CTI Partners with FieldSync to Digitize and Improve Tower Inspection Processes

Leveraging OpenTower® iQ to Generate Digital Twins Improved Tower Assessment Efficiency While Offering New Revenue Opportunities

MODERNIZING TOWER INSPECTION AND ANALYSIS WORKFLOWS

Offering workflow automation and data analytics for the telecommunications sector, FieldSync specializes in combining on-site tower climb data with drone-captured data to help tower companies perform condition maintenance assessments in accordance with ANSI/TIA-222 (TIA) standards. They aggregate climber and drone data in a single, web-based platform, making it easy to manage every phase of the tower asset lifecycle. "Our suite of offerings helps connect stakeholders from across the supply chain during all phases of an asset's lifecycle," said Sam McGuire, founder of FieldSync.

The TIA standards outline the requirements for tower assessments, including the inspection scope and intervals at which the towers need to be assessed. To not only comply with these standards, but also to lead the way in modernizing tower inspections, leading United States tower company CTI partnered with FieldSync. Together, they are pioneering a new approach to TIA inspections, enhancing operational efficiencies, assessment accuracy, and the overall understanding of current tower conditions across more than 1,700 towers nationwide. This innovative partnership reduces inspection costs while significantly improving tower inspection accuracy.

ADDRESSING DATA ACCESSIBILITY AND TRADITIONAL INSPECTION CHALLENGES

Like other telecom tower owners, network operators, and engineering firms, CTI's main challenge was the lack of availability and accessibility of tower data—especially equipment inventory. In addition, the information that is available and captured in traditional formats is often fragmented, resulting in inconsistent analysis, making critical business decisions difficult. Compounding these issues are the complexities of 5G deployment and increasing populations relying on wireless communications.

To maintain, install, or modify a tower to support 5G infrastructure, CTI previously relied on traditional field assessments. These inspections involved climbers manually taking digital photos, identifying condition issues, recording observations, and then transferring this information to technicians' laptops or the company's office, where it was manually curated into reports. "This process often took multiple hours to complete", said McGuire. This approach can be time-consuming and costly, particularly for a company like CTI, with thousands of assets spread across the United States.

Now, with the modernized approach implemented by FieldSync, the need for repeat site visits is significantly reduced. Not only does this enhance the efficiency of CTI's maintenance program, but it also generates valuable data that benefits other departments, including finance, lease administration, and sales. This comprehensive data collection enables CTI to better identify and capitalize on tower optimization and new opportunities, maximizing the value of their assets.

Recognizing that they needed an integrated digital method to streamline data collection and analysis, CTI hired FieldSync, who sought not only to modernize inspection and analysis processes for CTI's towers, but also ensure data accuracy and maximize the value of that data, making it available to multiple departments for various cross-functional business uses. "Traditionally, operations teams at tower companies are the primary beneficiary of TIA inspections. We're now seeing significant benefits to stakeholders in finance, lease administration, and sales related to identifying and pursuing opportunities across their portfolio." said McGuire.

PROJECT SUMMARY

ORGANIZATION
FieldSync Technologies

SOLUTION
Wireless Infrastructure

LOCATION
United States

PROJECT OBJECTIVES
- To digitize data collection and site analytics for lifecycle tower asset management.
- To establish digital twins to maximize the value of tower site assessments.

PROJECT PLAYBOOK
OpenTower

FAST FACTS
- FieldSync combines climb and drone-captured data to help telecommunications' clients improve tower site inspections.
- CTI partnered with FieldSync to modernize their traditional tower inspection and data collection and analytics processes.
- FieldSync used OpenTower to generate digital twins, automating workflows and maximizing the value of CTI's tower site visits.

ROI
- Using OpenTower, FieldSync scaled tower inspection processes, reducing CTI's tower visits by 50%.

> "Working directly with Bentley was the first time we were able to enhance our workflows with truly automated analytics."
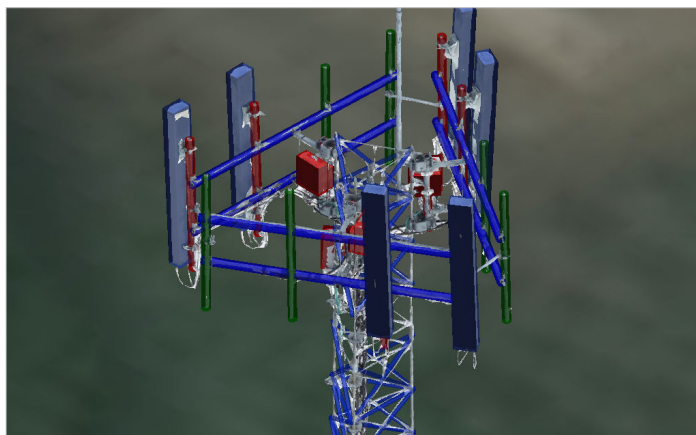>
> *– Sam McGuire, Founder, FieldSync*

