

## Virtual Reality Laboratory (LRV)

### *Type of Infrastructure*

Man-in-the-loop Simulation, Immersive Virtual Reality

### *Main technical features*

Virtual Reality (VR):

- Collaborative 2+ persons applications;
- Interaction with naked hands;
- Grasp and tactile feedback;
- LBE-style large tracking area;
- Wireless headsets – free to move untethered;
- Large FoV PC VR headsets;

Mixed Realities (MR):

- HoloLens-style holographic visualization.

### *Application Domains*

- ACARE taxonomy: Simulator Environment & Virtual Reality (SEV, 617), Development of Synthetic Environments & Virtual Reality tools (DSV, 623)
- Application fields:
  - maintenance simulation & training
  - subjective interiors assessment
  - astronauts training
  - hologram-style tactical scenarios sharing for mission planning & rehearsal and collaborative decision making (military, civilian)

### *Main measuring instruments/techniques*

VR:

- Variety of standalone (wireless, streaming) and PC VR (wired) headsets
- SenseGlove NOVA haptic gloves (#2 pairs)
- VR-ready PCs for in-lab deployment of VR applications, and a VR-ready laptop for mobile ones
- A stereoscopic projection system on two L-shaped walls with 5 audience seats fed by a cluster of three VR-ready PCs
- Wi-Fi 6E lab's wireless network
- VR development environment: Unreal

MR:

- Microsoft HoloLens 1 and 2 models, #2 units each
- MR development environment: Unity + MRTK

### *Operational Status*

Fully operational.

## CIRA Test Center (TC) Capabilities

