National Safety Council

Case Study

MSD Solutions Lab
an nsc program

Effective Use of Wearable Technology in Heavy Parts Distribution

What's the Risk?

Employees at FleetPride, the nation's largest distributor of heavy-duty truck and trailer parts, faced several safety challenges within their distribution division, including risks of strains, exertion injuries, and heat-related illnesses. Due to the size and irregular dimensions of a vast majority of inventory, employees at FleetPride's distribution centers frequently perform manual material handling (MMH) of heavy-duty truck and trailer parts. This reliance on MMH greatly increases the propensity for musculoskeletal disorders (MSDs), making it a top focus for risk mitigation. As such, FleetPride was eager to better understand the risks and mitigate them through the implementation of new technology, data analysis, and response strategies for its distribution centers.

Implementation of Wearable Sensor Technology

FleetPride began an initial pilot study with MākuSafe wearable sensors on January 4, 2024, seeking to enhance workplace safety, reduce workers' compensation costs, and gain greater visibility into risks across multiple locations. The pilot program launched the rollout of wearable sensors at one distribution center with just under 100 employees. Wearables were distributed, teams were trained on their use by MākuSafe personnel, and shortly after, FleetPride leadership and safety teams were able to analyze the data collected from the sensors. The pilot ran for 60 days, and then full rollout to the other four distribution centers occurred at 30-day intervals. The rollout was supported by FleetPride's Senior Environment, Health & Safety (EHS) manager and senior operations director, along with representatives from MākuSafe who were present at each site rollout to support implementation, help orient employees to the sensors, and train leaders in how to use the software and interpret the data, ensuring smooth integration.

FleetPride quickly recognized the value of real-time safety data and, within months, expanded deployment to its entire supply chain, making it a standard part of the required safety equipment for workers in six distribution centers. Over 300 employees now wear the technology daily. FleetPride's strong leadership, safety culture, and proactive approach to training accelerated adoption. The MākuSafe team continues to visit sites regularly and conduct weekly touch-base meetings.

Return on Investment

2024 marked FleetPride's best workers' compensation year in over a decade, with the lowest number of claims in 12 years across its supply chain group. One site recorded over 365 days with zero incidents, including no strain or exertion injuries, which were previously a major concern. FleetPride attained such outcomes by engaging in proactive risk reduction through motion data by identifying hazardous movements, such as bending and twisting, and adjusting work processes before injuries occurred.

Impacts

In addition to reducing MSDs in its workforce, FleetPride had several operational goals when trialing the wearable sensor technology, including reducing high loss costs, improving risk profiles, enhancing safety leadership visibility, establishing a unified safety language and key performance indicators (KPIs), and becoming more data-driven in decision making.

By utilizing leading indicators of environment, health and safety risks and hazards, FleetPride was able to harness the data collected from the wearable sensors to work toward these goals and identify hazards to preemptively make improvements to reduce MSD risk. Some examples of the impacts and goal attainment from the pilot are:

1. **Improved Environmental Conditions**
   - **Heat mitigation:** Data justified installing additional **industrial fans** to improve airflow.
   - **Lighting improvements:** Low light level data led to **replacing outdated lights** for better visibility.
   - **Air quality enhancements:** Poor air quality readings prompted the use of **exhaust fans**, reducing total volatile organic compounds (TVOC) exposure.
2. **Increased Safety Communication, Awareness, and Engagement**
   - FleetPride employees widely adopted **MyVoice™, MākuSafe's voice memo feature**, to report hazards, near-misses, and concerns in real time.
   - This resulted in increased safety awareness, engagement with employees, and **improved response times to safety issues**.
     - Approximately 350 workers reported safety concerns, safety-specific messages have been quickly seen by necessary personnel, and resolutions of these concerns are now tracked. In the most recent 60-day period (as of May 2025), the number of actionable tasks reported and subsequently addressed has tripled.
3. **Enterprise-Wide Integration and Future Safety Planning**
   - FleetPride is collaborating with MākuSafe to **integrate safety data into its Safety & Health Management System (SHMS)** for deeper analytics and streamlined reporting.

Lessons Learned

The power of data-driven safety strategies and connected worker technology is evident. FleetPride's successful adoption of MākuSafe wearable technology exemplifies how a strong safety culture, leadership commitment, and data-driven decision-making can transform workplace safety. By leveraging innovative technology, FleetPride has significantly reduced risks, improved safety visibility across multiple locations, and achieved record-breaking reductions in workers' compensation claims.

This case study highlights the power of collaboration between insurers, safety technology providers, and organizations committed to protecting their workforce. One significant learning at FleetPride was that while implementing a wearable technology was a culture driver, it was effective only when leadership were fully engaged. Some of this engagement was due to FleetPride locations becoming competitive with their Engagement Scores through the MākuSafe platform, somewhat gamifying their mitigation efforts. Each distribution center had to find unique and interesting ways to promote engagement with the MākuSafe platform to drive overall safety improvement. A correlation between MākuSafe engagement scores and year-over-year workers' compensation performance was also apparent by the end of the pilot process.

Headquartered in Irving, TX, FleetPride is the nation's largest distributor of aftermarket heavy-duty parts and service. FleetPride's sophisticated network of 400 locations, which includes more than 90 service centers, over 280 retail branches, and five distribution centers, means customers get the parts and services they need, when and where they need them. Customers can click, talk, chat, or visit with FleetPride's team of 4,500 experts, who are empowered and motivated to solve problems and create tailored solutions for each customer's unique needs. To learn more, visit fleetpride.com.

MākuSafe is a leading connected worker wearable and safety data analytics platform designed to reduce workplace incidents, enhance safety, and improve productivity. The solution combines innovative wearable sensor technology with powerful data analytics to monitor and mitigate risks in real time. The Ally™, a compact armband device, captures a range of environmental and physical data via sensors, such as motion, heat, air quality, noise levels, and ergonomic strain, providing safety leaders with actionable insights to proactively address hazards.

The MākuSmart™ platform enables organizations to identify trends, track near-misses, and visualize risks across facilities, helping to improve safety management strategies. MākuSafe also supports worker health by offering personalized exposure data, enabling timely interventions to prevent injuries like heat stress, musculoskeletal disorders, and noise-induced issues.

MākuSafe's approach collects no personally identifiable information (PII) to ensure worker privacy while fostering collaboration between safety teams and frontline employees through accessible, real-time data, and MyVoice™ push-to-talk communication capabilities.
www.makusafe.com

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