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Leveraging AI Technology to Improve Workplace Safety

Welcome to Today's Session

Brittany DeRafelo
Director, Customer Solutions

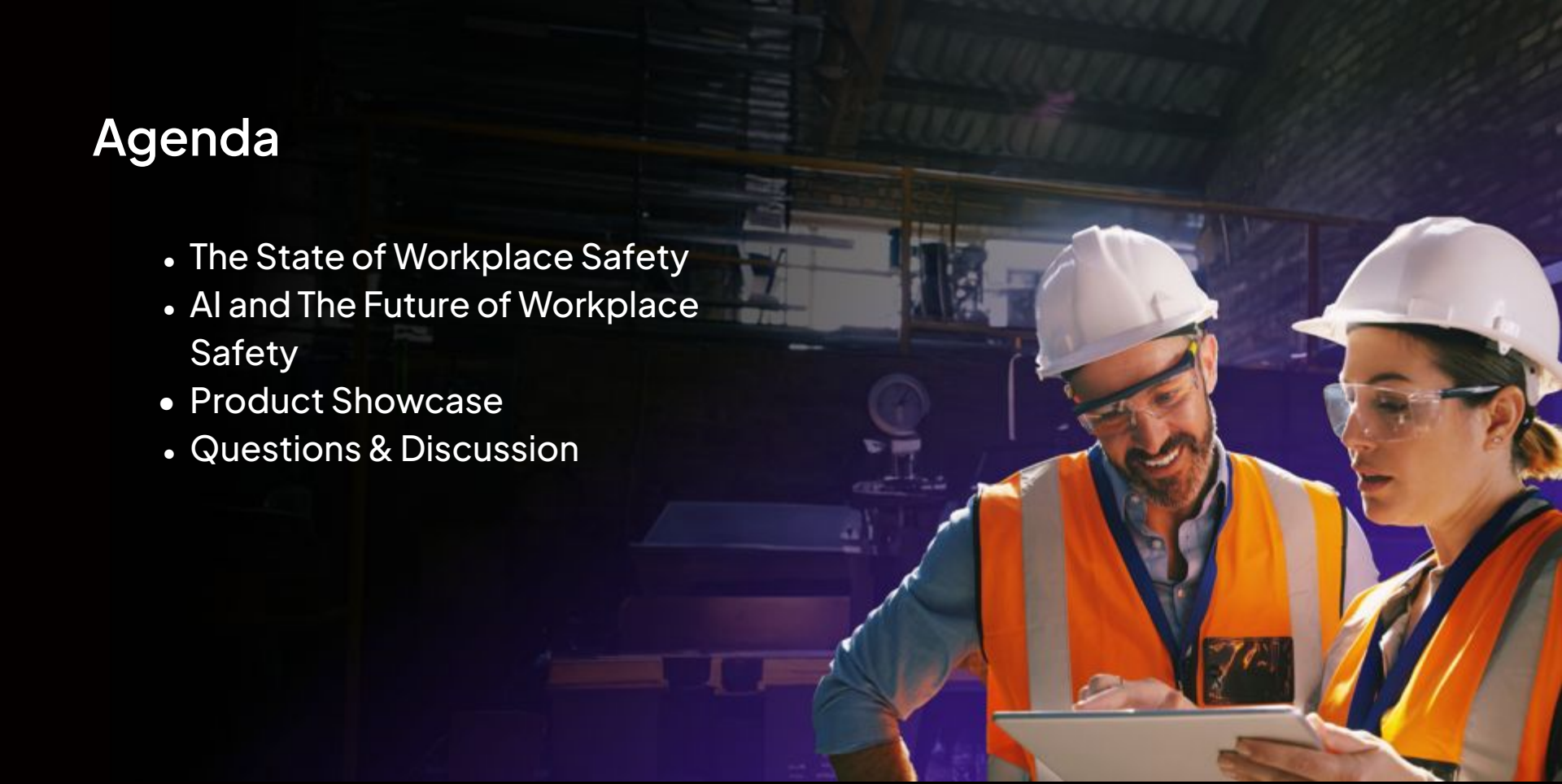
VOXEL

Kayvon Deldar
Account Executive

VOXEL

Agenda

- The State of Workplace Safety
- AI and The Future of Workplace Safety
- Product Showcase
- Questions & Discussion



