

# Improve Worker Safety and Optimize Operations with the IoT-Enabled Construction Site



## From the Internet of Things (IoT) to the Intelligence of Things

Zyter Smart Construction gives construction companies the ability to create the IoT-enabled construction site and take full advantage of all connected devices so they can:

- **Improve Worker Safety** – Reduce the number of safety breaches and construction site accidents.
- **Optimize Site Maintenance and Inspections** – Gain 3D visibility of materials behind walls with light detection and ranging (LiDAR) remote sensing technology.
- **Achieve Safety Best Practices** – Create a safer construction site environment to satisfy insurance underwriting requirements.
- **Improve Project Progression** – Minimize downtime and reduce insurance costs due to fewer safety incidents and optimized site maintenance.
- **Create a Safer Work Environment** – Improve worker retention and morale.

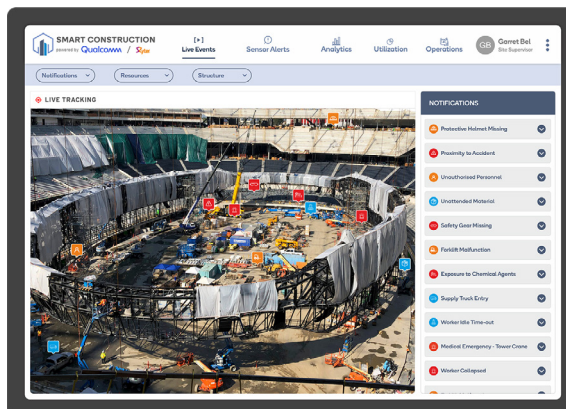
Despite mandatory safety training and use of personal protection equipment (PPE), construction workers are still at risk of injury from accidents, as well as from potentially harmful incidents caused by breaches of safety best practices. In addition, unexpected construction site maintenance and repair incidents can cause costly project delays.

These are just some of the reasons why construction managers need eyes on everyone and everything across all areas of the construction site to ensure safety and project progression. And Zyter can make that happen.

## Introducing Zyter Smart Construction™

Zyter Smart Construction integrates Internet of Things (IoT) sensor technology, artificial intelligence (AI) cameras, and LiDAR laser technology with the Zyter SmartSpaces™ IoT platform to give construction managers a complete 360-degree view of the construction site and real-time alerts of workers' non-compliance with safety regulations. Plus, it provides the ability to "see through walls" with LiDAR 3D modeling to quickly locate and fix internal repairs across the construction site to ensure on-schedule project progression.

Trusted by Qualcomm® to be the foundation of its Smart Cities Accelerator Program, the Zyper SmartSpaces Platform breaks down silos of information by integrating and consolidating data from IoT devices and applications you already have into one seamless interface. The result: Zyper Smart Construction provides complete visibility your entire ecosystem of connected devices and sensors throughout the construction site — including IoT wearables on workers' PPE, and LiDAR technology for 3D modeling and visibility of components behind walls. More than simply tracking safety incidents and breaches, Zyper Smart Construction applies advanced analytics to all gathered IoT data to help you make informed decisions for improving construction site safety and management, as well as identifying workers for additional safety training, and more.



Zyter Smart Construction provides a 360-degree smart view of the construction site and your workers' location in a single, intuitive dashboard.

## Smart Technology. Safer Work Site. Higher Productivity.

Zyter Smart Construction enables construction managers to improve worker safety and operational efficiencies with today's revolutionary technologies, including:

