



Mr. WATTS

PXL | VaRbeid | XR in Professional Contexts

Agenda

XR Capabilities

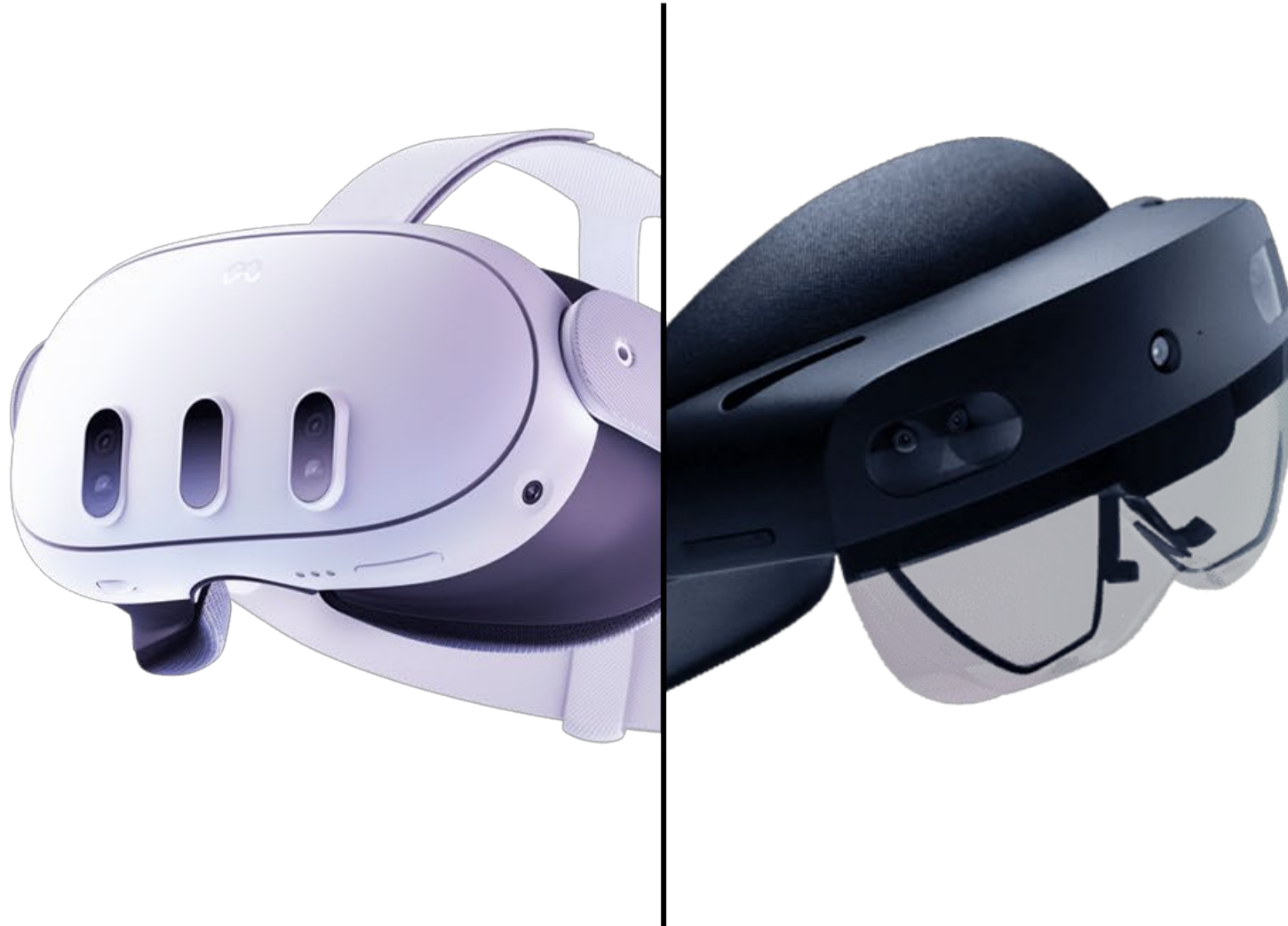
XR Use cases

Digital Twins

Digital Twin Use Cases

Questions?

