Wearable Safety Technology Delivers EHS Leading Indicators Easily To Reduce Incidents & Claims!

AMERICAN SOCIETY OF SAFETY PROFESSIONALS
Quad Cities Chapter

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MākuSafe - The Leader In Workforce Wearables

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Wearable Safety Technology Delivers EHS Leading Indicators Easily To Reduce Incidents & Claims!

Description:

Workforce wearable technology can go beyond biometrics and fitness, tracking usable data that's relevant to employee safety and focused on the environment around an employee and what they're experiencing, rather than tracking the employee themselves. This **leading indicator data** includes things such **as environmental (IH) hazards, slips/trips/falls, strain and exertion risk, ergonomic concerns, and voice reported good-catches**, providing a more complete picture of workplace risk and elevating input from the front line worker. With this data, manufacturers, construction, logistics, food production, and industrial organizations globally are gaining real time insights, enabling proactive and preventative hazard remediation to ensure their workers safety. This session will provide an overview of how wearables can work, key considerations in selecting and deploying wearables, and a deep dive into numerous use cases across industries, where deployments of wearable safety tech over time have resulted in data that has contributed to quantifiable reductions in incidents, recordables, claims, and costs, while positively impacting safety culture and enabling process improvement.

Key Takeaways:

1. How wearable technology provides a **unique means of gathering relevant EHS data** while **respecting employee privacy**.
2. How **machine learning & AI are being used to identify high-risk safety trends**, and analytics intelligence can be provided to safety leaders in an easy-to-understand format before incidents happen.
3. Considerations in **selecting and deploying** wearable safety tech.
4. **Case studies** with findings and insights around; process improvements, environmental hazards detected, uncovering harmful human motion, and positively impacting safety culture.


MĀKUSAFE
SMART. SAFE. MĀKUSAFE.

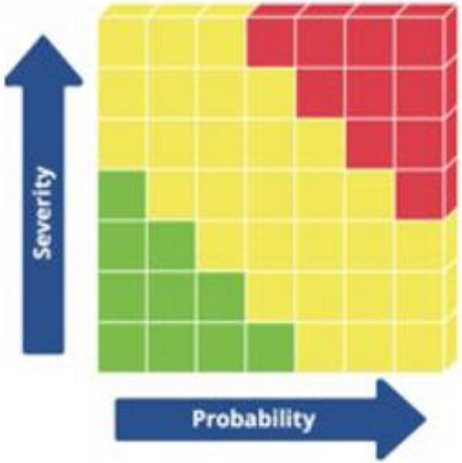

Standing Ovation!

How do you...

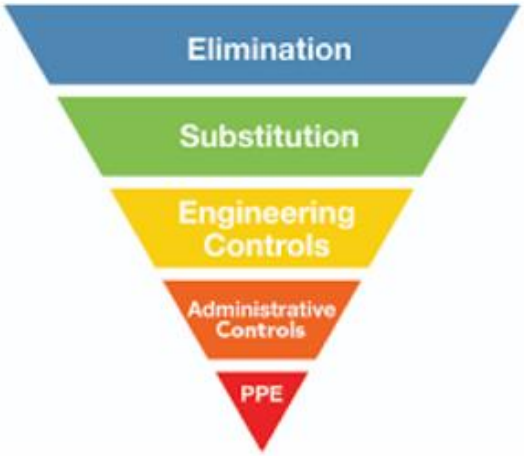
- better understand where risk exists?
- become more proactive & preventative?
- develop participation, engagement, and build culture?
- become more strategic & more data-driven?
- relate safety to the C-Suite and Production/Operations?
- make sure you know about things you know happen, but nobody reports?
- ESG? WPV? DE&I? TWH? Oh, my.
- optimize your safety management process?

What can I do that is practical and wont waste my time and resources? Can technology/tools really help without making life more difficult?

Identify Hazards



Assess the Risk



Control the Hazard

New Thinking, Tools, and Approaches to Safety Management

It’s time to evolve.

MākuSafe is a powerful tool for identifying hazards and risk

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In every work environment there are clues...

...leading indicators & near-misses that we collect automatically, analyze and use...

...to predict & prevent injuries & claims.

T.R.U.E. Leading Indicators of Hazards & Risk

T – Timely
R – Relevant
U – Unique & Useful
E – Easy & Economical

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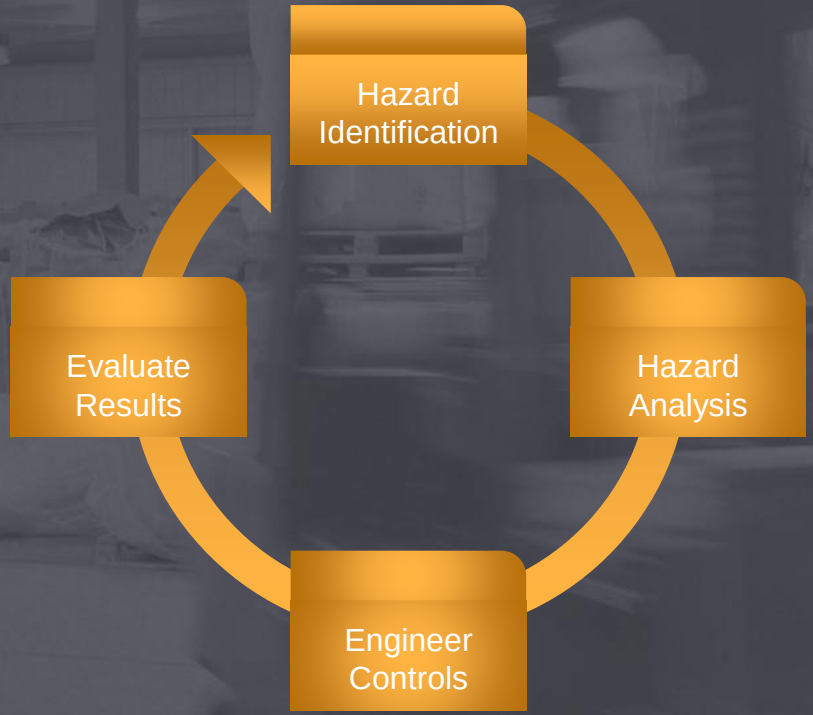
Safety Management Process



Culture, Engagement, Mindset
Humble Curiosity, Positive Recognition

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Human and organizational performance (HOP)
is a risk focused OPERATING PHILOSOPHY
which recognizes that to ERROR is human
and that an organization's
PROCESSES AND SYSTEMS greatly influence
employee actions and choices,
and consequently, their likelihood of success.

Work As Imagined vs. Work in Reality

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- What are we trying to achieve?
- Does the solution close gaps?
- Is this a good fit for our organization?
- Simple implementation/deployment?
- Easy to use for both leaders and front line users?
- Provide insights that are actionable?
- Actionable, results oriented?
- Leading indicator data?
- Impact on culture, mindset?
- Trackable, closed loop?

- Reduction in Accidents

  Claim Frequency - Down 50%
  Total Claims - Down 50%
  Claims severity - Down 90%
  ROI estimated at over 1000% +

- Increased Transparency & Communication, Culture Building

  Increase in “Good Catches / Near-Misses” & reported observations from front lines.

- Uncover Unknowns

  Harness data and sensor technology to discover insights previously unavailable.

- Simplify EHS Documentation

  Immediately shows EHS value.

- Safety & Health Management System

  Effectiveness, Efficiency & Productivity Impact

Benefits Realized!