WORKPLACE SAFETY

The Current State

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Statistics

3.4 fatalities/100,000 employees

Avg. lost time injury cost $45K

80% of workplace Incidents caused by risky behaviors

NEP program announced Focused on targeting traditional warehouses

OSHA

2020–2024

34,802
Serious Injury Claims

4.7M Days Lost from work

$3.8M
Claims Costs Paid

WORK SAFE BC

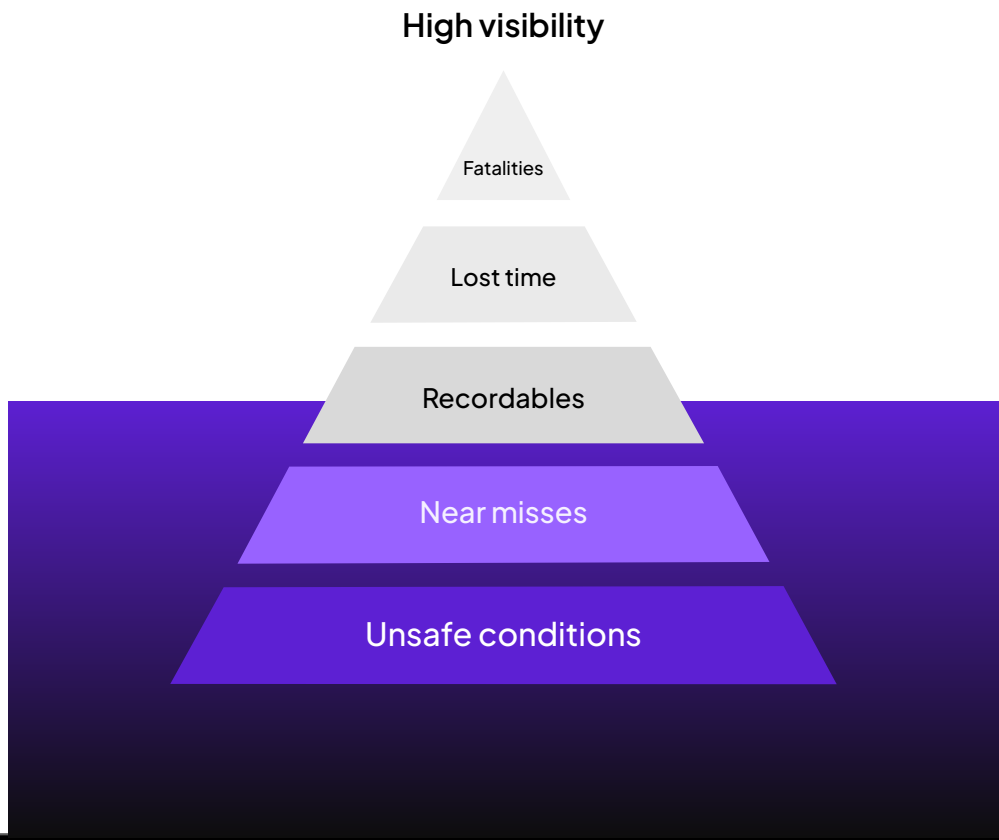
Safety is reactive because visibility is limited

Standard safety programs are not proactive

Lack of risk awareness, fear of retaliation, and competing priorities all contribute to reactiveness

Near misses slip under the radar

Identifying risks and correcting behaviors early can eliminate accidents



THE FUTURE OF WORKPLACE SAFETY

Computer Vision & AI

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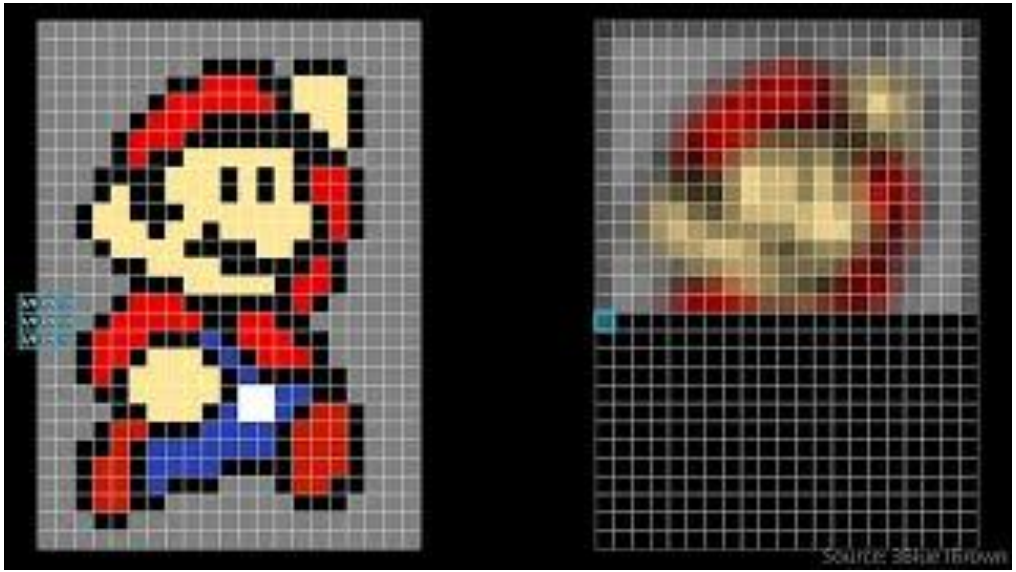
NIOSH Science Blog
The Role of Artificial Intelligence in the Future of Work

