

OBJECTIVE RESEARCH BRIEF

How Construction Companies Are Using AI Today

Real-world case studies from general contractors, specialty trades, heavy civil firms, and enterprise builders

Executive summary

Artificial intelligence is producing measurable value in construction when it is attached to specific workflows: estimating, safety risk prediction, project-document search, progress tracking, and procurement or accounts-payable automation. The best public examples are operational stories where teams saved hours, reduced incident rates, found project information faster, improved billing accuracy, or eliminated duplicate data entry.

Evidence note: Several metrics in this brief come from vendor-published case studies or industry trade reporting. They should be interpreted as public case evidence, not independently audited financial statements.

Evidence snapshots

13,920 hrs/year

Coastal Construction reported annual estimating time savings from AI-assisted takeoffs in one office.

Source: Togonal.AI [1]

72% TRIR reduction

Suffolk reported a reduction in total recordable incident rate using predictive safety analytics.

Source: Posit [2]

21,000 docs

Gilbane used construction-specific AI to search drawings, RFIs, contracts, and change orders.

Source: Construction Dive [3]

67% less time

Bitting Electric reported a two-thirds reduction in invoice-processing time with AI-enabled AP workflows.

Source: Field Materials [4]

Core pattern

AI creates the most immediate construction value when it compresses the time between question and answer, document and decision, invoice and approval, jobsite condition and risk response, or plan set and bid.

Case studies: AI applied to high-friction construction workflows

1. Coastal Construction - AI-assisted estimating and takeoffs

COMPANY TYPE

South Florida general contractor with work across multi-family residential, hospitality, commercial, education, interiors, and large mixed-use development.

AI WORKFLOW

Coastal used Togonal.AI to automate repetitive estimating activities, including takeoff, naming, uploading, sharing, and collaboration workflows.

MEASURED IMPACT

The Miami office reported 14.5 hours saved per plan set, 1,160 hours saved per month, 13,920 hours saved per year, and roughly \$1 million in first-year savings. Takeoff work reportedly fell from about 50% of estimator time to about 10%.

BUSINESS TAKEAWAY

The value was not generic automation; it was bidding capacity. AI reduced low-value estimating labor so preconstruction staff could spend more time scoping, value engineering, and pursuing additional work.

Source: Togonal.AI case study [1]

2. Suffolk Construction - predictive safety analytics

COMPANY TYPE

Large U.S. general contractor managing complex work across healthcare, life sciences, education, commercial, aviation, mission critical, public, and federal sectors.

AI WORKFLOW

Suffolk combined staffing, trade partner, observation, incident history, schedule, and project data into predictive safety models that flagged risk before incidents occurred.

MEASURED IMPACT

The public case study reports a 72% reduction in Total Recordable Incident Rate and a 56% decrease in Lost Time Incident Rate. Weekly dashboards and risk emails helped route attention to high-risk projects.

BUSINESS TAKEAWAY

This is a management example: AI helped safety leaders allocate support before problems escalated instead of relying only on lagging safety indicators.

Source: Posit customer story [2]

3. Gilbane - AI search across 21,000 project documents

COMPANY TYPE

Major building contractor; the example comes from the \$456 million Baird Center expansion in Milwaukee, delivered with C.D. Smith.

AI WORKFLOW

Gilbane used Trunk Tools to search about 21,000 drawings, RFIs, contracts, and change orders so field teams could retrieve answers from project records quickly.

MEASURED IMPACT

During a 37-working-day pilot, users asked 246 questions; 87% of answers were validated as correct. Reported savings were 20-40 minutes per query and more than \$100,000 per month in potential rework avoided.

BUSINESS TAKEAWAY

The underlying problem was not lack of information; it was findability. AI shortened the field cycle from "check the specs and get back to me" to near-immediate documented answers.

Sources: Construction Dive and Trunk Tools case reporting [3] [5]

Case studies: AI in procurement, AP, and progress tracking

4. Bitting Electric - invoice processing

COMPANY TYPE

Commercial, industrial, and municipal electrical contractor; work includes installations, upgrades, emergency power, pump stations, wastewater treatment plants, and chiller plants.

AI WORKFLOW

Bitting Electric used Field Materials AI to replace a paper-and-Excel AP workflow that required invoice logging, manual entry into Sage 100 Contractor, and physical review copies.

MEASURED IMPACT

The company reported a 67% reduction in invoice-processing time, with approved invoices exported into Sage 100 Contractor rather than re-entered multiple times.

BUSINESS TAKEAWAY

For specialty trades, AI can start in the office. AP, delivery slips, POs, approvals, and cost coding are practical targets because they are repetitive and directly affect job-cost accuracy.