VR / AR / MR?



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XR Capabilities

- Overview
- Eye Tracking
- Hand Tracking
- Spatial Mapping

3D Visualization

Mixed Reality



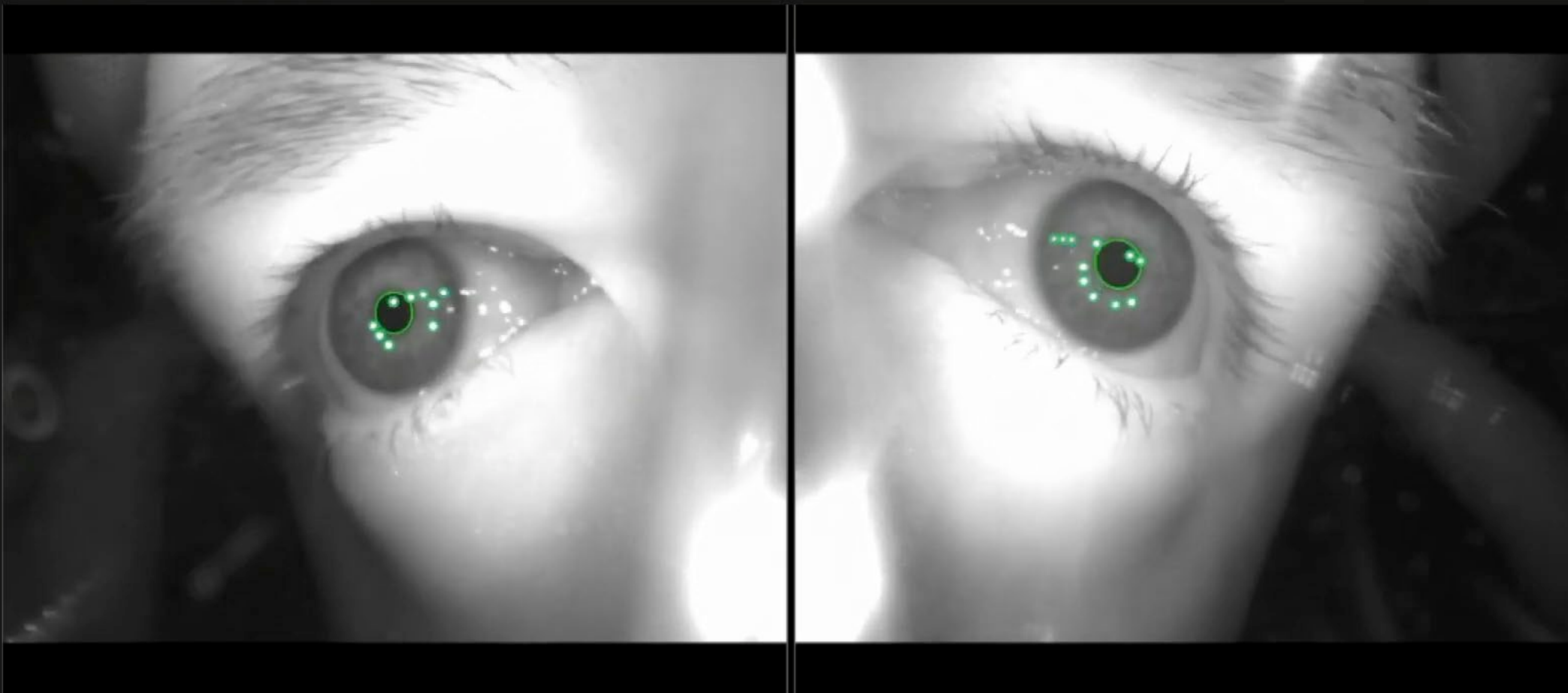


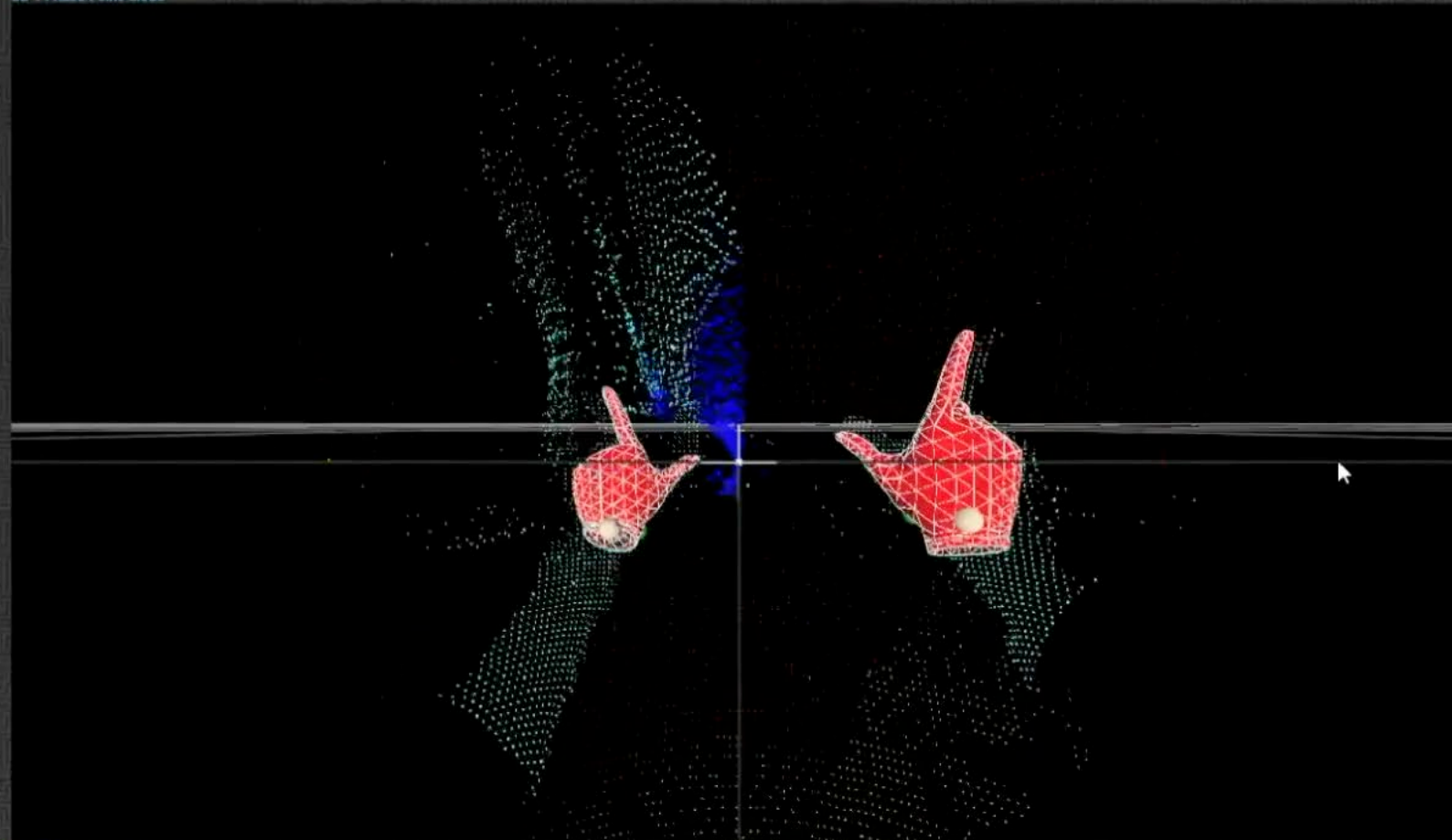
Windows Hello



Mr. WATTS







Ticks = 10247666437
Seconds = 163.963
Power State = Active 30FPS
ROI Tracking Mode = Detection DNN

