

# Cusmat's Immersive Skilling platform for Mining Operations



## To help Enterprises Improve their

Productivity



Efficiency



Safety



# At Cusmat

We leverage innovative **immersive technologies** to help **Industries bridge the skill-gap.**



VR Skilling System (Software + Hardware)

## Equipments covered in Mining Skilling Platform



Dumper



Excavator/ Shovel



Loader



Winder



Soil Compactor

### Problems solved

1. High training time for new operators
2. High rate of accidents
3. Fuel, spares & breakdown management

### Metrics Impact

1. Cycle time
2. % reduction in collisions
3. Path following
4. Errors in driving

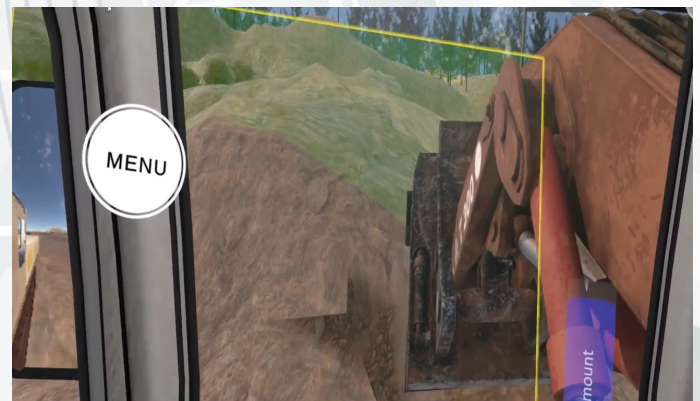


# Simulation for all kinds of Scenarios



## Dumper/Tipper

- **Basic Operation Training:** Introduce the controls, driving techniques, and safety protocols for dumper operation.
- **Load Haul Cycle Training:** Focus on loading, hauling, and unloading techniques under varying conditions like uneven terrain and slopes.
- **Fuel Efficiency:** Training on reducing fuel consumption and maximizing efficiency during long hauls.
- **Obstacle Navigation:** Teach handling of tight spaces, blind spots, and emergency maneuvers.
- **Payload Optimization:** Focus on optimizing load distribution and capacity for increased productivity.



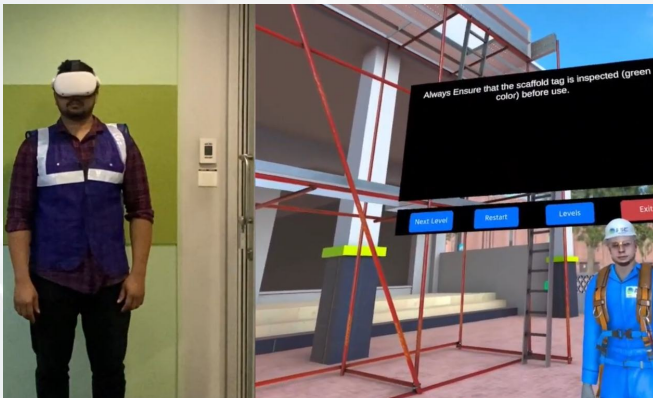
## Excavator/Shovel

- **Basic Controls Familiarization:** Learn bucket control, arm movement, and rotation through foundational training.
- **Digging and Trenching Techniques:** Focus on mastering depth control, precision trenching, and grading.
- **Material Handling:** Teach handling of different materials like rock, dirt, and debris.
- **Advanced Site Operations:** Introduce complex tasks such as loading haul trucks, navigating confined spaces, and sloping.
- **Operator Efficiency:** Evaluate and improve cycle time and minimize wear on machinery through smoother operations.



## Soil Compactor

- Machine Control Training: Learn steering, speed adjustment, and effective soil compaction techniques.
- Vibration and Compaction Depth Control: Practice controlling vibration intensity and compaction depth for different soil types.
- Compaction Pattern: Train on overlapping techniques to achieve even soil compaction without leaving gaps.
- Inclined and Uneven Surface Operations: Teach operators how to maintain stability and compaction efficiency on slopes and rugged terrain.
- Compaction Quality Monitoring: Real-time feedback on compaction efficiency and avoiding over-compaction.



## Loader

- Basic Bucket Handling: Focus on lifting, loading, and unloading materials with precision.
- Material Transporting: Simulate handling different loads, ensuring stability and safety while transporting.
- Machine Stability and Balance: Teach operators how to adjust operations based on material weight and terrain conditions.
- Fuel Management and Cycle Time Efficiency: Training on optimizing fuel usage and reducing cycle time for faster loading and unloading.
- Hazard Avoidance: Teach safe maneuvering around personnel and other equipment in a congested work environment.





## Winder

- Hoisting Techniques: Training on safe and efficient winding and hoisting procedures for transporting loads in vertical shafts.
- Speed and Load Management: Optimize hoist speed based on load weight and shaft depth.
- Emergency Protocol Training: Simulate emergency stops, braking failures, and other contingencies.
- Precision Control: Train on maintaining precise control over lifting heavy machinery and materials.
- Safety Monitoring Systems: Learn to use safety features like brake systems, load indicators, and communication devices effectively.



[www.cusmat.com](http://www.cusmat.com)



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