

# Real-Time Location Systems for Forklift Safety and Efficiency



Forklifts are powerful drivers of industrial operations, yet with their strength comes inherent risks. Incidents can lead to significant harm on human life, and direct costs to businesses including economic impact, productivity loss, and reputational damage. Litum's Real-Time Location Systems (RTLS) address these risks, fostering safer, seamless operations.

On average

**95**

people are injured in a forklift accident **every day**, and

**1**

person is killed in a forklift accident **every 4 days** in the US.

- Occupational Safety and Health Administration (OSHA)



The average cost of a forklift accident is estimated to be

**\$48,000**

per non-serious injury and

**\$1,390,000**

per death

- National Safety Council (NSC)



# 360° Awareness

## Major Reduction

in Collisions

**16,000+**

Forklifts with Successful Deployments

**300,000,000+**

Sq Feet Area Covered



## Forklift Safety with Real-Time Location Systems

To address forklift safety challenges, industry leaders are turning to technology-driven forklift safety solutions. Utilizing ultra-wideband (UWB) technology and real-time location tracking, Litum's forklift safety solutions utilize real-time location data to trigger collision warning alerts and actions, ultimately enhancing 360° awareness for forklift operators and pedestrians:

### Essentials

The most basic and plug-and-play solution is a collision warning system that enables sound, light, and buzz alerts for forklift operators and pedestrians, increasing situational awareness in environments with collision risk.

### Pro

In addition to the collision warning capability of the Essential package, Pro has two key capabilities: slowdown capability and fixed tag deployments. This solution takes forklift safety one step further through control signals that slow down forklifts and by enabling zone-based alerts and slowdowns using fixed tags.

### Advanced

Advanced solution involves the building of a mesh network, unlocking a full RTLS deployment. Through RTLS, this solution not only enables alerts and actions to improve forklift operational safety, but also gives access to location data that enables analytics to inform future decision-making.

### Benefits



Minimized collision risk, safer employees



Better operator awareness, including in low visibility areas



Sustainable operations, directly powered by the forklift battery



Compliance with regulations

## Forklift Efficiency with Real-Time Location Systems

To address forklift efficiency challenges, industry leaders are embracing RTLS-driven solutions to streamline material handling and directly impact the productivity of forklift operations. Litum's Forklift Efficiency solution is based on real-time tracking of forklifts, offering instant insights into forklift movements and reports for increased productivity. It aids in optimizing utilization and maintenance, and facilitates strategic planning.

### Benefits



Reduced idle time



Optimized utilization of forklifts and streamlined workflow



Cost savings with increased operational efficiency



Informed decision-making



Enhanced accountability and planning

# Litum Forklift Safety Solutions



Litum's Forklift Safety Solutions cater to different levels of safety needs, from basic collision warnings to advanced RTLS networks.

## Essentials

A plug-and-play collision warning system with alerts



**Collision Warning Alerts:** Sends audiovisual alerts to forklift operators and tactile alerts to pedestrians to mitigate potential collisions by creating awareness around forklift and pedestrian proximity.



**Customizable Deployment:** Offers flexible configurations, including forklift-to-forklift and forklift-to-pedestrian warnings, tailored to specific operational challenges.



**Pedestrian Tags:** If the forklift-to-pedestrian warning is chosen, pedestrians receive wearable tags that vibrate to signal the presence of nearby forklifts.



**In-House Technology:** All components, including hardware, firmware, and software, are exclusively designed and produced by Litum, ensuring superior quality control and customization, and streamlined service.



**Plug-and-Play Solution:** User-friendly and quick-to-implement solution, requiring minimal assembly and support.



**Immediate Activation:** Ready for operation immediately after mounting on the forklift.

## Pro\*

An enhanced solution that enables slowdowns and zone-based warnings



**Enhanced Operational Control:** Expands on the Essentials package by introducing additional control mechanisms for forklift operation, focusing on reducing incident risks through smart intervention.

## Add-On Capabilities



**Slowdowns:** Allows the system to engage with the truck control system to actively control the forklift's speed in response to environmental factors and operational scenarios, contributing to a safer workplace.



**Fixed Tags for Zone Area Restrictions:** Implements fixed tags for strategic zonal alerting in high-risk or high-traffic areas. These tags initiate alerts and/or slowdown responses when forklifts enter these zones, heightening safety in key operational areas.



## Advanced\*

A comprehensive real-time location system that builds an Ultra-Wideband (UWB) mesh network, unlocking advanced forklift safety and efficiency capabilities and analytics that inform future operations



**Full RTLS Deployment:** Establishes a comprehensive mesh network, enabling not just alerts and speed control but also the implementation of complex business rules.



**Networked Solution:** Employs an UWB network to track the precise positions of forklifts and other assets, enabling detailed monitoring and control within the environment.



**Comprehensive Tracking:** Enables real-time tracking of movement and activity, facilitating a deeper understanding of operational dynamics.



**Crosswalk Identification:** Facilitates the electronic marking of pedestrian crosswalks or other designated pedestrian areas. The system's response to these areas can be customized to align with specific safety requirements.



