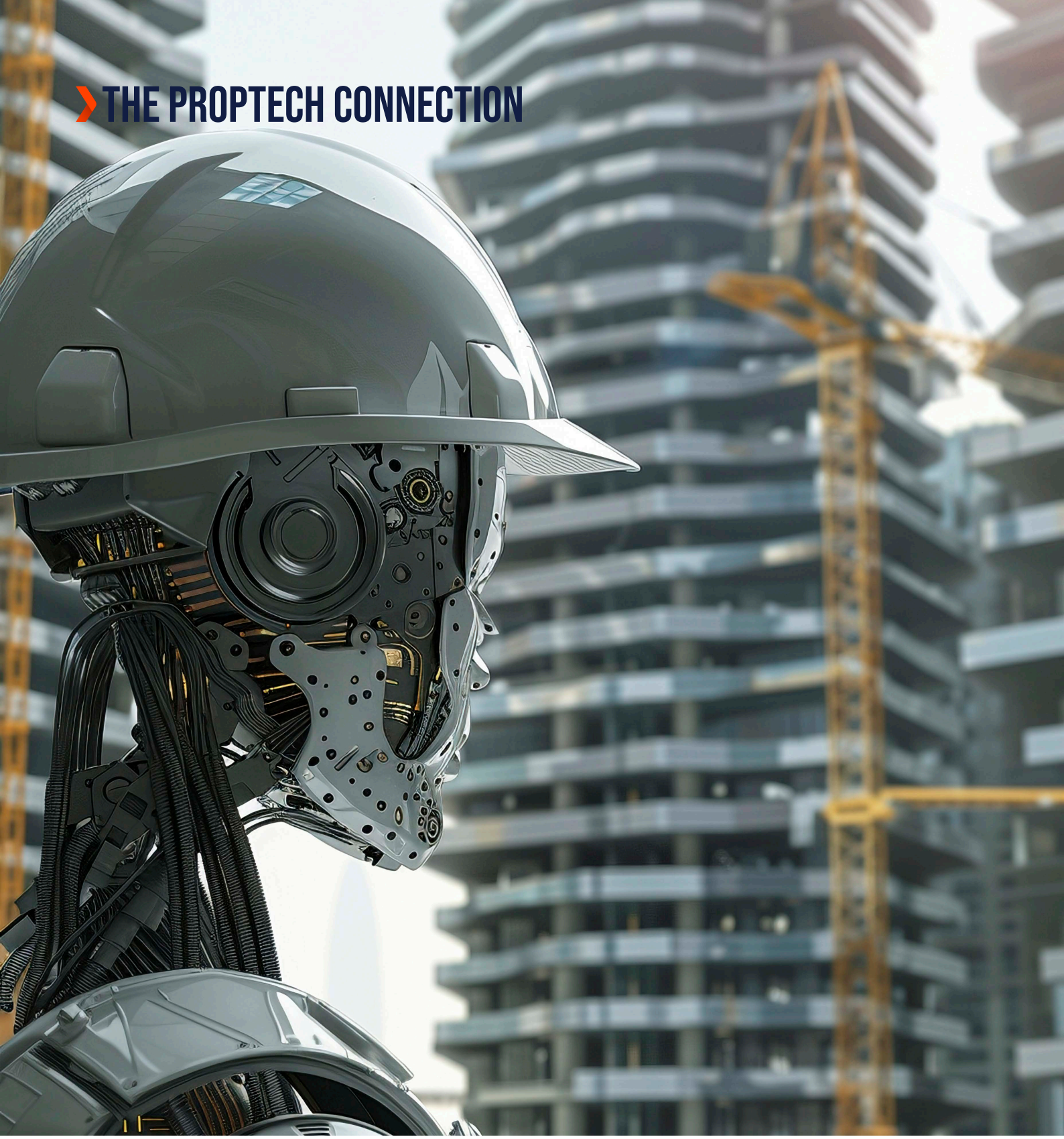
THE PROPTECH CONNECTION



GEN AI AND THE AEC INDUSTRY:
AI STRATEGY DEVELOPMENTS

NOVEMBER 2026

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EXECUTIVE SUMMARY

BRIDGING REAL ESTATE, CAPITAL + TECH

At The Proptech Connection, we sit at the intersection of real estate, investment and technology and get early visibility on the impact technology can have on long held pain points in the construction process.

Many clients globally have tried to accelerate digital transformation through technology adoption and acquisition, and the promise of AI seems at first glance, to be a solution to the structural and systematic challenges persistent in the construction lifecycle. This has sparked market activity from strategic investors and a challenge to business models for those in the construction ecosystem including the AEC space.

When looking into the space, we kept coming back to the sharp observations and considered thesis of our partners Bram Mommers, Alison Jones and Arjen Adriaanse who published a thought-provoking article at the end of 2025 structured around AECOMs' purchase of Consigli.

We have collaborated with the original authors to provide an updated version of the paper supplemented with additional case studies that confirm many of the hypotheses presented in the paper. Much of the original paper is reproduced here. This updated report gives an opportunity to explore further tech advancement and market activity in 2026 and allows The Proptech Connection to highlight key emerging tech use cases where future adoption is expected.

INT

EXECUTIVE SUMMARY
SCALING GENAI IN AEC



In November 2025, AECOM made a bold move by acquiring Norwegian AI startup Consigli for $390 million, sparking widespread debate across the architecture, engineering, and construction (AEC) industry.

While the acquisition serves as the narrative hook for this paper, the broader purpose is to examine what it reveals about the realistic future of Generative AI (GenAI)[1] in a sector long challenged by digital transformation—and the organizational and structural conditions required to turn technological potential into sustainable value.

