Litum

CASE STUDY

Forklift Safety and Efficiency Solution

for a Fortune 50 Retailer

Key Challenge

In warehouses, productivity is greatly determined by the performance of powered industrial trucks (PIT), or forklifts as they are more commonly known. This North American client needed their forklifts to work at optimum speed while they ensured workplace safety. This required visibility into real-time location of forklifts and setting up of business rules in line with desired safety and efficiency outcomes based on their movements.

Deployment

30,000,000+
square feet area

9,000+
forklifts

**The numbers indicated are as of January 2024. Expansion with the client continues.*

Solution

Leveraging ultra-wideband technology, we deployed an integrated forklift safety solution based on real-time location systems across the client's multiple warehouses. This comprehensive solution is based on a mesh network that includes tags and strategically positioned anchors and gateways that enable wireless communication between devices to enable precise location tracking. Robust signal transmission and seamless data flow have been possible through these mesh networks, enabling operational visibility for all involved.

The addition of an advanced speed control feature has enhanced the system's capabilities, enabling proactive forklift safety. Depending on the vehicle type and specific zone rules within the warehouse, the system can trigger the Electronic Control Unit (ECU) of the forklifts to adjust their speed. This intelligent feature was instrumental in enhancing safety, as it allowed for dynamic speed regulation in different warehouse zones, effectively minimizing the risk of collisions.

Features

Full RTLS deployment establishing a comprehensive mesh network for alerts, speed control, and complex business rule implementation

Networked solution employing an **Ultra-Wideband (UWB)** network for precise forklift tracking and environmental control

Real-time tracking of speed data, idle time, forklift height, and battery status

Proximity alerts for operators and pedestrians

End-of-aisle slowdown to enhance safety in critical areas

Crosswalk identification to electronically mark pedestrian crosswalks or other designated pedestrian areas and customize system response for safety, including automated slowdown of the vehicles

Autonomous speed control allowing for automatic reduction in forklift speed near other tagged entities to improve safety

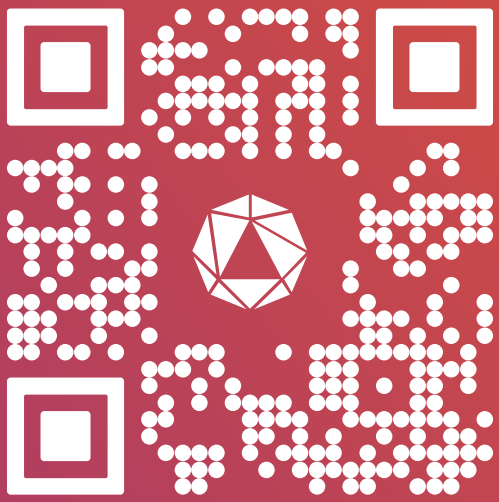
Exclusion zones/geofences for electronically designating areas as forklift or pedestrian exclusions, adaptable to various operational requirements

Data analytics and reporting for insights that enable better decision making and identify traffic patterns, bottlenecks, and safety issues

Results

The client:

- **Reported 100% reduction** in forklift-related accidents since Litum deployment
- **Was announced a finalist for innovation** in the National Safety Council Green Cross for Safety Awards after deploying Litum's solution
- Decided to extend the deployment to **37,000+ additional forklifts and 650+ sites** worldwide in the longer term, seeing the clear, real ROI of the solution
- **Complies with local regulations,** leading to business continuity
- **Has safer and more efficient warehouses** with better employee satisfaction and business profitability as a result of reduced risk of collisions and downtime



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