

# Human Factors in the Metaverse?

Could it be 'Better than Real Life'?

Virtual Training Spaces for Non-Technical Skill Development

Denis Manson — Ten Hammers



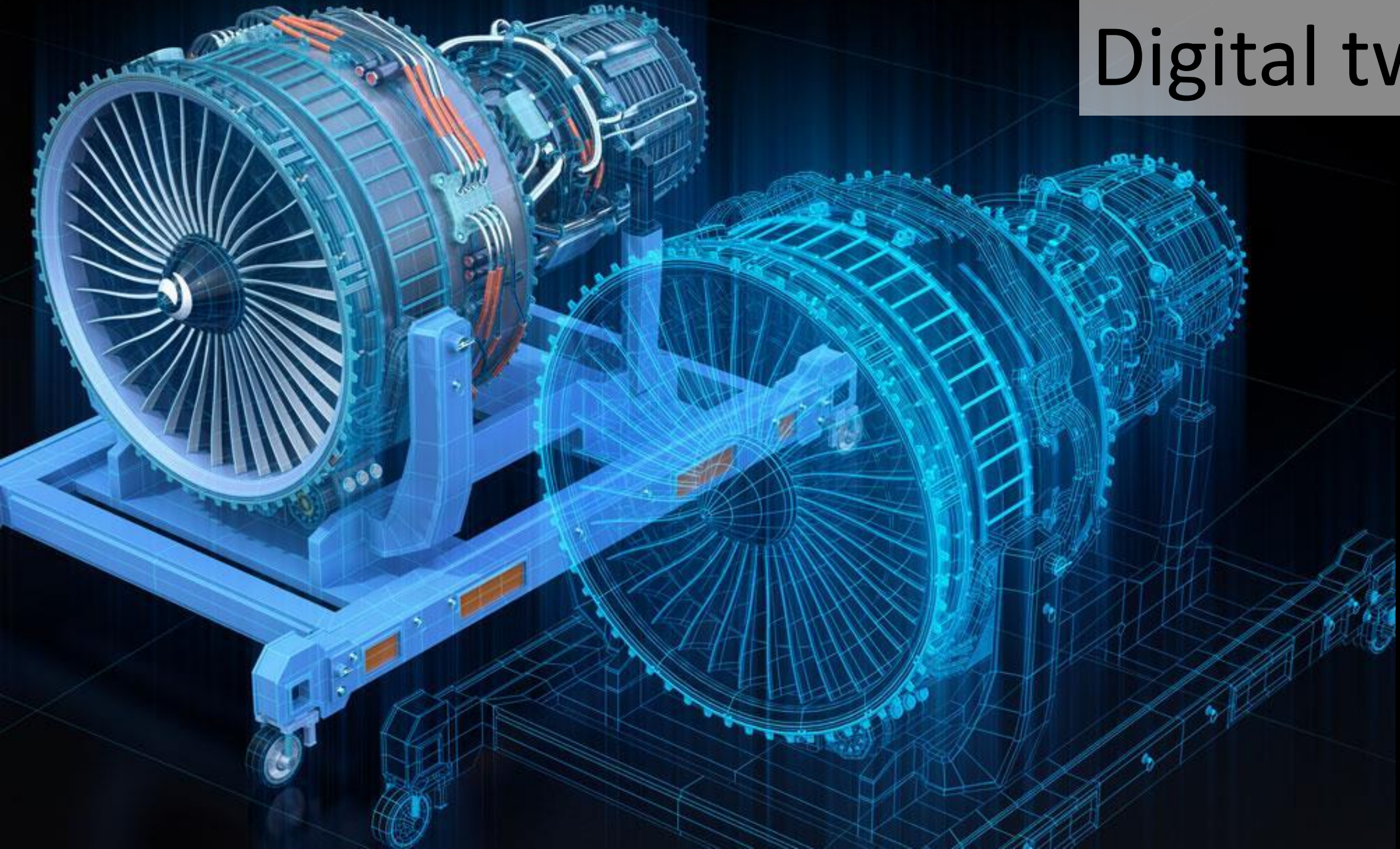
**apats2023**  
SINGAPORE

A comic book style illustration of a man with dark blue hair, wearing black-rimmed glasses with yellow temples. He is shown from the chest up, looking thoughtfully to the right with his hands clasped under his chin. The background is a grid of colorful squares in shades of green, red, orange, yellow, purple, and blue. A large, white, cloud-like thought bubble with a black outline is positioned above the man's head, containing the word "Future?" in a bold, black, italicized serif font. Two small white circles lead from the man's head to the thought bubble.