INDUSTRY CONTEXT + CHALLENGES

The AEC industry has historically lagged behind many other sectors in achieving productivity gains from digital technologies. This is, in part, because of deep structural variability rooted in natural conditions, highly localized regulations, and persistent fragmentation both across projects and project phases. These systemic characteristics limit repeatability and, in doing so, constrain the value and scalability of standardized digital solutions.

DIGITAL TRANSFORMATION + AI ADOPTION

Previous waves of digital innovation demonstrate that scalable, repeatable use cases are difficult to achieve in the AEC domain. Success has typically come from flexible, project-specific tools or automation applied within large, relatively homogeneous programs. GenAI introduces powerful new capabilities but faces the same structural hurdles, amplified by challenges related to data readiness, interoperability, and the current absence of foundational AI models capable of interpreting vector-based design files[2]. While for example modular construction or integrated long-term delivery contracts offer windows of opportunity for greater scale, adoption is accelerating in organic, fragmented ways rather than through large-scale, standardized transformation.

ANALYSIS OF THE ACQUISITION

AECOM's acquisition of Consigli promises access to proprietary AI technology, potential strategic differentiation, and highly specialized AI talent[3]. At the same time, the acquisition introduces risks, including organizational integration challenges, talent retention, change management complexity, data quality and regulatory constraints, platform commoditization, and uncertainty around long-term financial returns. While the market response to the acquisition was muted, investor sentiment reflects caution about whether proprietary in-house AI platforms can deliver sustainable value in a fragmented and rapidly evolving industry. Technology vendors have historically been better positioned to scale repeatable functionality across diverse, project-based workflows. This suggests that hybrid, best-of-breed strategies may ultimately prove more resilient than monolithic solutions.

INT

MASTERING AI INTEGRATION BEYOND THE TECH

KEY LESSONS AND RECOMMENDATIONS

- Proprietary in-house AI platforms may provide short-term competitive advantage but are vulnerable to rapid commoditization and shifting client expectations.
- Successful AI adoption requires strong change management across the organization and its ecosystem partners, robust data foundations, flexible technology strategies, and active participation in the wider ecosystem.
- Industry-wide progress depends on value-driven procurement[4] that creates long term, scalable demand, alongside shared data standards and inclusive capability-building that supports both large firms and SMEs.
- Organizations should prioritize people[5], dual innovation strategies (project-specific and scalable), governance, data stewardship, and adaptability to capture sustainable value from AI.

CONCLUSION

AECOM's acquisition of Consigli signals ambition and leadership but its long-term success depends on navigating the structural realities of the AEC industry. Addressing the organizational integration of Consigli, data readiness, and realistic paths to value will be essential.

This paper concludes with executive guidance for global engineering firms, suggesting that effective AI strategies are most likely to focus on building adaptable organizations and delivery models that can selectively leverage AI by combining domain expertise, robust data foundations, and collaborative partnerships.



S01



TECH ADOPTION IN AEC
RETHINKING AI'S POTENTIAL IN AEC

In November 2025, AECOM made headlines with its $390 million acquisition of Norwegian AI startup Consigli, igniting widespread debate across the global architecture, engineering, and construction (AEC) industry. The move was bold but was it wise and what are the likely long-term impacts? What does this acquisition say about the future of AEC in the age of AI? Is AI just another wave of digital hype and what can we learn from previous digital initiatives?

Too often, digital transformation projects in the AEC industry stall. It is an oversimplification to attribute this only to a lack of resources, technical know-how, or willpower. The AEC sector is inherently complex: shaped by diverse natural conditions, varying local regulations, and persistent fragmentation. Each project brings together many different parties with their own tools, processes, and priorities, making standardization and data continuity[6] difficult. While AI holds promise to address some of this complexity, these same structural realities will strongly influence—and in some cases hinder—its adoption.

This paper seeks to answer several key questions. What are the defining characteristics of the AEC industry that impact digital transformation efforts? Where has technology adoption been successful? What does this say about the likely adoption of AI? What does this mean for the Consigli acquisition? Additionally, we offer practical recommendations to organizations and the industry at large to support the successful implementation of AI.

While the focus of this paper is on the impact of Generative AI (GenAI)—systems capable of creating new content such as text, images, or code, including Agentic AI—we will use the term 'AI' throughout for clarity and readability.

The AEC industry has long lagged behind most other sectors in realizing productivity gains from digital technologies. Together with Agriculture & Hunting, it consistently ranks at the bottom of digital-impact assessments — a surprising outcome given the industry's size and economic importance.

The AEC industry is shaped by fundamental structural variabilities — natural, regulatory, and organizational — that limit the viability of repeatable, scalable digital solutions. These constraints are not easily "fixed" through additional funding or stronger leadership; they are inherent to the way the industry operates.

Culturally, the sector is cautious in adopting new technologies, in part because the cost and disruption associated with change can feel prohibitive in an environment that prioritizes predictability, risk management, and stable delivery. Combined with the project-based, temporary nature of most collaborations, digital solutions that do succeed tend to be those flexible enough to adapt to highly diverse project conditions or are dedicated to just one project.

Understanding these structural realities is essential for assessing the realistic potential of digital transformation in the AEC industry — and for evaluating how and where AI, including Generative AI, can meaningfully scale.

S01

TECH ADOPTION IN AEC
STRUCTURAL VARIABILITY

Natural environment
Every project responds to unique physical conditions—soil, climate, hydrology, topography, and material availability. These factors directly influence design, materials, foundations, construction methods, and workflows, creating a legitimate need for variation.

Legislative & technical constraints
Building codes, safety regulations, measurement systems, technical standards, permitting, and contracting models vary across countries, regions, and municipalities. This creates thousands of overlapping regulatory contexts, requiring tailored approaches.