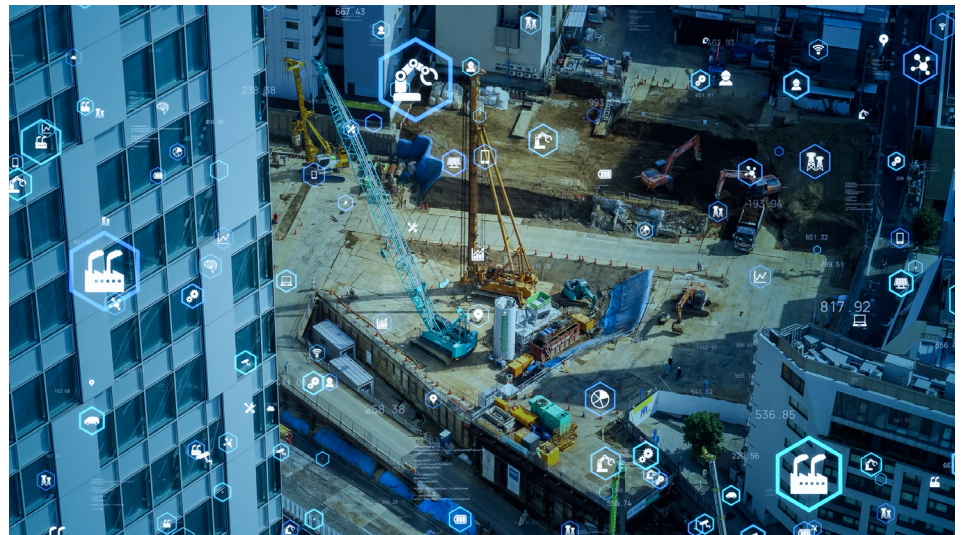
- **AI Computer Vision and RTLS Sensors for Worker Safety** – Catch safety breaches before they escalate to accidents and injuries. Artificial intelligence (AI) monitoring systems equipped with Qualcomm's top-of-the-line AI chips detect the IoT sensors on workers' PPE and alert whenever workers remove helmets, harnesses, and other gear, and also if workers enter unauthorized areas on the construction site. Workers are outfitted with real-time location system (RTLS) wearables, so you can always quickly locate a worker anywhere on the site. In addition, the RTLS wearable will emit a vibrating haptic alert to warn workers if they are entering or attempting to leave an area on the site without authorization. With greater awareness of potential safety issues, you can take more proactive measures to guard against construction site accidents.
- **Virtual Vision and Automatic Inspection with LiDAR 3D Digital Twin** – Forget searching through blueprints. Now you can "see" through walls and quickly find broken pipes or faulty wiring and get your project back on schedule. Zyter Smart Construction revolutionizes construction site management with the integration of light detection and ranging (LiDAR) based 3D Digital Twin – a remote sensing method using pulsed laser waves that scan IoT sensors to create a 3D replica of a building and its structural components, even those out of sight behind walls. Simply access the 3D LiDAR model on the Zyter dashboard to virtually locate all electrical wiring, pipes, and more behind constructed walls.

Tiny self-energized IoT sensors are attached to the components behind walls. When scanned with the LiDAR laser waves, these sensors transmit information such as part name, serial or model number, and vendor brand to the Zyter Smart Construction dashboard. You can also optimize site maintenance by using LiDAR 3D Digital Twin to perform automatic inspections throughout every phase of the construction. Identify any components out of compliance with code before they can cause project delays. In addition, LiDAR scans can be saved, quickly retrieved, and referenced for information to help resolve any structural issues that might occur in the future.

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- **Worker Safety Analytics** – Use the data from your IoT construction site to make more informed and intelligent decisions about safety best practices. Zyter Smart Construction captures metrics from the IoT device alerts from workers' PPE and generates worker safety analytics. Create and track workforce safety scores for reporting to insurance underwriters. Plus, you can identify workers who need improvement in safety practices and provide the necessary training to raise their scores.

Besides improving worker safety and on-time project delivery, Zyter Smart Construction can also provide cost savings. A consistent safety record and a reputation for delivering projects on time and budget are major factors that insurance companies consider when underwriting construction sites of all sizes and complexities.

## **Optimize Worker Safety and Site Productivity with Zyter Smart Construction**

Zyter's IoT-enabled construction site delivers these benefits:

- Gain 360-degree visibility of your construction site and workers' location to respond faster to worker safety incidents and maintenance issues.
- Identify and respond to potential safety issues before they escalate using contextual alerts and context-aware incident reporting via IoT and RTLS wearables on workers' PPE.
- Keep projects on schedule and optimize site productivity using 3D LiDAR scanning to quickly locate and fix malfunctioning components behind walls.
- Gain actionable insights for better decision making with predictive analytics based on data from your IoT ecosystem.





### About Zyter

Zyter delivers a wide range of Internet of Things (IoT) solutions spanning buildings, stadiums, campuses, and even cities. As the foundation for the Qualcomm Smart Cities Accelerator Program, the Zyter SmartSpaces platform supports solutions for multiple markets including healthcare, education, logistics, retail, travel, and construction. By integrating and consolidating data from IoT devices and applications, organizations can gain new insights to improve efficiencies while providing end-users with an engaging digital experience. In 2021, Zyter won more than 37 global awards for its IoT products including Best Technology and Company Innovation of the Year. Founded in 2017, the privately-held company is based in Rockville, Md. For more information, please visit [www.zyter.com/iot](http://www.zyter.com/iot).

### For More Information

Learn how Smart Construction can transform your construction site into a smarter and safer environment by requesting a demo at [www.zyter.com/smartconstruction](http://www.zyter.com/smartconstruction) or contact us at +1 (301) 355 7760, [sales@zyter.com](mailto:sales@zyter.com) or visit [www.zyter.com](http://www.zyter.com).

