



# Tracked Excavator

The most complete  
simulation-based operator training

## Proven Training Outcomes

- Reduce time to full proficiency
- Scale programs without adding machines
- Establish clear, measurable performance standards
- Lower equipment wear and unplanned downtime

## Safe Skill Development

- Train in complete safety before moving to real equipment
- Challenge trainees with engaging realistic, high-risk demolition techniques
- Master safety protocols for deep trenching in demanding soil
- Provide ongoing training for experienced operators

## Build Operator Readiness

- Improve cycle time efficiency with Trimble® Earthworks Autos machine control
- Strengthen coordination and communication with crew training
- Build skilled, confident operators ready for the field

Backed by 25+ years of simulation expertise in construction workforce development.

# Advanced simulation for high-risk excavator operations

## Train in Complete Safety

The Intellia Tracked Excavator Simulation Curriculum improves operator efficiency safely, reducing the time and cost of training on real equipment. Trainees practice high-risk tasks like excavation, trenching, and trailer loading in a highly realistic virtual environment.



## Extensive Operator Learning Tools

- AI coaching and guided training
- Safety awareness tools
- Real-time performance feedback
- Progress tracking and exploration
- Best practice guidance
- Visual movement and positioning aids

## True-to-life machine and soil behavior

Operators train with CM Labs' award-winning machine behavior (like real bucket feel and friction) and advanced soil modeling, now including unstable OSHA-classified Type C soil. This realism prevents negative training and ensures skills transfer to real job site conditions.



## Techniques for Experienced Operators

Operators train with specialty attachments and techniques used on real jobsites, including grapple handling and tiltrotator operation. Realistic attachment behavior and machine response allow

trainees to practice precise material handling, controlled positioning, and complex movements that go beyond basic digging, preparing them for advanced tasks they'll encounter in the field.



“A young student with only 10 hours of simulator training and no real equipment experience hopped on an excavator and ran it like he had ran it his entire life. First time he'd ever been on one... It works.”

**Jim Ruhoff**, Training Director  
Real World Construction Training



## Specialized Industry Workflows

### Master Demolition

Demolition and deep trenching are among the most technically demanding and high-risk excavator operations, and the most difficult to train consistently in the field. Train realistic concrete breaking with dynamic fracture behavior using hydraulic hammer attachment exercises, including tool changes, controlled fracture patterns, debris handling, and shear jaw steel cutting.

### Learn Trench Safety Procedures in Unstable Soil

The sandy soil behaves like loose, real-world ground conditions, increasing the likelihood of trench instability when excavations are left unprotected. By combining trench box procedures with realistic soil response, organizations can train OSHA-aligned trench safety practices for deep excavations under challenging trenching conditions that operators are likely to encounter.

## Augment the Learning Experience

With Intellia Training Management Tools, trainers leverage elements to challenge operators. Instructors can adjust weather, time of day, and inject live events or faults while tracking performance in real time. Free form sandbox practice, record and playback, and drone view support flexible instruction and deeper performance review.

## Training Objectives

### Basic controls

- ✓ Familiarizing with basic controls
- ✓ Controlling swing, boom, and stick
- ✓ Loading and unloading from a trailer
- ✓ Picking up and handling loads
- ✓ Placing pipes in a trench

### Digging Techniques

- ✓ Traveling and proper positioning
- ✓ Benchloading into a haul truck
- ✓ Precisely grading and maneuvering with the Tiltrotator

### Trench Box

- ✓ Digging a trench box to the required depth for safe trenching
- ✓ Building trenching skills in challenging sandy soil conditions.

### Demolition

- ✓ Creating holes, patterns, relief, and fracture concrete slabs
- ✓ Demolishing and preparing terrain with a hydraulic hammer
- ✓ Efficiently sorting and handling materials with a grapple
- ✓ Cutting steel structures and I-beams with a shear jaw
- ✓ Changing attachments with a quick coupler

### Evaluation Metrics

- ✓ Efficiency and accuracy
- ✓ Volume of material/bucket
- ✓ Fuel consumption, cycle time
- ✓ Safety violations

### Simulated Equipment Specs

**Hydraulic excavator:** 21 t (23 USt)

**Engine:** 119 kW (160 hp)

**Swing speed:** 13.3 RPM

**Included attachments (5):** Standard bucket, tiltrotator bucket, grapple, hydraulic hammer, and shear jaw

### CM Labs Simulators

Portable **Edge Plus** desktop series  
Compact motion-enabled **Edge Max** series  
Fully immersive **Advantage** series

### Industry-Grade Controls

- ✓ Joystick controls

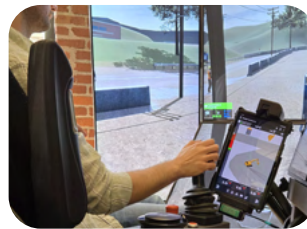


## Additional Training Options



### AI Assistance

Get real-time guidance to learn controls and recover when stuck, with embedded AI answering common questions about exercises, objectives, and system functions directly during training.\*



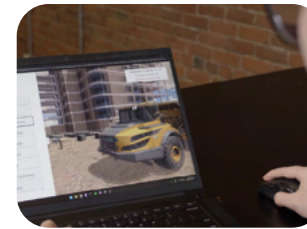
### Machine Control

Execute precision trenching with Trimble Earthworks Autos. Combined with CM Labs' realistic soil physics, the training delivers a safe environment for mastering machine control.



### Live Crew Training

Allow multiple operators to train together across simulators, supporting coordinated communication, task execution, and comprehensive teamwork training in a highly realistic environment.



### Walkaround Inspection

Build the foundation for safe operation with guided inspections that help trainees develop proper inspection habits and equipment awareness beyond a simple checklist.

## Intellia Workforce Training Systems

Intellia is a workforce development solution that standardizes, manages, and scales simulation-based operator training. By connecting the simulation curriculum, training management tools, and AI-assisted learning, instructors gain real-time monitoring and reporting while operators follow structured, physics-based exercises that build precision machine control and job-ready skills.



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