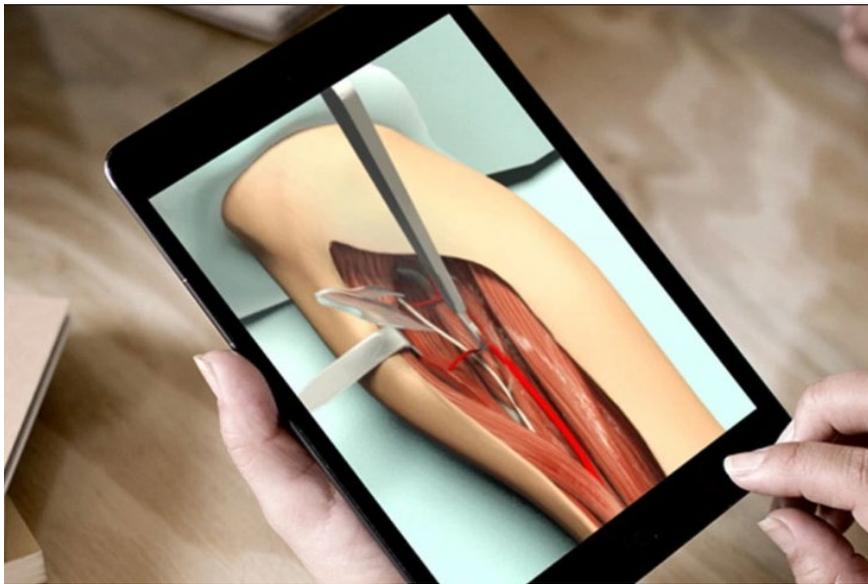


Virtual Surgical Simulation



Dr. Tobias Hövekamp
Manager Strategy Fund Projects

Image Processing, Augmented and Virtual Reality
Chur, May 28th, 2019

AO Foundation - promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

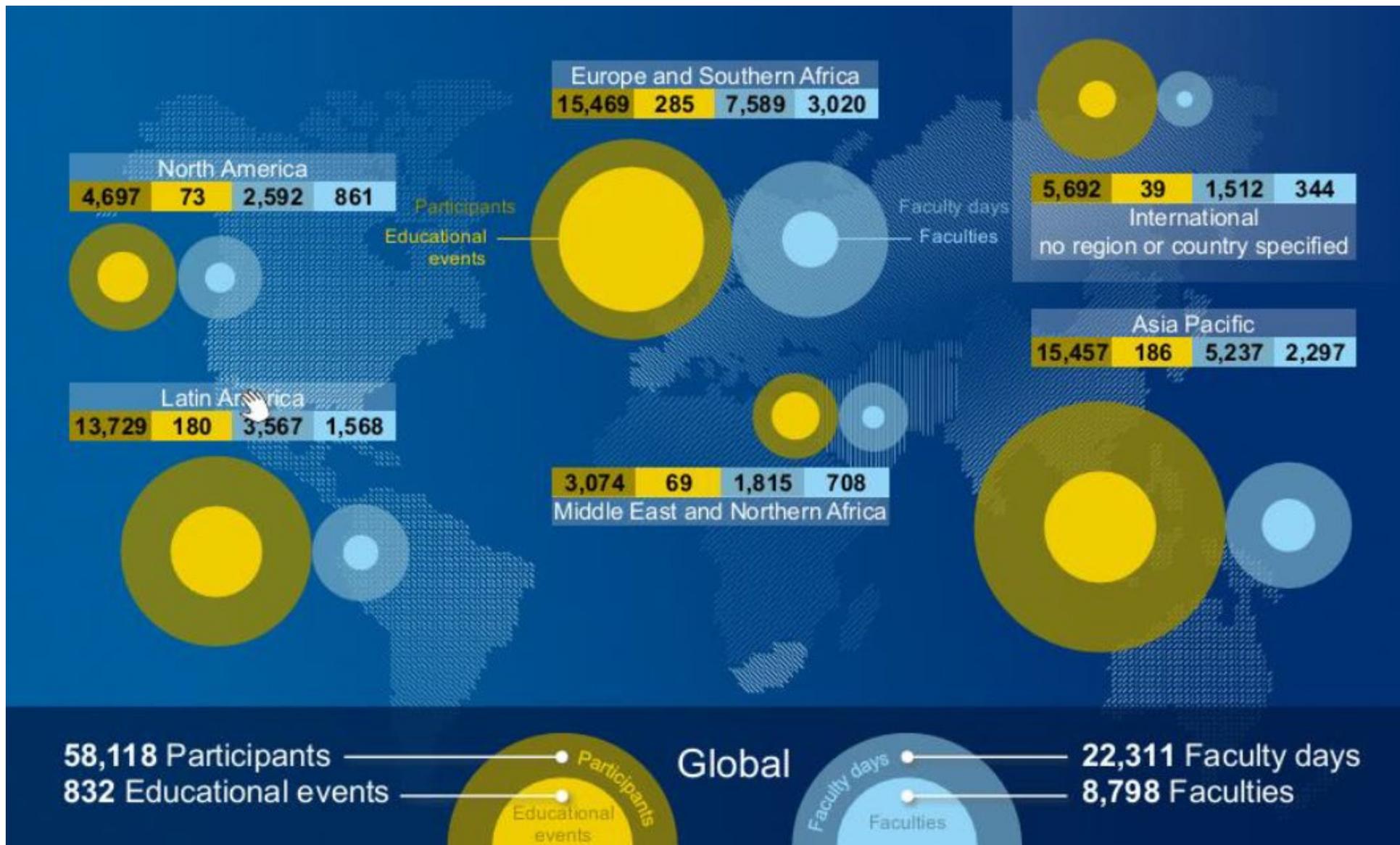
The **AO Foundation** is a medically guided, not-for-profit organization led by an international group of surgeons specialized in the treatment of trauma and **disorders of the musculoskeletal** system. It was founded in 1958 by 13 visionary surgeons.