> “ Computers can be trained to learn patterns in images or video, enabling a form of AI described as computer vision.

Jay Vietas, PhD, CIH, CSP

Introduction to AI



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Safety & operations powered by computer vision & AI.

Detect real-time events and improve operational efficiency 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
Gloves
Hairnets

Vehicle Safety

Speeding
Parking
No Stop at Intersections
Proximity near misses

Operations

Asset utilization
Door detection

Environment

Spills
No Ped Zones
Blocked exits & aisles
Working at Heights
Under Suspended Load

VOXEL SAFETY MOMENT

Ergonomics: Metals Manufacturing

Ergonomics: Beverage Distribution & Ancillary Benefits of leveraging video

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

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Safety Vests and PPE Compliance

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

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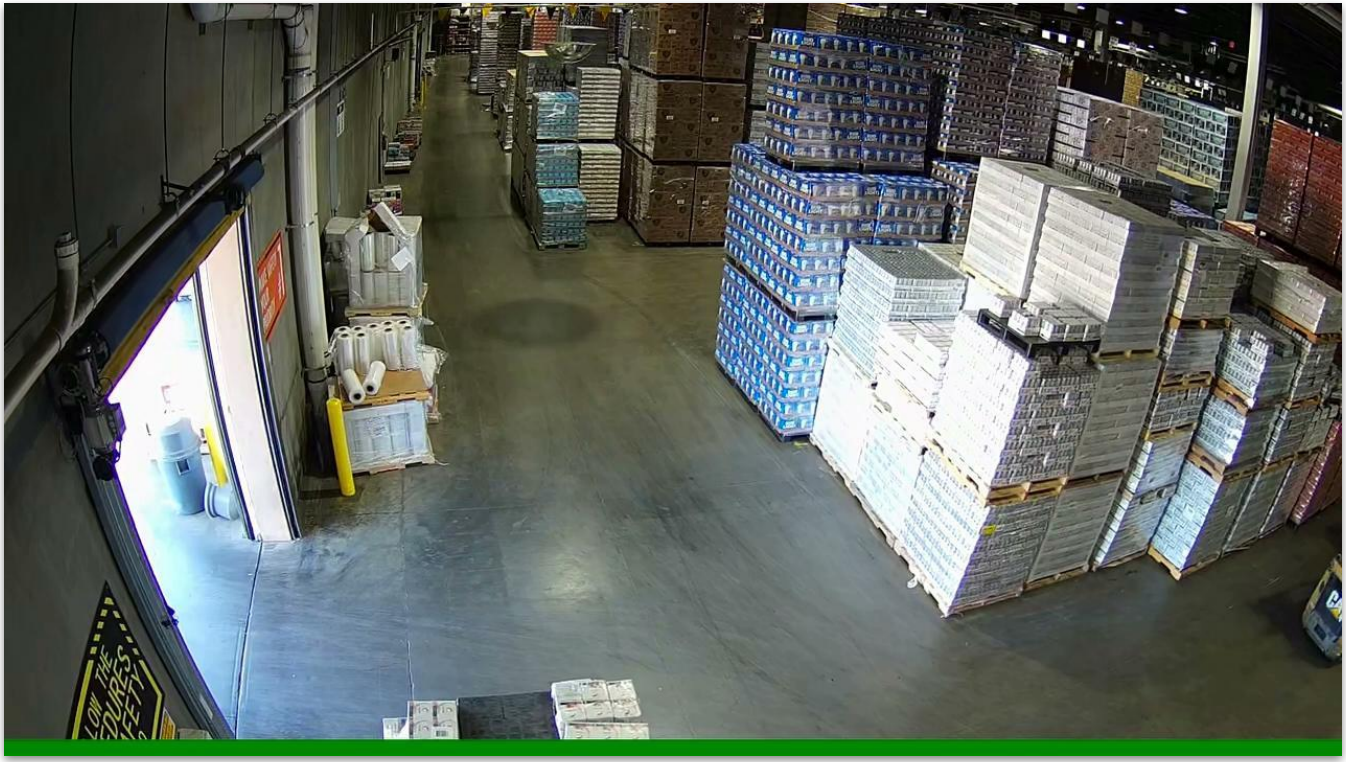
VOXEL SAFETY MOMENT