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Workers check out and return wearables from kiosks

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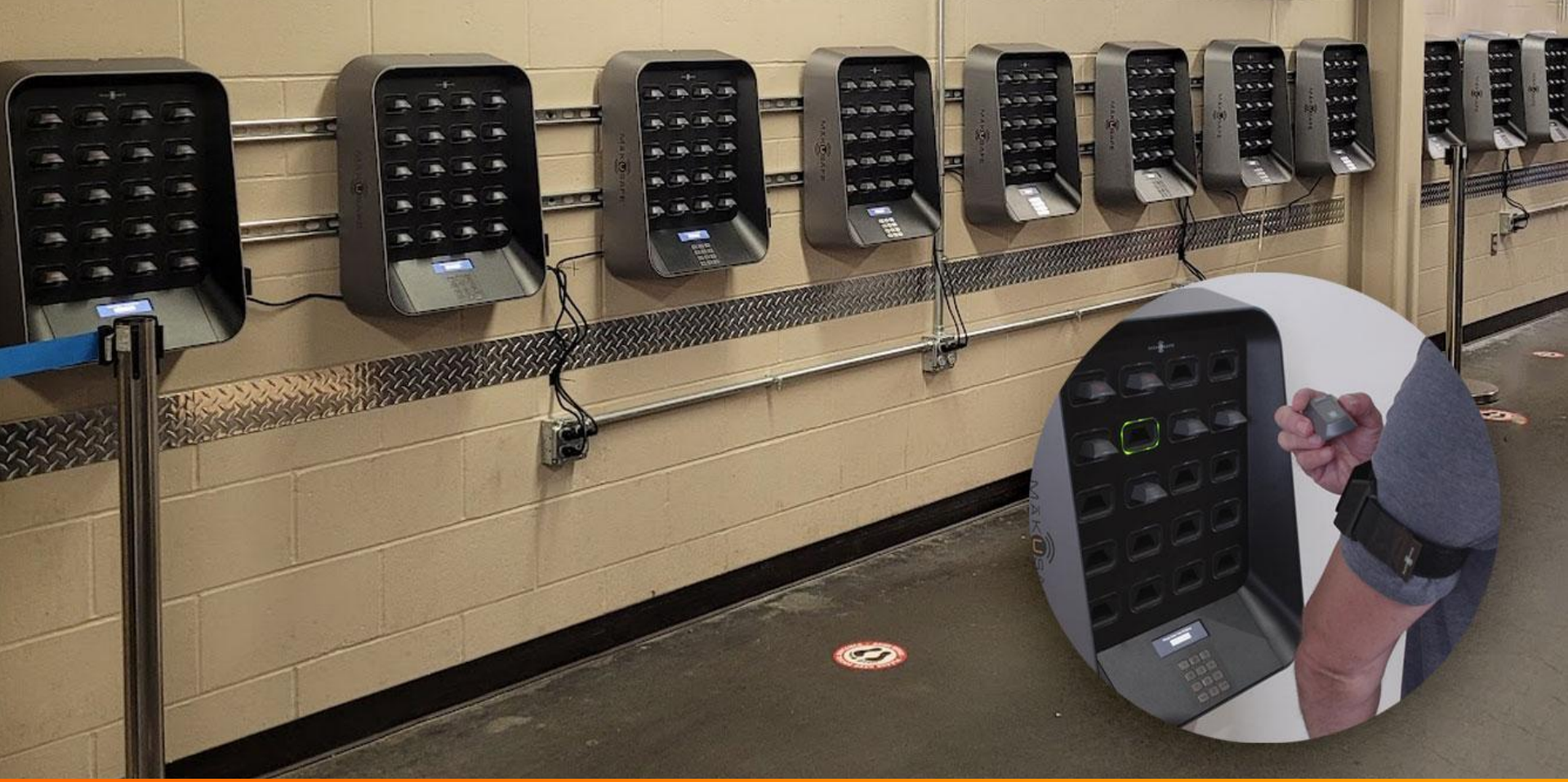

Workers check out and return wearables from kiosks

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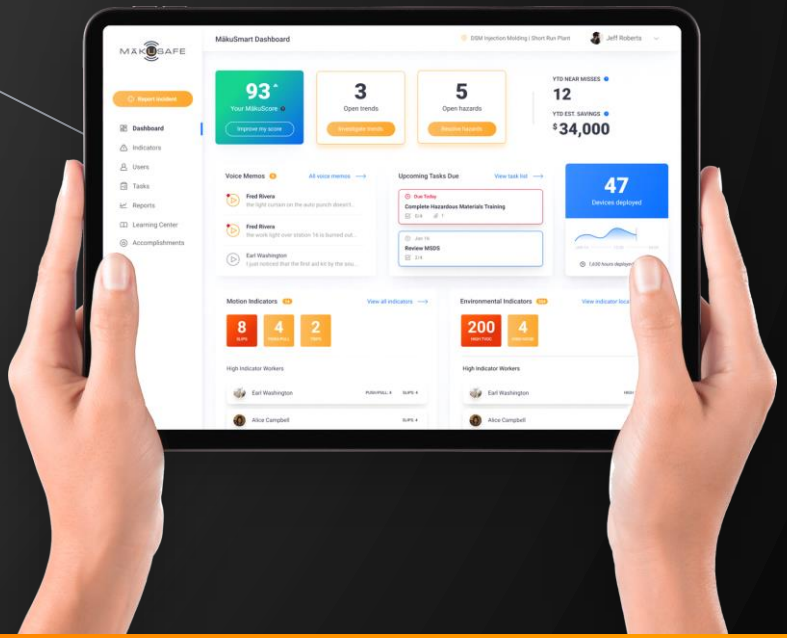
MākuSmart Cloud

MākuSmart Web & Mobile Application

Wearable

Base Station



Connected Safety Ecosystem

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The Ally™ gathers & transmits data in real-time to the MākuSmart Cloud

Motion Detection

- Slips, Trips, and Falls
- Repetitive Motions
- Worker Physicality
- Forceful Exertion

MyVoice™

- Audio Messaging
- Voice-to-text
- Push-to-talk

Spatial Awareness

- Location Identification
- Worker-to-worker Proximity
- Access Control & Factory 4.0
- Contact Tracing

Environmental Sensors

- Ambient Light
- Air Quality (TVOC & CO2)
- Noise / Sound Dosage
- Air Pressure
- Humidity
- Temperature