Today, the AO has a **global network** of over 200,000 health care professionals. Each year it offers over **830 educational events** around the world, which are supported by nearly **9,000 faculty** and are attended by over **58,000 participants**. It has 20,000 surgeon members working in the fields of trauma, spine, craniomaxillofacial (CMF), veterinary, and reconstructive surgery.

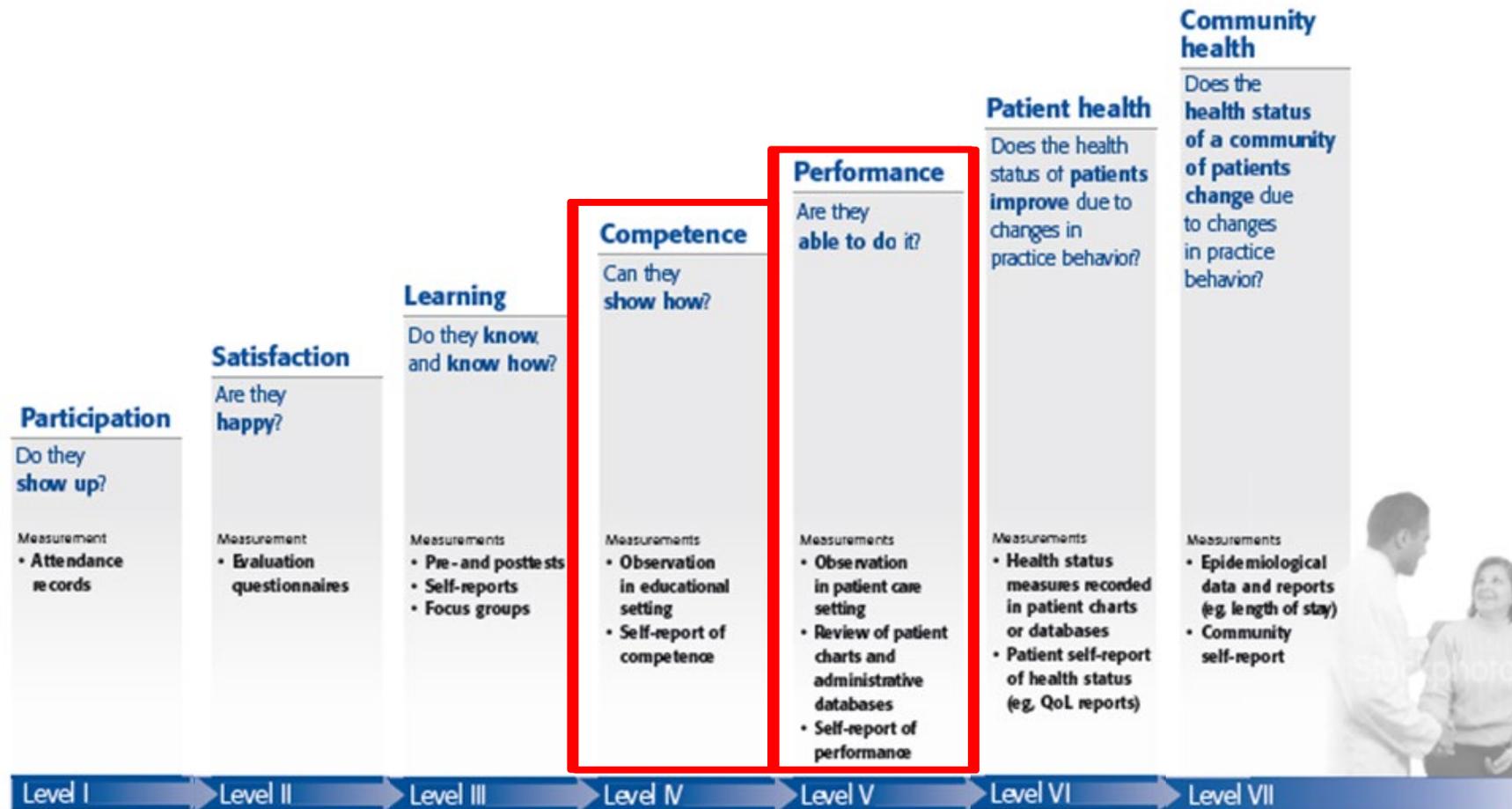
Our mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.



