



# The Future of Workplace Safety

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# Agenda

- The state of workplace safety
- The existing technology options in safety
- Choosing the right solution for your company
- Q&A



# **Workplace Safety**



## OSHA statistics

- 3.4 fatalities/100,000 employees
- Avg. recordable costs at least \$45,000
- 80% of workplace incidents caused by risky behaviors
- NEP program announced focused on targeting traditional warehouses

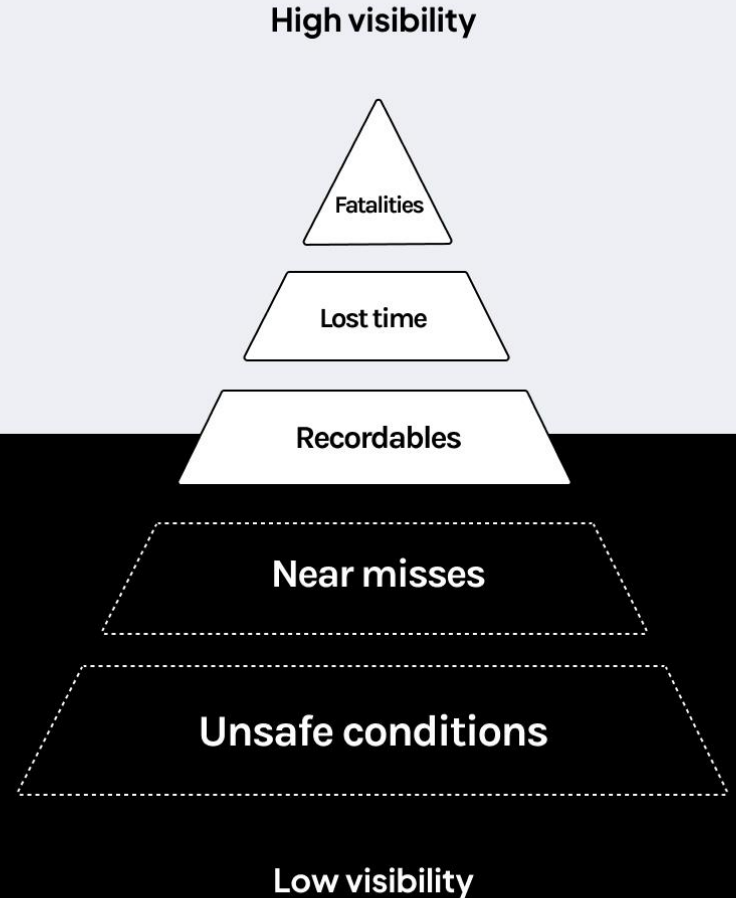
# Safety is reactive because visibility is limited

## Standard safety training is not proactive

Security cameras are under-utilized and footage is only reviewed after the incident

## Near misses slip under the radar

Identifying risks and correcting behaviors early can eliminate accidents



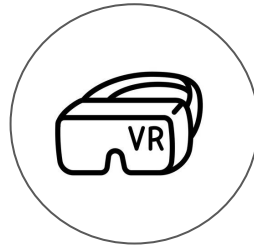
# **Choosing the Right Technology Solution**

# What options are out there today?



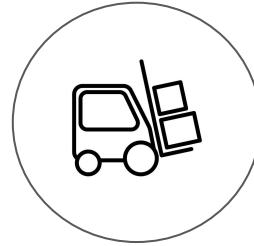
## Wearables

- *Data generators*
- *Limited use case*
- *Costly*
- *Hardware*
- *Somewhat measurable impact*
- *Inefficient*



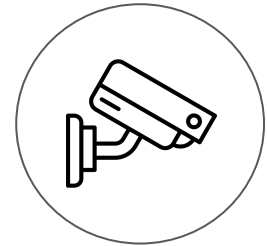
## VR Training

- *Basic training*
- *Adv. environments*
- *Not tactile*
- *Costly per unit*
- *Somewhat measurable impact*
- *Inefficient*



## Vehicle Telematics

- *Can integrate*
- *Can be reactive*
- *Costly per vehicle*
- *Often mfg. specific*
- *Hardware*
- *Maintenance*
- *Single use case*
- *Measurable impact*



## Surveillance

- *Configurable*
- *Decreasing costs*
- *Largely reactive*
- *Difficult to measure impact*
- *Inefficient*

# NIOSH Science Blog: The Role of Artificial Intelligence in the Future of Work

by Jay Vietas, PhD, CIH, CSP

“Computers can be trained to learn patterns in images or video, enabling a form of AI described as [computer vision](#).”