Battery

- 22 Hour Battery
- Multiple Shifts

A Sensor-Packed Data-Gathering Ally™

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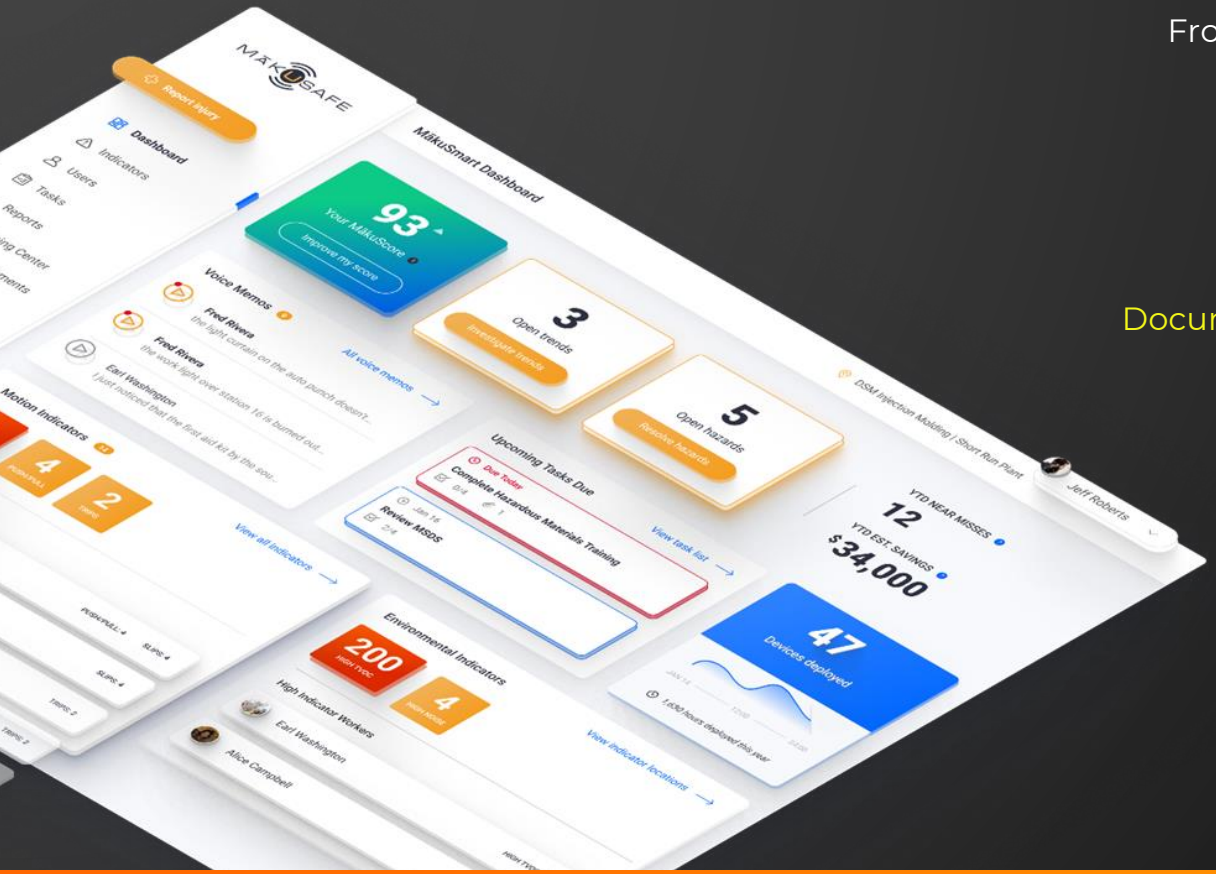
MākuSafe Does Not:

- Collect anything personal (No PII)
- Monitor any biometrics
- Deliver any negative feedback to the worker; haptic, visual, or auditory
- Assume the worker is the problem, or knows what to do to correct it
- Continuously track the individual



Frontline communication via Voice Memos

Real-Time Alerts

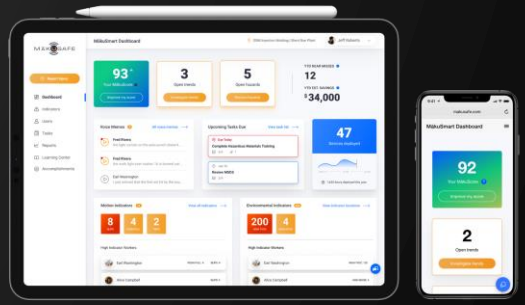
Location Conditions

AI-Driven Trends

AI-Driven Motion & Physicality Analysis

Document Incidents, Injuries, Tasks & Hazards

Reporting & Analytics



Support for Multiple Devices

MākuSmart Cloud Application

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Environmentals - Heat & Noise Exposure, Air Quality, Light Levels

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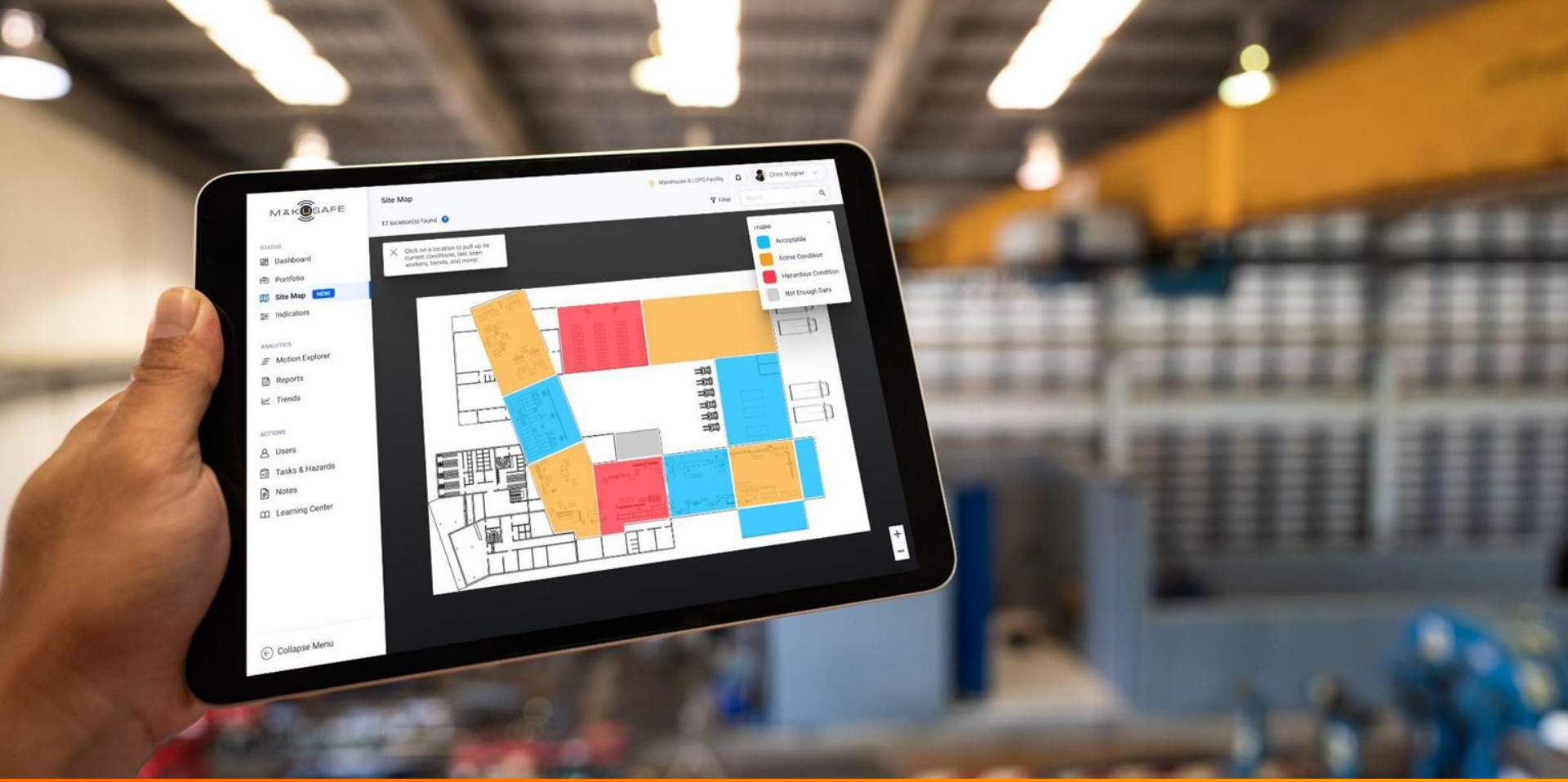

