

Closing Construction's Widening Workforce Experience Gap With AI

Written by: Ben Coffman, Senior Vice President of Engineering and Product, STACK Construction Technologies

While artificial intelligence continues to eliminate white-collar roles across much of the U.S. economy, in construction, it is doing the opposite.

The rapid buildout of data centers has triggered a hiring boom in the construction industry. Spending on data center facilities could reach as much as \$7 trillion by 2030, with thousands of data centers currently underway and thousands more to be announced. The increased demand for construction jobs has created a strong pipeline for Gen Z entering the workforce.

With that said, Gen Z does not have hands-on experience like previous generations, and the industry is faced with the challenge of training a new generation in the complex tactical skills of estimating. Historically, knowledge transfer between veterans and newer estimators happened through years of proximity, learning to read drawing sets and price assemblies through repetition and correction. Now, leveraging technology and industry resources is the only way to equip newcomers with the skills needed to support the projected scale of AI infrastructure.

Less than a year ago, the rate of open construction jobs dropped to its lowest point in nearly a decade, thus renewed interest in construction jobs comes at a crucial time for the industry. The future of construction will depend on how effectively decades of institutional knowledge can be transferred from experienced professionals nearing retirement to the newcomers poised to replace them.



A TWO-SIDED ADOPTION CHALLENGE

What makes the experience gap difficult to close is that it cuts in two directions, and most discussions of AI in construction address only one of them.

Many veteran estimators have built deep, trade-specific expertise inside legacy estimating platforms. For this group, adopting new AI-enabled tools is less of a skill issue and more so a technology latency issue. In their eyes, the methods they have used for years still work for them, so they are not motivated to learn new platforms. This is a key vulnerability of the profession, because if that group does not adopt new tools, their expertise stays hidden in workflows nobody else can see.

Newer estimators present the opposite risk. Handing an estimator an AI tool early in their career that can answer nearly any question raises the risk that they will rely on it instead of developing their own judgment. Getting answers isn't the same as closing the experience gap. An estimator needs to learn how to find the right answers independently. The gap has simply been outsourced, which leads to problems when AI inevitably gets something wrong and no one on the team is positioned to catch it.

The industry's approach to AI in estimating needs to account for both sides of that equation rather than focusing only on newer hires. Construction technology companies need tools that are trained by professionals who already know the trade, capture what is valuable about how they think, and then transfer that knowledge to newer estimators in a way that builds skill rather than dependence.

DESIGNING FOR ADOPTION AND DEPTH

Estimating software must satisfy two goals that are somewhat contradictory. It needs to be fast and accurate while answering in a way that provides a clear chain of reasoning that can be verified.

Speed is essential to user experience. A new estimator comparing a four-hour manual training to a 20-minute AI-assisted one will choose the faster path almost every time, regardless of what's happening underneath. However, speed without transparency trains estimators to trust outputs they can't explain, which will lead to further problems down the line.

The key to longevity is striking a balance; easy enough that a new estimator prefers using it, while preserving the source material and reasoning of legacy platforms. Every output should be traceable the same way a veteran would explain a number to an apprentice standing next to them. The goal should be to teach new estimators skills that are repeatable and train their instincts to identify how professionals arrive at conclusions.

That distinction is what separates a tool that can be widely adopted from one that erodes years of deep trade knowledge.

An answer with no source teaches a new estimator nothing they can use again. An answer with a verifiable source teaches the underlying skill every time it is used. Software that can close the knowledge gap adequately prepares new estimators with the skills needed to do the job on their own if the software fails.

A NARROWING WINDOW AND SHORTENING RUNWAY

Contractors, along with the CPAs, attorneys, and suppliers who support them, are watching two trends collide at once: a construction labor market suddenly attractive to younger workers and a veteran workforce retiring faster than firms can replace it.

The industry should not see this as a crisis but as a window of opportunity for new talent to interact with veteran estimators before they age out of hands-on work. The data center boom has become an unexpected recruiter for the construction industry, handing the industry a new army of young talent with genuine interest in the work. What happens next is crucial to keeping workers around and keeping alive the legacy these firms have built.

It is critical that firms understand in order to maintain quality employees they need to pivot to strategies other than traditional training alone. For estimating departments specifically, that means the value of AI is not primarily about speed, though faster takeoffs and bids are a real byproduct. The true value is in capturing what departing professionals know before that knowledge leaves with them and putting it into the hands of the estimators arriving right now to take their place. 



About the Author

Ben Coffman is the senior vice president of engineering and product at [STACK Construction Technologies](#).

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