Industry fragmentation
Projects involve planners, designers, contractors, operators, subcontractors, and specialists, often from different organizations with different systems, incentives, and information structures. Teams are frequently reassembled for each project.

Limited standardization
Around 90% of the industry consists of SMEs, with few dominant firms in many markets. This contributes to limited data continuity, standardization, and consistent collaboration. Increasing asset complexity further expands the number of specialists involved.

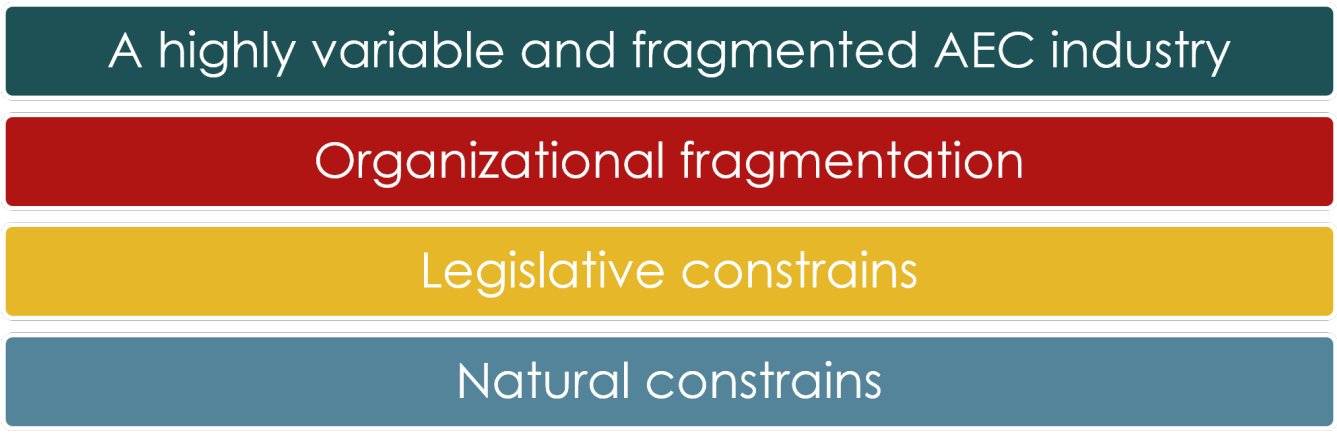
Implications for digital transformation

These challenges are not unique failures of the AEC industry. They are natural consequences of building in different environments, under different rules, with different stakeholders.

However, this structural variability makes scaling digital solutions, including AI, difficult. Digital technologies typically benefit from consistency, standardization, and repeatability, while AEC projects must constantly adapt to context.

The key challenge is therefore finding the balance between standardization where possible and flexibility where necessary.

THE CHARACTERISTICS OF AEC IN A HIGHLY VARIABLE AND FRAGMENTED INDUSTRY



TECH ADOPTION IN AEC
THE SCALING PROBLEM

There are numerous historic cases where bold attempts to automate at scale in the AEC industry have failed. Let's look at two of the most high-profile cases: Katerra and WeWork.

KATERRA AND THE CHALLENGE OF SCALING AUTOMATION IN AEC

Katerra shows how difficult scalable digital automation is in AEC. Founded in 2015 with over $2 billion from SoftBank, it sought to vertically integrate design, manufacturing, and construction through automation. Despite its resources, Katerra shut down in 2021 due to execution complexity, underperforming factories, cost overruns, and difficulties standardizing variable construction workflows.

Its collapse highlights a broader AEC challenge: even well-funded efforts to industrialize construction struggle with fragmented supply chains, project-specific variability, and the realities of building at scale.

WEWORK AND THE CHALLENGE OF SCALING STANDARDIZATION IN AEC

WeWork's "Powered by We" initiative shows the difficulty of scaling digital automation in AEC. The company invested in standardized design, custom interior systems, and BIM-driven workflows to accelerate global fit-outs and maintain consistency. However, the model struggled with high design costs, varying site conditions, and limited repeatability across buildings and tenant needs, ultimately collapsing alongside WeWork's broader financial failure.

Its experience reinforces a broader AEC challenge: digital standardization alone cannot overcome the operational and contextual complexity of construction without stable execution capabilities.

More information about these case studies can be found in the original paper.

These well-known examples are aligned with our own experiences in the industry. Despite enthusiasm, resources and expertise, the recurring pattern is that it is difficult to find scalable (i.e., repeatable) use cases. Referring to the Desirability/Feasibility/Viability business model canvas[9], the desire is there and the technology is feasible. However, such products often fail the viability test as standardized solutions because the lack of repeatability limits the size of the addressable user base, a consequence of insufficient consistency across and between projects.

Challengers of the status quo often refer to the manufacturing industry. Why can't the AEC industry replicate the digitalization success of the manufacturing industry? This comparison is "apples to oranges". Manufacturing is characterized by the mass production of standardized products in controlled, repeatable environments (factories). Processes are highly automated, optimized for efficiency, and benefit from economies of scale. In contrast, the AEC industry delivers mostly unique assets shaped by local physical and regulatory conditions. Standardization and thus digital transformation is much more challenging.

S01



TECH ADOPTION IN AEC
DISRUPTING TECH CONSOLIDATION

SUCCESS OF FLEXIBLE DIGITAL TECHS

To address variability across projects, companies seek solutions that offer maximum flexibility and allow them to address a wide array of project-specific needs. Major AEC software vendors such as Autodesk, Bentley, Nemetschek, ESRI, and Trimble provide this flexibility and are successful.