Location Services & Environmental Hazards

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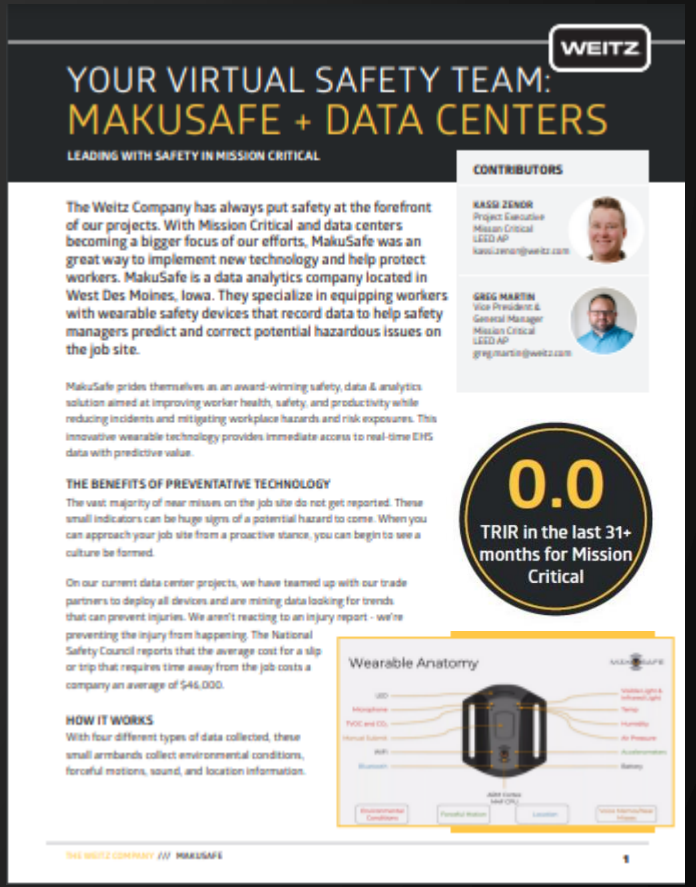
- Client Case Study
- Long standing construction client
- Deploying across numerous large data center projects
- Multi employer job sites
- ESG & Safety management program reporting to customer helps win projects
- Achieved and maintained 0.0% TRIR on sites where MākuSafe is being used
- 31 months

WEITZ CASE STUDY



WEITZ

YOUR VIRTUAL SAFETY TEAM: MAKUSAFE + DATA CENTERS

LEADING WITH SAFETY IN MISSION CRITICAL

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The Weitz Company has always put safety at the forefront of our projects. With Mission Critical and data centers becoming a bigger focus of our efforts, MakuSafe was an great way to implement new technology and help protect workers. MakuSafe is a data analytics company located in West Des Moines, Iowa. They specialize in equipping workers with wearable safety devices that record data to help safety managers predict and correct potential hazardous issues on the job site.

MakuSafe prides themselves as an award-winning safety, data & analytics solution aimed at improving worker health, safety, and productivity while reducing incidents and mitigating workplace hazards and risk exposures. This innovative wearable technology provides immediate access to real-time EHS data with predictive value.

THE BENEFITS OF PREVENTATIVE TECHNOLOGY

The vast majority of near misses on the job site do not get reported. These small indicators can be huge signs of a potential hazard to come. When you can approach your job site from a proactive stance, you can begin to see a culture be formed.

On our current data center projects, we have teamed up with our trade partners to deploy all devices and are mining data looking for trends that can prevent injuries. We aren't reacting to an injury report - we're preventing the injury from happening. The National Safety Council reports that the average cost for a slip or trip that requires time away from the job costs a company an average of $46,000.

HOW IT WORKS

With four different types of data collected, these small armbands collect environmental conditions, forceful motions, sound, and location information.

0.0
TRIR in the last 31+ months for Mission Critical

Wearable Anatomy

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Motion Explorer & Physicality Ranking

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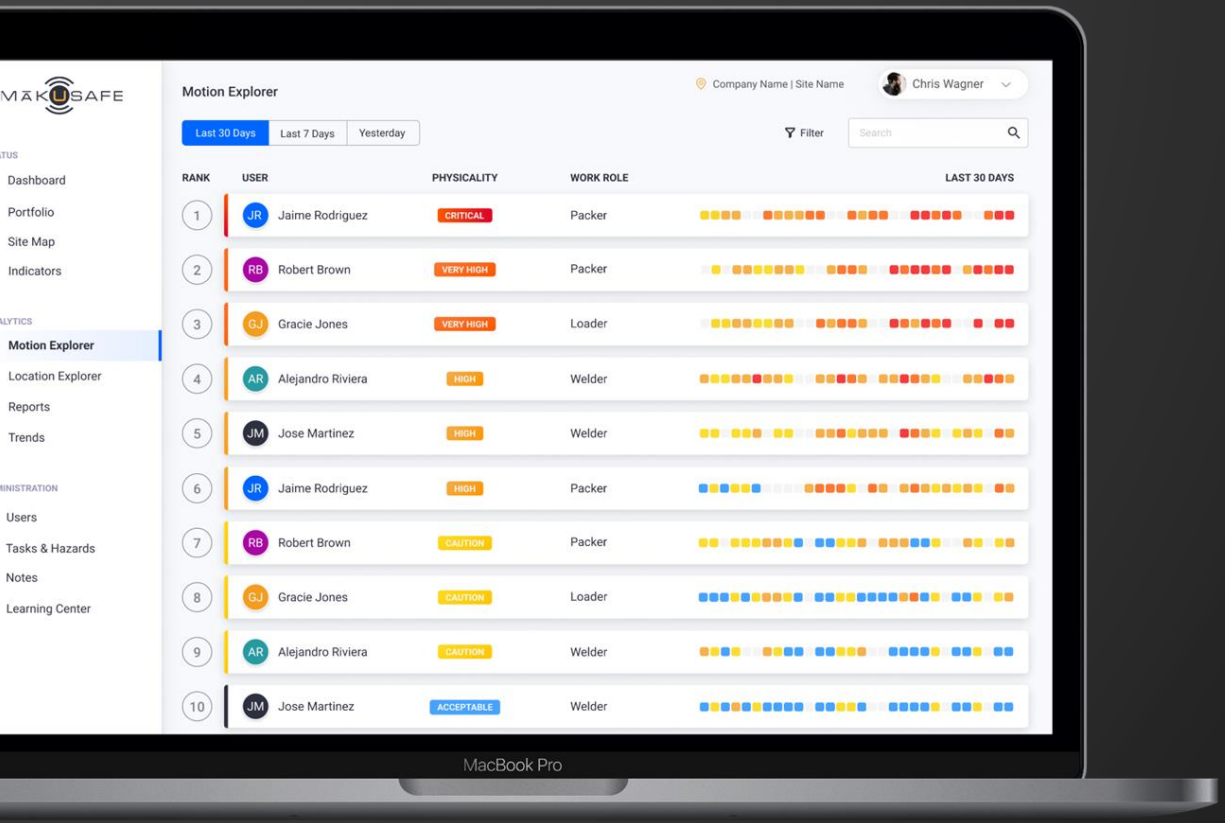

Visualize worker's expended effort and potential impact on them for the day

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- Client Case Study done through their insurer
- Trucking & transportation
- Reduced strain & exertion injuries by 56% in year one.
- They realized $450,000 in WC savings per site