***Future?***



# Digital twin

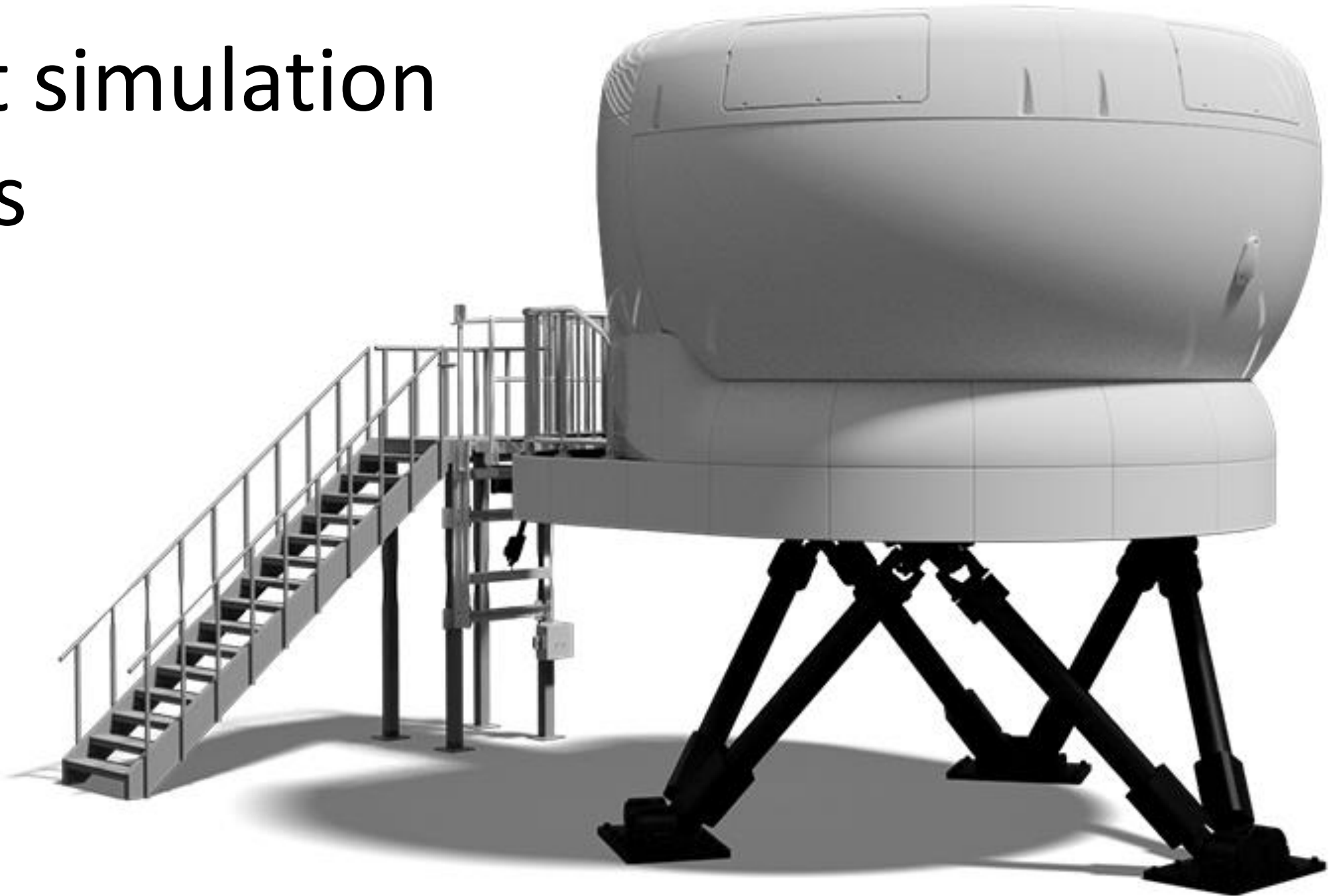




# Flight simulation 1920s



# Flight simulation 2020s





Dangerous

Engine failure in flight



Impossible

Walking on Mars



Counterproductive

Drink driving education



Expensive

Fuel burn



Repetition

Practice makes perfect



Variability

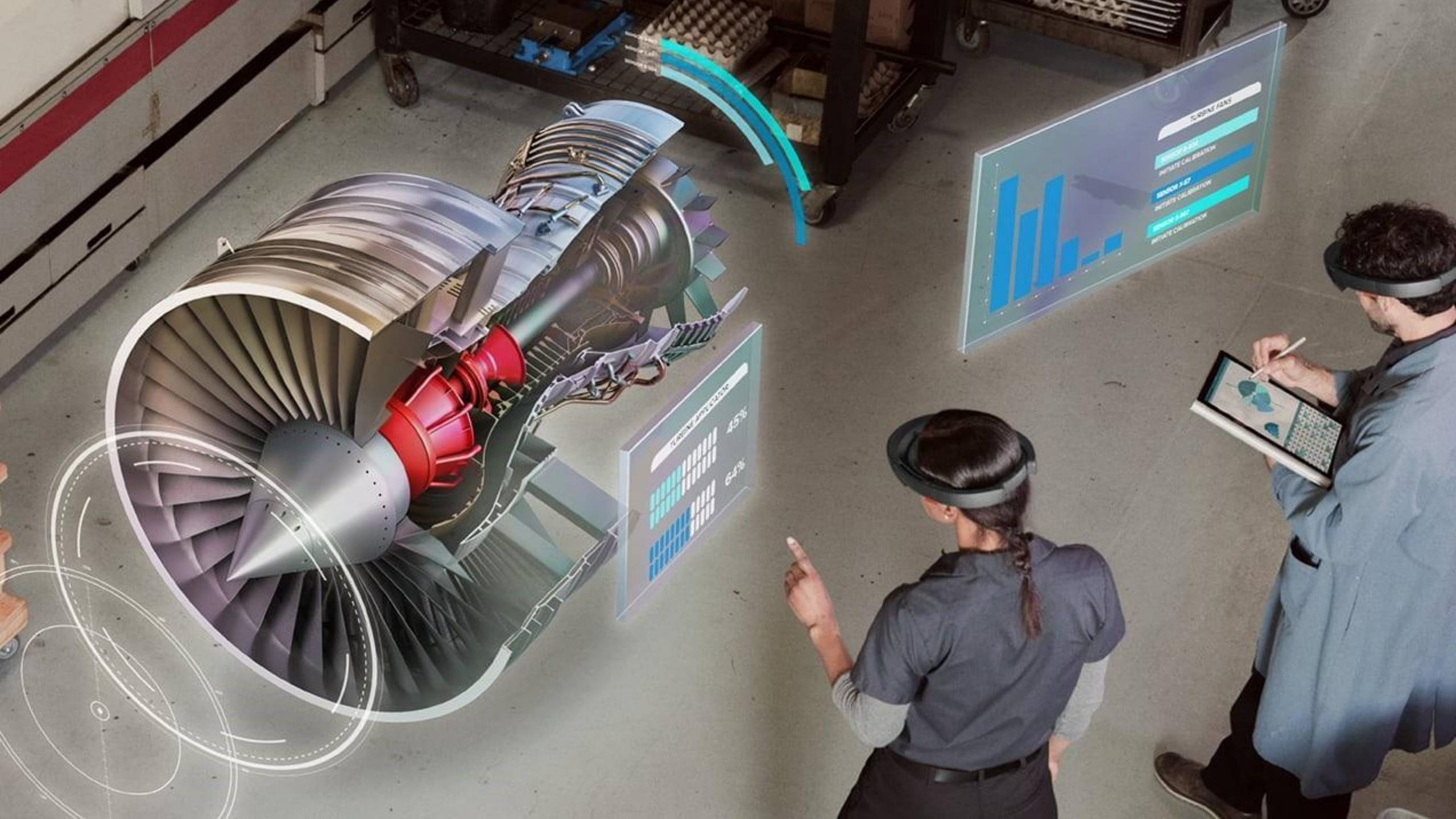
Simplification

Making small things large  
Making large things small





















Dangerous

Interviewing psychopaths



Impossible

Conversing freely in Swahili



Counterproductive

Use experimental social techniques



Expensive

Bringing a group together



Repetition

Practice makes perfect



Variability

Depth, breadth of experience



Real human to 'virtual' human  
e.g. interviewing skills, customer service skills



