



**Virtual Reality Simulation ...
A Solution for complete ARFF Training**

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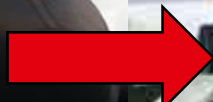
 **rosenbauer**

IMITATION of a real-world situation.

Needs to have the key characteristics, behavior, and functions of the real thing.



Imagination



- **Environment + Safety + Costs**
- **Limited number of runs per year**
- **Passengers, slides, evacuation**
- **Use of foam and dry powder no longer possible**
- **Steel construction vs. new Aircraft materials**
- **Fixed position and spacing of rigs**

- **Variety of scenarios + all incident factors**
- **Correct fire spread and incident development**
- **Experience use of fire fighting agents**
- **Various Airplane options → small – medium - large**

- **More training moments per year**
- **Mobile for on-site training + 24/7 availability**
- **Reduced training costs**

**Airport Emergency Response
Incident Command**

**Vehicle Operation & Maintenance
Airport Driving**

**Aircraft Familiarization
Fire Fighting**

Complete Training Program



Physical work

Hot Fires

Sensation

LIVE FIRE

Variations

Skills

Agents

**VIRTUAL
SIMULATION**

**CLASSROOM
TRAINING**

Knowledge

Procedures

FIRE FIGHTER



DRIVERS / OPERATORS



COMMANDERS



Panther Tactical Simulator



- **Original PANTHER driving compartment**
- **Original cockpit, dashboard and controls**
- **210° screen with 3 projectors incl. edge-blending**
- **Instructor station**
- **User and trainer seat**
- **Mirrors screen**
- **Roof windows screen**