CSB CASE STUDY

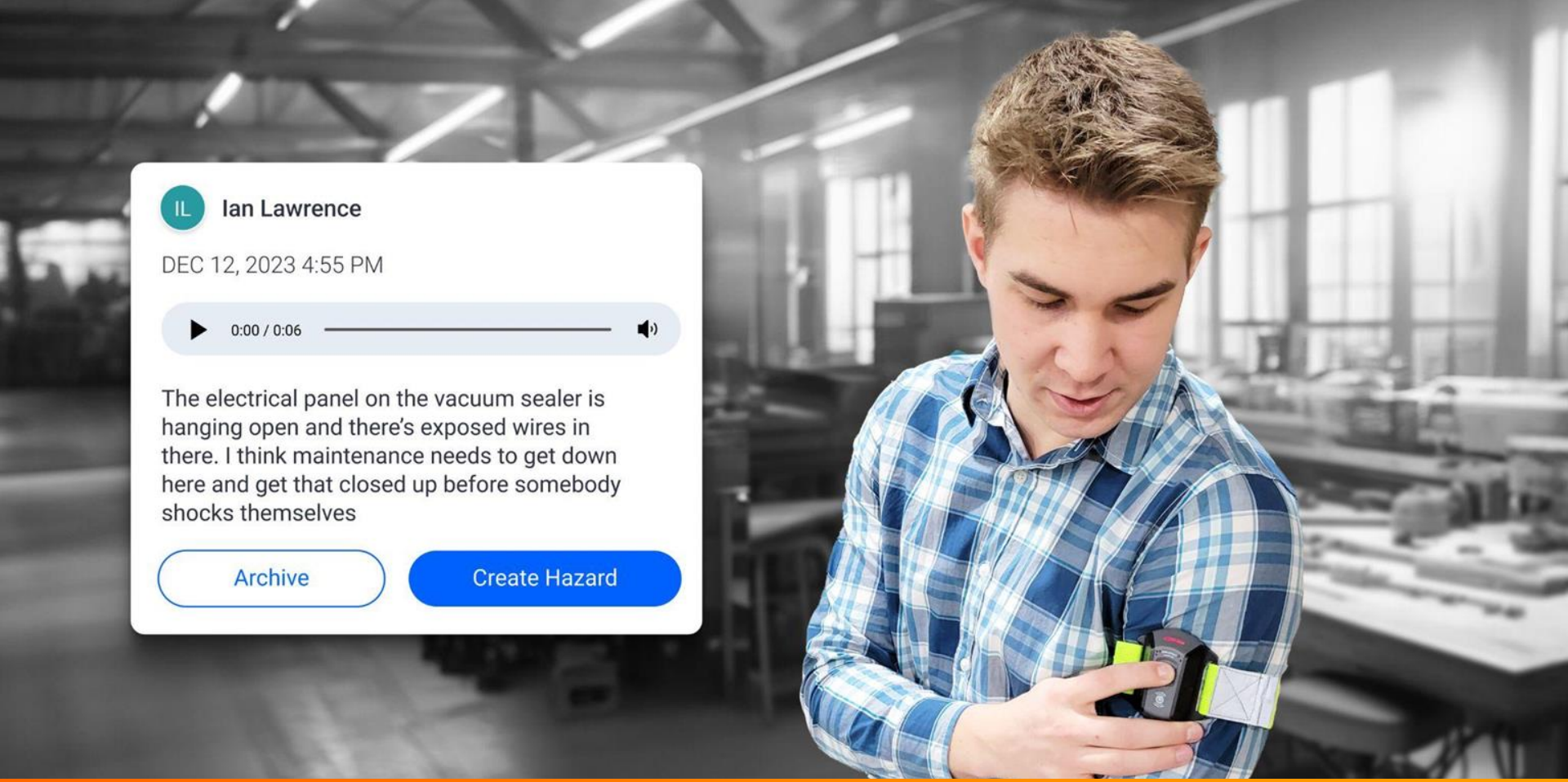

CASESTUDY

WEARABLE TECHNOLOGY AS A SOLUTION FOR WORKPLACE SAFETY

THE SCENARIO

THE RESULT

SINCE IMPLEMENTING A LIFTING MECHANICS PROGRAM AND USING WEARABLE TECHNOLOGY, THIS COMPANY REDUCED WC LOSSES BY $450K IN 2022.



MyVoice™ Messaging

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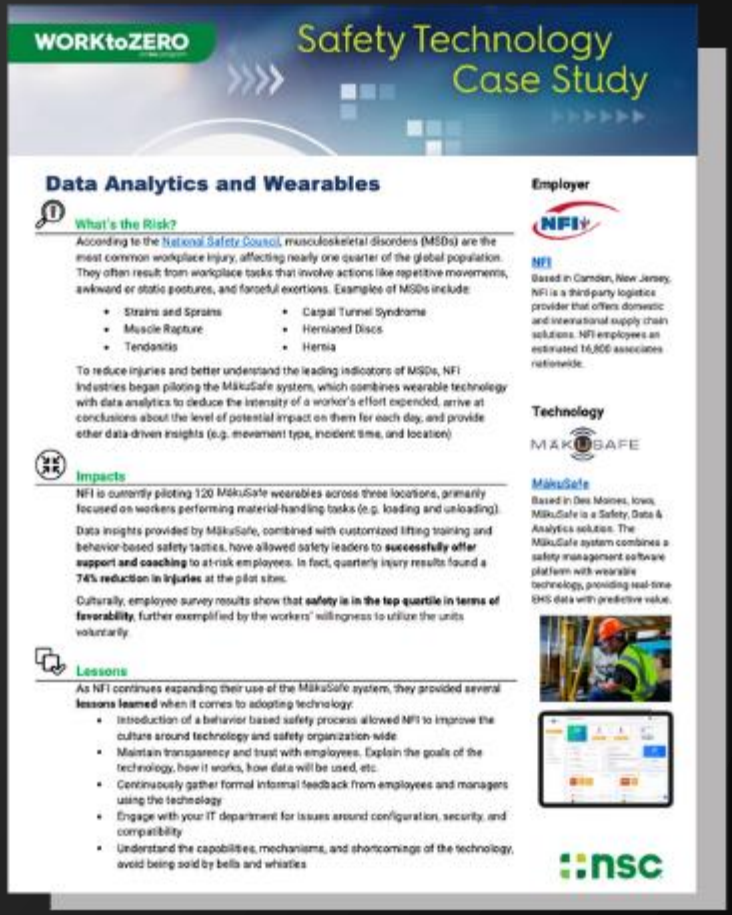
- Client Case Study done with NSC
- Nationwide Logistics Organization
- Reduced lost time injuries by 74% in year one
- Continuous stream of feedback from the front lines
- Positive cultural impact documented

WORK TO ZERO NSC CASE STUDY



WORKtoZERO

Safety Technology Case Study

Data Analytics and Wearables

What's the Risk?

According to the National Safety Council, musculoskeletal disorders (MSDs) are the most common workplace injury, affecting nearly one quarter of the global population. They often result from workplace tasks that involve actions like repetitive movements, awkward or static postures, and forceful exertions. Examples of MSDs include:

- Strains and Sprains
- Muscle Rupture
- Tendonitis
- Carpal Tunnel Syndrome
- Herniated Discs
- Hernia

To reduce injuries and better understand the leading indicators of MSDs, NFI Industries began piloting the MākuSafe system, which combines wearable technology with data analytics to deduce the intensity of a worker's effort expended, arrive at conclusions about the level of potential impact on them for each day, and provide other data-driven insights (e.g. movement type, incident time, and location).

Impacts

NFI is currently piloting 120 MākuSafe wearables across three locations, primarily focused on workers performing material-handling tasks (e.g. loading and unloading).

Data insights provided by MākuSafe, combined with customized lifting training and behavior-based safety tactics, have allowed safety leaders to **successfully offer support and coaching** to at-risk employees. In fact, quarterly injury results found a **74% reduction in injuries** at the pilot sites.

