

Loft Dynamics

Fabi Riesen

(formerly VRM Switzerland/VRMotion AG)

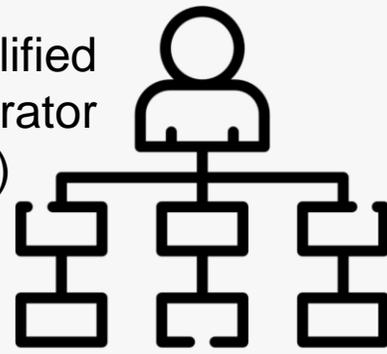
Fabi Riesen | Dübendorf | 05.05.2024





2014

EASA Qualified
FSTD Operator
(~ Part142)



VR 2021



77 Employees



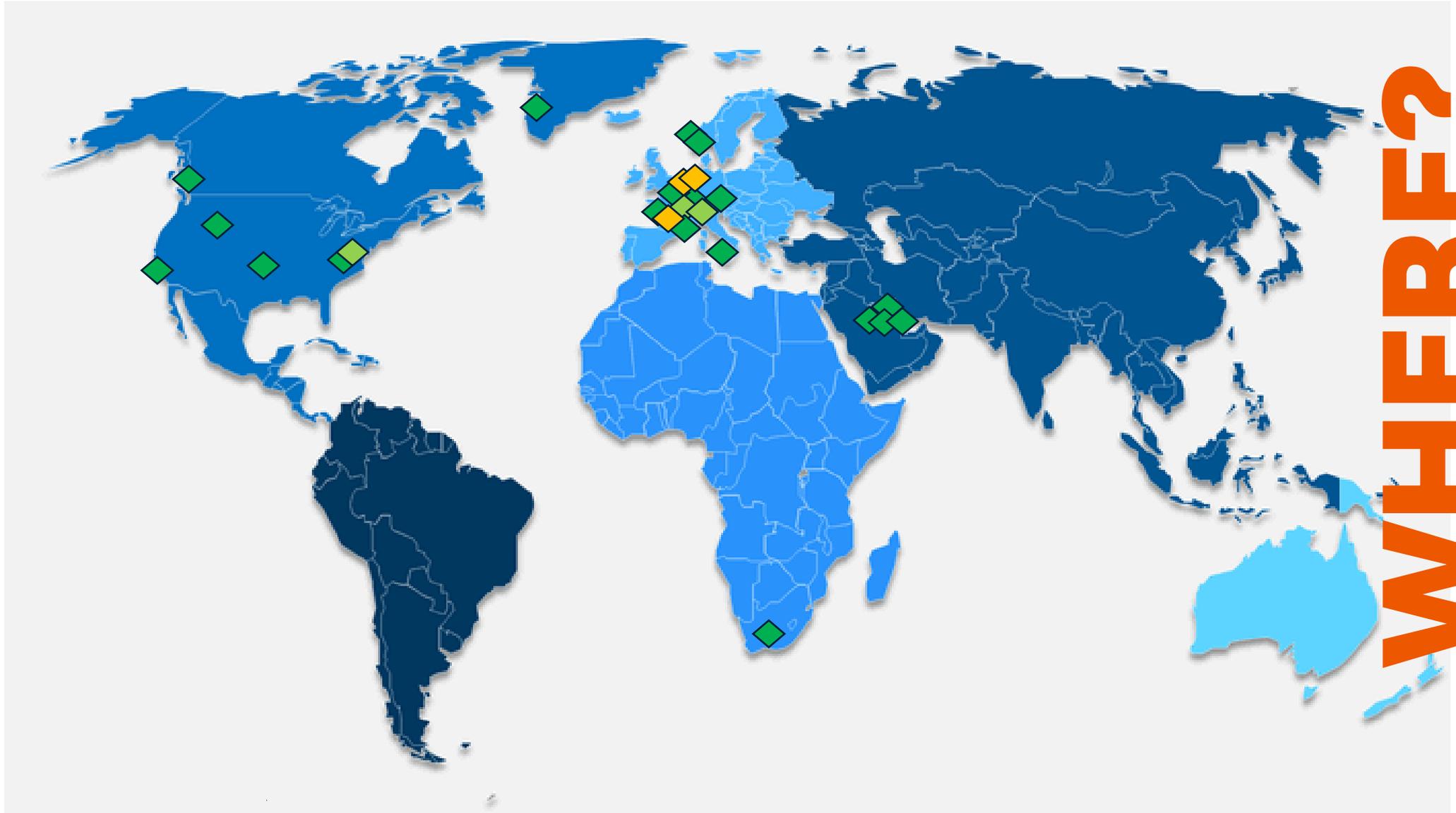
All in House



Airbus Helicopters Partner

WHO?

