

Drilling Simulator X1

Large scale immersive simulation for team training
 Individually designed to meet unique
 implementations



The Endeavor Drilling Simulator X1 combines an immersive rig floor experience with realistic driller's controls. Surrounded by high resolution graphics and true to life audio, the Drilling Simulator X1 provides interactive training for new and experience drillers. Combining Endeavor's industry leading computational software models, fluid dynamics and an extensive library of training modules, students will be trained to react quickly to real world incidents.

Endeavor Technologies software defines the simulation experience. Content is consistently updated to meet demands of the latest well control practices, allowing trainers and students to stay current with industry advancements. With an emphasis on industry leading graphics, students are presented with a realistic environment to complete simulations in a non-graded practice session, or in a graded scenario that meets the standards of IWCF and IADC.

To ensure that students grasp critical concepts, Endeavor takes a unique approach by randomizing malfunctions or by giving an instructor control from a remote station. This allows a true, unbiased training environment that is consistent to ad hoc incidents that can occur in the field.

In addition to individualized training, multiple students and instructors can join into a single simulation for team collaboration. Crews can be tested together to ensure compatibility prior to engaging in work environments.

As with all Endeavor Drilling Simulators, the software engine driving the simulations are consistent across all Endeavor products. This allows students to focus their learning on the most important area, the learning content so that competency can be achieved.

With the Drilling Simulator X1, immersive rig operation simulation can solidify concepts and train drillers anytime, anywhere in the world.

Benefits

- Full immersion with a customizable video wall or projection dome
- Designed for permanent installations that can be designed to fit the facility
- Large form factor to promote team learning
- Realistic joystick and switch controls to replicate real world equipment
- Networkable to integrate multiple simulations to a single instructor
- Touch screens to communicate with workers on the rig floor and initiate actions
- Interactive modules to engage students
- Customizable well plans for various geographic locations
- Graded and non-graded scenarios
- Customizable modules tailored to an organization's policies and procedures
- Consistent simulation software with the entire Endeavor product line
- Interoperability with Endeavor. One online platform for continuous professional development

Product Specifications

Package Includes

- Driller's Chair on retractable floor track
- Optional: Assistant Driller's Chair on retractable floor track
- Customizable Video Wall with 46", 55" or 70" monitors
- Optional: Projection Dome to replace video wall with up to 4k resolution
- (2) Interactive 70" free standing monitors for choke panel and geocube
- Left Arm Rest Integrated UI Touch Screen
- Right Arm Rest Integrated UI Touch Screen
- Driller Arm Rest Joysticks, Switches, and Buttons
- 8-Port Network Switch
- Simulation PC
- Cable Bundle
- Backup Power Supply
- Equipment Enclosure
- Optional: Instructor Kiosk with PC and 27" Touch Screen

Driller's Chair Specifications

- 1360mm W x 1066mm D x 1371mm H
- 45 Kg
- Head Rest
- Back Rest
- Tilting Up to 35°
- Driller Armrests
- Leg Rest
- Customized Logo Engraving
- Cupholder

Choke Panel Touch Screen

- 292mm W x 8.5mm D x 201 Mm H
- Resolution: 2736 x 1824
- Touch: 10-Point Multi-Touch
- I5 Intel Core Processor
- 128gb SSD

Visual Specifications

- Customizable based on facility design

Left Arm Rest Touch Screen

- 292mm W x 8.5mm D x 201 Mm H
- Resolution: 2736 x 1824
- Touch: 10-Point Multi-Touch
- I5 Intel Core Processor
- 128gb SSD

Left Arm Rest Controls

- Multi-Axis Iron Roughneck Joystick
- Joystick Buttons
 - Rotate Counter Clockwise
 - Rotate Clockwise
 - Break Out
 - Make Up
 - Crown/Floor Saver Bypass
- E-Stop Mud Pumps Latching Button
- E-Stop Roughneck Latching Button
- Elevator Safety Non-Latching Button
- Pipe Handler Lock Safety Non-Latching Button
- Driller's Chair Recline