AO Educational Events – Global Reach



Targeting the Highest Educational Outcome Level



Moore D, 2009

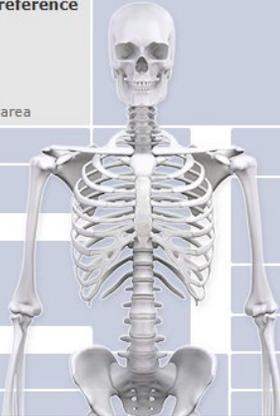
AO has a long history in simulation-based education

AO Surgery Reference

Comprehensive online reference in daily clinical life CMF

Please select an anatomical area

Clavicle	Proximal humerus
Scapula	Humeral shaft
Spine	Distal humerus
	Proximal forearm
Pelvic ring	Forearm shaft
Acetabulum	Distal forearm



Surgery Reference

- Cognitive simulation
- Procedural knowledge

Skills lab

Basic technical knowledge and skills



Practical exercise

- Technical skills
- Dexterity
- Procedural knowledge

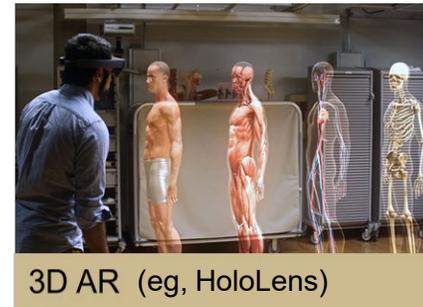
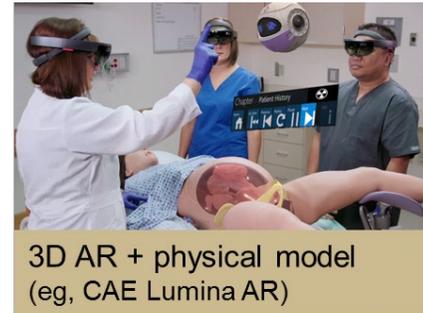
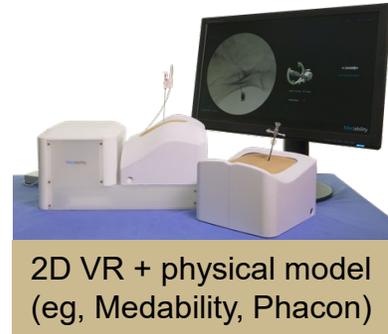
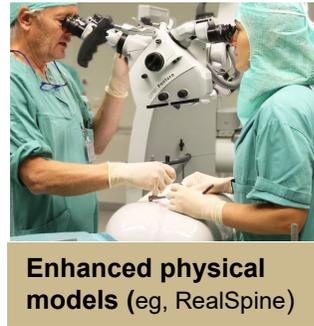
Anatomical specimen workshop

