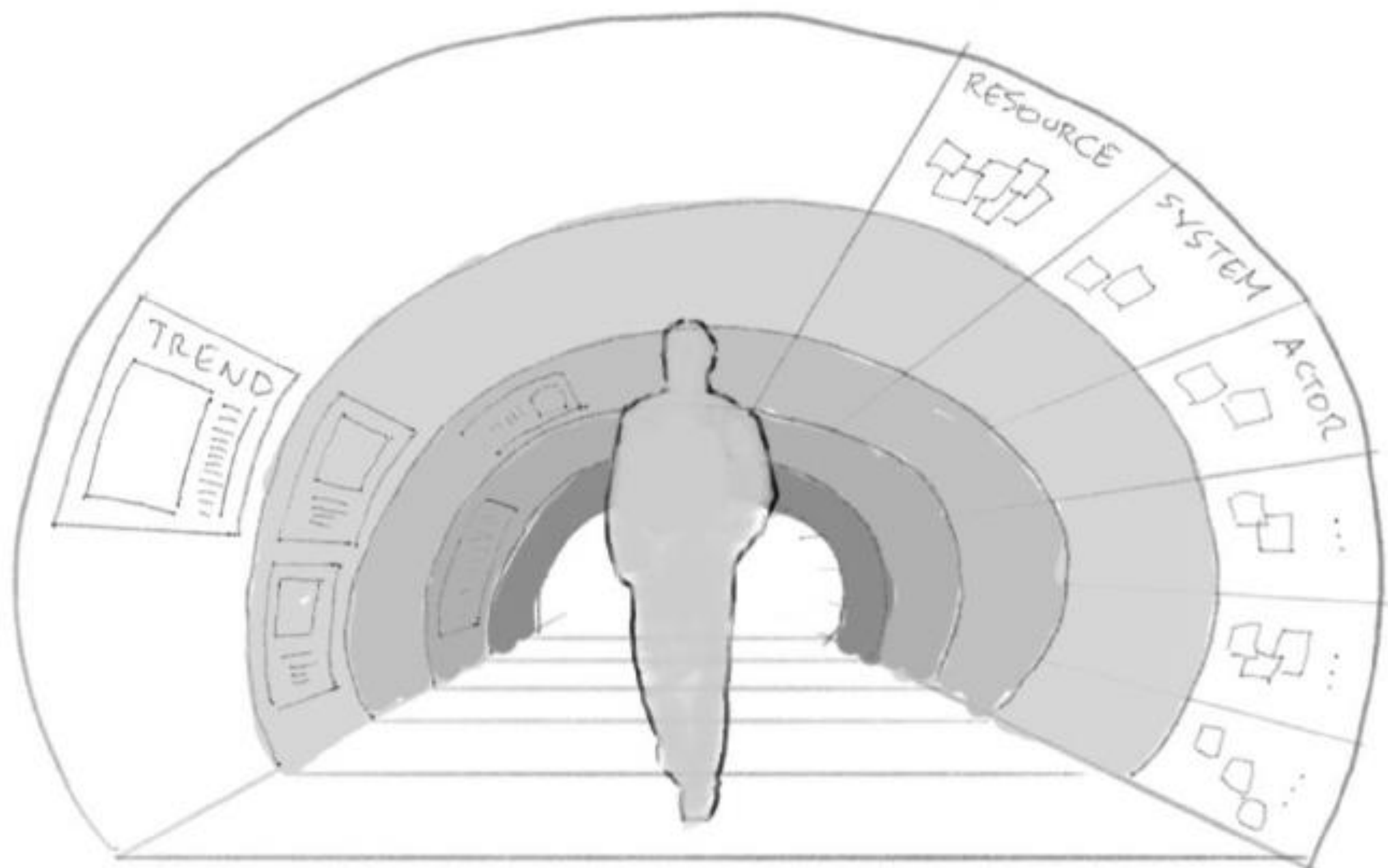
VR Games for soft skills development

How can gamification as a pedagogical method become an immersive experience as part of an entreupreneurship training? What added value brings the immersive experience to the learning table? Which soft skills from communication, to collaboration to networking can be accelerated through this VR experiment?

Implementation challenges and solutions

USING VR AS A GAME CHANGER

→ Different headsets, different mindsets.

→ Question the business-as-usual / status quo.

JOIN THE (R)EVOLUTION