



# Revolutionizing Workplace Safety and Efficiency

A COMPREHENSIVE EXPLORATION OF  
MODJOUL'S WEARABLE TECHNOLOGY

---

3/8/24

# Shaping the Future of Workplace Safety and Efficiency with Modjoul

**In an era where prioritizing employee well-being and operational efficiency is paramount, Modjoul's innovative wearable technology emerges as a game-changer.**

Focused on the prevention of musculoskeletal disease (MSD) injuries, the Modjoul wearable not only provides real-time data but also offers actionable insights to reshape workplace safety paradigms. This informational paper delves into the core functionalities of the Modjoul wearable, exploring its ability to detect and analyze employee movements, address environmental factors, measure operational metrics, and revolutionize collision avoidance. With a firm commitment to harnessing the power of data for holistic workplace improvement, this paper aims to illuminate the diverse applications and profound impact that Modjoul's wearable technology can have on fostering a safer, more efficient work environment.

## MSD Injury Prevention with Modjoul Wearable

The primary function of the Modjoul wearable is to provide crucial data and insights to prevent musculoskeletal disease (MSD) injuries, the most common type of injury among employees. The wearable detects various movements, including bends, twists, and the degree of the bend, while also considering acceleration during these actions. A comparative score is generated for analysis. Notably, the wearable employs haptic feedback, vibrating when an employee performs an out-of-compliance behavior, such as bending beyond 60 degrees. The collected data allows employers to discern whether issues are specific to individual employees or systemic process challenges affecting the entire workforce.

Over the past six years, Modjoul has gathered significant insights into new employee work behaviors, accumulating data from over 100,000 shifts within the first 6 weeks of employment. The conclusion drawn is that implementing the Modjoul model can effectively reduce injuries among new employees, based on the experiences of those wearing the Modjoul wearable during their initial 6 weeks on the job.



## Environmental Sensors

**The Modjoul wearable features three environmental sensors—temperature, humidity, and sound.**

The temperature and humidity sensors combine to provide a heat index, offering metrics for safety and operations to understand environmental conditions in different plant areas (note: beacons are necessary for location-specific measurements). A timer can be configured to establish duration thresholds for employees, preventing them from working in extreme temperatures. This aligns with recent California legislation mandating temperature monitoring to safeguard employees during temperature extremes.

Additionally, the wearable reports on noise levels and the duration of noise exposure, addressing concerns raised in recent class actions against companies for inadequate noise monitoring within their operations. The wearable identifies noise levels exceeding 80 dB, aiding in pinpointing areas requiring noise mitigation measures.



**Monitors & reports noise levels exceeding 80dB**



**Establishes work duration thresholds for extreme temperatures**

## Operational Metrics

**The Modjoul wearable calculates three key operational efficiency measures: travel time, wait time, and work time.**

These metrics are benchmarked against the Modjoul book of business, providing valuable insights for comparisons across employees, process workflows, and shifts. Travel time is determined by step and driving duration, wait time by standing and sitting duration, and work time by standing work, bending, and twist duration.

Benchmarking these metrics enables companies to identify areas for potential process improvement or cultural changes. By understanding the duration employees spend waiting for work and delivering work products, employers can make informed decisions to enhance overall operations, focusing on efficiency rather than merely urging employees to work harder.

## Bilateral Collision Avoidance

**Equipped with an ultra-wideband sensor, the Modjoul wearable can be located and discovered in real-time.**

This feature aids in preventing collisions with powered industrial trucks, addressing a significant safety concern—90 employee deaths and 35,000 injuries annually due to such incidents. The wearable notifies both the operator and employee of potential dangers, contributing to improved safety practices.

Moreover, the wearable's discoverability by beacons allows for precise tracking of employee locations and identification of out-of-compliance behaviors or work paths. This dual functionality enhances both employee safety and movement efficiency, providing a comprehensive solution for workplace collision avoidance.

## Conclusion: Shaping the Future of Workplace Safety and Efficiency with Modjoul

**Modjoul's wearable technology stands as a much-needed technology, revolutionizing workplace safety and efficiency.**

From its approach to preventing musculoskeletal disease injuries to its comprehensive environmental sensors, operational metrics, and bilateral collision avoidance features, the Modjoul wearable is a testament to the commitment to employee well-being and operational excellence. As organizations seek to navigate the ever-evolving landscape of workplace safety, Modjoul offers a transformative solution that goes beyond traditional measures.

To embark on a journey towards a safer, more efficient workplace, we encourage you to take the next step. Contact Modjoul today to explore how our wearable technology can be seamlessly integrated into your operations, delivering real-time insights, actionable data, and, most importantly, a culture of proactive safety. Together, let's shape a future where every step in the workplace is not just a trial to check a box, but a stride towards a safer and more productive tomorrow. Contact Modjoul now and unlock the potential for a safer, more efficient workplace.

**To find out more about how to partner with Modjoul, please contact:**

**Hunter Burgett**  
Client Strategy and Solutions Manager  
[hunter@modjoul.com](mailto:hunter@modjoul.com)