Left Hand [ID 0]

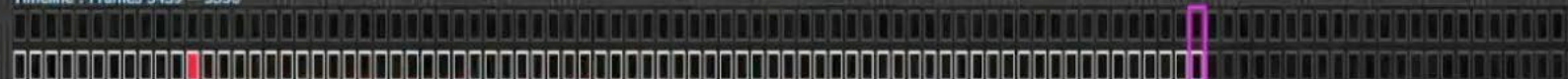
ROI Center (3D) = (-0.12, 0.05, 0.29)
ROI Bounds (2D) = (56, 201) + (179 x 193)
ROI DNN Output = 6DOF Prediction
Wrist Position = (-0.13, 0.08, 0.26)
Hand Orientation = (0.03, 0.29, 0.95, 0.08)
DigitsHand::Position = (-0.13, 0.09, 0.29)
DigitsHand::IsPressed = False
DigitsHand::IsBloom = False
DigitsHand::HandGesture = None

Right Hand [ID 1]

ROI Center (3D) = (0.15, 0.01, 0.19)
ROI Bounds (2D) = (291, 143) + (212 x 253)
ROI DNN Output = 6DOF Prediction
Wrist Position = (0.16, 0.06, 0.17)
Hand Orientation = (0.05, 0.19, 0.98, -0.07)
DigitsHand::Position = (0.17, 0.07, 0.19)
DigitsHand::IsPressed = False
DigitsHand::IsBloom = False
DigitsHand::HandGesture = None