# Virtual Humans Outperform Real People Teaching Career Leadership Skills, Study Finds

Bryan Robinson, Ph.D. Contributor ⓘ

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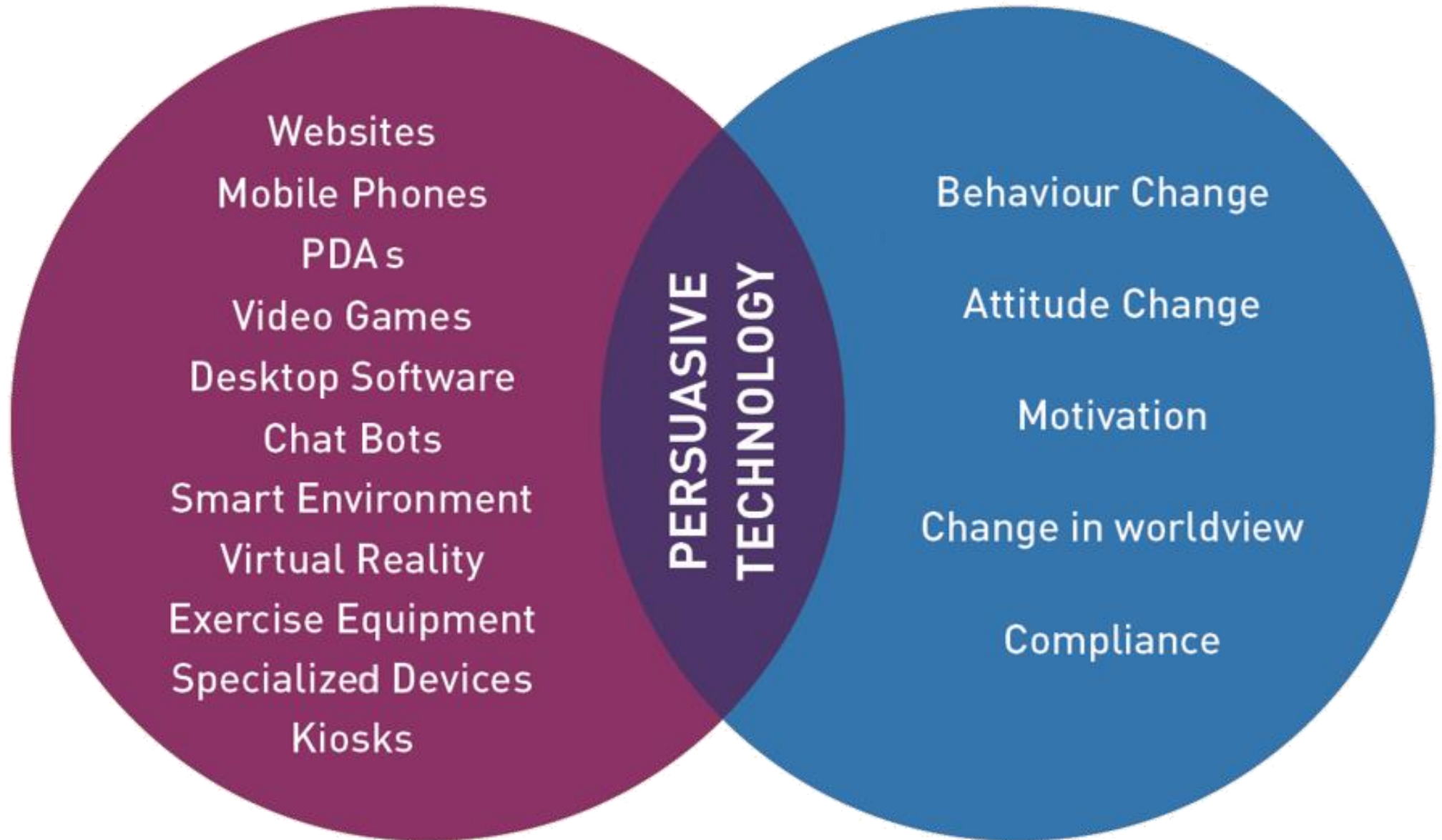