# **Confectioner fined after two workers fell into a vat of chocolate in workplace safety incident**

Feb 12, 2023



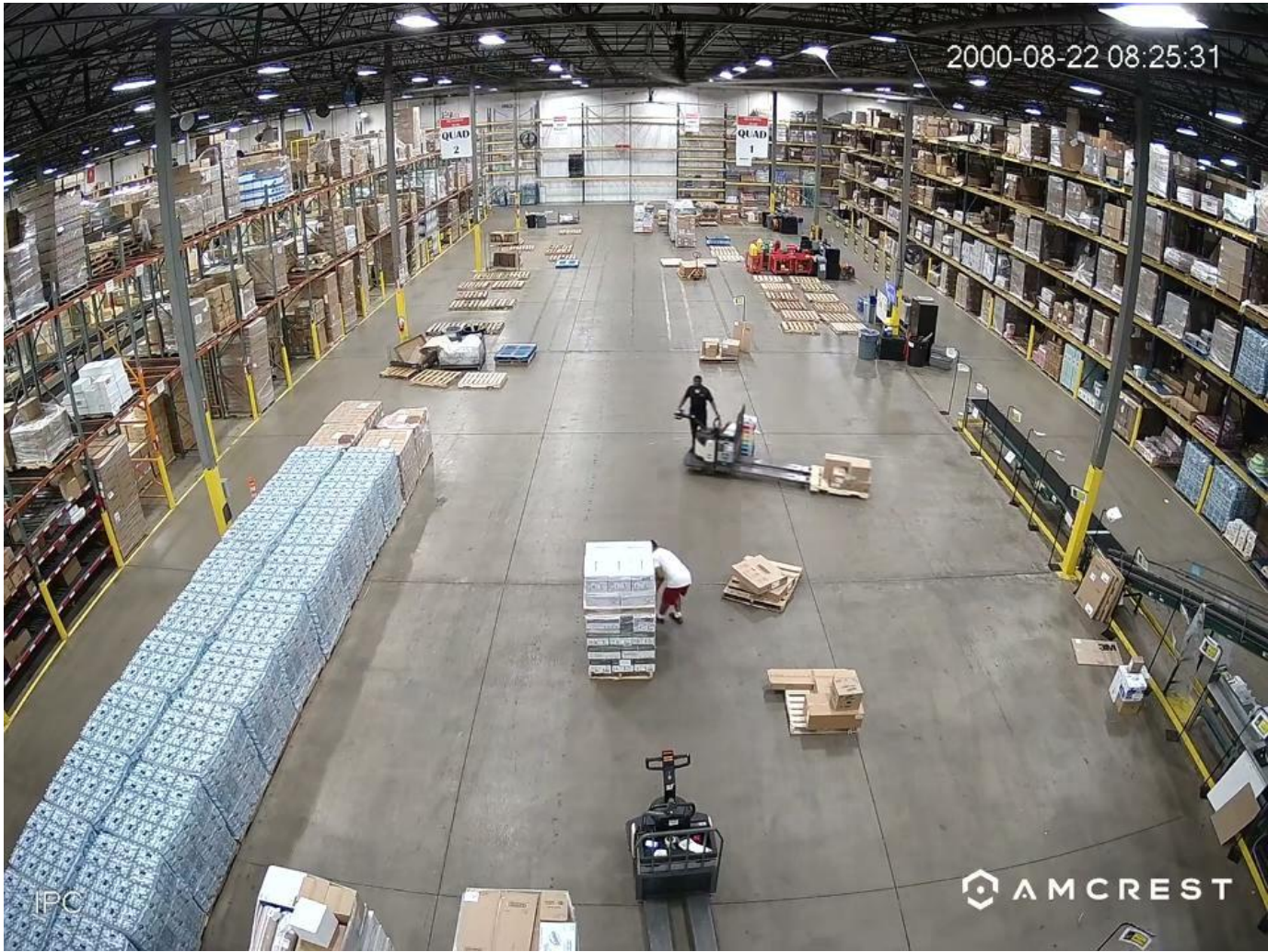


**\$3.5M federal lawsuit filed against parcel courier after 2022 fatality from a forklift injury (3 employees died at the site in 5 years)**

