

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 Rapture
- Tendonitis
- Carpal Tunnel Syndrome
- Herniated Discs
- Hernia

To reduce injuries and better understand the leading indicators of MSDs, NFI partnered with their insurance broker Conner, Strong & Buckelew (CSB) in Camden, NJ to begin piloting the MākuSafe system and a strong lifting mechanics program from CSB. MakuSafe is a 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 16,800 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.

