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Customer Story

KRS Electric Increases Accuracy and Efficiency with Trimble X7 3D Laser Scanner

Trimble X7



Trimble

Authorized Dealer

Overview

KRS Electric is a family-owned electrical contractor based in Utah that serves commercial, industrial, and utility industries. The company offers a wide range of services with personalized options and high-quality materials, that are focused on client success. In keeping with this focus, Roy Steed, foreman and co-founder of KRS, is always looking for new, innovative solutions to differentiate themselves and increase efficiency and productivity.

Looking for a Better Way to Do Layout

As an electrical contractor, KRS Electric does a lot of layout work underground that involves moving dirt around, gathering measurements and coordinating with plumbing and other subcontractors when laying pipes to ensure they don't get in each other's way. When installing pipes underground, most of the time the plastic fittings are above the concrete so that other trades can see where they are located. In the past, KRS had used drones, telegraphmetry, robotic total stations, and steel tape measures to help with layout but they were looking for a way to perform the process with more accuracy and less hassle.



Capturing Multiple Scans and Images

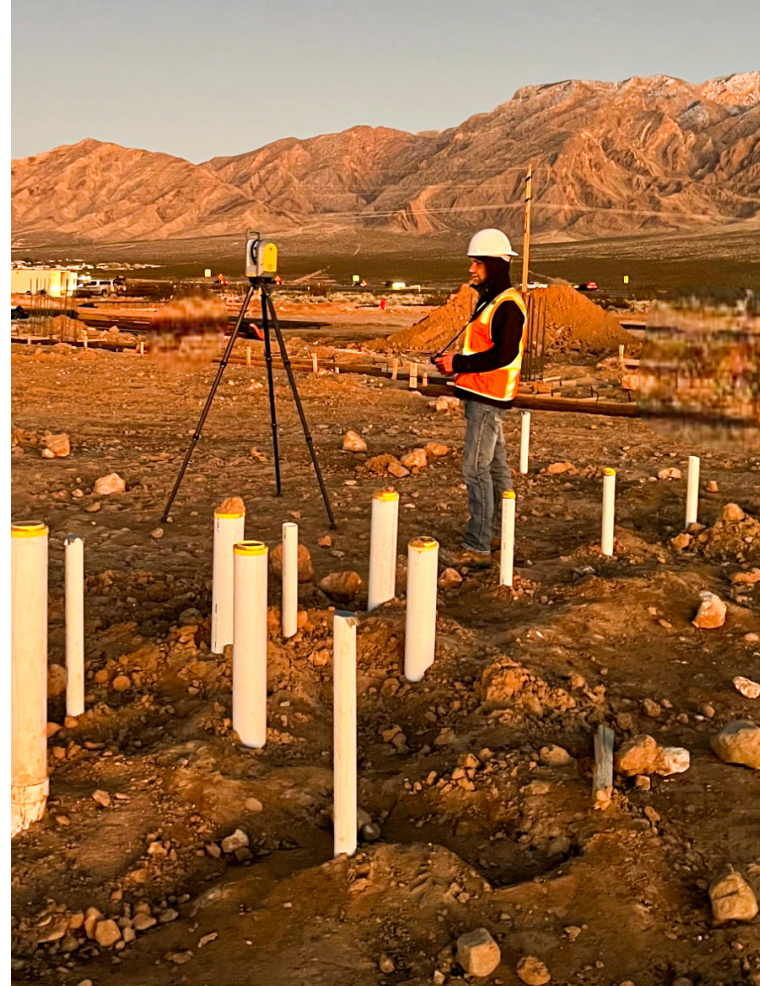
Steed was already familiar with the Trimble Robotic Total Station and Trimble RPT600 and had used them for layout projects. At Trimble's User Conference, he learned about the Trimble X7 3D Laser Scanning System and its integration with Trimble FieldLink software to provide streamlined workflows specific to the building construction industry and decided to purchase and adopt the new technology.

The Trimble X7 3D Laser Scanning System is a compact 3D laser system that makes it possible for professionals with little or no scanning expertise to capture precise 3D scanning data to produce high-quality deliverables. It comes with a Microsoft® Windows®-based Trimble T10 ruggedized tablet for control and project visibility, along with a portable backpack and lightweight tripod.

Using the Trimble X7, KRS can use the integrated laser pointer to orient the scanner then capture multiple scans with color images of the space using the tablet controller with Trimble FieldLink. The scan data will register on the tablet in real-time as each scan is collected. When the space has been captured, both the 3D model and field layout points can be imported into the Trimble FieldLink file with the registered scan data and visualized on site.

Night and Day Difference

Steed says that there is a night and day difference using the Trimble X7 compared to how he used to do layout. Before, the measurements could be off by as much as three feet, but now he is able to get more accurate measurements and be confident in the data he is collecting.



I was able to get accurate red lines and find pipes that don't get used and are hard to track," said Steed. "I can cut concrete to intercept a pipe to access something if needed or retrofit a pipe with very little impact."

On one recent project, the concrete contractor wanted the concrete floor to look perfect. Often electrical and plumbing contractors will put whiskers on pipes that stick up after the concrete is dried so that the pipes can be easily located. However, this doesn't look good and can be hazardous. With the Trimble X7, Steed was able to use the scanner connected to a tablet and total station to find all points on the pipes under the concrete without the whiskers. With the laser scanner in the field, collecting all the data points via Trimble FieldLink, he can cut off all pipes below the slab which is a lot cleaner.

Better Collaboration Between Trades and General Contractors

KRS is very involved throughout the life cycle of a project. They are usually there from start to finish and keep tabs on jobs throughout the process. Having the scan data allows Steed to provide details to other trades and general contractors without having to explain the measurements to the builder. Being able to collect data and reference points, he can scan an area to see what may have changed making it easier for them to avoid clashes further along in the project.

It cuts out the fog. What is on your scan is what you get. I don't know how we would get along now without it," added Steed. "Being able to use the scan data to keep track of how things are coming together helps set us apart. It makes us more of a necessity by having equipment where it shines the most.

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He also receives lots of compliments from other trades, especially when the concrete can be poured straight over the top and doesn't have to go around piping and nothing is poking up above the slab.

KRS is also using the Trimble X7 with power companies to help create the data for the models of their substations with increased accuracy. In the future, Steed plans to expand the company's use of the Trimble X7 beyond projects in the field. He'd like to use it for pre-fabrication so that he can scan a job and do more of the work in the shop instead of onsite where it can be more difficult and dangerous.



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