April, 2023



2000-08-22 08:25:31



IPC

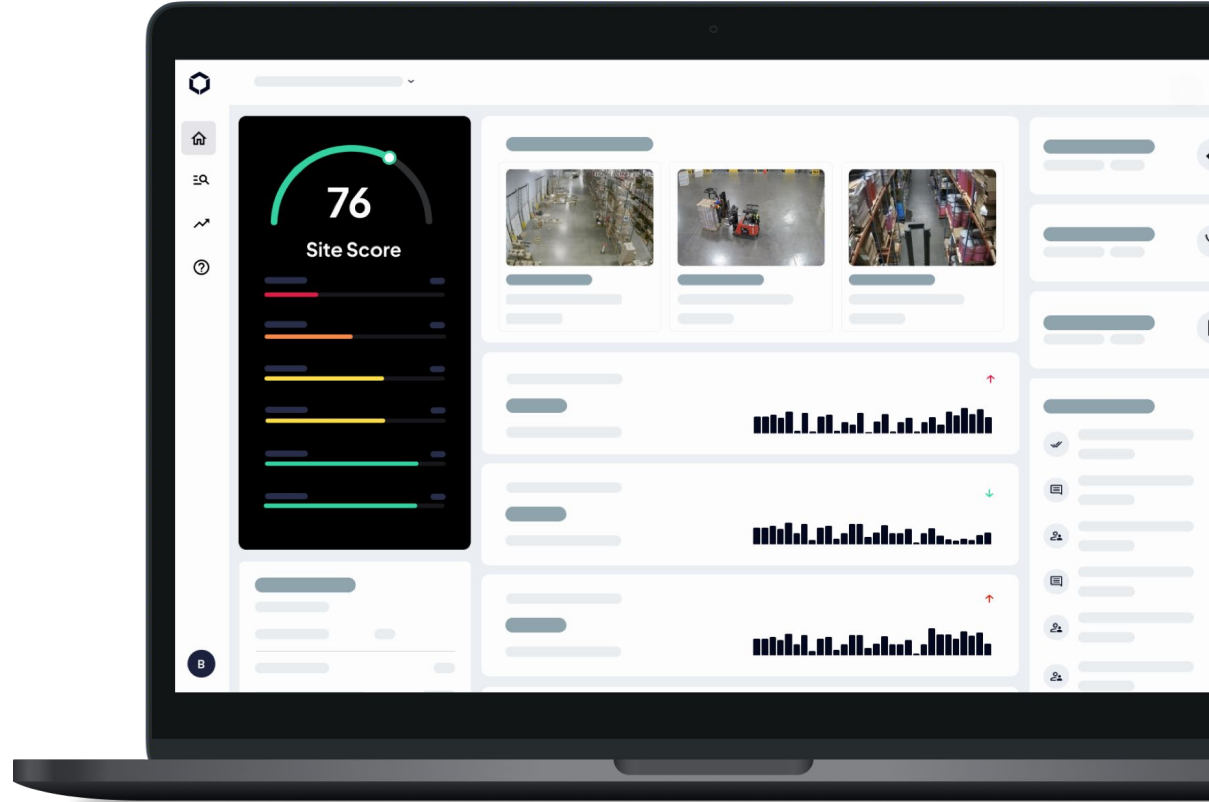
AMCREST

**“...it can provide information to workers and OSH professionals, which can improve training and assist in reducing the impact of hazards in the workplace”**



# Safety & operations powered by AI

Detect real-time events and automate compliance by connecting your existing security cameras to Voxel



