



CASE STUDY

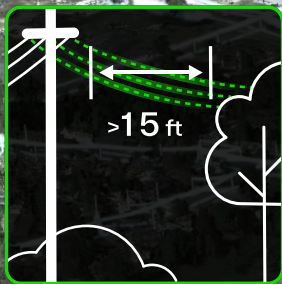
How EMPACT Engineering Solves Utilities' Greatest Challenges Faster Than Ever With Neara



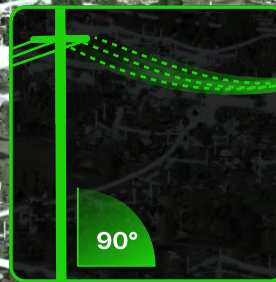
Run pole loading analyses
3x faster



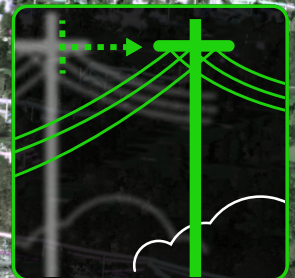
Model network assets
>12x faster



✓ Clearance



✓ Downed wire



✓ GIS normalization

WIND SPEED





CONTEXT

EMPACT Engineering partners with electric utilities in the central United States where it currently delivers network performance and optimization across nearly 1 million poles. EMPACT specializes in technology and innovation that electric utility and broadband providers can leverage to deliver their services more effectively, efficiently, and consistently for customers and communities.

In the face of increasing demand across a growing customer base, and more frequent severe weather events causing significant stress on utility networks, EMPACT's work has become mission critical for core infrastructure. Many of the utilities EMPACT serves are in Texas, the nation's fourth fastest-growing state, with nine of the country's top 25 fastest-growing counties. Meanwhile, the region faces some of the most diverse severe weather conditions in the country, which continually threatens utility infrastructure. These conditions span 2021's winter storm Uri to a predicted doubling in the number of 100+ degree days between now and 2036, an expected 30-50% increase in urban flooding, and simultaneously, more severe, prolonged droughts that increase wildfire risk.

Against this climate backdrop, EMPACT plays a mission-critical role in ensuring that utilities safely supply reliable, affordable, clean power to growing communities in the central United States. Specifically, EMPACT oversees pole integrity analysis, vegetation management, clearance, and line rating workflows that ensure their partners' utility networks perform optimally, particularly when threatened by environmental externalities.



Tom Jackson, CEO
EMPACT Engineering



THE PROBLEM

Growing complexity in EMPACT's scope revealed the limitations of legacy technology solutions that worked well in the past but proved ill-equipped to confront current and future challenges.



“Our goal has always been to stay several steps ahead of what utilities need today and tomorrow,” said EMPACT CEO Tom Jackson. “To do so, we need technology partners that can match our expertise with commensurate speed, scale, and accuracy across highly complex, ever-changing terrain. We found that legacy solutions could no longer keep pace with the scale or urgency of our partners’ needs. Before working with Neara, we could model ~1,000 poles per month. But given the fast-growing number of poles under our jurisdiction, we simply needed to move faster to support our risk identification analyses and ensure we can run multiple workflows simultaneously.”

- Tom Jackson, CEO, EMPACT Engineering

Pole loading analysis is one of EMPACT's core workflows in identifying areas of partner utility networks that can also accommodate telecom equipment for joint-use in extending broadband availability to growing populations. Retrofitting utility assets for broadband equipment is a complex workflow that also entails evaluating on-pole and mid-span clearance distances and requires a granular understanding of terrain nuances such as elevation geometry. Using another software solution meant the team had to spend 16 minutes per pole on the loading analyses, considerably delaying implementation work.