Their tools allow users to address any variability or challenge, resulting in broad, industry-wide adoption. Vendors with less flexible platforms, such as Product Lifecycle Management (PLM) systems successfully applied in the manufacturing industry, struggle to gain traction in the AEC sector, despite their often superior functionality, because they depend on a level of standardization that is largely absent in AEC workflows.

AEC VENDOR CONSOLIDATION

Despite the industry's fragmented landscape, the technology space is far from gridlocked. New vendors continue to develop innovative applications often in collaboration with clients to address specific requirements. While many of these solutions remain tailored to their initial environments, a select few manage to scale beyond their origins.

Typically, these applications are acquired by major software vendors and integrated into broader offerings. This is also what makes AECOM's acquisition stand out, as it departs from the traditional pattern in which emerging digital solutions are typically acquired and scaled by established software vendors rather than by AEC firms themselves. This departure from established industry patterns helps explain both the strategic ambition of the acquisition and the range of risks and challenges it introduces.

S01

TECH ADOPTION IN AEC
IN-HOUSE SOFTWARE DEVELOPMENT

Proprietary applications developed in-house ("built")[10] and meant for commercialization rarely maintain a competitive edge when compared to solutions from established technology companies ("buy"), who benefit from greater expertise, resources, a larger potential user base and a business model that rewards high growth over short term profits. This disparity becomes even more pronounced when long-term operational costs are factored in - an aspect often overlooked when "build" business cases are developed. We would argue the conclusion also applies to abstraction or integration layers within a platform stack[11]. For example, an AI platform providing tailored AI features including business logic making underlying AI cloud services more relevant and secure for application developers and users.

In the AEC industry, the development of an internal software product typically stems from the successful implementation of a project-based automation or digitization. The enthusiasm to scale these solutions beyond their original purpose is driven both by the creators and supportive managers eager to capitalize on innovation. However, scaling adds complexity that requires expertise and investment beyond what is typically anticipated. Additional features are required to make the software applicable across diverse projects, and scalable solutions require fundamentally different architectures to those designed for small, specialized teams.

A key reason technology vendors are often more successful in scaling digital solutions is that they operate with a broader, cross organizational view of the industry.

Rather than optimizing for a single client or project context, vendors identify common, repeatable needs across many organizations and project types, and invest in functionality that accommodates the fragmented, project-based nature of AEC workflows. This allows them to develop modular, reusable capabilities that can be sold and refined across a wide user base, generating the revenue and feedback loops needed to sustain ongoing product development and innovation cadence. In contrast, in house solutions, while often well aligned to local needs, tend to reflect the specific assumptions, data structures, and processes of the originating organization, making broader reuse, commercialization, and expansion of the user base significantly more challenging (Total Addressable Market).

In most cases, organizations eventually realize that the cost of developing and operating (incl. maintenance, client compliance, certification) such software outweighs the benefits. Even when a use case is (financially) successfully scaled, established tech vendors (armed with more expertise, funding, and a broader user base) innovate at a pace that is difficult to match.

When solutions are eventually retired, the underlying efforts are often not wasted. In-house solutions can provide short-term differentiation, accelerate organizational learning, and enhance workforce skills. The key is for organizations to recognize when they have extracted as much value as they are likely to achieve from a product and retire it.

S01

TECH ADOPTION IN AEC
PROJECT-BASED AUTOMATION

In a highly variable and fragmented industry such as AEC, many successful digital initiatives emerge not as standardized products, but as project-based automations tailored to specific contexts. When projects or portfolios share sufficiently homogeneous requirements, automating parts of the workflow can become both feasible and economically attractive, as increased repeatability expands the potential user base. In such settings, digital solutions can be designed around clearly defined scopes, stakeholders, and delivery constraints, enabling meaningful efficiency gains within the boundaries of a project or program.

However, while project-based automation can deliver real value locally, its scalability is often limited. Solutions developed for a specific project, client, or delivery model tend to embed contextual assumptions that are difficult to generalize across other projects with different regulatory environments, data structures, contracting models, or stakeholder constellations. As a result, many project-based automations remain viable only within the context for which they were created, and the effort required to adapt them for broader reuse is frequently underestimated.

ENABLING PROJECT-BASED AUTOMATION AT SCALE

The Citizen Development program at Arcadis stands as a transformative success story in digital innovation within the AEC industry. Through targeted upskilling and empowerment, Arcadis has trained approximately 500 Business Technologists to become certified Citizen Developers.

Working within the guardrails and guidelines provided by the centralized Citizen Development Team to manage risk, these professionals have created over 7,500 micro applications, 23,000 automation flows, and created more than 8,500 datasets used for data analytics. This has made their teams more efficient and has delivered great value to clients.

A prominent example of project-based automation in the AEC industry is the concept of Citizen Development, where business professionals use low code or no code tools to automate workflows without relying on centralized software development teams. These solutions are typically created to address very specific, local needs. For example, automating reporting, data collection, or coordination tasks within a single project or program[12].

Citizen Development has proven to be an effective way to introduce digital innovation into project delivery. By empowering domain experts to automate parts of their own workflows, organizations can rapidly unlock efficiencies, reduce manual effort, and improve project performance. Because these solutions are lightweight and highly targeted, they are often quicker to implement and easier to adopt than centrally developed systems.

At the same time, Citizen Development solutions are usually project-specific by design. Once a project ends, many of these automations are abandoned or archived, as the effort required to generalize them for reuse across other projects outweighs the perceived benefits. While some solutions may inspire broader adoption or inform future platform development, most remain localized optimizations rather than scalable digital products.

This pattern illustrates a broader dynamic in the AEC industry: project-based automation can be highly effective where sufficient local repeatability exists, but it rarely translates into sustainable, organization wide or industry wide scale.

