

Your Data, Your Power:



Using Artificial Intelligence Safely in Construction

By Jennifer Daneshgari, MCA, Inc and Sydney Parvin, MCA, Inc

New technologies are exciting, especially when they save you time and make your life easier. Global Positioning System (GPS), when it was first introduced to the public, was a game changer. The technology helps us find our way to new locations and allows us to feel more confident in getting where we need to go, on time. It also can help save lives for emergency situations. However, most of us also have experienced driving to the wrong destination after we blindly relied on the GPS (as it got confused in a city or didn't update quickly enough, and we were traveling in circles or stuck in traffic). The key here is: **Don't assume the tool is perfect or knows best.**

With artificial intelligence (AI) in construction, this lesson is especially important. As a specialty trade contractor, one must recognize our complexities are not understood by the average person, or even another company that does what we do. We

all have our competitive advantages as well as focused areas of growth. It's not about asking a generic tool for an answer to a specific question. It's also not about feeding information into a 'tool' and looking for a result. It's key to recognize:

- What data are the AI models using to answer you
- What is your data that can be fed to AI to build the model (and which model should you build?)
- How AI is being used, generally and specifically
- Know your company's strategy to use AI

WHAT DATA ARE THE AI MODELS USING TO ANSWER YOU?

It's normal these days to hear that 'we fed our estimate into <insert your favorite common AI tool here> and it told us something' or 'I asked <insert your favorite common AI tool here> and this is the answer it told me.' You're essentially

feeding your company's information out into the world to crowdsource and sharing your information to anyone. The tools are reading your company information, your customer information, your counts, prices, intel, and using it to help others. The sources of data being used need to be understood and vetted to make sure the results from any AI models or inquiries are useful.

WHAT IS YOUR DATA THAT CAN BE FED TO AI TO BUILD THE MODEL (AND WHICH MODEL SHOULD YOU BUILD)?

Recognize how important what you do is to who you are as a successful company. Don't be willing to share your competitive advantages with others. Review the partial list of items in **Figure 1** and recognize that your data is YOUR data and not for the consumption / benefit of others.

The ability to capture, store, and analyze volumes of data has been available only in recent history. Despite having many software systems and now AI to comb

through any and all data, the source of data about the construction work environment still is primarily tacit. The source of data today for most electrical contractors comes from the following places:

- Spreadsheets and trackers
 - Hit Ratios / good/'bad' customers
 - Fabrication data
 - Profitability – planned and actual
- Field data collection about past projects
- In between the ears of foreman and crew leader
- Steno pads and notebooks
- Email chains with directions and information re: risk highlighting as well as reduction

Agile Construction® contractors benefit from having databases that capture field data via work breakdown structure captures as well as labor productivity tools like those that comply with ASTM Standard E2691 (like JPAC® and SIS®). The data is stored for your use with hundreds of thousands of hours and many billions of dollars. This data is able to be used for model creation for true AI use for the specialty trade contractors.

HOW AI IS BEING USED, GENERALLY AND SPECIFICALLY

Electrical contractors are introducing AI in many ways. Some are simple / transparent and some are sharing items that may not be recognized as proprietary and important. Sometimes, as we have learned through conversations with our customers, this happens at the worker level without company oversight.

Some common ways specialty trade contractors are using AI today include:

- Financial tools for analyzing data
- Completing repetitive work using agents
- Drafting emails
- Creating service quotes using voice entry
- Confirming that you do not feed your information into the general AI population which can be used by others

Some contractors have started building their own agents to support repetitive work. Even when building an independent agent, data privacy needs to be considered. It's important to be careful not to be fooled by private AI subscriptions. Once your data is into the world of AI, it is discoverable.

KNOW YOUR COMPANY'S STRATEGY TO USE AI

If you are in the process of introducing AI or considering introducing it to your business, you have likely thought about the potential risks:

- Data and privacy risks
- Blind faith in the information from artificial intelligence
- Becoming reliant on AI and skipping quality checks
- Company-wide buy-in for using new methods and technologies

It's important that you create an AI strategy and identify areas your company may benefit most from AI. This should start with mapping the existing processes and people involved to figure out where an agent could help. Sharing the policies with your FULL team to know what information is company information vs. less restrictive can help.

- Create organizational policies to regulate the use and application of AI within the company
 - Consider how / if your company data will be protected before selecting a tool
 - Consider how the output of the AI will be used, and ensure quality checks are still in place
- Empower those that embrace new systems to be champions and leaders
- Understand the existing sources of data across each of the following areas: pipeline, backlog, change orders, procurement, the plan, the field / the build, finances. Gather relevant knowledge that will create a better Agile Intelligence® system to meet your company's needs. There are AI readiness assessments available to support this. In our

Your Sources of YOUR Data

- Estimating Philosophy
- Company Pipeline and Backlog
- Contract Terms
- Method of Crew Mix
- Use of Prefabrication
- Procurement Strategy
- Your Plan — Money, Manpower, and Material
- How You Build
- Change Order Pricing
- Finances / Access to Funding

Figure 1: Recognize the power of YOUR data

January / February 2025 IEC *Insights* magazine article, we discuss how the correct application and sources of data can allow you to predict, prevent, and project job outcomes faster and sooner than ever.

Again, with AI in construction, these considerations are critical. As a specialty trade contractor, one must recognize our complexities are not understood by the average person, or even another company that does what we do. We all have our competitive advantages as well as focused areas of growth. Limit your confidential data to safe, high-quality models and harness your data to make better decisions in how you bid and manage work. Make sure you reduce risk (because yes, there is risk), while also taking advantage of opportunities (because yes, there are opportunities). ⚡

Jennifer Daneshgari is vice president of financial services at MCA, Inc (IEC's strategic partner for productivity solutions), and she can be reached at jennifer@mca.net.

Sydney Parvin is an associate data analyst at MCA, Inc (IEC's strategic partner for productivity solutions). Her email is sparvin@mca.net.