OPENTOWER IQ PROVIDES GROUNDBREAKING APPROACH TO DATA CAPTURE AND ANALYTICS

To enhance CTI's on-site inspections, FieldSync equipped tower technicians with their mobile application, introducing seamless on-site data capture and transfer to their web platform, allowing for automatic report generation. "Rather than creating a large number of individual reports of siloed data, FieldSync's approach aggregates portfolio-wide insights, enabling ownership groups to identify trending issues and more accurately assess the health and status of their assets," said McGuire. Key to winning CTI's business was FieldSync's innovative use of drone inspections and OpenTower iQ. This collaboration combined highly detailed capture data with reality modeling, AI detection, and customized reporting—transforming CTI's inspection process.

FieldSync did not just digitize CTI's tower inspections; they also introduced drone capture as a standard component of every TIA inspection, merging climb data with drone flights to create a comprehensive digital twin with OpenTower iQ. By leveraging OpenTower iQ, FieldSync is able to offer significantly enhanced inventory and vacancy analytics, unlocking new data-driven opportunities for CTI and other clients as a byproduct of routine workflow. "We processed drone data with OpenTower IQ for vacancy and occupancy analytics. The API integration helps bolster the analytics we are able to offer to CTI", said McGuire.

This OpenTower iQ-based solution enabled FieldSync to adopt a ground-breaking digital twin approach to data capture and analysis, automating workflows and opening a wide range of analytical opportunities that were previously unavailable with CTI's traditional climb-only inspections.
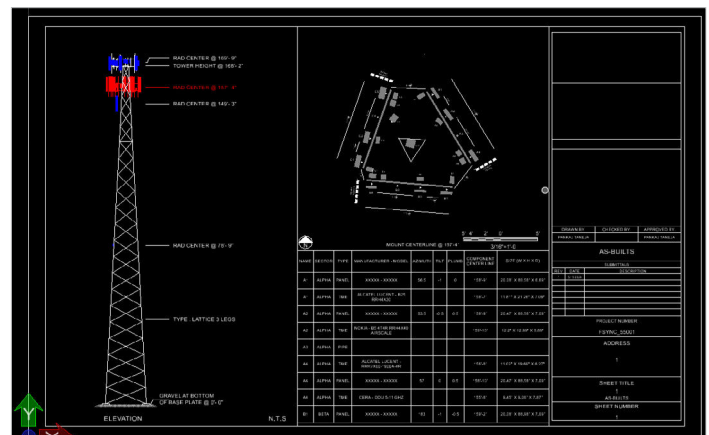
DIGITAL TWINS MAXIMIZE VALUE OF TOWER ASSESSMENTS

By incorporating digital twins through OpenTower iQ, FieldSync has improved the accuracy of CTI's tower assessments. The team captured more accurate data than ever before and increased operational efficiency by 50%, which enabled FieldSync to deliver faster vacancy analytics and revenue assurance reporting to complement their condition and maintenance assessments.

"Leveraging OpenTower analytics allowed us to save time analyzing detailed aspects of the digital twin, including asset inventory," said McGuire. "The data format is compatible with our database, enabling enhanced report automation for CTI." The analytics of this CTI project represent a significant reduction in site visits compared to traditional methods to capture a truly comprehensive dataset.

With current, accurate digital twins of their towers, CTI not only is meeting their TIA inspection requirements, but they also are advancing full lifecycle tower management and providing more teams the ability to access and leverage the data, creating new revenue opportunities for their business. Through vacancy and occupancy analytics, site leasing and administration teams have better insight to ensure asset and site optimization. Marketing can incorporate the site data into more targeted campaigns, while finance teams can begin forecasting future revenues with better understanding of portfolio capacity. "This new data format has helped us unlock tremendous cross-functional value from a single site visit. This marks a new chapter for site data in our industry. Our partnership with Bentley empowers us to deliver significant value to our customers across the entire supply chain," said McGuire.

FieldSync leveraged OpenTower iQ's automated mount and equipment detection to improve the accuracy of CTI's tower inventory.

FieldSync reduced costs and improved tower assessment delivery time using OpenTower iQ's automated drawing generation, including elevation, and plan drawings.

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