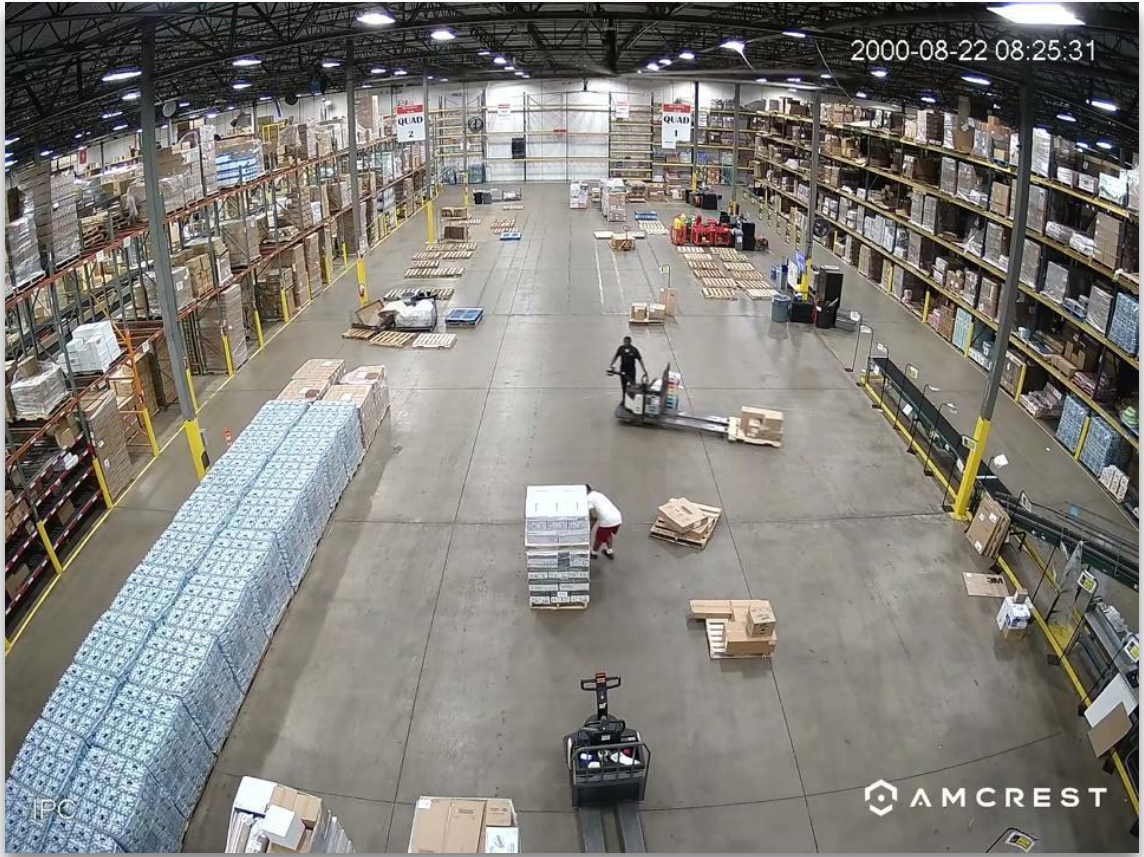
Forklift Safety – Stopping at Intersections