# Utilizes your existing security cameras to detect events in real-time



## Ergonomics

Lifting posture  
Bending  
Overreaching  
REBA scoring



## PPE

Hard hat  
Safety vest  
Glasses  
Gloves



## Vehicle Safety

Speeding  
Parking  
Intersection  
Proximity near misses



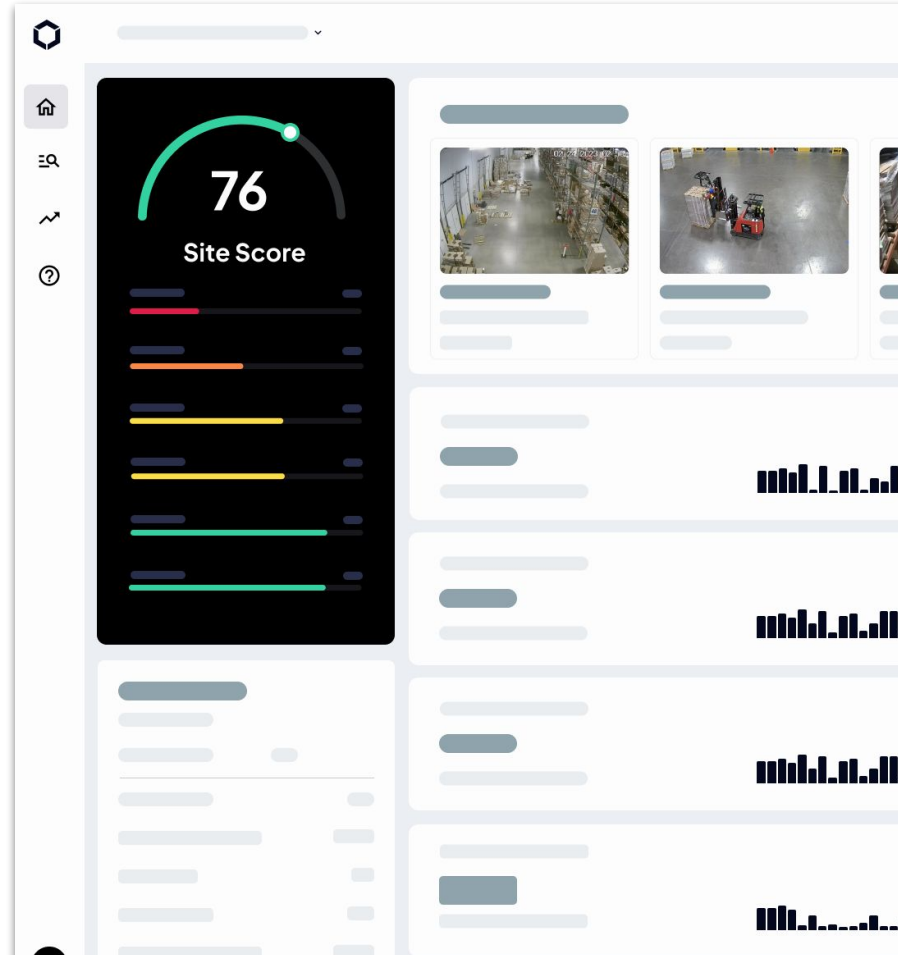
## Operations

Asset utilization  
Door Detection  
Machine downtime



## Environment

Spills  
No Ped Zones  
Blocked exits & aisles







No Stop At Intersection 14

No Ped Zone 48

Overreaching 72

Parking Duration 78

Hard Hat 84

Improper Bend 86

Safety Vest 93

Piggyback 95

### Highlighted Incidents

[View All](#)



