TRUSIMULATION.COM

TRU SIMULATION®

ROTORCRAFT FULL FLIGHT SIMULATOR

ODYSSEY HORIZON

CHANGING HOW YOU THINK ABOUT SIMULATION

When you work with TRU Simulation™, you'll get a team who listens to your needs for today and tomorrow. Together, we'll consider your training requirements and financial realities to help you select from our full lineup of devices—supporting ab-initio to type rating pilot training. We've integrated technology across our entire product lineup, so pilots can train on the same software used in full flight simulators. Keep exploring to learn how TRU Simulation™ excels in rotorcraft simulation and how we can bring that reality to you.

ODYSSEY HORIZON

Discover the highest-quality, most immersive training experience available. TRU Simulation™ Full Flight Simulators (FFS) are built from the ground up to deliver the full flight experience at the highest fidelity and realism. Full flight simulators are equipped to handle your complete training needs.

QUALIFICATION

FAA Level D | EASA Level D | CAAC Level D | CASA Level D

EXPLORE THE DEVICE

The world of simulation and training can be a complicated and confusing one. At TRU Simulation™, we are here to help guide you in understanding your training requirements and suggest a solution that is best fit for you.

SIMULATOR COMPONENTS

The required components of a Level-D FFS are largely defined by aviation regulators. While these regulations vary from country to country, most are aligned with the FAA (14 CFR Part 60) or EASA (CS-FSTD) which are similar in their requirements. Odyssey Horizon™ simulators meet or exceed all regulatory requirements, but instead of a one-size-fits-all approach like many other simulator manufacturers, TRU Simulation™ prides itself on customizing the training device to meet your specific needs.

MOTION

TRU Simulation's™ REALCue™ motion system accurately replicates the simulated environment's motion characteristics utilizing a Six Degrees of Freedom (6DOF) electric motion system with 62.5-inch-stroke actuators. A secondary 6DOF electric motion system is designed to accurately simulator helicopter vibrations, buffets, and additional enhanced cueing for an elevated level of pilot sensory sensation, realism, and fidelity. This state-of-the-art system combines easy to replace Commercial Off The Shelf (COTS) computer hardware with TRU's proprietary motion cueing software creating a highly realistic flight experience. TRU Simulation™ eMOTION™ Control Panel with intuitive Graphical User Interface (GUI) makes testing, running diagnostics, and manual operations easy and efficient.

VISUAL

TRU Simulation™ visual system consists of a COTS PC-based Image Generator (IG) on a 240° x 80° field-of-view display. Several high-definition 4K-resolution projectors present a bright and clear visual scene with an IG capable of displaying many different scenes and special effects including:

- High definition airport models
- Full atmospheric and environmental effects such as clouds, fog, and storms
- Various lighting conditions including day, dawn, dusk, and night

FLIGHT CONTROLS

TRU Simulation™ has a long history of producing the most advanced Control Loading System (CLS) in the industry. Our latest generation digital electric CLS provides a high-fidelity, realistic force-feel simulation exceeding all simulator regulatory requirements. The compact yet powerful system design is easy to maintain and utilizes COTS hardware.

INSTRUCTOR OPERATING STATION (IOS)

The TRU Simulation™ IOS combines powerful components and features with an intuitive user interface to enhance the instructor's ability to effectively manage the simulator. Two touchscreen displays are used to control and navigate the IOS. The IOS also supports maintenance functions such as Qualification Test Guide (QTG) testing, operational readiness tests, and troubleshooting. A wireless tablet, known as the Remote Instructor Control Unit (RICU), allows the instructor to control the IOS from anywhere in the simulator.

CONVERTIBLE COCKPIT DESIGN

TRU Simulation's™ roll-on roll-off technology allows for multiple, interchangeable helicopter platforms to be used within only one full flight simulator. The cockpit swaps are not limited to one OEM but can swap between completely different helicopter manufacturers. This design allows the customer to maximize utilization of the simulator. The cockpit that's not in use in the FFS can be docked to a station to use as an FTD for ultimate flexibility.

SIMULATOR OPTIONS

In addition to the core simulator components found in the Odyssey Horizon™ simulator, you can choose from a variety of options to enhance device capabilities based on unique requirements.

CUSTOM-MODELED AIRPORTS

Select any of the world's airfields included in the modeled airport database. Desired airports can be added on request.