Pixel Inspector

Timeline : Frames 3439 -- 3538



LowRes : AB Map



LowRes-Class : Segment WinMap



ROI 1 : AB Map



ROI 1 : Segment WinMap



ROI 2 : AB Map



ROI 2 : Segment WinMap



3D : Phase Point Cloud



FPS [D/C]: 17 / 17
Frame[D/C]: 3514 / 3514

CO 47.7ms
267.3%

CI 17.3ms
96.9%

DNN 5.4ms 30.1%
DNN 14.1ms 78.8%

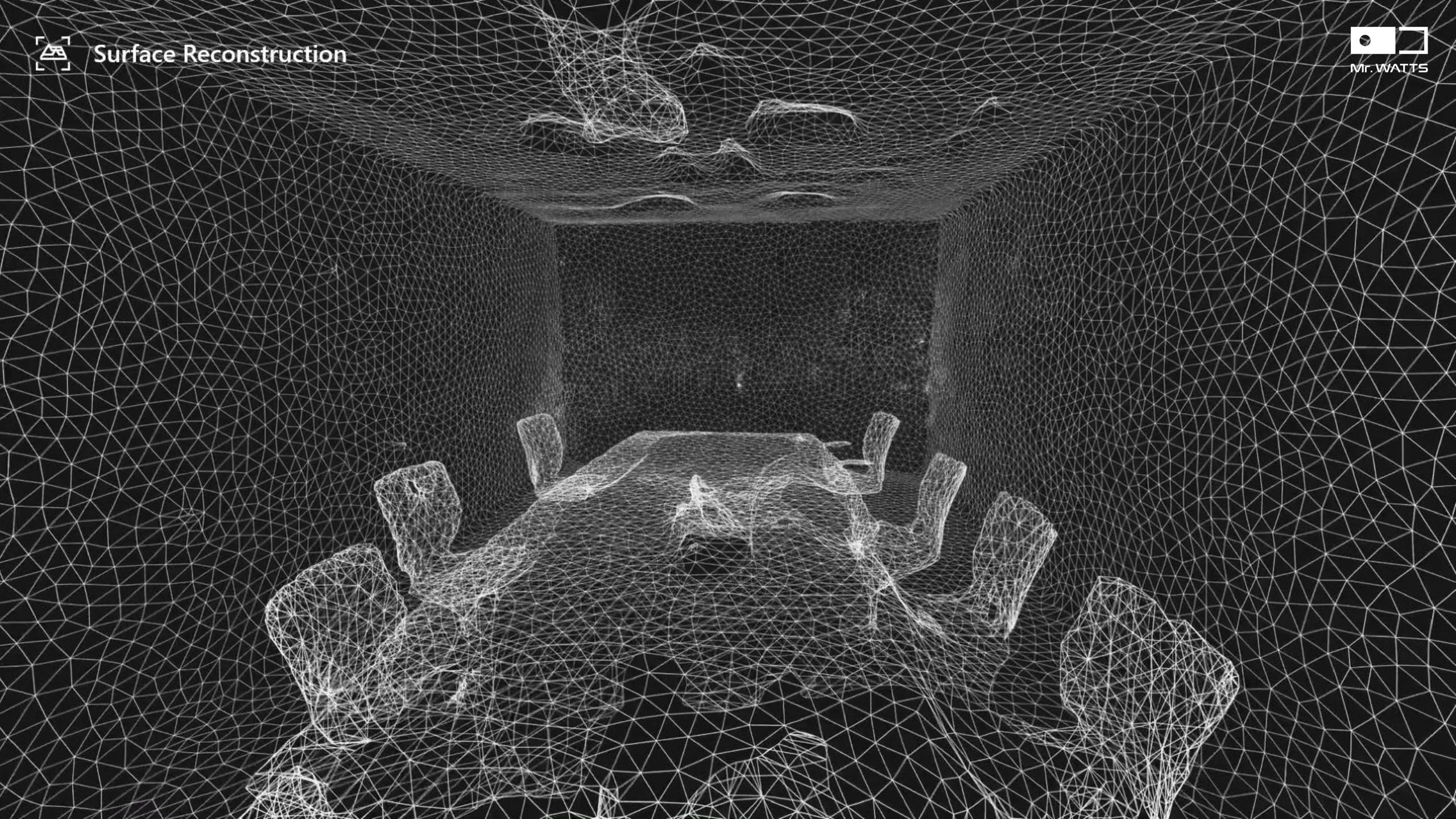
DET 8.0ms 45.0%

ROI 14.3ms 80.2%
ROI 0.0ms 0.0%

FTI 2.8ms 15.6%
FTI 0.0ms 0.0%

GES 0.1ms 0.6%
GES 0.0ms 0.0%

F1: Phase Point Cloud
F2: AB Map
