

## CUSTOMER SUCCESS STORY

# Laser Scanning Helps Ehresmann Engineering Expand Its Business and Offer More to Clients



## The Organization

[Ehresmann Engineering](#) is an engineering consulting and steel fabricating firm founded in 1983 to meet the highly specialized needs of the communication industry. The company, headquartered in southeastern South Dakota, offers structural analysis services, cell phone tower fabrication and erection, and cell phone tower quality inspections, as well as structural tower mapping, antenna and feedline mapping.



## The Challenge: Point Cloud and Data Accuracy

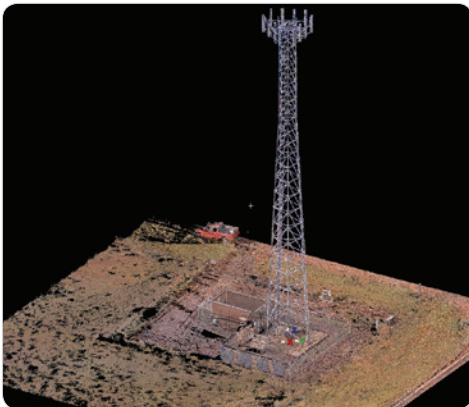
One way that Ehresmann Engineering conducted cell phone tower quality inspections was by using unmanned aerial vehicles (UAVs) and photogrammetry. They found this combination to be useful, but not as accurate, dense, or as detailed as they needed. As a result, Ehresmann Engineering still sent “climbers” up towers to visually inspect certain areas eliminating the cost and time savings of the UAV and increasing the safety risk.

## The Solution: High Definition Laser Scanning

To address this situation, the Ehresmann Engineering team investigated high definition laser scanning. They reached out to IMAGINiT Technologies, who had assisted the company before with CAD software and was known for its expertise in laser scanning.

After discussing the specific needs of Ehresmann’s team, IMAGINiT suggested a proof of concept that included a side-by-side comparison of photogrammetry and laser scanning. The team found that the information generated through laser scanning is significantly more accurate and detailed. In addition, it is possible to calculate the exact angles of cell phone antennas on a tower and many other detailed measurements and calculations from the laser scanning data.

Based on the initial proof of concept, Ehresmann Engineering incorporated laser scanning into the business as a key asset. The company invested in a Leica laser scanner, software, training, and phone support. After the first training session to get the group up to speed on the product and processes, IMAGINiT returned for a second session focused on advanced topics. During that visit, the IMAGINiT team also met with some of Ehresmann Engineering’s customers to educate them about the benefits of laser scanning.



## The Result: Higher Quality Deliverables for Existing Customers and New Markets

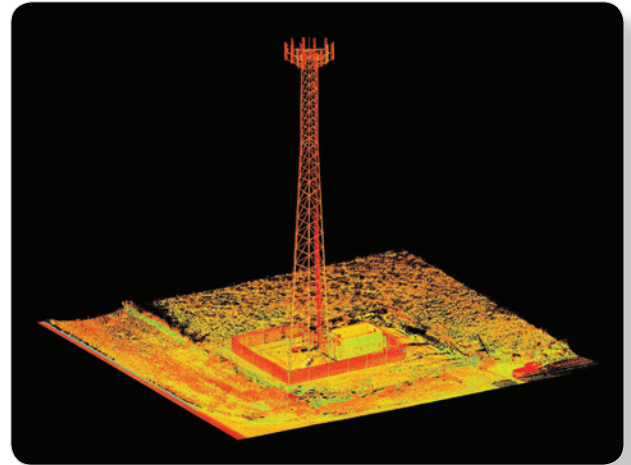
When Ehresmann Engineering uses traditional methods for its tower inspections, the deliverable is a printed report. Now with laser scanning, the firm can provide clients with a 3D virtual environment via the Internet using Leica TruView Global. “We’ve gotten a good response from that,” said Rich Quinn, Project Manager. “Customers are also impressed with the increased accuracy that’s possible with laser scanning.”

The Ehresmann Engineering team also decided to explore how to use their laser scanning capabilities to expand into new markets. The company started a new business unit called EEI Imaging which offers high definition laser scanning services, aerial inspections, and aerial mapping to clients outside the communication industry.

EEI Imaging provides laser scanning services to a variety of clients, and is reaching out to architects and engineers. "Expanding into new markets has been good and we are learning about new disciplines," said Brian Jensen, Project Manager.

The company enjoys a competitive advantage by using the best laser scanning equipment, providing higher levels of accuracy in their deliverables than other firms. Better accuracy, detail, and support are all attributes that are important to customers interested in reality capture. "We wouldn't be where we are today without IMAGINiT. The training we received was instrumental and the team has helped us think outside the box about other industries where we could use laser scanning," said Jensen.

Looking ahead, Ehresmann Engineering plans to continue its business expansion. Technology has always been a cornerstone for the company and the team expects that it will achieve its vision for the future by collaborating with partners like IMAGINiT Technologies.



## About IMAGINiT Technologies

IMAGINiT Technologies, a Rand Worldwide Company, is a leading provider of enterprise solutions to the engineering community, including the building, manufacturing, civil and mapping industries. With over 25 years of experience, and over 40 offices throughout North America, we provide the expertise, training and support to help companies realize the full power of design technology, maximize ROI and gain competitive advantage.



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