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LETTIRE CONSTRUCTION CASE STUDY

Lettire CONSTRUCTION

SAFETY SENSOR IS A GAME-CHANGER FOR LETTIRE CONSTRUCTION;

PROVIDES CRITICAL JOBSITE VISIBILITY, CONNECTION

PROJECT SNAPSHOT: Residential Housing Project • Harlem, New York

205,000 square feet | **$73 million** project | **140** workers | **12** stories

Always on the lookout for innovative technology,

New York-based **Lettire Construction Corp.** began using Triax's Spot-r wearable technology in January 2017 and hasn't looked back. **It's been a game changer for jobsite safety and management, the primary concern on every Lettire jobsite.** In addition to automatically collecting critical safety data that improves incident response time and facilitates quick evacuation, Spot-r provides total jobsite visibility that enhances site control and unlocks efficiency.

THE NEED

With more than 30 years of experience in the field, Lettire is well-known for its residential, commercial and institutional projects that serve New York City residents and businesses. "We take a belt and suspenders approach when it comes to safety, implementing multiple measures," said Nick Lettire, Lettire's President and CEO. "And we're always on the lookout for the latest, most innovative solutions."

> **Spot-r wearable technology** was attractive to us for many reasons — but first and foremost for the critical visibility that it provides into safety issues."

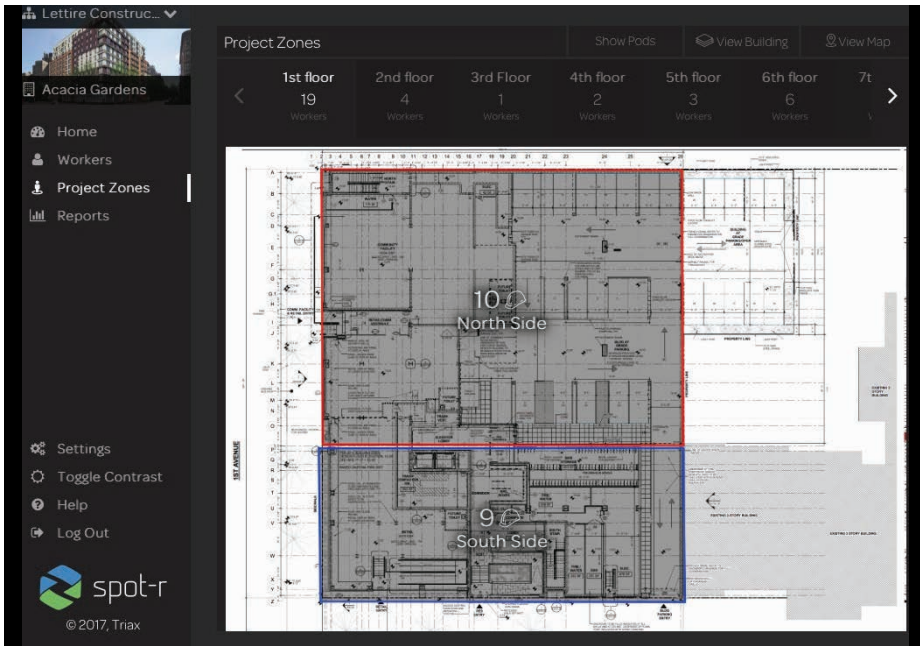
Given its focus on continuous improvement, it was fitting that Lettire became the first contractor in New York City to use Spot-r, a cutting-edge safety and operational risk management system from Triax Technologies. Lettire wanted to know where workers were located on site so supervisors could quickly react to any incidents that occur. They decided to first deploy this Industrial Internet of Things (IIoT) technology on its latest 205,000-square-foot, 12-story project in Manhattan.

Total real-time visibility had remained elusive at Lettire because of the many challenges that a construction site presents. Jobsites are complex environments with hundreds of workers, materials, machinery and tools spread across several floors, making it hard to know where workers and resources are at any time – especially in a noisy city setting. In addition, it is difficult to find practical, scalable technology solutions that can handle changing site structures and layouts. The Spot-r system overcomes these challenges by running on a secure, wireless network that connects only a specific jobsite with minimal hardware and wearable, rechargeable clips worn on workers' belts.

HOW IT WORKS

The non-GPS Spot-r system identifies the zone-based location of workers in real-time, sends automatic safety incident alerts, and collects time and attendance data – all of which can be viewed through a cloud-based dashboard.

Lettire uses 140 Spot-r Clips on its Manhattan project, each of which automatically picks up the network as workers arrive on-site. The system stores worker accreditation information, including equipment operator certifications and when certifications, such as OSHA-10 or OSHA-30, are due for renewal. The data in the dashboard not only shows where every worker is on site, but how many hours each worker, subcontractor or trade spends on site; where they are spending their time; and the number – and type – of safety incidents that occur by worker, trade or zone.



This Spot-r Project Zone view shows the number of workers in each zone on the 1st Floor. A user can drill down to see which workers are located in each zone.