Current Worldmap



-  H145
-  H125
-  R22
-  North America
-  Europe
-  Asia
-  Africa
-  South America
-  Australia

WHERE?



mountainflyers.ch
helicopters | switzerland

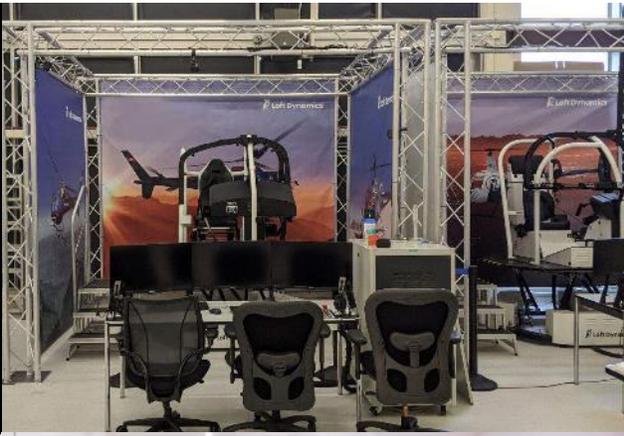
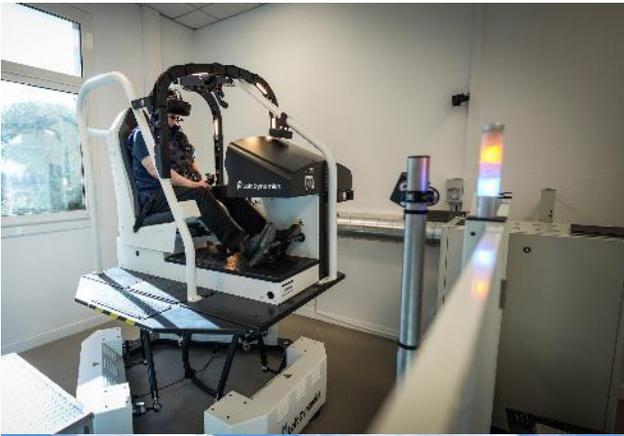


WHERE?

TRAINING CENTER
VERTICAL
MISSION


H·MOTION
Fly with experience


Heli Austria
www.heli-austria.at



Mobile



Mobile



WHERE?



Commercial Helicopter Pilot on Ecureuil H125

Complete your professional pilot training on the world's most popular work helicopter at an unbeatable price.



Type Rating Airbus H125

The VR H125 simulator enables targeted training in combination with a real helicopter. This can reduce the costs for the type rating.



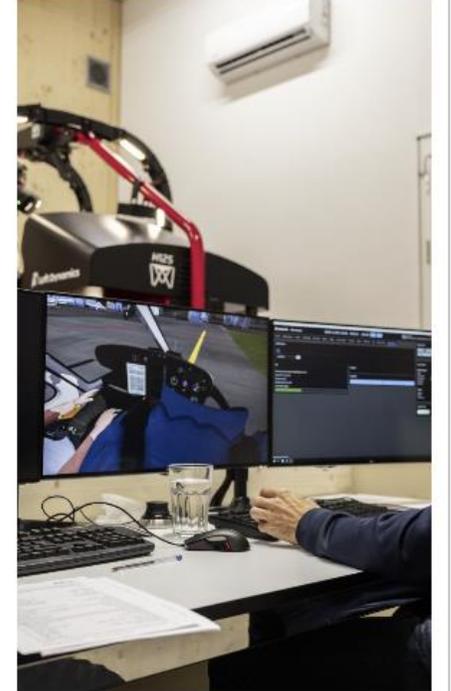
Proficiency Check (LPC/OPC) H125

Complete a fully creditable Proficiency Check on the H125 VRM simulator with us.



Dream helicopter pilot

Start with the first five flight hours on the virtual reality simulator at an unbeatable price.