Culturally, employee survey results show that **safety is in the top quartile in terms of favorability**, further exemplified by the workers' willingness to utilize the units voluntarily.

Lessons

As NFI continues expanding their use of the MākuSafe system, they provided several **lessons learned** when it comes to adopting technology:

- Introduction of a behavior based safety process allowed NFI to improve the culture around technology and safety organization-wide
- Maintain transparency and trust with employees. Explain the goals of the technology, how it works, how data will be used, etc.
- Continuously gather formal/informal feedback from employees and managers using the technology
- Engage with your IT department for issues around configuration, security, and compatibility
- Understand the capabilities, mechanisms, and shortcomings of the technology, avoid being sold by bells and whistles

Employer

NFI

Based in Camden, New Jersey, NFI is a third-party logistics provider that offers domestic and international supply chain solutions. NFI employees an estimated 14,600 associates nationwide.

Technology

MākuSafe

Based in Des Moines, Iowa, MākuSafe is a Safety Data & Analytics solution. The MākuSafe system combines a safety management software platform with wearable technology, providing real-time EHS data with predictive value.

nsc

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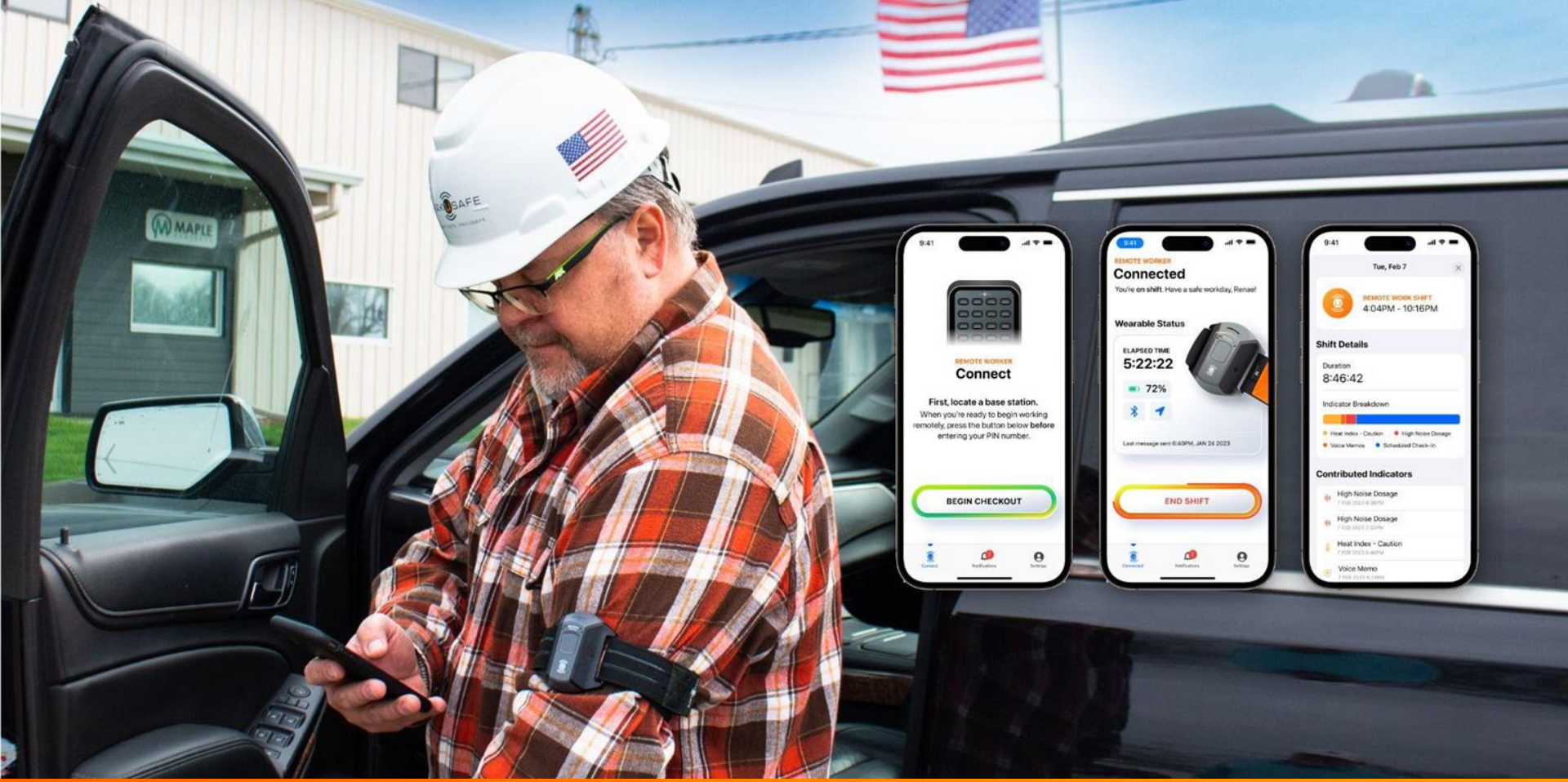

Remote Worker

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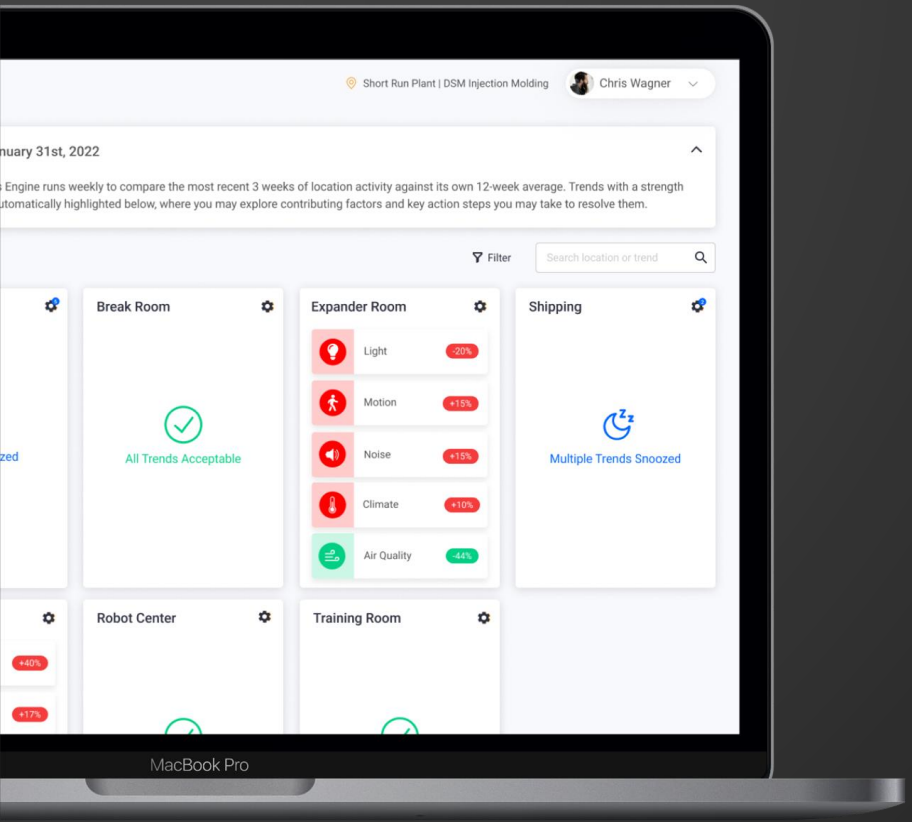
MākuSafe RāngeView
Worker Proximity
Contact Tracing
Connected Workforce



MakuSafe Interact Visualizes Connected Worker Interactions

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DANGER
BE CAREFUL
WHEN BELT
IS IN MOTION.

