

CASE  
STUDY



# Location Insights for Safety and Efficiency for 5,000 Workers on Nuclear Plant Construction Site





## Key Challenge

A leading construction company was tasked with ensuring operational efficiency and safety at one of the world's largest nuclear construction projects, set to become the first of its kind in the region. Given its large and dynamic workforce, the company needed a reliable system to track employee locations in real time. The primary goals were to enhance productivity, improve overall site safety, and ensure regulatory compliance.

## Solution

Litum delivered a comprehensive employee tracking solution featuring 5000 Bluetooth Low Energy (BLE) tags worn by employees as bracelets. This system enabled precise real-time location tracking across the site. BLE anchors and gateways, powered by solar panels, ensured sustainable and uninterrupted operation. Additionally, the solution included detailed reporting and analytics, providing the construction company with enhanced visibility into workforce movements and site safety.



## Features



**Workforce and Resource Monitoring:** Real-time tracking of employee locations, along with overall resource allocation.



**Automated Time and Attendance:** Streamlining the logging of employee hours directly into the system.



**Zone Monitoring:** Tracking entries and exits in specific areas to ensure adherence to safety protocols.



**Geofencing:** Setting virtual boundaries and alerts for unauthorized entries or exits, enhancing security.



**Safety and Efficiency Dashboard:** Centralized platform with reports for zone transactions, tag battery levels, spaghetti diagrams, and heat maps for monitoring and decision-making.



## Results

The implementation of Litum's employee tracking solution at the nuclear construction site resulted in significant improvements in both operational efficiency and safety. By leveraging 5000 BLE tags for real-time location tracking, the company achieved a **20% increase in workforce productivity**. Automated time and attendance logging streamlined administrative processes, reducing manual entry errors and **saving an estimated 15 hours per week in administrative work**. The real-time monitoring capabilities and safety features, such as emergency buttons and fall detection systems, led to a **25% reduction in emergency response times**, enhancing overall site safety and ensuring compliance with stringent regulatory standards.

In terms of return on investment (ROI), the company saw substantial cost savings and operational benefits. The solar-powered BLE anchors and gateways ensured **uninterrupted operation with minimal maintenance costs**. Enhanced visibility into workforce movements and resource allocation improved project management, leading to a **10% reduction in project delays**. The geofencing and zone monitoring features prevented

unauthorized access and ensured adherence to safety protocols, further reducing the risk of costly safety violations.

Overall, the comprehensive tracking solution provided by Litum not only met the company's primary goals but also delivered a robust ROI by **optimizing resource utilization, enhancing safety, and ensuring regulatory compliance**.

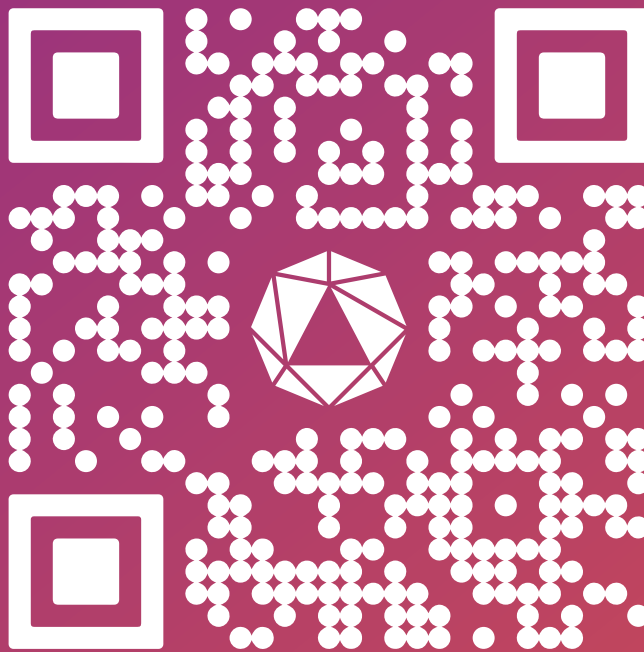


## Deployment\*

**550,000**  
square meter area covered

**5,000**  
employee locations tracked

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



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