Panther Desk Top Simulator



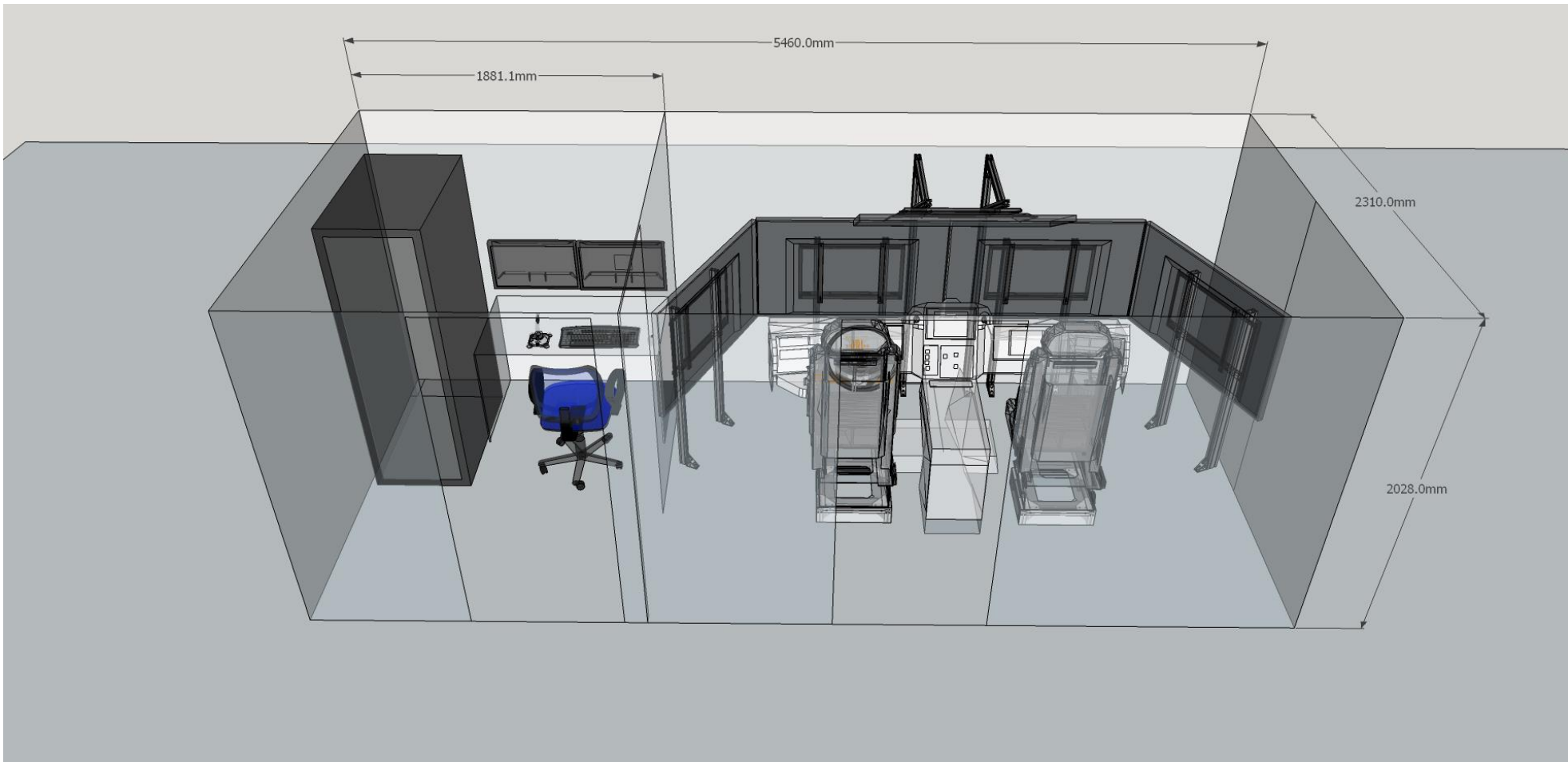
Panther Desk Top Simulator



Panther Mini Cab Simulator



Cockpit Simulator Container



Cockpit Simulator Container



- Standardized hook lift container
- Power supply 400 VDC 32 Amps
- Dual Air Conditioning
- Dimension
 - L: 6000 mm
 - W: 2550 mm
 - H: 2700 mm
- 4000 kg

Cockpit Simulator Container





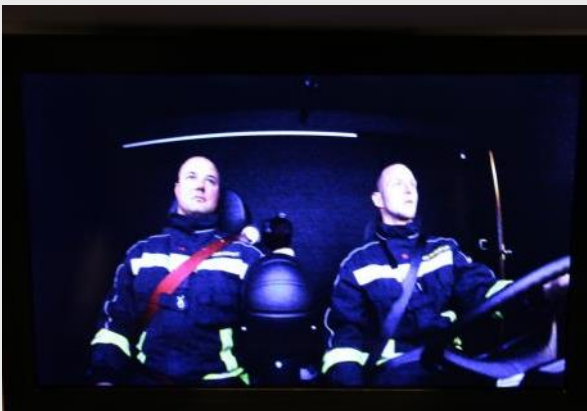
Computer Rack

- 5 CPU's for visualization
- 1 central CPU for the Simulation
- Separate fan for cooling
- Easy to start with one key technology



Instructor desk

- Set up of scenarios
- Communication with trainees
- Replay and analysis after training



Video

- Control of participants via a live stream

Dashboard



- Full functional Panther dashboard with all control elements
- All types of dashboard possible

Visualization



- Panorama view with 5 55" 4K screens
- In screen mirrors



Airport Layout

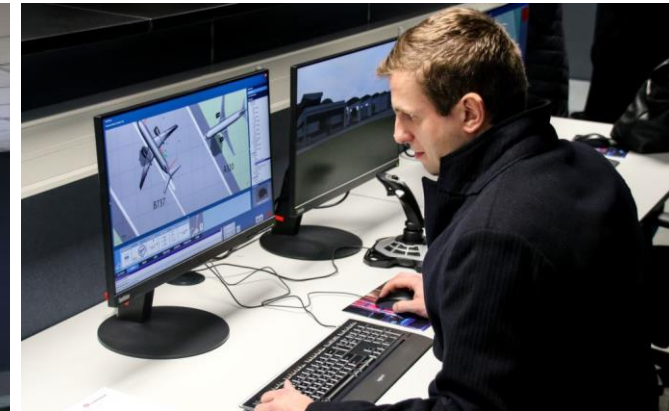
- Civilian version
- Military Airbase

Aircrafts

- Passenger planes
 - ▶ A320, A380, A 737, Dash 8 & MD11
- Helicopters
- Military aircraft
 - ▶ C130, C5, B1, F16,...
- 6 additionally interacting vehicles
 - ▶ PANTHERS, Command