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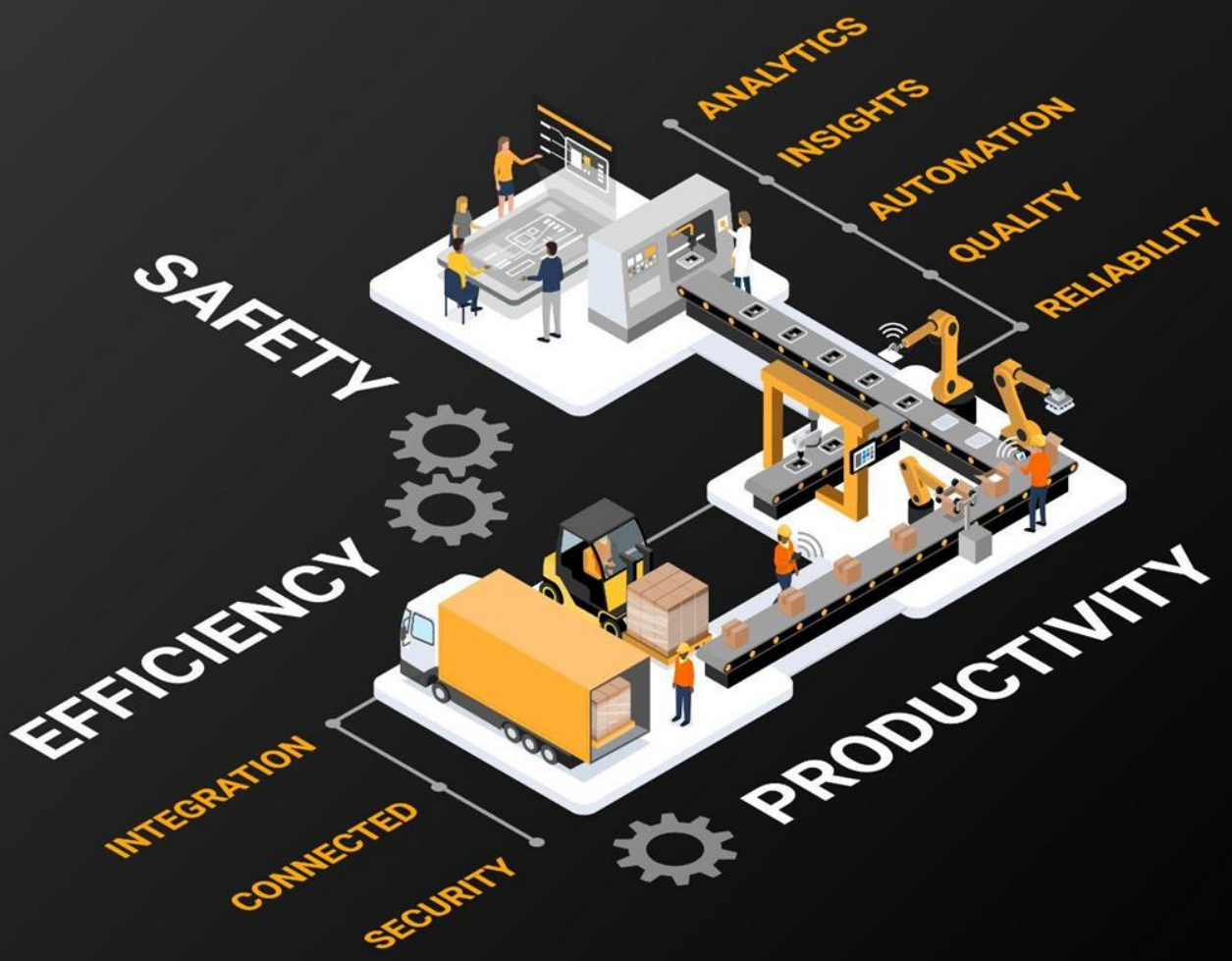
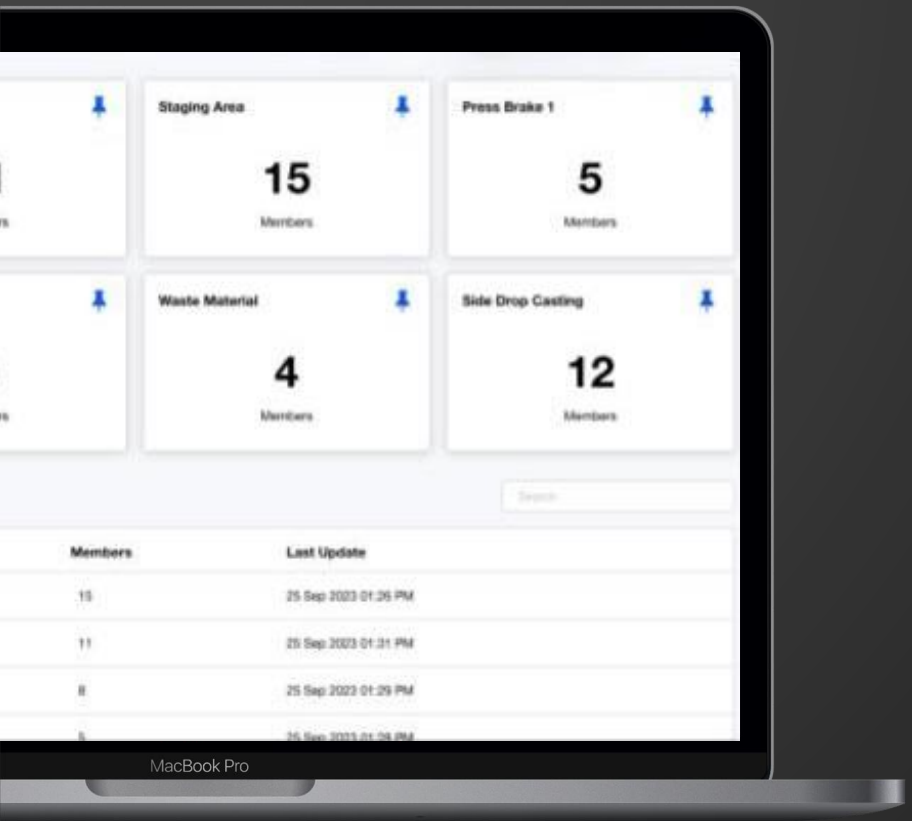

ANALYTICS
INSIGHTS
AUTOMATION
QUALITY
RELIABILITY
SAFETY
EFFICIENCY
PRODUCTIVITY
INTEGRATION
CONNECTED
SECURITY



DATA:

- Who
- Where
- Time
- When
- Duration
- Credentials
- Integration

BENEFITS:

- Automation, Control
- Permit, Restrict
- Productivity
- Line Position Tracking
- Cost Accounting
- Safety