High fidelity experience



Surgical Simulation

high
↑
Fidelity
↓
low



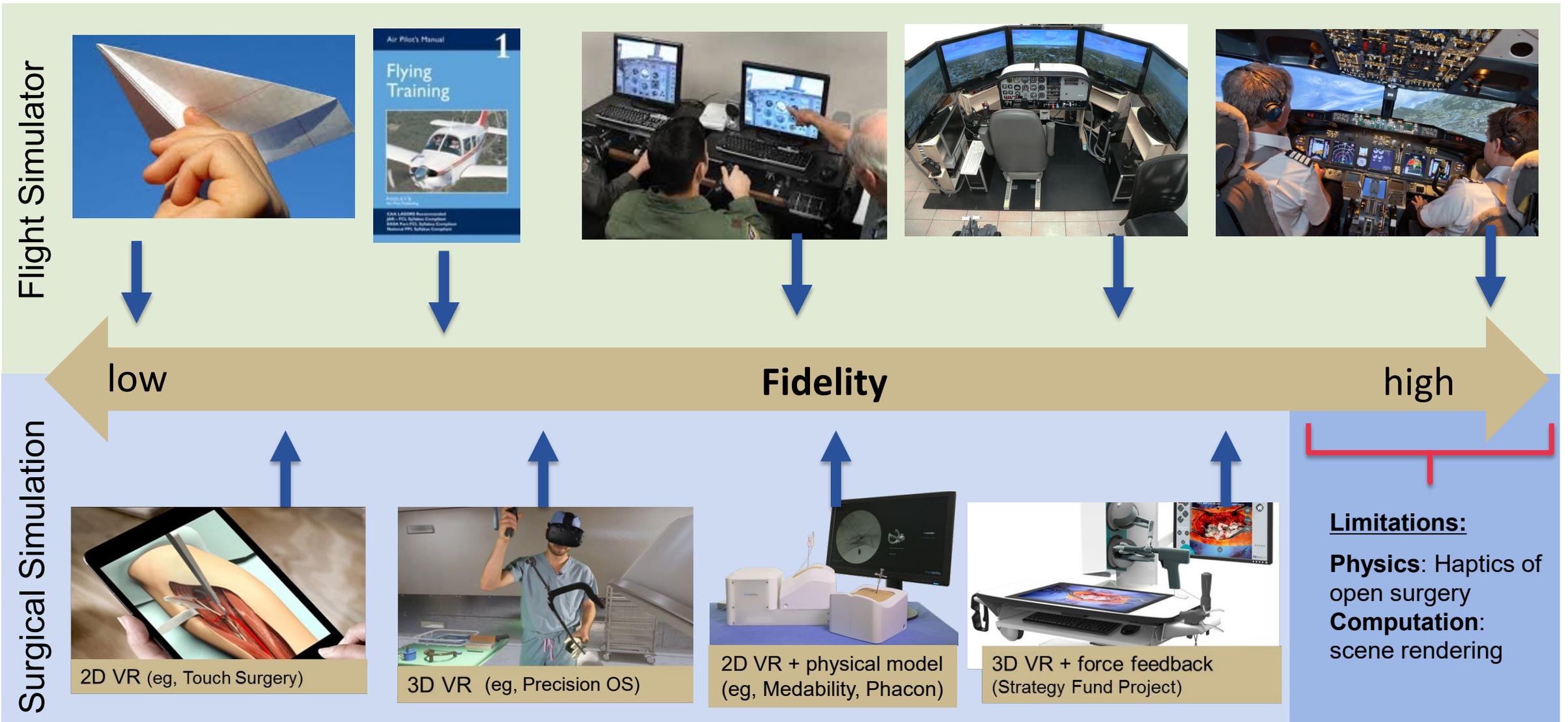
→ Assessment of performance

Real

Mixed Reality

Virtual

Flight and virtual open-surgery simulation



Take home messages

- Targeting the **highest educational outcome** level
- Virtual surgical simulation has the **potential to revolutionize surgical education**
- **Performance assessment** as a cornerstone

Thank you for your attention!