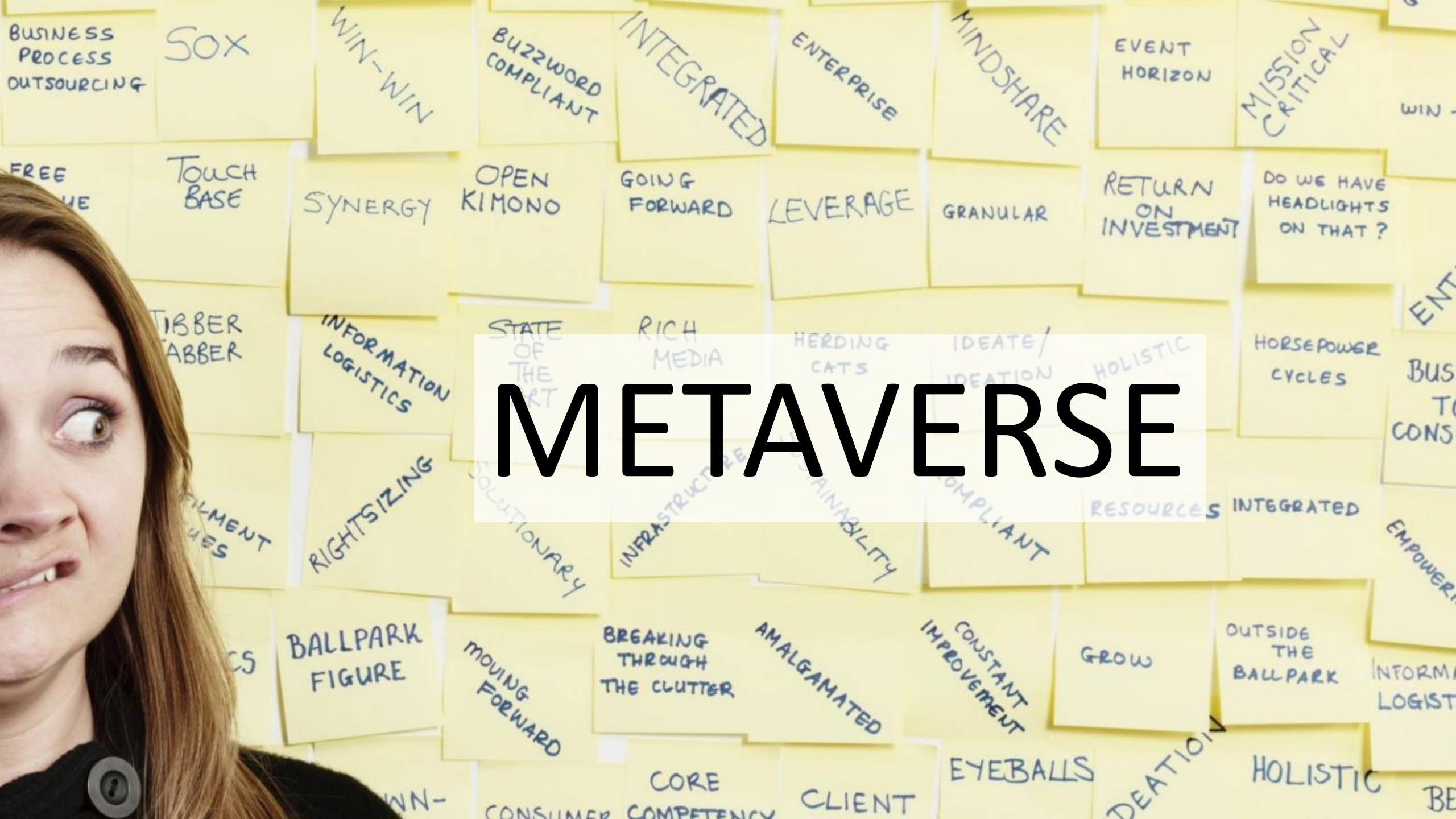




## COMPUTER

## PERSUASION





# METaverse





Christian.Nguyen  
VirBELA QA

Bynhan  
Virbela Staff

Campbell  
VIBELA

EvanVore

Jeff Whiteside

Andrew Gomoll  
VirBELA

Blair Scott

Alex

ErikH  
VirBELA Dev

Wes  
VirBELA Dev

Nicole  
VirBELA Artist