SAFETY BENEFITS

"No matter how careful we are and how many safety prevention practices we have in place," said Lettire, "we have to be prepared in case there is an incident. **The ability to immediately know when there is a fall; where someone is located; and getting help to the worker immediately can't be overstated. In these situations, every second counts."**

The Spot-r Clip also has a **push-button** that workers can use to report other hazards or issues in real-time, without leaving their work area. In the event of a gas leak or other major safety issue, Lettire can use the **Spot-r EvacTag** audible and visual alarm for faster site evacuations – a stark improvement from the three horn blasts the contractor previously used to signal an evacuation, which could not always be heard in all areas of the site.

With real-time data, Lettire has been able to respond to and remedy risky behaviors that could result in injuries or accidents. For example, after receiving automatic three-foot fall alerts from the same location for consecutive days, the site safety officer learned that the worker was jumping into an excavation pit instead of using a ladder. Thanks to this information, he was able to correct the risky behavior, reinforce proper safety practices, and avoid the lost time, costs and administrative burden of a potential injury.

> "Spot-r gave us all a new sense of safety awareness," said Lettire. "It not only alerted us to potential dangers that we could quickly address, but it also made the workers more careful, since they realize that **the device helps identify safety shortcuts and risky behavior."**

By automatically collecting this safety data, Lettire is able to better assess and manage construction site risk, and also gain critical information to combat potentially fraudulent claims. From the beginning, the firm's insurance partners have been interested in the safety incident data Spot-r collects, which could help mitigate loss frequency and severity, reduce MOD ratings, and result in lower insurance premiums.

Before Spot-r:

9

Time to Evacuate:
9 minutes *per 6 floors*

Using Spot-r:

2.5

Time to Evacuate:
2.5 minutes *per 6 floors*

Comparison of two evacuation drills with similar number of workers per site square footage & floors (9 workers per floor).

Lettire also eliminated the need to send 3 supervisors back into the building to check compliance.

SPOT-R EVACTAG HELPS LETTIRE CUT EVACUATION DRILL TIME DOWN BY 72%

Rendering of Project Site, East Harlem

PRODUCTIVITY GAINS

While Lettire adopted the sensor technology with safety in mind, foremen and project managers quickly learned that Spot-r can be used to easily and accurately determine how much time a particular subcontractor or trade is spending on the project, helping to better manage schedules and activities. Spot-r integrates with Lettire's project management software, Procore, and automatically pushes worker time-keeping, cost-coding and safety daily reports into the cloud-based dashboard.

"By offering Spot-r data to our subcontractors, we are able to improve on-site communication and collaboration," said Lettire. "It gives them greater visibility into their crews, how many hours they are actually on site and ways they can improve their productivity. The workers also like the system because it provides an important new layer of safety that was never there before. **Implementing Spot-r is a win-win situation, and it's pretty remarkable to see management, subcontractors and workers all get behind a new technology."**

"Spot-r's sensor technology is a game changer," said Lettire. **Now we have a completely connected jobsite,** providing communication between workers, subcontractors, safety personnel and management, and everyone is more involved in safety. Saving lives and improving our safety culture — there's nothing more important than that. The fact that we can save money and find ways to run our company more productively is icing on the cake."

In addition to the 12-story New York jobsite, Lettire plans to roll out the Spot-r solution across its other projects as part of its continuous, data-driven approach to safety and operational improvement.

TRIAX AND PROCORE BRING NEW LEVEL OF INTEGRATION TO PROJECT WORKFORCE AND SAFETY MANAGEMENT

In 2017, Triax launched an integration with leading cloud-based project management solution Procore. The integration eliminates manual double-entry of data and automatically sends accurate Spot-r worksite information, including man hours and safety incidents, to Procore for accidents, timecards, manpower and daily construction reports. Leveraging each system's API, this integration automates project and user set-up between the two platforms, saving time and effort for superintendents and project managers. This integration allows general contractors to see which workers are on site and their locations; to automatically sync worker hours to the Procore platform, which provides seamless cost-coding and time-keeping; and to receive and document safety incidents directly from the jobsite.

PROCORE®

Snapshot of the Spot-r Safety Report

8

CLOSED

	2017-08-13	2017-08-20	2017-08-27	Total
Doe Electric	1	1	1	3
Good Building Co.	0	1	0	1
Totals	1	2	1	4

Events By Floor *Project To Date*

	2017-03-01	2017-04-01	2017-08-01	2017-09-01	Total
1st Floor	0	0	3	2	5
Ground Floor	3	2	1	0	6
Totals	3	2	4	2	11

Events By Trade *Project To Date*

	2017-03-01	2017-04-01	2017-05-01	2017-06-01	2017-08-01	2017-09-01	Total
Electrician	0	2	1	0	3	0	6
General Contractor	1	3	0	0	1	0	5
Plumber	2	28	2	1	0	2	35

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Triax Technologies *is committed to developing and delivering the first truly connected jobsite, partnering with industry leaders and solution providers to enable real-time, data-driven workforce, safety and project management. The Spot-r system was developed to tackle the construction industry's unique safety and productivity challenges, stemming from a demonstrated lack of real-time visibility and communication tools.*

By automating manual processes, monitoring workers and equipment, and leveraging the cloud for real-time insights, Spot-r enables site supervisors to optimize worksite safety and performance, coordinate resources, and save time aggregating and analyzing project data.

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