Safe autorotation training Claude Vuichard

Take advantage of this unique opportunity to learn Claude Vuichard's pioneering autorotation technique.

WHAT?

<https://mountainflyers.ch/en/training/vr-motion-simulator>

Virtual Reality

Dome Projection



Correct Perspective – Parallax, close objects, stereoscopic view

Mirrors – 100% realistic mirror renderings

Full Immerse3D – Every head movements are like in the real cockpit

The visual queue in dome projection is fundamentally wrong and fails to faithfully represent an aircraft.

<https://www.youtube.com/watch?v=YJPpqrKIVmQ>

WHY?

Safety Issue

“The vast majority (80 %) of all accidents and serious incidents involved rotorcraft performing non-commercial operations or specialised operations.” (Chapter 3.1.2.2, p. 56, EPAS)

WHY?



- High number of accidents in training
- High number of licensed private pilots with limited experience
- Training on aircraft involves many risks
- Not enough means for FSTD training – until now

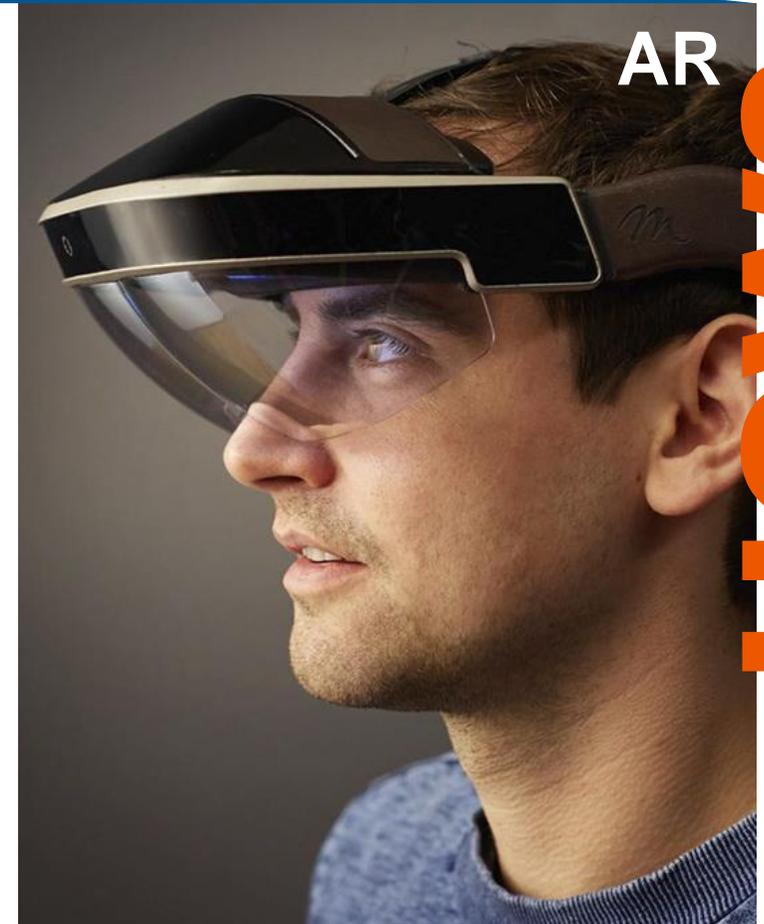


WHY?

Higher fidelity and up to 20 times more cost-effective



Extended Reality (XR)



!MOH
HOW?

Extended Reality (XR)

VR



- ++ Immersion
- + Resolution
- + Graphics quality and effects
- + Technically manageable
- **Where are my hands?**

Source: www.aero.varjo.com

MR



- + Immersion
- Resolution, see through cams
- Graphics quality and effects
- Technically hard to manage
- I looks like I see my hands from somewhere else.

Source: www.varjo.com

AR



- + Immersion
- Resolution, see through cams
- Graphics quality and effects
- Technically hard to manage
- Low field of view
- Ambient lighting influence

Source: www.theverge.com

How?