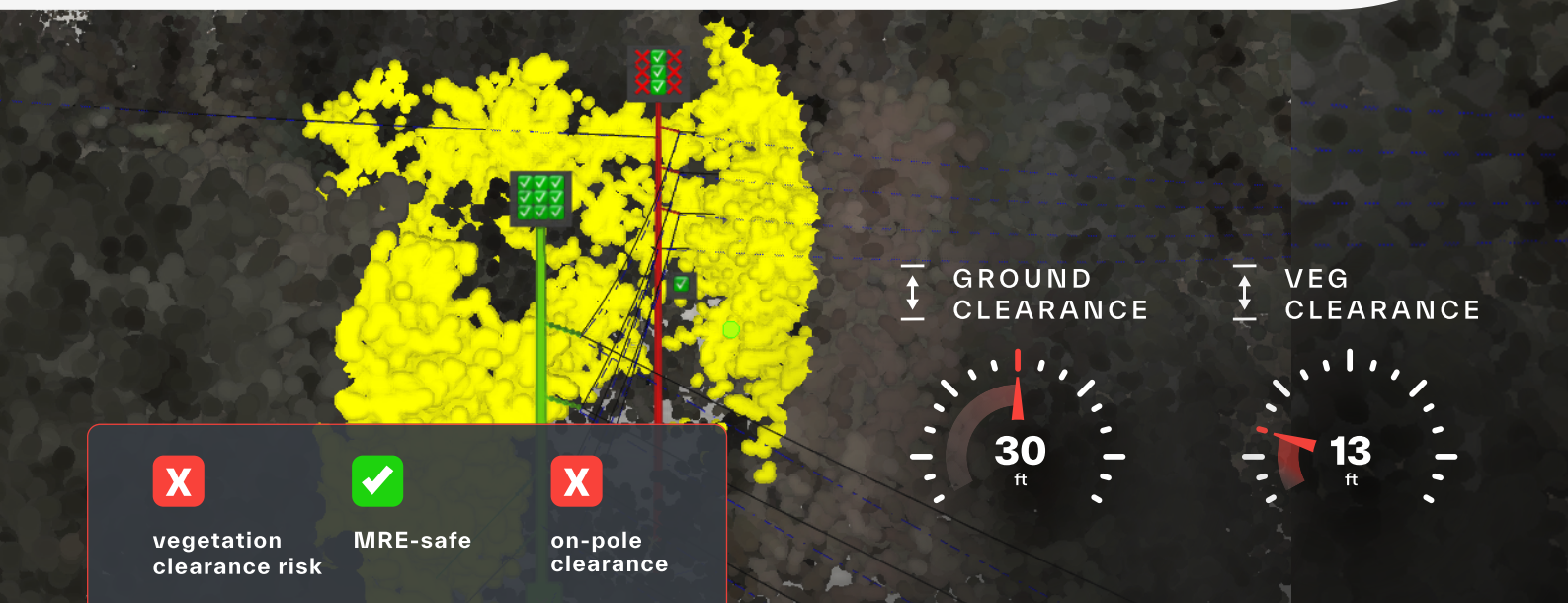
THE OUTCOME



Using Neara, we're now able to model 12,000 poles and counting per month in our initial model build. Our team now conducts per-pole loading analysis 3x faster, in 5-6 minutes per pole instead of 16 minutes, which was the fastest we were able to achieve with alternative solutions. Prior to Neara, we tried every pole design solution in the market, and, despite constructive and extensive engagement with several of them, we were unable to achieve the speed and quality of output we required but have since realized through our Neara adoption.

- Tom Jackson, CEO, EMPACT Engineering

With Neara's AI-powered digital modeling and simulation software, EMPACT's ability to run analyses much faster without sacrificing accuracy also means the team can run many other critical analyses concurrently. The team has scaled their adoption of the Neara platform across many teams, from vegetation to engineering and GIS, and applications, including line rating, without any per-user license fees. Leveraging Neara's software for digital line rating analyses, EMPACT is helping utilities identify more opportunities to bring more electricity online using only existing assets in several pockets of central Texas infrastructure. This means that EMPACT can help utilities more effectively navigate extreme weather and resultant demand spikes and bring more clean energy online faster.





Neara helps us move faster so we can help utilities move faster to make critical decisions. As we all continue to navigate uncertainty, Neara provides us and our partners with critical confidence that we're sizing up risks effectively so we can stay laser-focused on delivering great outcomes and eliminating risks instead of worrying about missing something.

- Tom Jackson, CEO, EMPACT Engineering

“In EMPACT, we have found a partner that shares our commitment to continuous innovation and finding a better way to solve the largest challenges faced by core infrastructure,” said Robert Brook, Neara’s SVP and GM for North America. “Today’s critical infrastructure is being asked to do more than it ever has, within tight timeframes and with a much higher degree of difficulty. It is becoming clear that, against this challenging backdrop, the methodologies and software solutions of yesterday are no longer fit for purpose. EMPACT delivers the vision, solutions and execution that the utility industry needs to meet their reliability and sustainability goals at a time when it has never mattered more.”



Robert Brook, SVP, GM North America

To learn more and request a demo, visit our website or send us a note at info@neara.com.