Right Arm Rest Touch Screen

- 292mm W x 8.5mm D x 201 Mm H
- Resolution: 2736 x 1824
- Touch: 10-Point Multi-Touch
- I5 Intel Core Processor
- 128gb SSD

Right Arm Rest Controls

- Multi-Axis Drawworks Joystick
- Joystick Buttons
 - CCTV toggle View
 - Elevator Open
 - Elevator Close
 - Extend Frame
 - Retract Frame
 - Audible Horn
 - Float
- Parking Brake Latching Button
- Clamp Open/Close Switch
- Mudsaver Open/Close Switch
- Pipe Handler Rotate CCW/Neutral/CW Switch

Network Specifications

- IPv4 and IPv6 Support
- 1 x 10/100/1G Ethernet

Typical Operating Voltage/Power

- 100-240v ~ 50/60Hz
- Auto Sensing Power Supply

Warranty

- One Year Standard Warranty
- Maintenance Contracts Available Annually or on Three-Year Commitments

Environmental Specification

- Operating Temperature: 0 to 40° C
- Operating Humidity: 15 to 80%
- Maximum Altitude: 3,000m

Shipping Dimensions

- Dependent on Facility Design

Software Features

Gold Package Includes

- Selection of Either Onshore or offshore Environments
- Equipment Includes: Top Drive, Slips, Stabbing Valves, Float, Pipe Racker, Iron Roughneck, HTV Arm, Catwalk, Elevators
- UI Control: Mud Pump, LVHP Pump, Drawworks, Pipe Racker, Top Drive, Cement Manifold
- Joystick Control: Drawworks, Top Drive Bails, Iron Roughneck, Floorsaver, Crownsaver, BOP Interlock, Elevator
- Instrumentation: Mud System, Pit Volume totalizer, Well Data, Rig Data, Electronic Drilling Recorder, Directional Drilling, Geocube, U-Tube UI, Instructor Chat
- Directional Drilling: Rosebud UI, Directional Survey
- Equipment Bypass: Load Mouseholes, Add Stand to Drillstring, Remove Stand from Drillstring, Remove Dropped Pipe, Add Stabbing Valve, Remove Stabbing Valve, Make Up Top Drive to Drillstring, Break Out Top Drive to Drillstring
- Chair Controls: Mudsaver, Parking Brake, Mud Pump E-Stop, Pipehandler Rotate, Top Drive Clamp, Elevator Safety, Pipe Handler Lock Safety, Iron Roughneck E-Stop
- Well Control: BOP, Standpipe Manifold, Choke Manifold, Remote Choke Panel, Real-Time Kill Sheet
- Video Tutorials: Well Control, Equipment, Procedures, Custom as Required
- Equipment Incidents: Choke Washout, Choke Plug, Pump #1, Pump #2, Drawworks, Top Drive Bails, Top Drive Rotary, Iron Roughneck, Power System
- Circulation Incidents: High Density, Low Density, Sloughing, Bit Balling, Cuttings
- Drillstring Incidents: Bit Plugged, Bit Washout, Stuck Pipe-Down, Pipe Windup, Key Seat, Stuck Pipe-Up, Mud Motor Stall, Pipe Twist off
- Formation Incidents: Gas Kick, Liquid Kick, Formation Fracture, Blowout
- Blowout Preventer Incidents: Upper Annular, Lower Annular, Upper Rams, Blind Rams, Middle Rams, Lower Rams.

Platinum Package Includes

- All Gold Package Features, Equipment, Controls, and Malfunctions, Both Onshore and Offshore Environments

About Endeavor

Endeavor helps organizations to revolutionize their workplace training to promote safe practices and improve competency in the critical oil and gas industry. Since inception, Endeavor has developed state-of-the-art software tools that not only improve operator competency, but also reduce environmental disruption, making operating more efficient and cost-effective. Endeavor's goal is to engage with companies to integrate policies, procedures and best practices in an interactive delivery model to promote ongoing learning and knowledge retention.