Recognizing this distinction is critical. Project-based automation should be valued for what it is (an important source of efficiency, learning, and innovation) without assuming that it can easily be transformed into a repeatable, scalable solution without significant additional investment, architectural change, and often a different commercial model.

TECH ADOPTION IN AEC
DATA TO BUILD UPON

THE UPTAKE OF OPEN SOURCE

In other, less fragmented industries, open-source code has successfully driven innovation. The fragmented nature of the AEC industry has hindered the emergence of a coordinated, global open-source movement. Without dominant global players to champion or organize such efforts, open-source adoption remains limited.

There are exceptions. For example, the GIS community has seen increased uptake of open-source solutions that challenge established vendors like ESRI, and in among others Scandinavian countries, strong national support has led to broader adoption of open source IFC standards[13]. Still, investments in open-source remain marginal compared to those of the major software vendors, and open-source is not yet a viable alternative for risk-averse organizations.

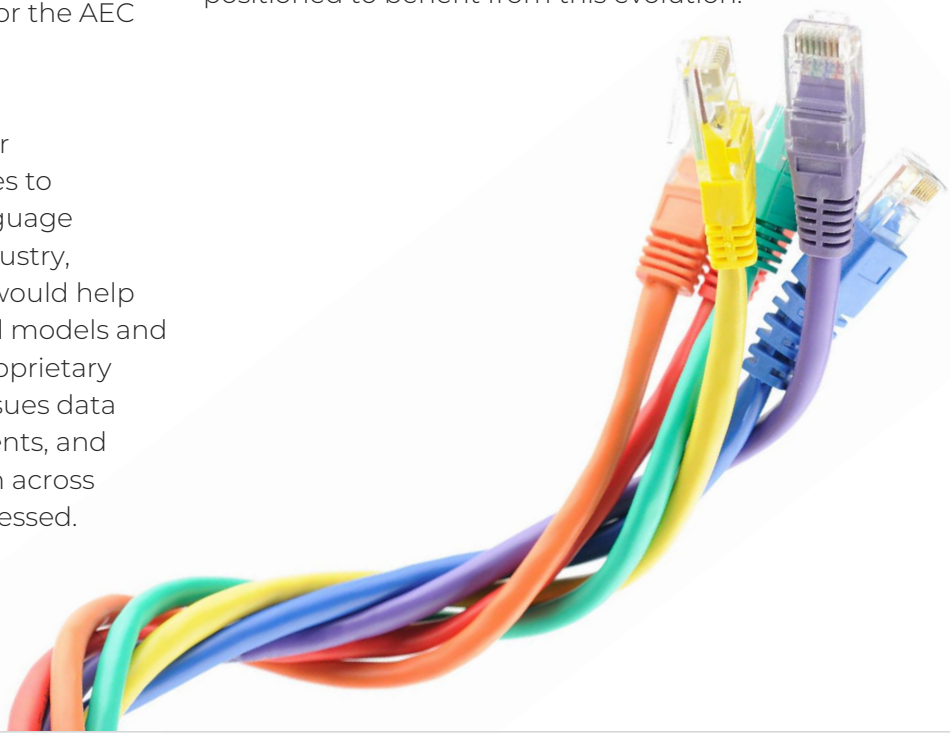
This limited uptake of open-source code is particularly significant in the context of AI since it reinforces data dominance by the major vendors, increasing the likelihood that they will be the ones to successfully develop and commercialize AEC Industry Domain AI models tailored for the AEC industry.

At the same time, there may also be opportunities, particular in Europe, for collaborative, open-source approaches to developing AEC domain-specific language models. Such initiatives, involving industry, academia, and public sector bodies, would help embed industry knowledge in shared models and reduce long-term dependency on proprietary vendor eco-systems, provided that issues data governance, data-sharing arrangements, and sustainable funding and coordination across stakeholders can be adequately addressed.

DATA READINESS

Data readiness is another major challenge yet to be fully addressed in the AEC industry. Gartner estimates that 95% of companies do not have their data organized or structured at a level suitable for effective AI utilization. Tight financial margins and the project-based nature of the industry means that there is rarely time or resources available to curate and integrate valuable project data into reliable, centralized sources. As a result, data remains fragmented and dispersed.

Despite these obstacles, there are signs of progress. Many AEC companies have begun consolidating their project data onto a limited number of platforms, and the industry is gradually moving toward standardization of classifications and metadata. These efforts could eventually transform such platforms into valuable data products, enabling AI applications in federated environments[14]. However, it is the major platform vendors, with the resources and access to the data which resides on their platforms, who are best positioned to benefit from this evolution.



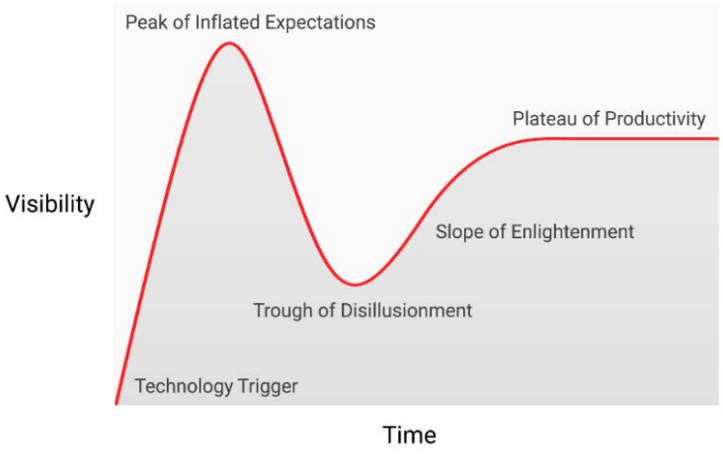
GENERATIVE AI + INVESTMENT TRENDS
EXPECTATIONS VS REALITY

To understand the rationale behind AECOM's acquisition of Consigli, it is essential to consider the broader business environment in which it was made. The emergence of advanced Generative AI systems, most notably, ChatGPT, which shocked the world with its human-like conversational abilities, has propelled us into the midst of an unprecedented Generative AI hype cycle.