F3: Segment WinMap



XR Use Cases

Hooyberghs - Proximus AR BIM Visualisation



Fabrie k Lo gist i e k

AR Wayfinding



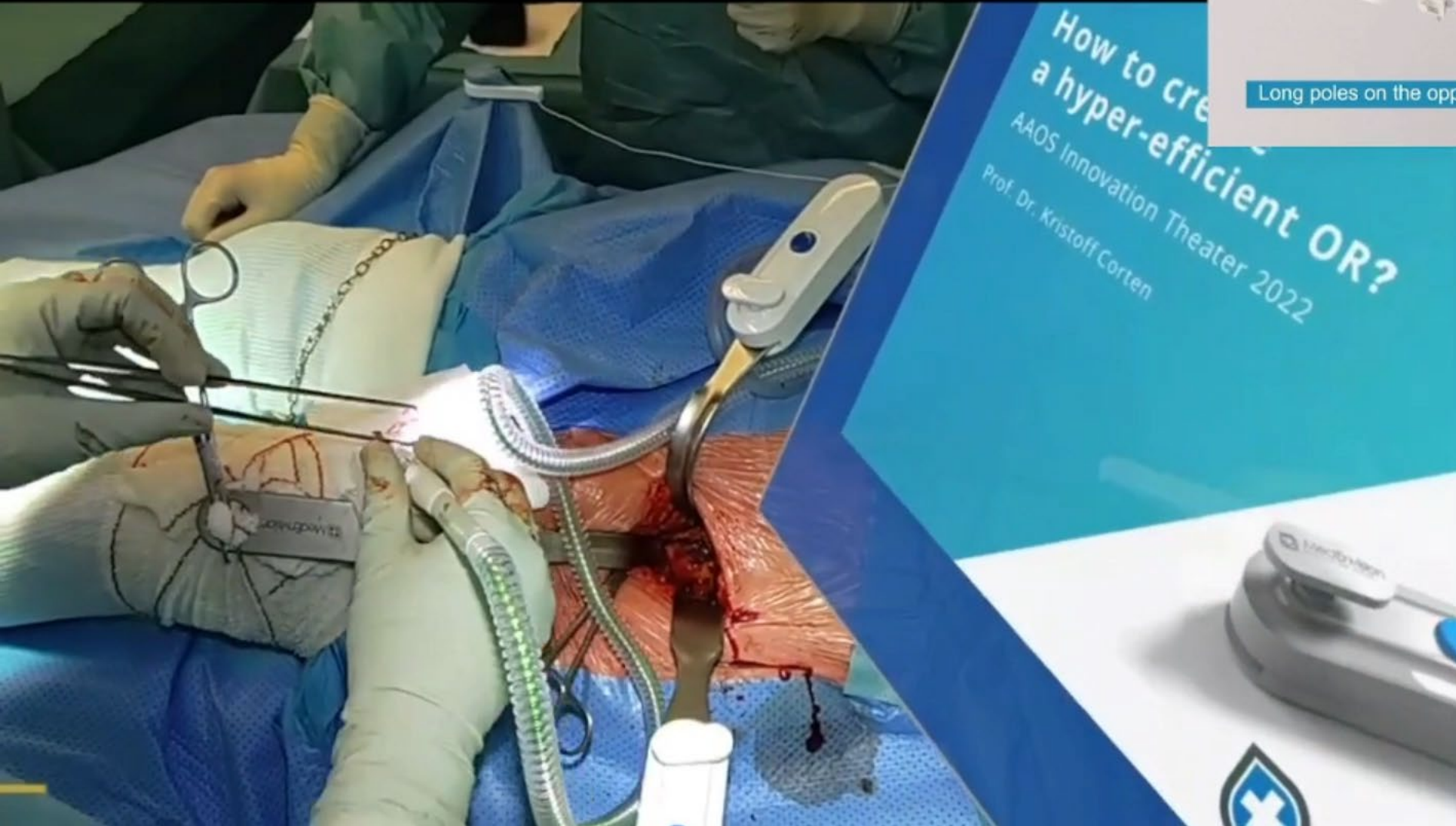
MedEnvision

Live Surgery with AR

00:00:00

Long poles on the opposite side

How to create
a hyper-efficient OR?
AAOS Innovation Theater 2022
Prof. Dr. Kristoff Corten



Beckton Dickinson

Holographic Medical Imaging





Digital Twins

Inspirational

Digital Twin

Virtual replica of a real-world object, system, process, organization, person, etc...

