PROCORE

Construction Resource Management

Technology Trends to Watch for in 2025



Contents

03 Introduction

06 The Power of Integrated Resource Management

07 Streamlining Construction Communications

08 Benchmarking for Success

09 Construction on a Map

10 Resource Management's AI Revolution

12 Preparing for the Future

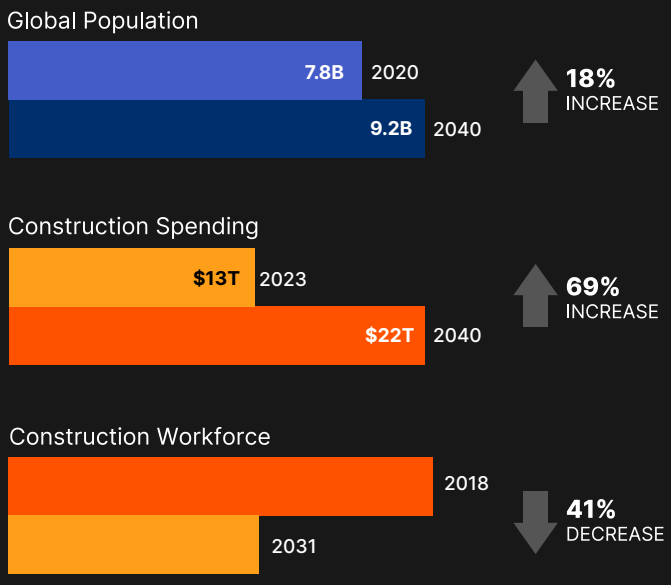
13 Conclusion

— INTRODUCTION

The Resource Management Landscape

The global population is expected to grow by 1.4 billion people[1] to reach 9.2 billion globally by 2040, with much of the population increase expected in urban areas.

Urbanization will require both new infrastructure and upgrades to existing systems to support larger, more dense populations. In response, global construction spending is expected to grow from $13 trillion annually in 2023, to a projected $22 trillion by 2040.[2]



41% of the current workforce will retire by 2031.



Meeting these lofty goals will require the construction industry to double its growth rate[2] despite significant challenges.

The sector will continue to face shortages finding labor and skilled workers as 41 percent[3] of the current workforce will retire by 2031. Global economic pressures pose additional challenges with the rising cost of equipment, fuel, labor and materials. And according to McKinsey, tightening public budgets[4] will require the industry to maximize efficiency and be more productive in order to deliver on the infrastructure and urbanization needs of the future.

1. The National Intelligence Council "Global Trends 2040," March 2021
2. McKinsey & Company "Delivering on construction productivity is no longer optional," August 2024
3. National Center for Construction Education & Research (NCCER) "Restoring the Dignity of Work: Transforming the U.S. Workforce Development System into a World Leader," July 2018
4. McKinsey & Company "The next normal in construction," July 2020



Despite these hurdles, the construction industry is not without options.

Resource management technologies are delivering workflows to track, plan, and forecast labor, equipment and materials across every stage of the construction process.

New advancements in technology, including artificial intelligence, geospatial information system (GIS) mapping, and performance benchmarking systems are helping contractors to optimize resource usage and control costs. These new technologies enable contractors to streamline their resource utilization and be more competitive in a demanding and growing construction industry.

In this guide, you will learn about the challenges contractors face when managing resources and the technologies available to streamline workforce, equipment and materials utilization. As a growing category in construction technology, resource management is transforming how resources are tracked, managed and optimized across all construction phases, leading contractors to maximize resource efficiency and profitability. Let's explore resource management and the technology trends that are driving this transformation.

01

The Power of Integrated Resource Management

Your construction resources, including labor, equipment and materials, represent the majority of expenses on any construction project. However, most contractors fail to optimize how their resources are used, because they entrust spreadsheets, whiteboards, and other point solutions to manage this dynamic and complex process across projects and distributed teams.