Source: Field Materials case study [4]

5. Bruce Allen Construction - PO and AP automation

COMPANY TYPE

Heavy civil contractor in North Carolina serving public, multi-family, industrial, commercial, municipal, NCDOT, and land-development sectors.

AI WORKFLOW

Bruce Allen used Field Materials AI to read supplier quote PDFs, create itemized and cost-coded purchase orders, and automate three-way matching across POs, delivery tickets, and invoices.

MEASURED IMPACT

Field Materials reports that large POs that previously took one to two hours can now be created in minutes, and that the workflow eliminates manual AP invoice entry into FOUNDATION.

BUSINESS TAKEAWAY

Material-intensive contractors can use AI to reduce clerical processing, catch price or quantity mismatches, and improve the reliability of job-cost data before it reaches accounting.

Source: Field Materials case study [6]

6. Layton Construction - healthcare progress tracking

COMPANY TYPE

General contractor example on an 82,000-square-foot healthcare facility, a sector with complex sequencing, quality requirements, and high schedule sensitivity.

AI WORKFLOW

Layton used Doxel automated progress tracking to reduce manual field reporting and create objective visibility into work-in-place.

MEASURED IMPACT

Doxel reports that six superintendents and project engineers reduced manual progress tracking from 60 hours per week to 3 hours total, a 95% reduction. The case also reported a 10% reduction in overbilling.

BUSINESS TAKEAWAY

Progress data affects both operations and financial control. Better measurement can improve trade coordination, billing accuracy, and dispute prevention.

Source: Doxel case reporting [7]

7. Turner Construction - enterprise AI enablement

COMPANY TYPE

One of the largest U.S. construction companies, using AI across project delivery, safety, planning, contracts, and internal productivity workflows.

AI WORKFLOW

Turner entered a companywide ChatGPT Enterprise partnership and reported internal AI assistants, photo-analysis tools, digital tracking systems, and custom AI agents for project challenges.

MEASURED IMPACT

Industry reporting states that employees created 400+ custom AI applications and unlocked 70,000 hours of annual productivity gains. Turner also reported over 100 custom AI agents created during an innovation summit build session.

BUSINESS TAKEAWAY

For smaller firms, the lesson is not to copy Turner's scale. It is to standardize repeatable knowledge work once a workflow has proven value.

Sources: Construction Dive and Global Construction Review [8] [9]

Construction AI use-case map

Use case	Business problem solved	Best public story
Estimating / takeoffs	Estimators lose hours tracing plans and updating quantities.	Coastal Construction + Togonal.AI
Safety risk prediction	Safety teams need earlier indicators than incident reports.	Suffolk Construction
Project-document search	Specs, RFIs, drawings, contracts, and change orders are difficult to search from the field.	Gilbane + Trunk Tools
Invoice / AP automation	Invoices are logged, routed, coded, and re-entered across systems.	Bitting Electric
PO / material controls	Quotes, POs, delivery tickets, and invoices must be reconciled manually.	Bruce Allen Construction
Progress tracking	Manual progress reporting is slow, subjective, and hard to tie to billing.	Layton Construction + Doxel
Enterprise AI agents	Large teams need repeatable workflows for contracts, safety, design review, and project delivery.	Turner Construction

Practical lessons for construction business owners

Start with a workflow that already hurts. The best candidates are takeoffs, invoice processing, purchase orders, delivery tickets, submittal/spec search, daily reports, safety observations, and progress documentation. Measure operational impact. Useful AI metrics include hours saved, approval time reduced, billing accuracy improved, incident rates lowered, search time eliminated, and rework avoided. Treat AI as staff leverage. In these examples, AI helped estimators, safety teams, superintendents, project managers, and accounting staff work faster with better information.

Selected sources

- [1] Togonal.AI, Coastal Construction case study, automated takeoff and estimating time savings.
- [2] Posit, Suffolk Construction predictive safety analytics customer story.
- [3] Construction Dive, "How Gilbane used an AI tool to track 21,000 documents," Aug. 28, 2024.
- [4] Field Materials, Bitting Electric invoice-processing case study.
- [5] Trunk Tools, Gilbane case study on document search, labor savings, and rework prevention.
- [6] Field Materials, Bruce Allen Construction purchase-order and AP automation case study.
- [7] Doxel, Layton Construction healthcare progress-tracking case reporting.
- [8] Construction Dive, Turner Construction partnership with OpenAI and AI-agent reporting, Nov. 2025.
- [9] Global Construction Review, Turner ChatGPT Enterprise rollout and productivity-gain reporting, Nov. 2025.

BOTTOM LINE

The path forward is not to "use AI" broadly. It is to identify one expensive bottleneck, apply AI to that workflow, measure the result, and then expand from there.