Driven by **real-time data** (most of the time)

Behaves and 'works' exactly like its physical sibling

Augmented with **predictive analysis, ML or other AI techniques**

Frequently enhanced with an **accurate 3D context and geometry**



Inspirational

Digital Twin

Allows **accurate & real-time simulations**

Enables **deep, correlated insights**

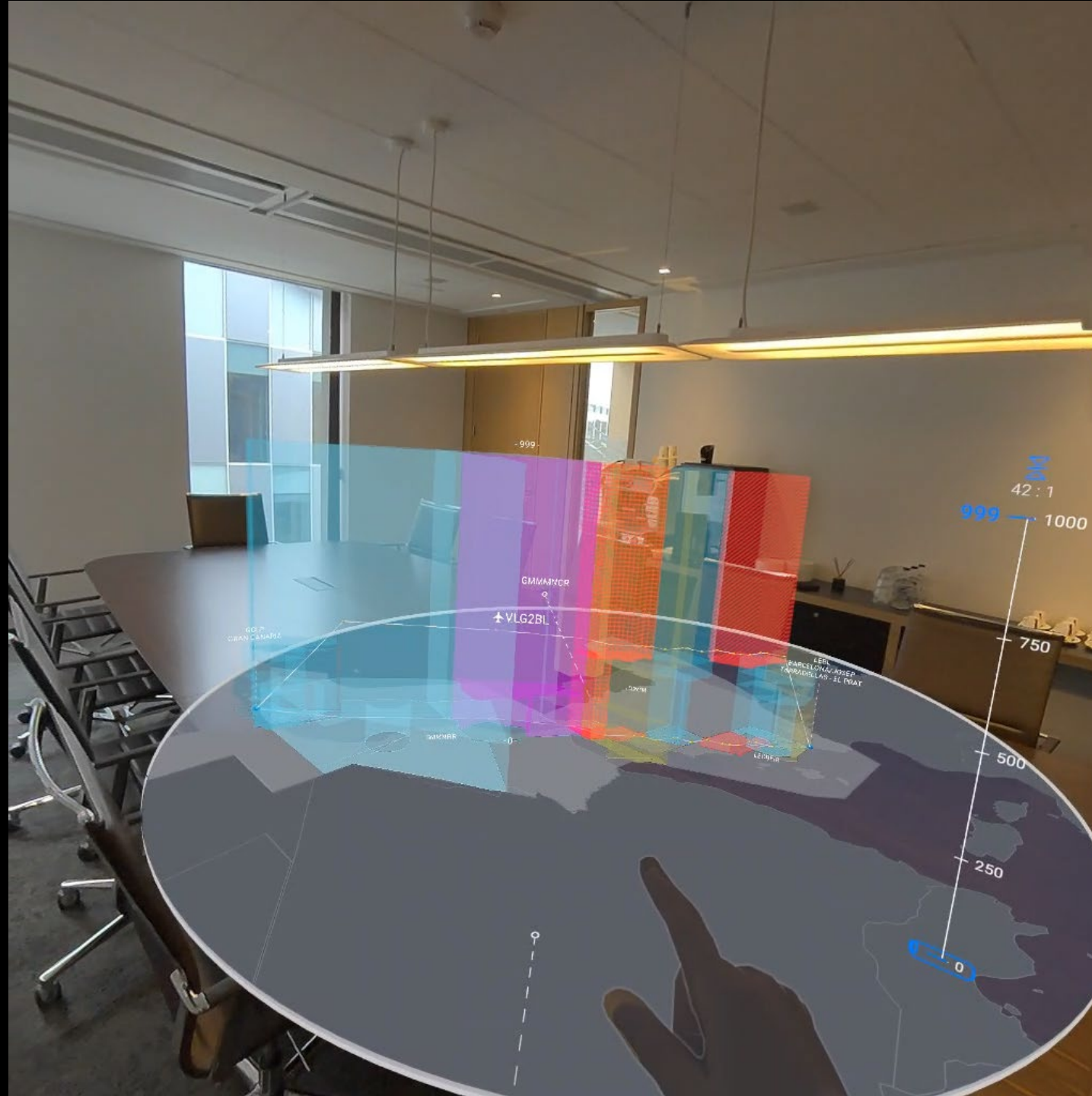
Supports (automated) data-driven **decision making**

Supercharges **agility** in case of new, unforeseen circumstances

Digital Twin Use Cases

EUROCONTROL

Twin of European Airspace



Questions?

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