THE CURRENT WAVE OF DIGITAL INNOVATION

There is little doubt that AI will significantly reshape how we work and conduct business. What distinguishes the current moment is the tangible leap in technology, moving AI from theoretical promise to practical reality. We have seen multiple (digital) technology waves in the past—such as the internet, mobile computing, and digital photography—each initially accompanied by high expectations, followed by more gradual and uneven realization of value. We believe that there is no reason to believe that the dynamics and mechanics of the AI wave will be much different.

CLASSICAL HYPE CURVE



AI adoption seems to be following the classical hype curve[15]: initial indifference gives way to growing excitement as the technology becomes viable, attracting public and investor attention (peak of inflated expectations). Expectations increase, but when immediate financial returns fail to materialize, enthusiasm dwindles, leading to disillusionment and market corrections (trough of disillusionment). Yet, it is often in this phase, when optimism fades, that the technology matures and begins to deliver real, but more modest, value (plateau of productivity).

Today, AI seems to sit at the peak of the hype curve. Investment levels are extraordinary, so much so that they are credited with sustaining US economic growth. However, the tangible benefits haven't fully emerged with a limited number of companies able to monetize the expected value, prompting questions about whether expectations are inflated. Financial institutions warn of a potential AI bubble. Nevertheless, the fear of missing out remains powerful, driving continued investment and adoption, as business leaders seek to avoid being left behind.

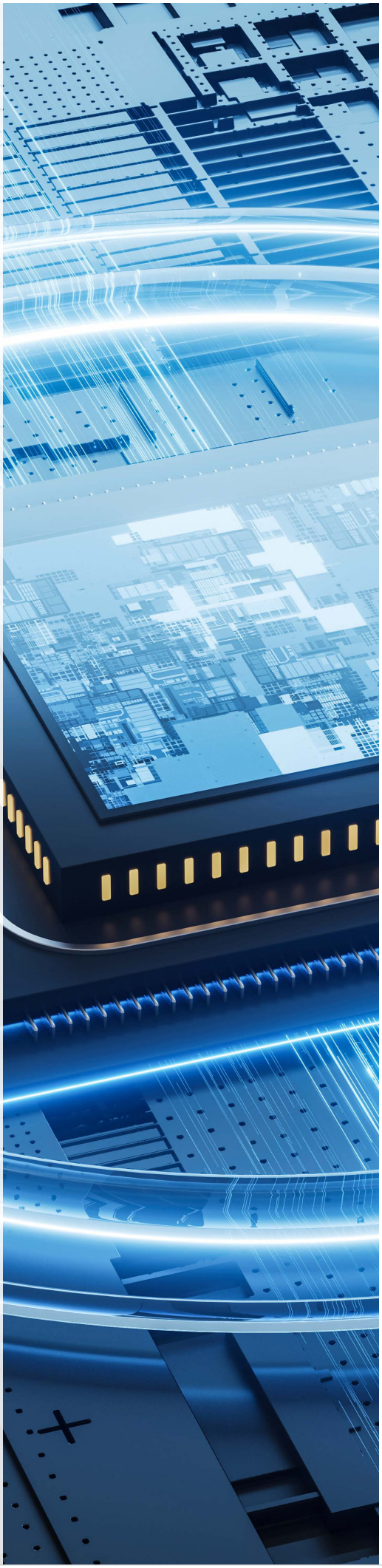
TECHNOLOGY STACKING AND COMPOUNDING EFFECTS

Technology waves rarely arrive in isolation. Generative AI will increasingly be combined with other technologies such as robotics, autonomous machinery, advanced sensing, and, over time, technologies like quantum computing. When layered together, these technologies can produce compounding effects, accelerating change beyond linear expectations. This makes it essential to consider AI not as a standalone innovation, but as part of a broader, converging technology landscape that may reshape AEC workflows, roles, and value creation over time.

S02

GENERATIVE AI + INVESTMENT TRENDS

INTRODUCING GENAI



Generative AI is a rapidly evolving branch of artificial intelligence (AI) currently commercially available to create new content, such as text, images, audio, video, or even software code, based on patterns learned from vast datasets. Unlike traditional AI systems that primarily analyze data or make predictions, generative AI models are designed to produce original outputs in response to user prompts, often in ways that closely resemble human creativity. These models, including well-known examples like ChatGPT and DALL-E, rely on advanced deep learning architectures such as transformers and diffusion models. By identifying and encoding complex relationships within their training data, AI systems can generate everything from realistic images and coherent text to music and code. This technology has seen explosive growth since 2022, impacting industries by enabling new forms of automation, personalization, and creative expression.

These AI models are available as common services in the cloud. As most software is already running in a cloud-native environment, this has enabled every software developer to integrate AI capabilities into their products at an unprecedented pace. Nearly every software vendor is now racing to meet market expectations to embed AI features into their software. Underneath that, the AI providers like OpenAI, Google and others are in a high-stake competition to provide the best cloud-based AI.

Today, nearly everyone interacts with AI in some form. Users are experimenting and using their own AI assistants to support their daily tasks. AI Agents[16] are the next evolution of assistants that will operate autonomously. These agents can be configured through proprietary in-house platforms but are also being integrated by vendors into their existing platforms with controlled access to the data in those platforms. In a nutshell, developments are moving forward quickly and expectations are high.

GENERATIVE AI + INVESTMENT TRENDS
WHERE TO PLAY IN THE AI LANDSCAPE?