Forklift Safety – Near misses and Collisions

VOXEL SAFETY MOMENT

Leading Indicator: Forklift to Pedestrian Near Miss



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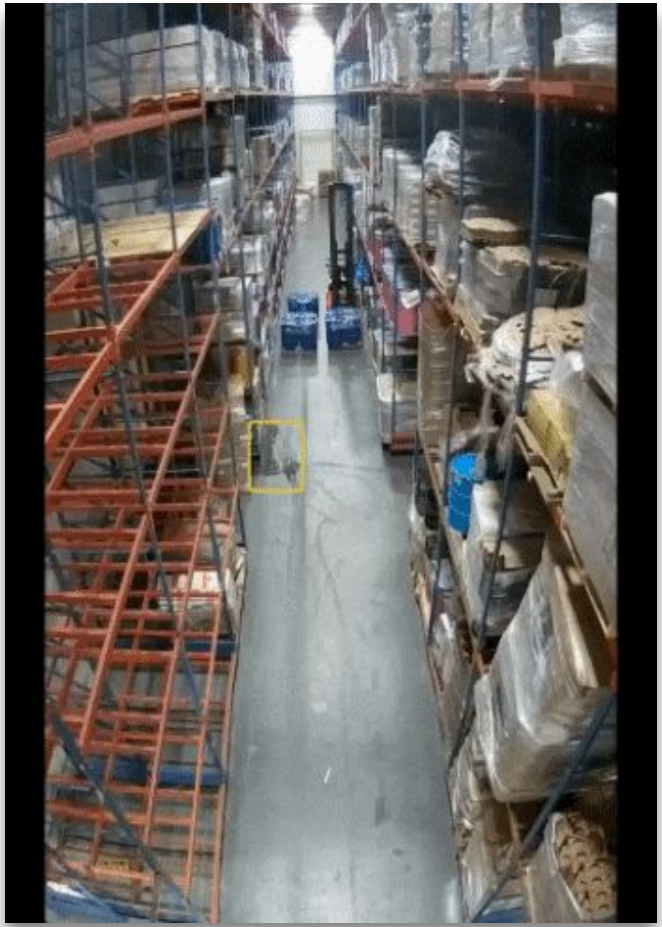
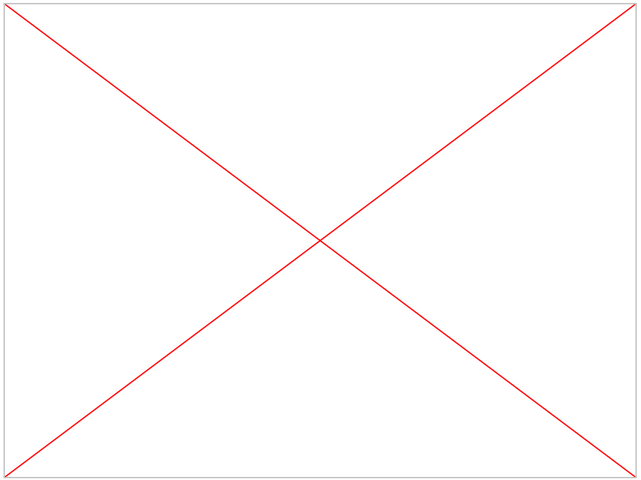
Leading Indicator: No Pedestrian Zone

Slip/Trip/Fall Risk Mitigation: Spill Detection





Environmental Risk Mitigation: Working at Heights

Environmental Risk Mitigation: Working under Suspended Loads

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Voxel Demo
Harrison St.

- Dashboard
- Browse
- Reports
- Cameras

ORGANIZATION

- Teammates

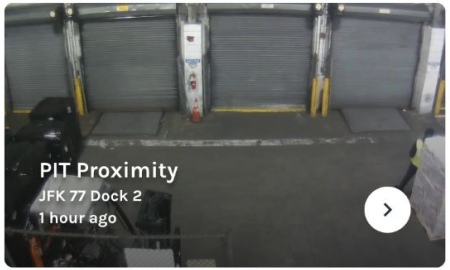
- Kayvon
- Support

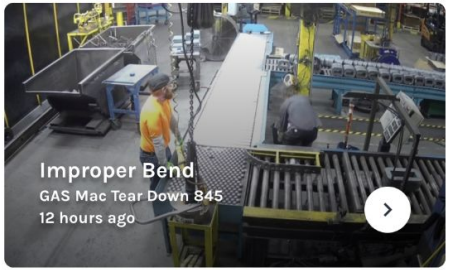
Hi, Kayvon

Check out the latest from Harrison St.

Highlighted Videos

View All





Incidents by Camera

Last 30 days

Camera	Total
Dock Door 12	90
Pack station 37-40	51
Dock 4	35
Perishable Dock 29 - North	33
Receiving Breakdown	33
Loading Bay C	32
Value Add	32

