CLIENT
CASE
STUDY

Litum

RTLS implementation for a Fortune 10 Oil & Gas company in the US

Overcoming Challenges During Turnaround

Overview

A turnaround (TAR) is a critical and costly process of regeneration in a plant or refinery. It involves taking an entire section of the operation offline for a scheduled period of time to inspect and revamp the site. If not managed properly, the loss of production during this time, along with direct costs for labor, tools, heavy equipment, and materials used to execute the project, can significantly impact the company's bottom line.

Results

Efficiency

Accurate tracking of the time spent by the 1200 contractors on site within their respective work zones, minimizing lost time and ensuring the project stays on track.

Safety

Enhanced safety through the use of an automated mustering system, the ability to notify workers in case of emergencies, and collision warnings for moving equipment to minimize on-site accidents. Site security also improved via no-access zones.

Technology

Supported by Litum proprietary software, battery-operated UWB RTLS tags were deployed for contractors, and anchors and gateways were installed on site. UWB RTLS tags were deployed in the form of badges to track movement and time management. A collision warning system was installed for all equipment.

Oil & Gas TARs

Effective planning and execution of TARs are essential for maintaining product levels and reducing revenue losses in the oil and gas industry. Major players in the industry understand this and recognize that any schedule delays can have a profound impact not only on their own company but also on the wider economy. Speed is a critical factor in completing TARs, and contractors are expected to add value by working efficiently.

The successful execution of a TAR requires a large team, often consisting of hundreds or even thousands of site workers and contractors, depending on the complexity of the project. Coordinating the work and meeting the project schedule can be a significant challenge due to the size and complexity of the team involved

The Business Problem

Efficiency is a critical concern during TARs, and in the past, contractors have been suspected of spending too much time in areas such as lunch tents, smoking areas, and entrances/exits, which can impact the tight project timeline and budget. Safety is also a top priority, and to ensure safety around all moving equipment, intense labor was required to deploy men around the equipment while in motion to create a manual safety zone. In addition, the site has experienced frequent data outages, requiring a solution that can account for this and ensure zero data loss.

The Solution

Contractors were given a battery-powered UWB RTLS badge and then assigned to a work area with a specific craft. Litum Tag Badges tracked contractor movements on site, which allowed management to effectively monitor performances.

Emergency buttons on the UWB RTLS badges were activated for SMS messaging for emergency cases. In addition, an automated mustering system was put in place to eliminate manual procedures in times of crisis, such as a fire.

Litum Collision Warning System was installed on all moving equipment on site for safety automation, allowing for a reduction in labor requirements.

Batteries were utilized as the power supply for the anchors. Due to the C1D2 requirement, they were lifted 20 inches off the ground.

GSM modems were installed to connect the site to a cloud server. SD cards were installed in anchors to prevent any data loss during outages.

Challenges

Efficient and safe monitoring of employees and moving equipment is crucial during TARs, especially when working under tight time and budget constraints.

Consistent data outages presented real challenges.

Lack of power on site for anchors required creative problem-solving in a complex environment.

$300K
loss detected during the first week

No accidents
after solution implementation

Results

The Litum RTLS system was employed to track the location and time spent in defined zones, with outliers being detected and eliminated by the system. Site management was then issued a final report outlining any lost time. During the first week of implementation, the Litum RTLS system identified a $300K loss due to mismanaged time. This allowed management to increase awareness and improve contractor training. In addition, the Litum Collision Warning system was successfully installed, with no accidents recorded since implementation, significantly reducing the need for manual labor. The automated mustering solution allowed for regulatory compliance and simplicity, and an emergency button was successfully implemented and used by contractors in duress.
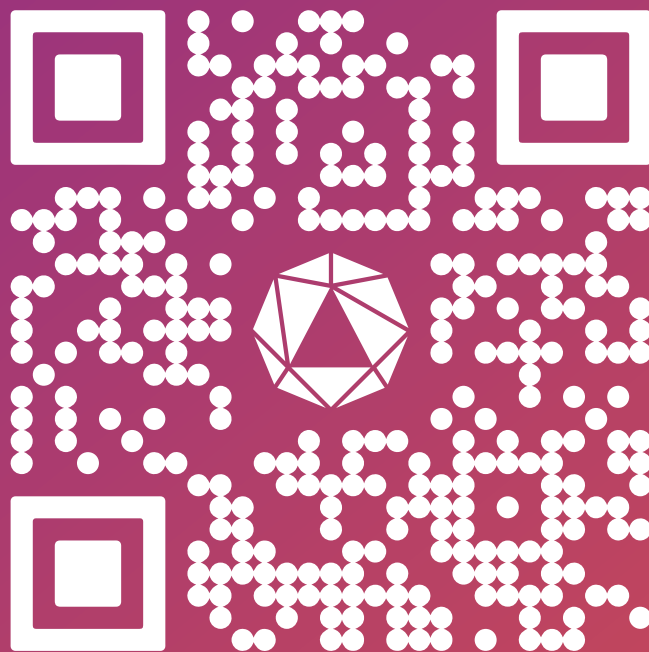
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