Sheldon Brown

Brazen. Abalgas

Dalton. Steele  
VirBELA Specialist

Bryson Keith

Nick Ray  
VirBELA Marketing

Gabe Baker

Dan Sinni

Daniel Cardello

Daniel Waltman  
VirBELA Artist

Jacob. Westerberg  
VirBELA Learn

Matalia Sanchez

Coy  
VirBELA System Administrator

Jessica. Pearl  
Contract Accountant



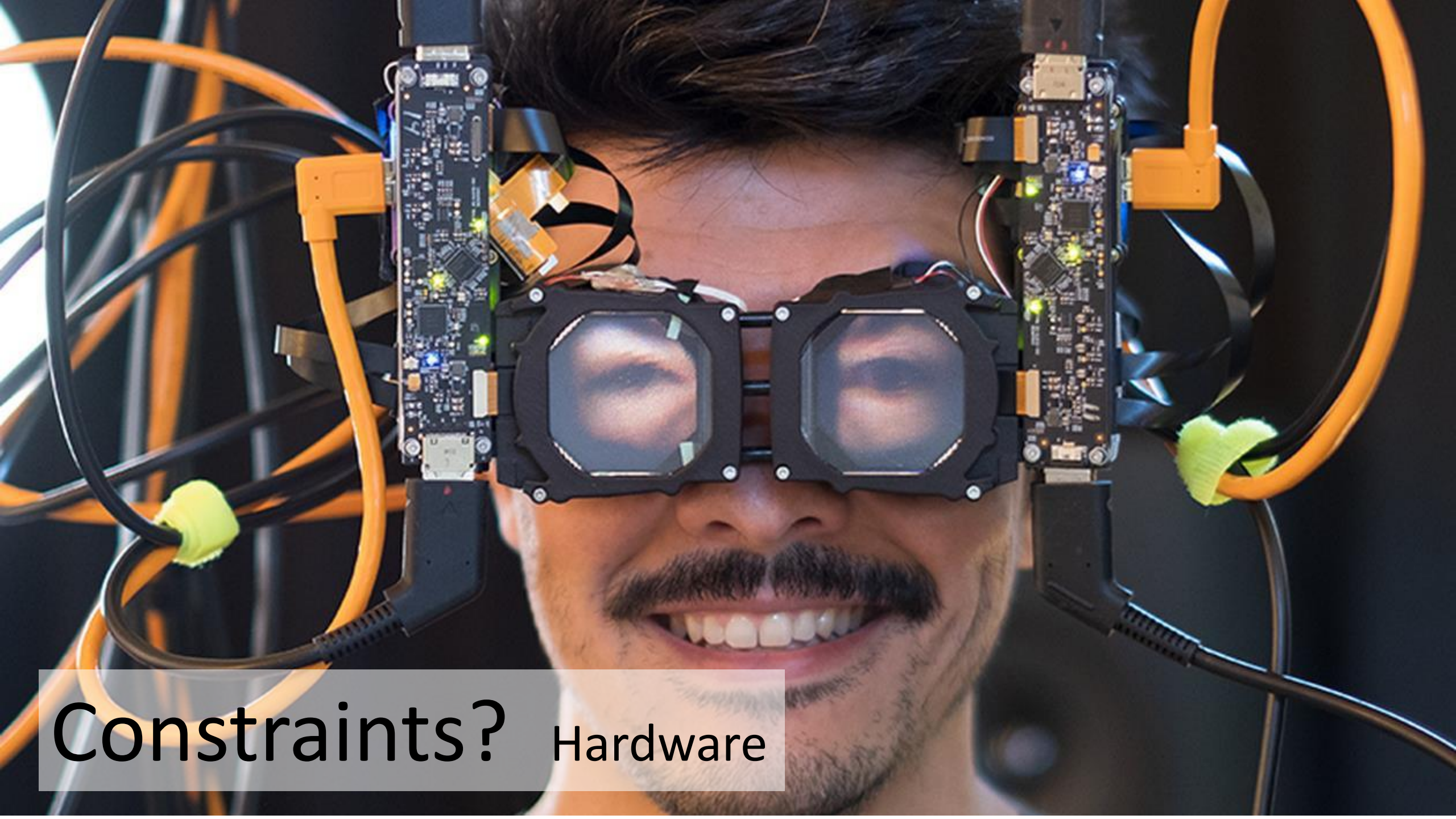






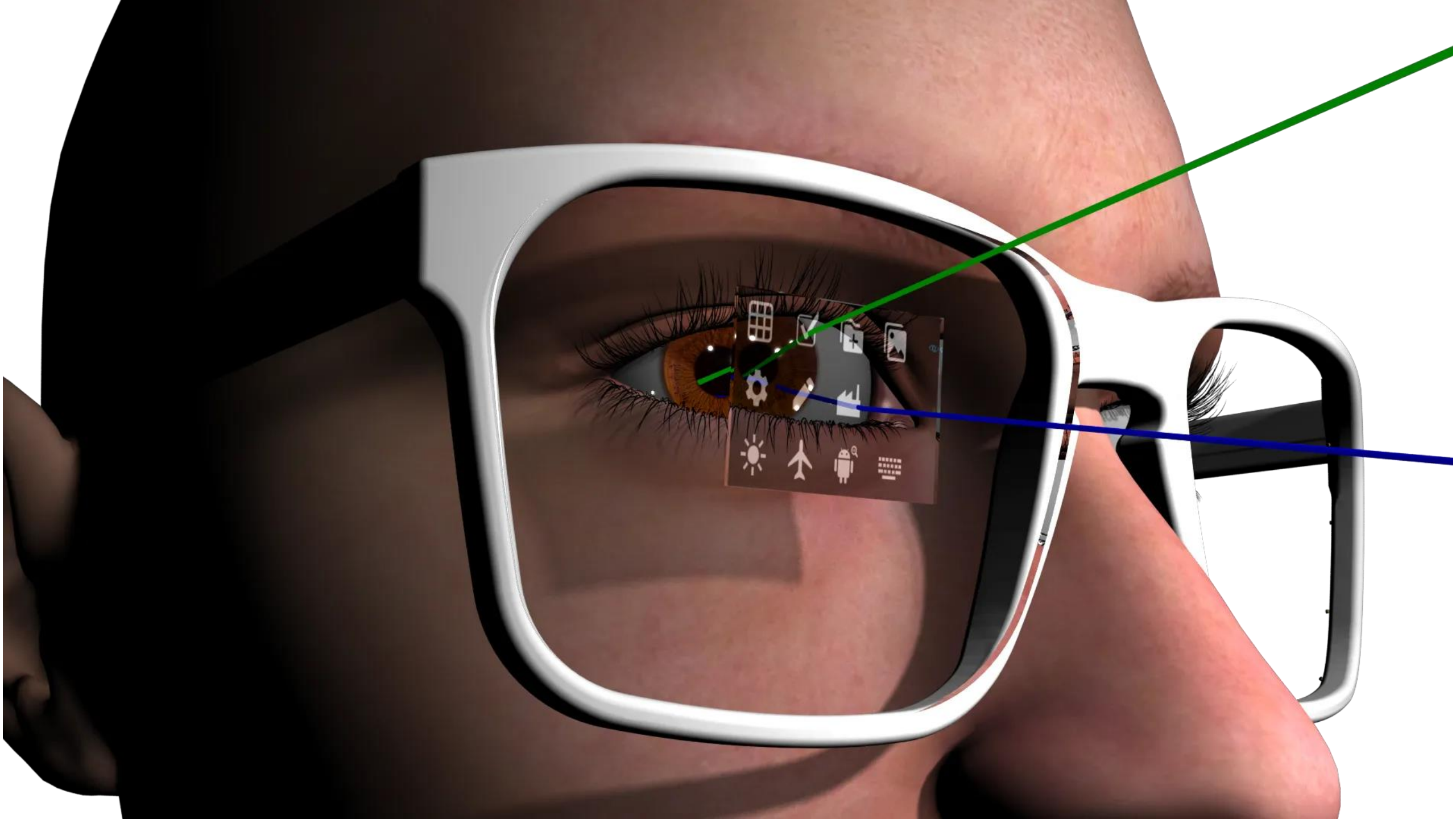


Constraints? Eeeew



Constraints? Hardware





# THIS IS XR

TYR







Constraints? Cost



Constraints? Artificial intelligence





# Artificial intelligence

(from Oppermann)

Can you tell?