All Incidents

15%

697

Total Incidents - Last 30 days

No Stop at Intersection

103%

164

Total Incidents - Last 30 days

Safety Vest

86%

Assigned To Me

1 Resolved

24 Open

Assigned By Me

0 Resolved

9 Open

Bookmarked

4

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www.voxelai.com

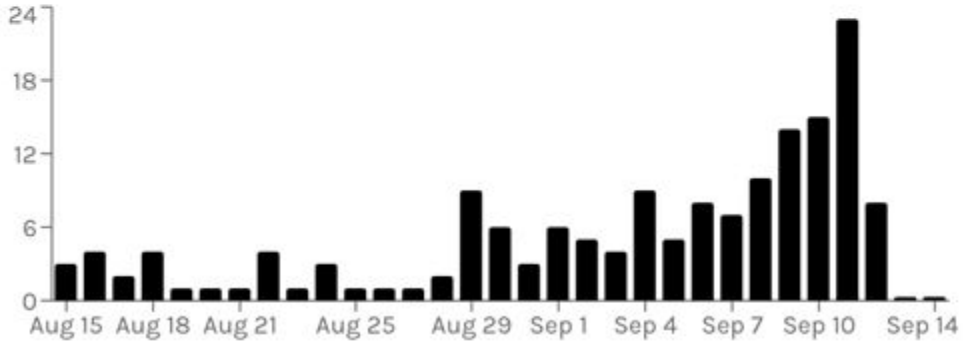
No Stop at Intersection

Aug 15 - Sep 14

Total Incident Trends | Incidents By Camera | Incidents By Time Period

161
Total Incidents

105% ↑
Incident Trends



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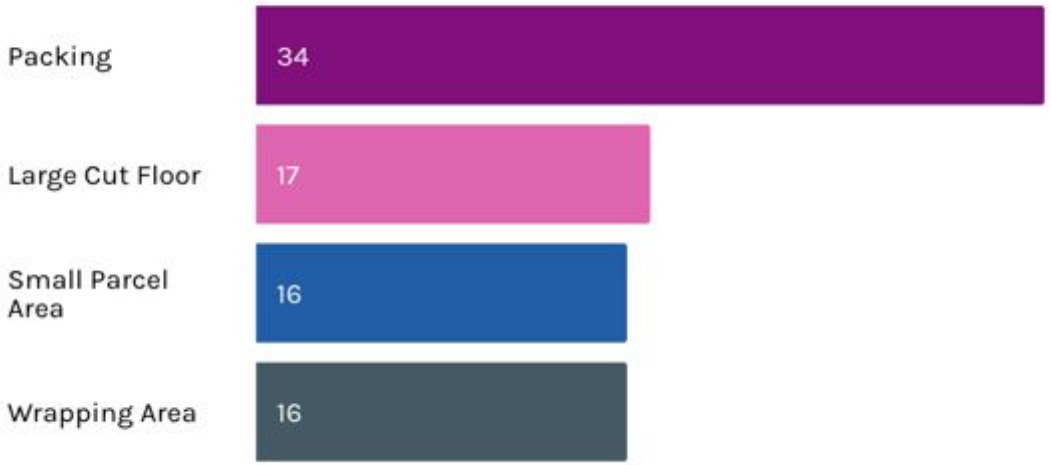
Improper Bend

Aug 15 - Sep 14

Total Incident Trends | **Incidents By Camera** | Incidents By Time Period



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No Ped Zone

Aug 15 - Sep 14

Total Incident Trends | Incidents By Camera | **Incidents By Time Period**

Peak Time Period

Tuesdays around 7PM PDT

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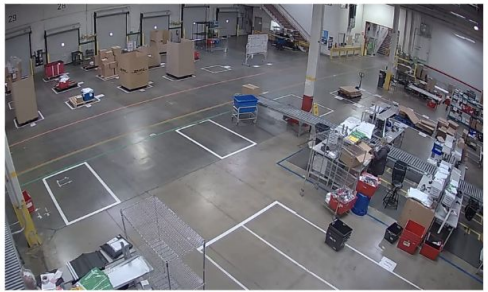
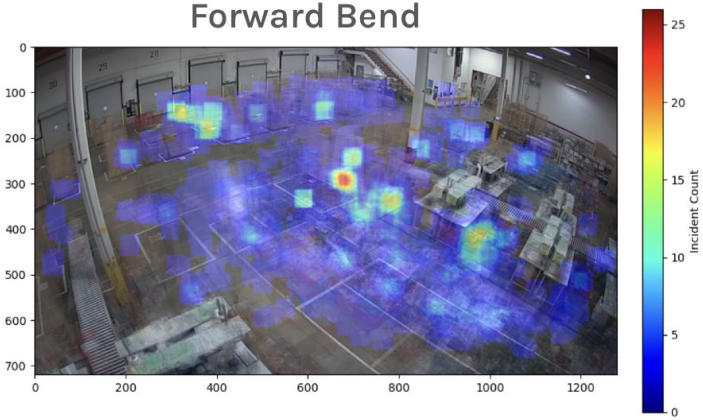
Heat Mapping