Without access to real-time and centralized data to plan where their resources are going, track where they are, and how much they are costing, contractors are forced to guess on future project assignments without the hindsight of historical project outcomes. These challenges can lead to resource over and under utilization, cost overruns and project delays that hinder your firm's ability to improve project over project.

Modern approaches to construction resource management enable you to manage, track and forecast all of your resources together. Purpose built for the construction industry, these platforms come with preconstruction, construction, and finance workflows so you can track how efficiently resources are utilized by each construction phase. Resource management represents an evolution from whiteboards and point solutions which manage your resources separately. With resource management your labor, equipment, and materials are interconnected in a single place in order to fully understand how efficiently and effectively they are being used and how you can proactively make changes to increase your bottom line before it's too late.





02

Streamlining Construction Communications

With multiple stakeholders on a construction site, coordinating communication is critical and challenging.

Fragmented communications across phone, text, email, and other channels, can lead to missed resource assignments and project delays. Lacking a unified communication system, contractors lean on the communication channels they are most comfortable with, such as email and text, but these messages often lack context and are quickly forgotten or lost. These communication breakdowns can result in resources being misallocated, missed timelines, and blown budgets.

Construction platforms today are delivering integrated communication tools, which connect the entire project team and all resources within a single location. Vital project communications are easy to find, access, and improve coordination and scheduling resources across projects. Real-time communications keep the field and office teams in sync and onboarding is accelerated by providing access to past resource decisions and ongoing discussions.

33% of contractors list **communication between field and office** as a key technology challenge.[5]