Does it matter?

How is it qualified?

Who is responsible?

Can you trust it?

What is happening to my data?

How informed is my consent?

Can decisions be explained?

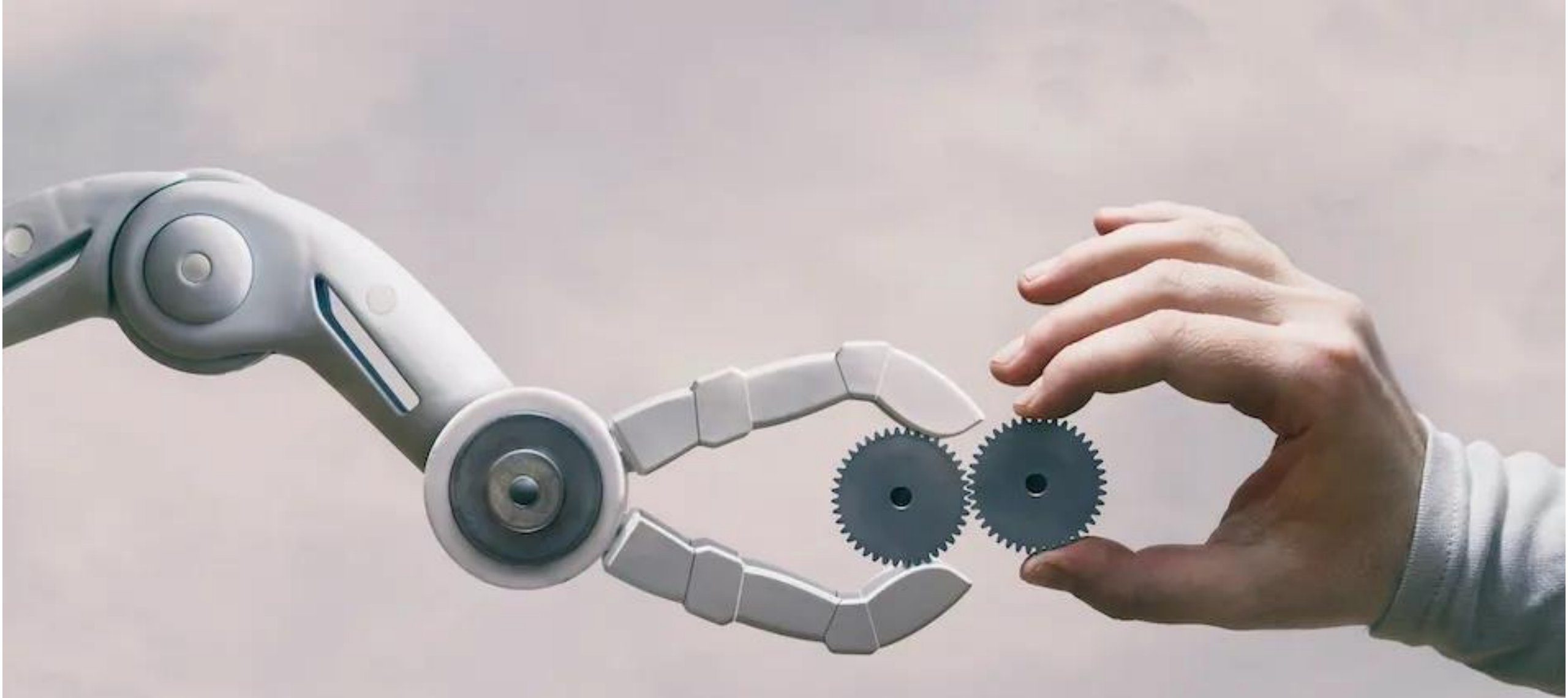


# Ethical constraints?

Personal agency







# Virtual Training Spaces for Non-Technical Skill Development

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# Thank you