MakuSafe Interact Visualizes Connected Worker Interactions

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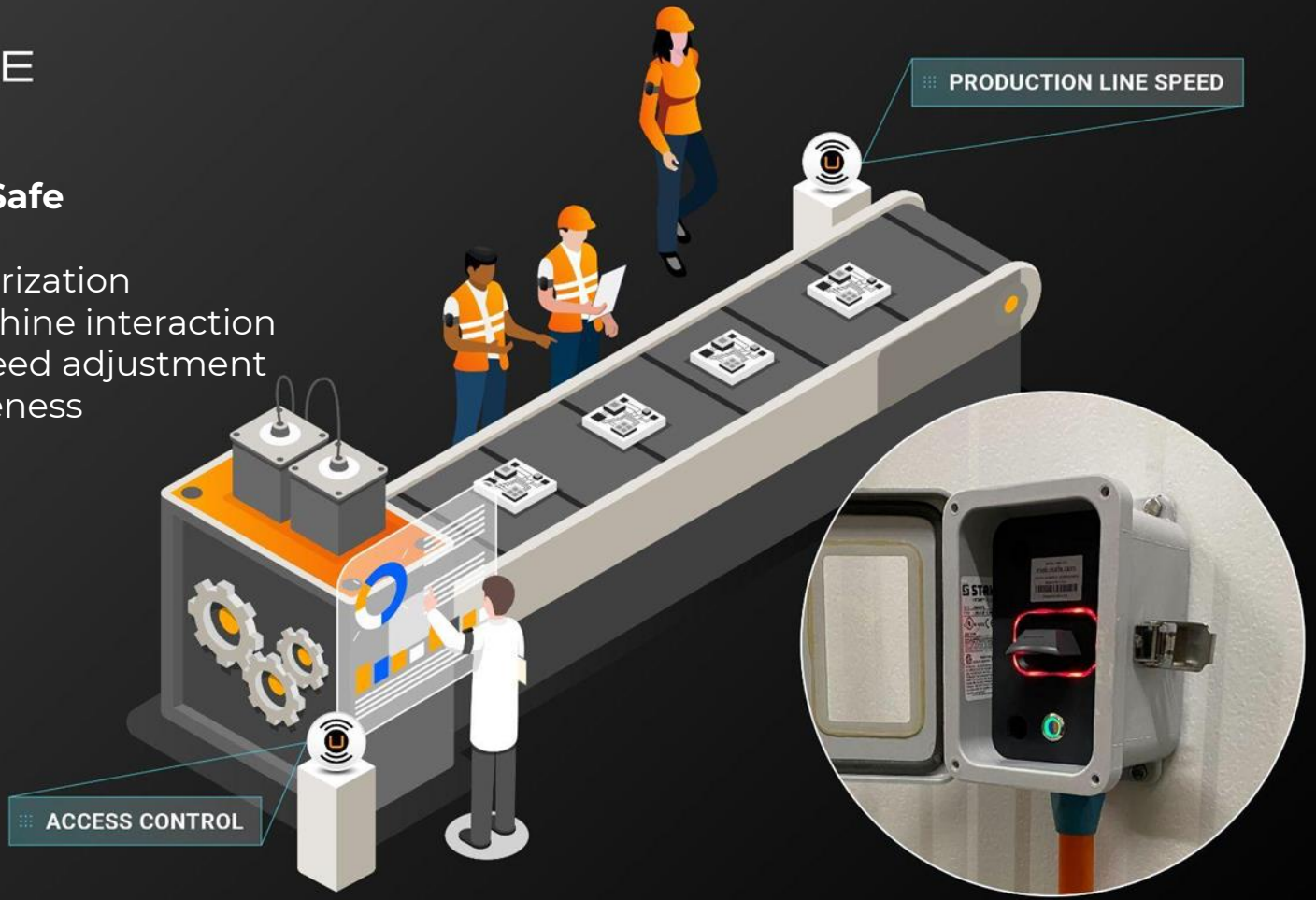
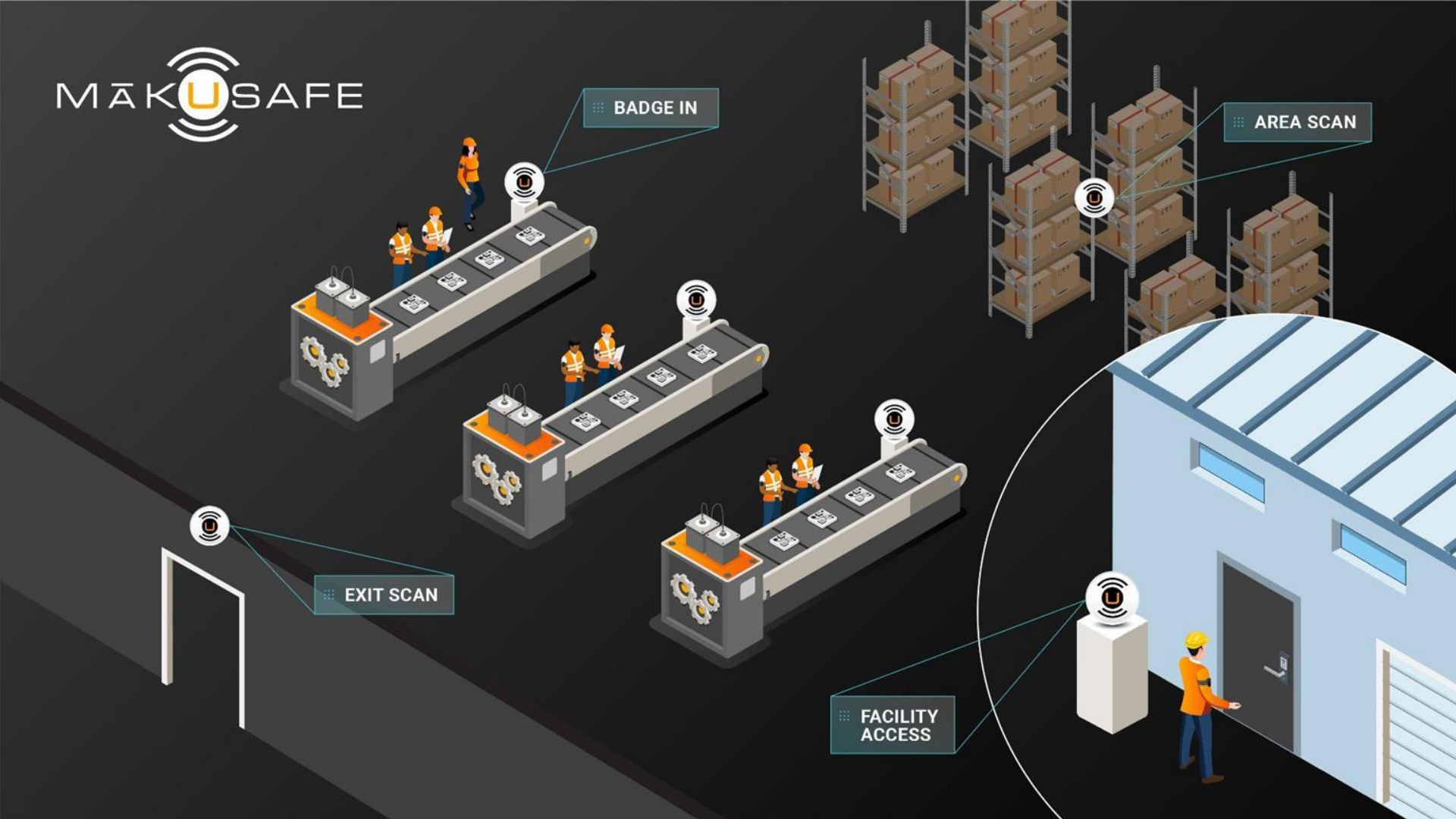
Interact - By MākuSafe

- Machine authorization
- Worker to machine interaction
- Automated speed adjustment
- Location awareness
- Access control
- Job costing




MAKUSAFE
BADGE IN
AREA SCAN
EXIT SCAN
FACILITY ACCESS

Work As Imagined vs. Work in Reality – Edwards/Conklin

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Thank You!

Join my presentation on HOP in Coralville, IA on April 24th!

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OVERVIEW FLYER

PRODUCT SUMMARY

MANUFACTURING USE CASES

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