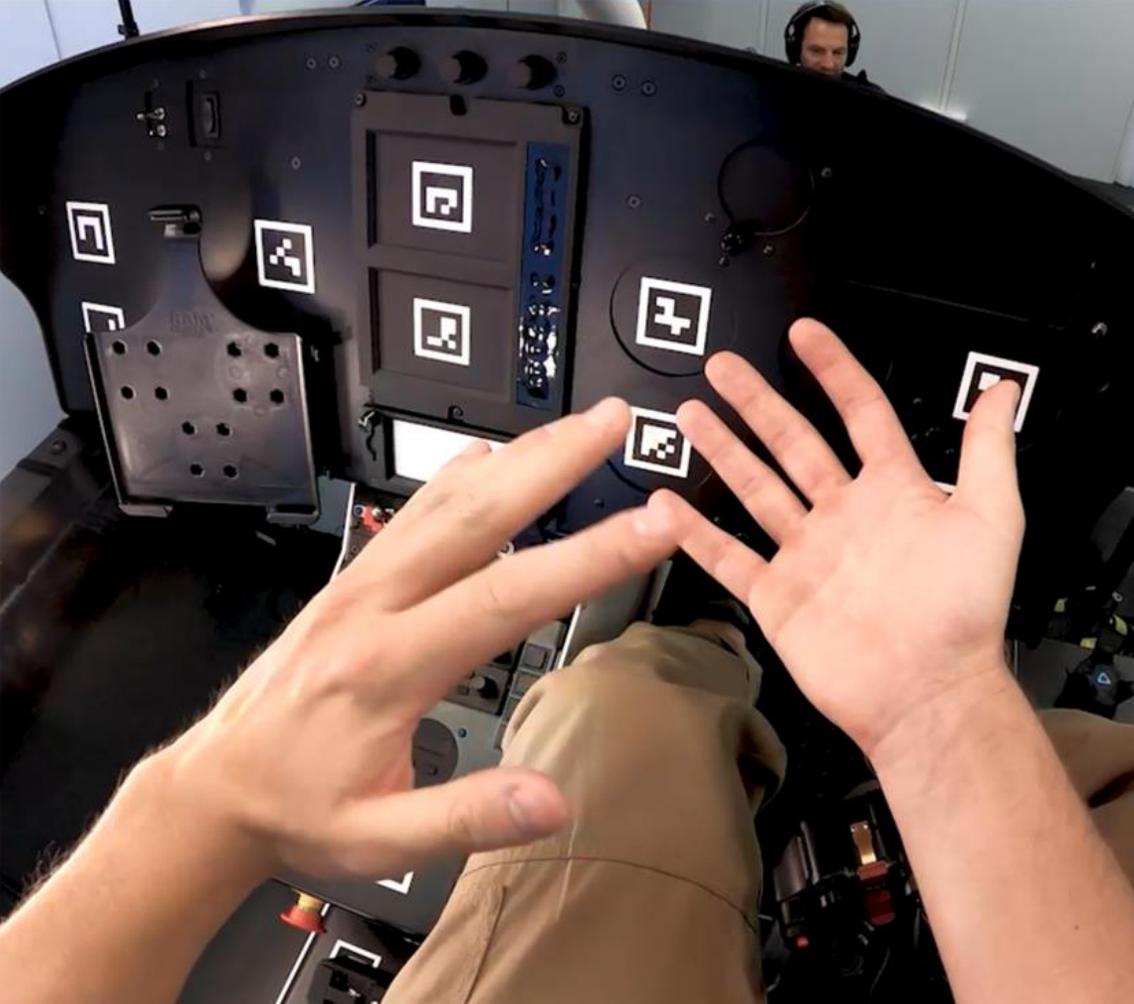
Where are my Hands?



HOW?

<https://www.youtube.com/watch?v=UyBaPlup9CE>

Here are my Hands!



HOW?

Loft Dynamics Pose Tracking System

- Completely immersed
- Cockpit Operation including haptic
- Real Time Full Body Avatar
 - See yourself
 - See “others” in VR (Multi Crew)
- Separation HW from SW (“Tesla” Style)



HOW?



HOW?

Loft Dynamics

HOW?

<https://youtu.be/WXr4DbKNXMQ?t=23>

The Virtual Tablet



HOW?

<https://www.youtube.com/watch?v=7OHKQgg8J50>

Multi Crew



HOW?

Multi Crew



HOW?

Airbus H145 D3



NEXT?



NEXT?

XT?



ixen
NEXT?

Beyond Level D - Fidelity





THANK YOU.