CUSTOM VISUAL SCENES

Create unique scenes to address any number of scenarios. While the possibilities are nearly limitless, examples include:

- Off-airport landing on non-maintained surfaces, sloped terrain or confined area
- Search and rescue operations
- Smoke and fire scenes
- Emergency Medical Services (EMS)
- Oil and gas (Offshore)
- Tours
- Surveillance
- Night Vision Goggles (NVG)
- Nap of the Earth (NOE)
- Cargo/Long line vertical reference
- Military and defense

DEBRIEF SYSTEM

TRU Simulation's™ Debrief System (DBS) makes simulator training session debriefing more effective. The system can capture and combine information from the avionics as well as audio and video of the actual session using mounted camera(s). When the training session is complete, the IOS-controlled system transfers video, audio, moving map, navigational charts, instrument displays and more to the debrief station outside of the simulator for playback.

LESSON PLAN SYSTEM

Consistently manage a training session's various scenarios with TRU Simulation's™ Lesson Plan System (LPS). Using the lesson plan builder, instructors can easily create lesson plans for each training session that include a predetermined sequence of events and activities, making training session management easier than ever.

SIMULATOR DETAILS

There are a few factors to set up the Odyssey Horizon™ simulator for success and TRU Simulation™ is with you every step of the way, from space and floor measurements to timeline and budgets.

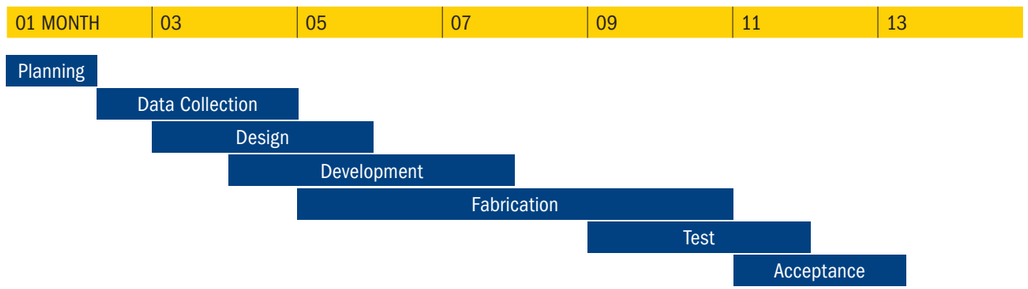
SIMULATOR ROOM

The simulator room requires a minimum horizontal clear area of 53ft (16.2m) x 53ft (16.2m) and a clear height of 38ft (11.6m). In addition, a minimum opening width of 20ft (6.1m) x height of 20ft (6.1m) is required to fit the device into the simulator room. If the computer equipment will be stored in a separate room, the minimum horizontal clear area is 14ft (4.3m) x 25ft (7.6m) and a clear height of 8ft (2.5m).

SIMULATOR PAD

Due to the high motion system forces of the simulator, reinforced concrete pads are recommended for the three base pads. The anchoring bolts supplied with the motion system require a minimum pad depth of 12.38in (31.45cm) and concrete floor strength of 2,000psi.

PROJECT TIMELINE



PRICE RANGE

The price range for a TRU Simulation's™ Level-D Full Flight Simulator typically runs between $8 and $14 million USD. While simulator components such as the motion system, control loading, visual system, and instructor station make up much of the costs, it's the aircraft model and avionics that drive the biggest variations in the pricing. Similar to aircraft pricing, avionics, software/hardware add-ons can add to the cost of the simulator.

PRICE RANGE OF OTHER TRU PRODUCTS

Depending on Aircraft, Avionics, & Visual Solution

- Odyssey Horizon Full Flight Simulator $8–14M USD
- Integra Horizon Flight Training Device $800K–5M USD

TRU'S ROTORCRAFT PRODUCT LINEUP

	INTEGRA HORIZON		ODYSSEY HORIZON
	FAA FTD 5 EASA FNPT II	FAA FTD 7 EASA FTD 2/3	FAA/EASA FFS Level D
Price	$$	$$$	$$$$
Field of View	60" HD Televisions (various configurations)	200° X 80°	240° X 80°
Motion	None	6 DOF Mini-Motion	Primary: 6 DOF 62.5" actuators Secondary: 6 DOF mini-motion
Control Landing	Active	Active	Active
Enclosed Cockpit	No	Yes	Yes
Simulator Room Size (L X W X H)	13.5ft x 14.8ft x 8.2ft (4.1m x 4.5m x 2.5m)	24ft x 24ft x 15.7ft (7.3m x 7.3m x 4.8m)	53ft x 53ft x 38ft (16.2m x 16.2m x 11.6m)
Typical Training Purpose	Procedural Training	Initial/Recurrent Training	Initial/Recurrent Training & Checking

LET'S WORK TOGETHER

TRU Simulation™ collaborates with you to select the right simulator solution — or combination of solutions — to fit your organization.

240+

QUALIFIED, SUPPORTED DEVICES

120+

CUSTOMERS WORLDWIDE

TRU SIMULATION™