#### Improper Bend

GAS Mac Tear  
Down 845  
3 hours ago



#### Overreaching

Receiving  
Breakdown  
1 day ago



#### Near Miss

Receiving Dock  
1 day ago



#### No Stop at Intersection

Loading Bay C  
2 days ago

### All Incidents

24% ↓

# 648

Total Incidents - Last 30 Days



### No Stop at Intersection

99% ↑

# 159

Total Incidents - Last 30 Days



### Improper Bend

83% ↓

# 104

### Assigned To Me

0

Resolved

0

Open



### Assigned By Me

7

Resolved

2

Open



### Bookmarked

1



### Recent Activity



Chris Skipper assigned Kayvon Deldar a Improper Bend incident  
23 minutes ago



Joe Southwick assigned Kayvon Deldar a Parking Duration incident  
3 hours ago



Pat McHenry assigned Kayvon



# No Stop at Intersection

Aug 15 - Sep 14

Total Incident Trends

Incidents By Camera

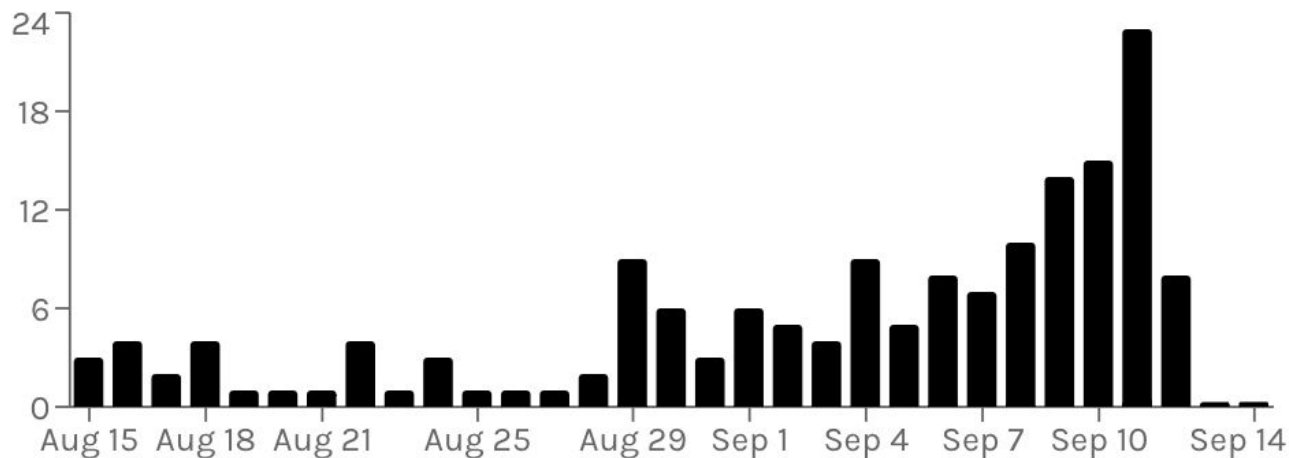
Incidents By Time Period

161

Total Incidents

105% ↑

Incident Trends



# Improper Bend

📅 Aug 15 - Sep 14

Total Incident Trends

Incidents By Camera

Incidents By Time Period

Packing

34

Large Cut Floor

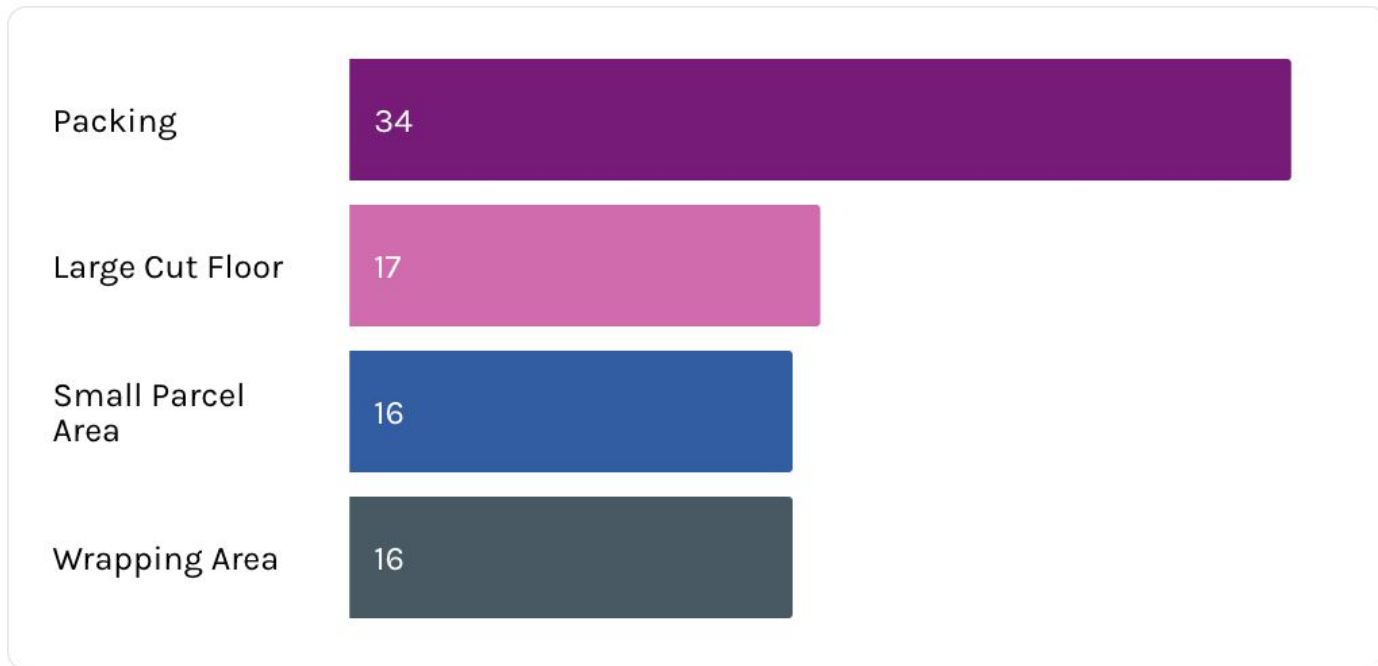
17

Small Parcel  
Area

16

Wrapping Area

16







LOW THE  
EDGES  
SAFETY

12-07-2022 10:29:44 AM



LOREX



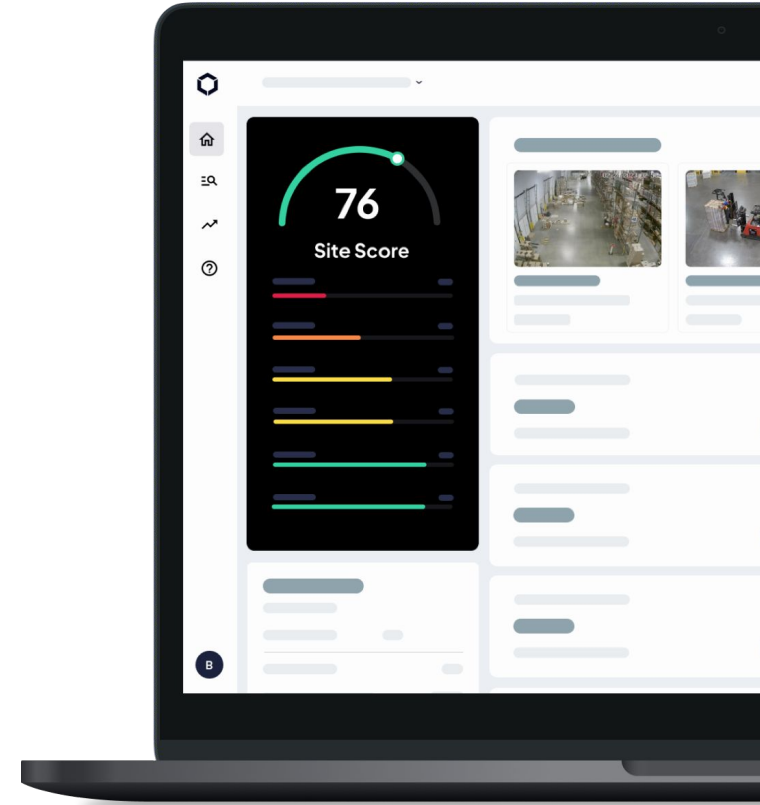




# The Future of Site Safety

AI and computer vision technology now allow customers to utilize their existing camera system to offer a superior method of tracking leading indicators of injuries.