5. Associated General Contractors of America (AGC) "The 2024 Construction Hiring and Business Outlook," Jan 2024

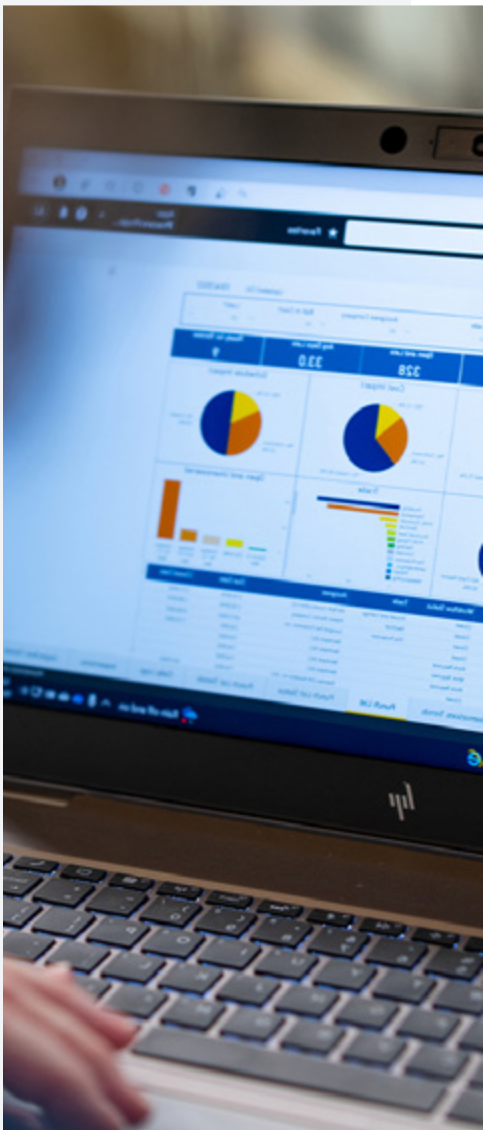
03

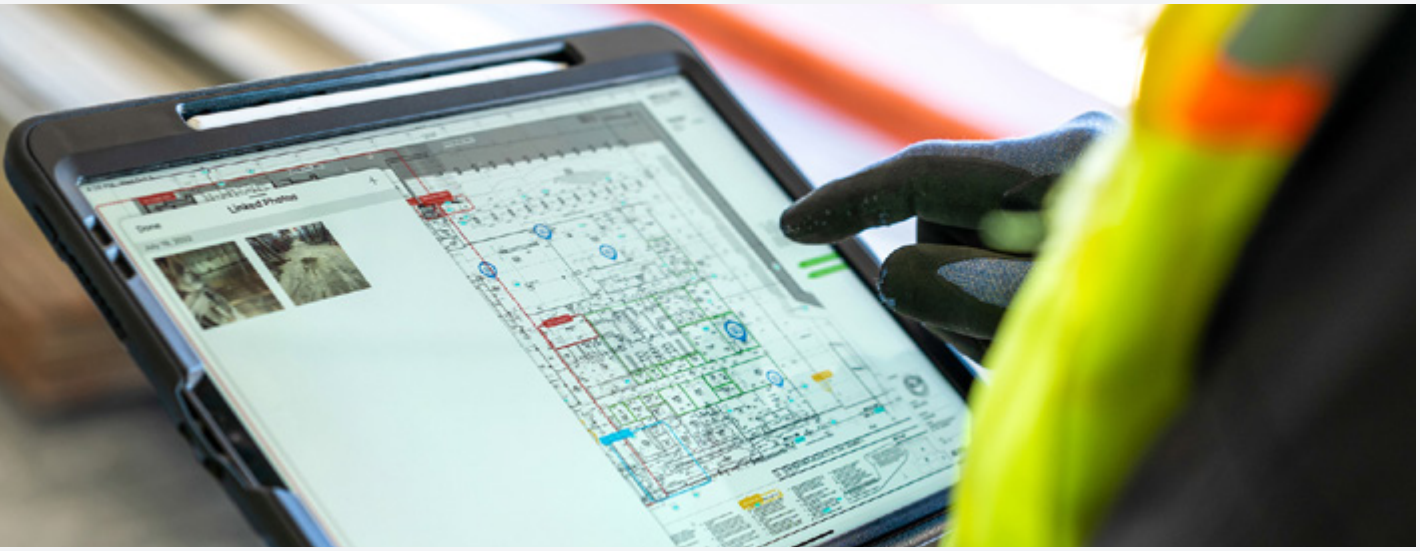
Benchmarking for Success

When measuring resource performance, contractors generally rely on past experience or instinct, but struggle to understand if their labor, equipment and materials are being utilized at peak efficiency.

They lack data-driven insights to compare resource performance against peers and industry standards. Without an anonymized index to track and compare resource output, contractors miss opportunities to optimize resource planning, utilization, and forecasting and to be more competitive. Additionally, the lack of insight into industry standards and peer data prevents contractors from making significant improvements because they are confined to comparing their resource performance against only their own past projects.

Performance Benchmarking collects data from past and current projects, anonymizes it, and makes it available to provide insight into how projects are performing to date and against peers on similar projects. This ability is only available from vendors with a vast amount of customer data that can be centrally maintained, anonymized, and analyzed. Performance benchmarking gives contractors a significant advantage to compare current and planned projects against their competitors, peers, and past projects.





04

Construction on a Map

Having the ability to track, store and analyze the location of construction resources across projects can be challenging for contractors.

Traditional methods such as whiteboards and spreadsheets, fail to offer the visualization needed to account for geographic risks such as floodplains, soil stability, zoning regulations and environmental impact assessments. A lack of real-time geospatial information while resource planning can make projects vulnerable to site-specific challenges that can lead to delays, compliance problems, safety issues, and costly setbacks.

Geospatial Information System (GIS) mapping provides real-time tracking and visibility of labor, equipment and materials across construction projects. GIS displays information gathered by satellite, surveying instruments or government agencies such as FEMA to assess site suitability, plan earthwork or identify important environmental landmarks, such as wetlands, nature reserves or floodplains. GIS can also be used to ensure compliance by mapping areas that require specialized skills and finding the nearest available crews with skills and certifications needed to work in those areas. GIS puts project and resource data into an easy-to-navigate map, so you can manage resources based on proximity, availability, safety, and cost.

05

Resource Management's AI Revolution

Since the launch of ChatGPT in late 2022, interest in artificial intelligence and generative AI, has exploded across all industries.