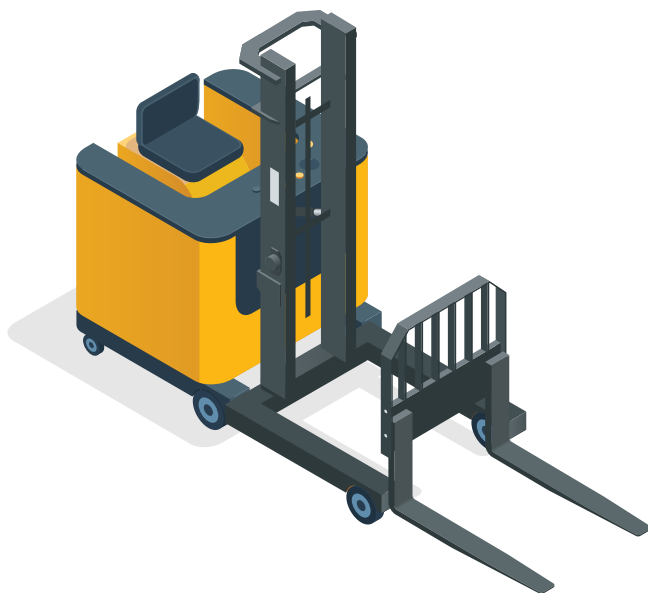
**Autonomous Speed Control:** Provides for autonomous reduction in speed when a forklift approaches another tagged entity, enhancing safety in dynamic environments.



**Exclusion Zones and Geofences:** Allows for the electronic marking of specific zones as forklift or pedestrian exclusion areas. The system's response to these geofences is adaptable to various operational needs.



**Data Analytics and Reporting:** Provides valuable insights through reports and analytics, aiding in decision-making and identifying traffic patterns, bottlenecks, and safety concerns.



\* Some features of the Pro and Advanced packages require additional integration. Control signal output provided to OEM or 3rd party system.



# Litum Forklift Efficiency Solutions

The Litum Forklift Efficiency Solution essentially entails the real-time tracking of forklift locations to optimize forklift movements, streamline material handling, and enhance overall operational workflows. This solution features a comprehensive UWB mesh network designed to optimize forklift operations across diverse industrial environments. Empowered by the mesh network, businesses benefit from reliable monitoring of forklift movements, ultimately enhancing productivity through operational visibility and reporting.

The solution enables:



**Full RTLS Deployment:** Establishes a comprehensive mesh network, enabling the implementation of complex business rules.



**Asset Optimization:** Improves forklift fleet management, minimizing excess equipment and maintenance costs.



**Precise Location Data:** Delivers real-time location tracking with sub-meter accuracy, thanks to full RTLS deployment and additional 3D mapping capabilities.



**Workforce Management:** Monitors operator performance, enhancing accountability and planning.



**Real-Time Tracking:** Enables real-time tracking of forklift movements and activity, facilitating a deeper understanding of operational dynamics.



**Data Analytics and Reporting:** Provides operational insights through spaghetti diagrams, heat maps, forklift utilization reports, and aisle utilization and congestion reports for operational improvements and informed decision-making.



**Operational Efficiency:** Streamlines material handling for faster goods movement and productivity, reducing idle time.



**In-House Technology:** All components, including hardware, firmware, and software, are exclusively designed and produced by Litum, ensuring superior quality control and customization, and streamlined service.

Scan to Watch How Litum's Forklift Solutions Work





## Trusted By



# Discover Litum's Unique Edge

## Continued Innovation Spanning 20 Years

Choosing Litum for your forklifts means embracing a legacy of expertise and innovation, recognized globally in Fast Company's 2024 List of the World's Most Innovative Companies. With two decades of experience across 50+ countries, our solutions are shaped by global best practices and real-world challenges. Over the past decade only, Litum has been deployed on more than 15,000 forklifts, maximizing safety for 200,000 people and enabling significant cost savings for businesses.

## Precise Location Accuracy for Maximum ROI

Litum's forklift solutions stand out with unparalleled precision in location tracking. Powered by our Ultra-Wideband (UWB) technology, we deliver sub-meter accuracy crucial for the challenging and dynamic environments of industrial settings. This precision ensures the highest level of safety and efficiency, dramatically reducing the risk of accidents and optimizing operational workflows.

## Seamless Integration

Tailored for the intricate demands of industrial environments, Litum's forklift solutions are designed to connect with your existing workflows, facilitating operational efficiency and adaptability in dynamic industrial settings.

## Turnkey Provider

At Litum, we go beyond providing solutions; we are your turnkey partner for end-to-end location-based services. Our comprehensive offerings cover a spectrum of needs, providing you with a convenient one-stop solution for all your requirements.

## In-House Expertise for Quality Assurance

We take pride in our in-house Research and Development (R&D) and manufacturing capabilities. This unique approach ensures a high level of control over innovation and quality, guaranteeing that our solutions consistently meet and exceed industry standards.

## Recognized Excellence

Litum isn't just another RTLS provider; we're recognized industry leaders by institutions such as Gartner, Deloitte, and Fast Company. In 2022, our forklift collision warning solution earned the IoT Evolution Product of the Year Award. When you choose Litum, you're opting for proven excellence and leadership in location-based solutions.



**Litum**

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