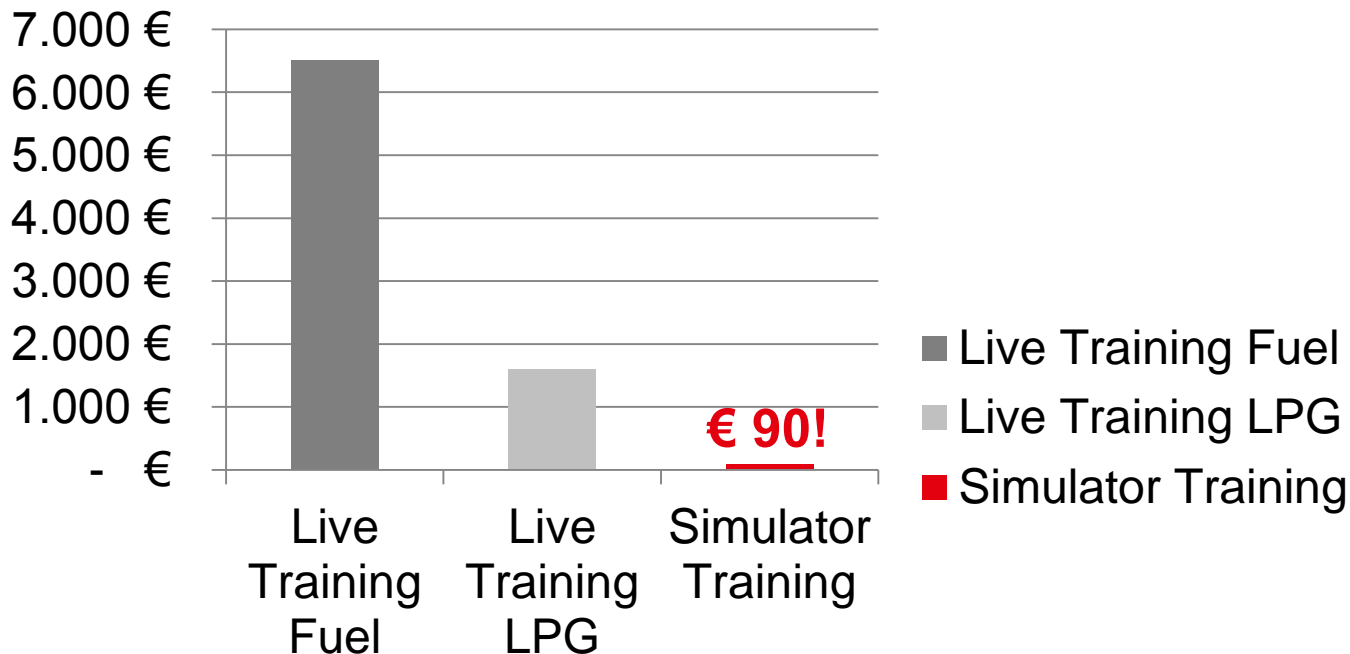
Simulation Center Paris GDG Airport



Comparison of Costs Simulator vs. real Fire Training



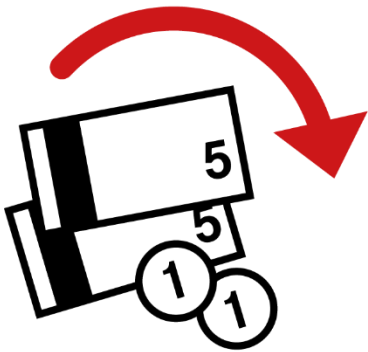
Costs per fire fighter and year



- Assumption
- 80 firefighter/airport
- 8 training hrs per person/year
- 8 participants per day
- One 6x6 ARFF
- Live circle 15 years

Cost for disposal of foam etc. not included!!

Simulators...



**Reduce
Training Costs**



**Environmental
Friendly**



**Increase Training
Efficiency**



Risk-free Training



Thank you!

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