However, a recent report by Procore revealed that for contractors, the technology they are least likely to adopt within the next 12 months is AI. Reasons for this include the perceived cost of implementation, lack of technical expertise, or prioritizing other initiatives. Contractors slow to adopt AI however, risk missing on opportunities to streamline processes and enhance decision making.

With its wealth of data and opportunities for automation, artificial intelligence has emerged as a game-changer for construction resource management. Modern resource management solutions are building AI capabilities direction into their existing technologies platforms, making it easy for contractors to take advantage of them. GenAI is being used to capture institutional knowledge across all construction phases, saving time and preserving operational knowledge for future projects. AI powered insights are being used to forecast potential shortcomings and provide recommendations for optimizing resources based on availability, skills, location, certifications, and more. And AI is streamlining manual processes such as time tracking by automating time capture, project progress analysis, and generating timesheets.



Construction Technology Adoption



06

Preparing for the Future

Contractors can take the following steps to prepare for new technologies in construction resource management:



Evaluate Current Processes

Identify current labor, equipment and material processes and identify gaps where automation, communication, data tracking, and resource allocation can improve outcomes.



Collaborate with Technology Providers and Industry Experts

Partner with technology vendors and implementation partners who understand construction resource management and can tailor the technology to your firm's business requirements.



Identify an Executive Sponsor

Identify an executive sponsor to define and keep the project goals on track, build consensus and adoption of the new solution and to drive adoption and cultural change across the organization.



Research Trusted Sources

Research technology solutions with industry research analysts such as Construction Executive, Construction Dive, and The National Institute of Building Sciences, trade associations like NECA, SMACNA, and AGC, as well as technology rating sites such as G2, Capterra, and TrustRadius.

— CONCLUSION

As our population grows, the construction industry will be ready.

As our population grows, requiring new urbanization projects, infrastructure, and upgrades to existing systems, the construction industry will be ready. New technologies are reshaping how contractors track, manage, and optimize their projects across all construction phases. By adopting new technologies, contractors will not only be able to meet future challenges, but maximize the efficiency and effectiveness of their most valuable assets — their labor, equipment and materials.

Learn more about construction resource management with Procore >



Produced by
PROCORE TECHNOLOGIES, INC.

Procore manages your projects, resources and financials from project planning to closeout. Our platform connects every project contributor to solutions we've built specifically for this industry—for the owner, for the GC, and for the specialty contractor. Our App Marketplace has over 150 partner solutions that integrate seamlessly with our platform, giving you the freedom to connect with what works best for you, even if we don't build it. The ability to easily communicate across disparate teams makes it easier to work together by eliminating silos and establishing a single source of truth. It's how Procore gives your team access to everything they need to know to get their job done.

IF YOU HAVE ANY QUESTIONS,
GIVE US A CALL AT 866 477 6267

OR EMAIL US:
SALES@PROCORE.COM

Talk with an Expert



VISIT THE JOBSITE >

Procore's Hub for
Original Content



WATCH PROCORE TV >

Procore's Official
YouTube Channel



MORE RESOURCES >

Free eBooks &
Downloads

Produced by
PROCORE TECHNOLOGIES, INC.

Procore manages your projects, resources and financials from project planning to closeout. Our platform connects every project contributor to solutions we've built specifically for this industry—for the owner, for the GC, and for the specialty contractor. Our App Marketplace has over 150 partner solutions that integrate seamlessly with our platform, giving you the freedom to connect with what works best for you, even if we don't build it. The ability to easily communicate across disparate teams makes it easier to work together by eliminating silos and establishing a single source of truth. It's how Procore gives your team access to everything they need to know to get their job done.

IF YOU HAVE ANY QUESTIONS,
GIVE US A CALL AT 866 477 6267

OR EMAIL US:
SALES@PROCORE.COM

Talk with an Expert



VISIT THE JOBSITE >

Procore's Hub for
Original Content



WATCH PROCORE TV >

Procore's Official
YouTube Channel



MORE RESOURCES >

Free eBooks &
Downloads



PROCORE®

Construction Resource Management

Technology Trends to Watch For