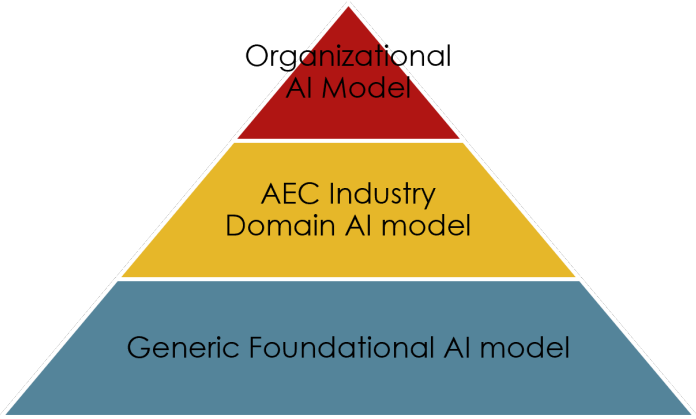
OpenAI, Google and Mistral are examples of three companies who are investing heavily in Generic Foundational AI Models, each competing to win the dominant position in the AI market.

These models provide human-like interaction and are so advanced that they can interpret and generate pictures, music and text independently. With every iteration, these models become better.

In addition to the information from the internet on which foundational AI models are trained, users can add their own data, allowing their specific knowledge and context to be reflected in AI generated outputs. This principle can be extended beyond individual users to teams, organizations, and even entire sectors.

At scale, this opens the door to tailored industry cloud platforms and corresponding AEC industry domain AI models that operate on top of general purpose foundational AI models.

FOUNDATIONAL MODELS ARE BROAD, GENERAL-PURPOSE AI MODELS; DOMAIN MODELS SPECIALIZE THEM FOR A SECTOR (E.G., AEC); ORGANIZATIONAL MODELS ADAPT THEM WITH FIRM-SPECIFIC DATA AND GUARDRAILS.



The organization which has access to the largest amount of AEC industry specific information, and the resources to exploit that data, is best placed to provide this AEC Industry Domain AI model. This is most likely to be a global market Tech leader who is already running an industry-cloud environment and has access to the information hosted on the platform. This hypothetical, of course, sets aside contractual implications of data ownership (although a viable alternative may lie in the development of open-source AEC domain models, reducing long-term dependence on proprietary vendor ecosystems).

In this hypothetical situation, organizations will be able to add their own organizational specific data to create Organizational AI Models which, if valuable enough, could differentiate them from their competitors. Of course, this assumes that the organizational data is in an appropriate state to be able to train the organizational AI model.

Another way to interpret the question of “where to play” is through a software strategy lens: whether to develop AI enabled software capabilities in house or to acquire them from external vendors. This build versus buy dimension is discussed throughout this paper and is therefore not addressed in detail in this section.It is, however, important to recognize that AI capabilities will increasingly be embedded across virtually all software platforms.

As a result, many AI features will become commoditized, shifting differentiation away from the presence of AI itself toward how effectively it is integrated, configured, and applied within specific business and delivery contexts.

GENERATIVE AI + INVESTMENT TRENDS

GENERATIVE AI AND VECTOR FILES

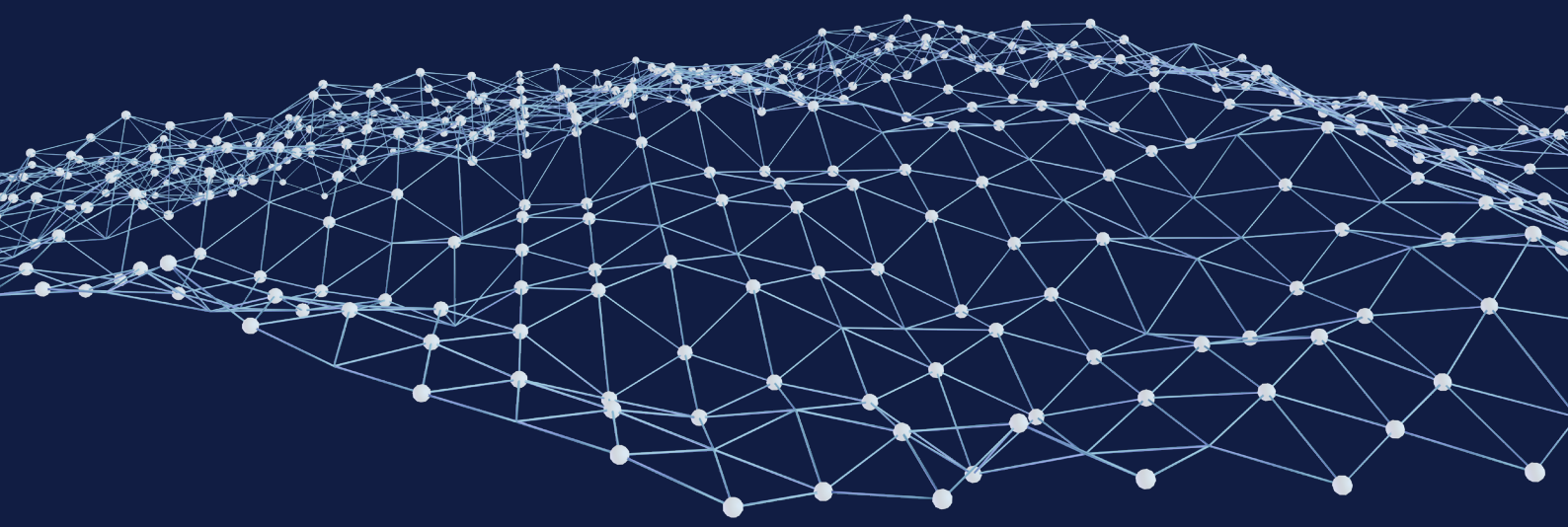
A critical, yet often overlooked, challenge to the adoption of AI within the AEC industry is the absence of foundational AI models that can process vector-based data. Let us first explain the difference between raster and vector files.