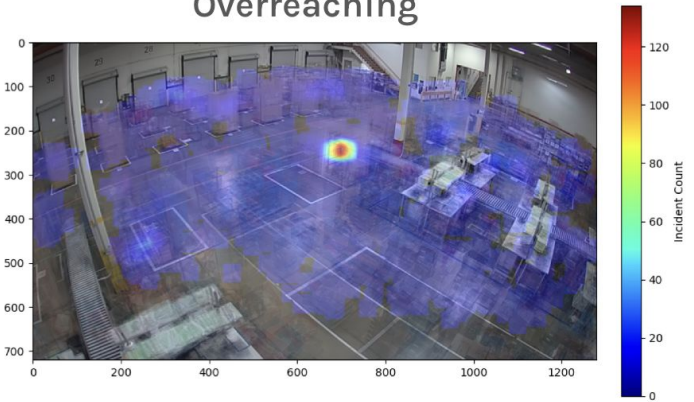
Bay 3, Cam 1



Forward Bend

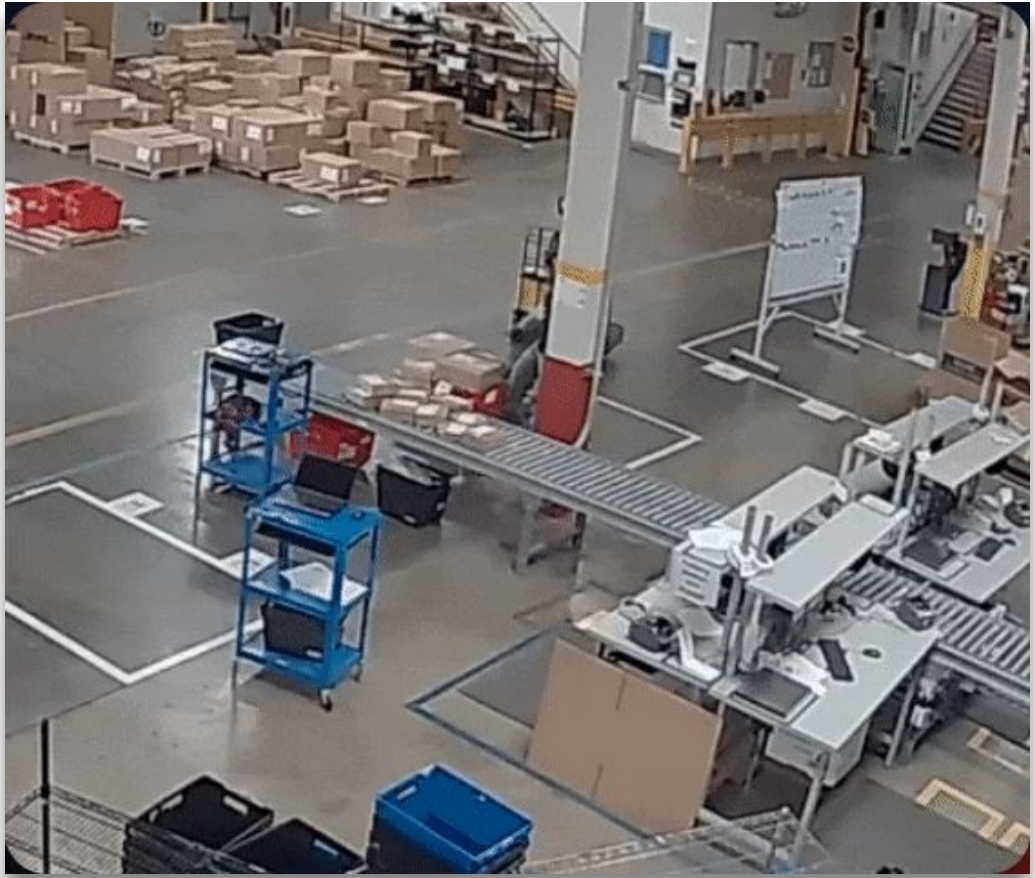


Overreaching



VOXEL SAFETY MOMENT

Heat Mapping



VOXEL SAFETY MOMENT

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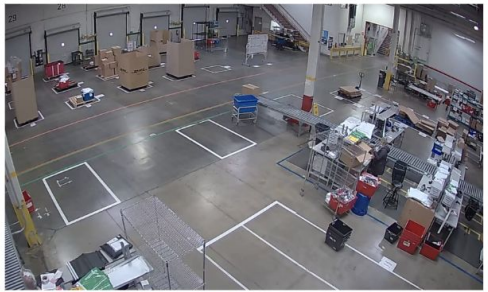
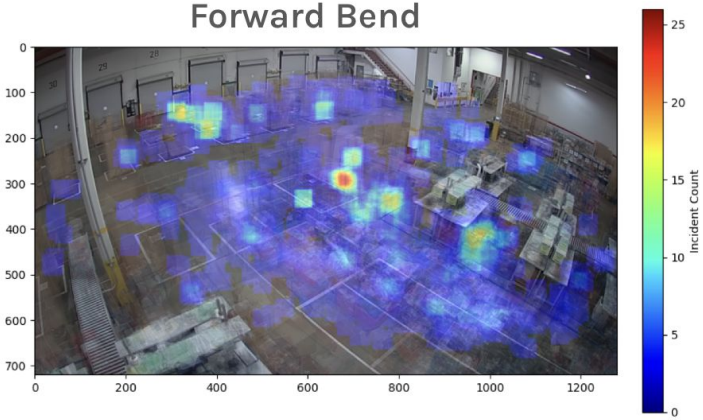
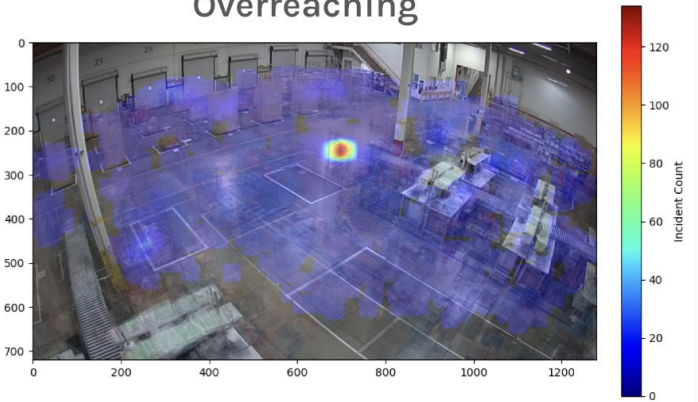


Forward Bend



Overreaching



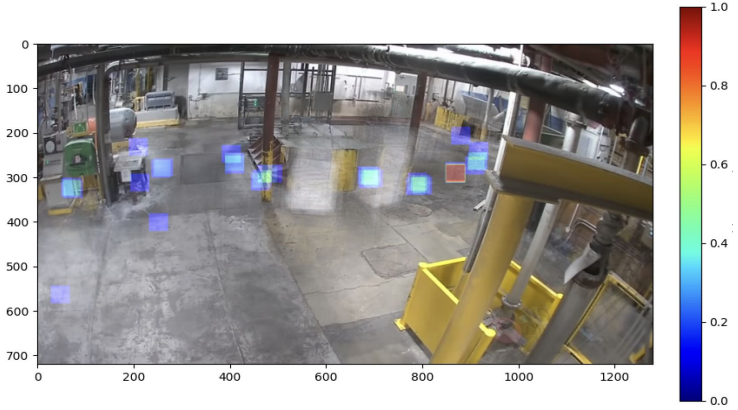
VOXEL SAFETY MOMENT

Heat Mapping

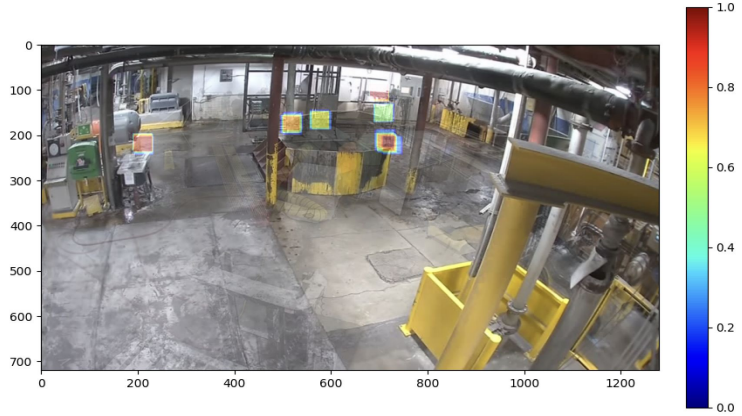
ERGONOMICS

Camera:
Pulp

BAD_POSTURE
LY Pulp
Time: 12:00AM to 12:00AM



OVERREACHING
LY Pulp
Time: 12:00AM to 12:00AM



CASE STUDY: AMERICOLD

Americold uses 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	BEHAVIOR
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% ▼

The Future of Site Safety

Computer vision for safety advantages

- Leverage your existing camera infrastructure!
- Proactive safety journey from video data -> insights -> action
- Real time risk identification, SIF prevention
- Software and automatic product updates

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Best Practices for 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

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Let’s Connect.

Request a Demo

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