- Aggregate data to allow for easily actionable steps and better time management
- Identify risks in real-time and records relevant scenes for intervention
- Analyze trends to identify areas of improvement
- Cost fixed to the number of cameras, rather than workers
- AI constantly improves in the background with no physical upgrades



# Americold Case Study

Americold used Voxel's AI combined with positive reinforcement training to address a total recordable injury rate of **6.4** and direct losses of over **\$1,125,000**

**6.4 → 1.9 TRIR**

▼ **70%** reduction in 12 months

**288 → 0 days missed**

▼ **100%** reduction in 12 months

## ROI

Recovered over \$1,000,000 in direct losses

Slashed energy costs \$5,000 per month by monitoring refrigerator doors

Prevented equipment damage, saving maintenance & replacement costs



### BEHAVIOR

### REDUCTION

Vehicle Speeding

85% ▼

Perimeter detection

92% ▼

Stopping at aisles and blind spots

72% ▼

Unblocked drivable zones & aisles

78% ▼

Proper Lifting

75% ▼

Piggy Backing

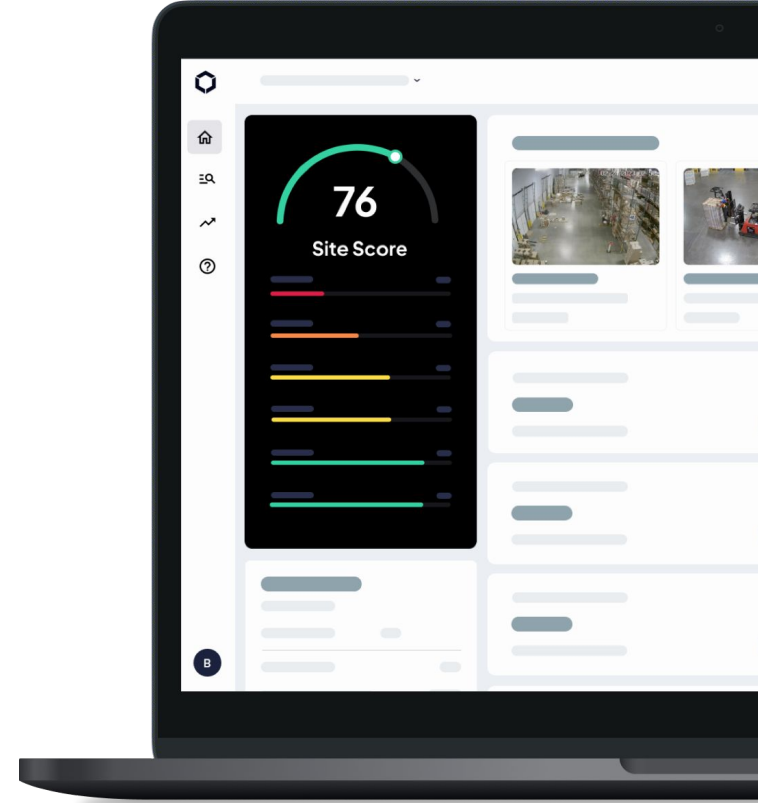
65% ▼

Open Doors

87% ▼

# Best Practices of using AI

- Positive reinforcement - leveraging AI to reward good behaviors
- Maintain focus - dial in on one or a few risks at a time
- Be creative - find ways to bring AI into your existing programs and culture
- Open communication - clearly explain to employees what the technology is and how it'll be used for coaching/improvements
- AI is just a tool - how you use it determines how effective it'll be



# Additional Safety Tech Resources

- [The Role of AI in the Future of Work - NIOSH](#)
- [AI and On The Job Safety - University of Illinois](#)
- [NSC Work to Zero - Safety Tech Guidance](#)
- [Wearables and AI - Forbes](#)
- [What is AI for Safety](#)
- [AI Safety Champions Portal](#)
- [Five Emerging Technologies in Ergo - ASSP](#)
- [NSC Statement on Biden Admin Exec Order on AI](#)
- [The Comp Compass - Reducing Workplace Injuries for New Employees with AI Tech](#)
- [AI and the Future of Work: Moving Forward Together - NSC](#)
- [HPR - A Strategic Approach to Property and Asset Protection](#)

**Q&A**

# Start your journey to an injury free workplace

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