- Raster Files (such as JPEG, PNG, or BMP) are made up of a grid (raster) of individual pixels, each with its own color value. These files are ideal for representing photographs and images with complex color gradients. Most of today's AI models for images are trained on vast datasets of raster images. The abundance of training data has enabled AI to generate, interpret, and manipulate raster images with impressive results.
- Vector Files (such as those used in CAD, GIS, or BIM) are fundamentally different. Instead of pixels, they use mathematical equations to define shapes, lines, and objects. This makes them ideal for technical drawings, architectural plans, and engineering models, where precision and scalability are essential. However, there is a shortage of large, labelled datasets of vector files, and the underlying data structure is much more complex for AI to process.

While AI excels at automating scripts, parametric workflows, and producing raster-based 3D objects, it cannot (yet) directly create editable vector geometry or fully interpret complex GISCAD/BIM models. Current AI tools typically generate code or design instructions that must be processed using traditional modelling engines to produce usable vector outputs. This limitation means that, for now, AI serves primarily as an assistant, accelerating automation and optimization, rather than as a true replacement for vector-native modelling platforms.

Overcoming this barrier remains a major frontier for both AI research and industry innovation, with the potential to fundamentally transform design automation once achieved.

These limitations do not mean that AI fails to add value in the AEC industry. On the contrary, AI can already automate substantial parts of many engineering and delivery workflows and proves particularly powerful when used to augment other models and technologies, such as computational design and generative design.



S02

GENERATIVE AI + INVESTMENT TRENDS

AI-ENABLED ORCHESTRATION + AUTOMATION VIA APIS



An important, and often underestimated, source of AI-driven value in the AEC industry will come not from replacing CAD, BIM, or GIS engines, but from orchestrating and automating workflows around them. Mature engineering software platforms already expose extensive and robust APIs, enabling programmatic access to model data, commands, and workflows.

Recent advances in large language models further amplify this potential. Modern LLMs are increasingly capable of reading and interpreting API documentation and generating integration code, scripts, and task-specific automations. This significantly lowers the barrier for automating complex engineering workflows, enabling professionals to create targeted productivity enhancements without modifying or rebuilding the underlying vector-native engines.

This shift has important strategic implications. First, it explains why substantial productivity gains can be achieved without owning a proprietary AI or engineering platform. AI increasingly functions as an orchestration layer—connecting systems, generating scripts, and automating repetitive tasks—rather than as a replacement for established design engines. Second, it accelerates the trend described earlier in this paper as Citizen Development, where domain experts use low-code, no-code, or AI-assisted tools to create local automations tailored to specific tasks or projects.

At the same time, this trend introduces new risks. As AI-generated code and "vibe coding" become more prevalent, organizations face increased challenges related to maintainability, security, compliance, and long-term ownership of internally developed tools. While the barrier to creation is falling rapidly, the burden of governance and accountability is rising. Organizations will therefore need to impose stronger guardrails on citizen development, ensuring that experimentation and productivity gains do not result in opaque, mission-critical dependencies that the organization cannot audit, maintain, or scale responsibly.

Crucially, while API-driven orchestration lowers the threshold for AI-enabled productivity, it does not strengthen the strategic case for owning proprietary, end-to-end AI platforms. On the contrary, it reinforces the likelihood that many AI capabilities will commoditize and be embedded across vendor ecosystems, shifting sustainable advantage away from platform ownership and toward organizational adaptability, data stewardship, and the ability to selectively exploit AI where it delivers repeatable value. This orchestration-centric view of AI provides the context for the application examples discussed in the next section.

GENERATIVE AI + INVESTMENT TRENDS
APPLICATIONS OF AI

Many of the most impactful applications of AI in the AEC industry do not arise from AI operating in isolation, but from its ability to augment existing digital models, workflows, and engineering logic.

01. Planning and Design

- AI can help prepare architectural alternatives.
- In concert with image recognition tools, AI can support CAD model generation based on pictures.

02. BIM and CAD Workflow Enhancement

- AI is being integrated with Building Information Modelling (BIM) and CAD tools to automate information retrieval, generate code/scripts for parametric modelling/computational design/generative design, and facilitate natural language queries of complex project data.
- While direct generation of editable vector geometry is still a technical challenge, AI provides assistance by automating documentation, clash detection, and design validation tasks.

03. Construction Site Safety and Risk Management

- AI-powered systems can monitor site conditions, identify hazards, and recommend safety measures in real time, helping to reduce accidents and improve compliance.
- AI can analyze incident reports and sensor data to proactively manage risks.

04. Cost Estimation and Budget Optimization

AI tools automate quantity take-offs, cost estimation, and value engineering by analyzing project documents and market data. This should lead to more accurate and efficient budgeting.

05. Knowledge Management and Document Automation

AI can streamline the creation, organization, and retrieval of project documentation, technical specifications, and compliance reports, making information more accessible and actionable.

06. Sustainability and Energy Analysis

AI-driven simulations can optimize material selection, building orientation, and systems for energy efficiency and carbon reduction, supporting green building certifications and regulatory compliance.

07. Project Planning and Scheduling

- AI models can analyze historical and real-time project data to generate optimized schedules, predict delays, and suggest resource allocation, improving project delivery and reducing risks.
- AI can automate the creation of construction sequences and simulate project scenarios for better planning.

08. Asset and Facility Management

AI can assist in predictive maintenance, operational optimization, and lifecycle management of built assets by analyzing sensor data and historical performance.

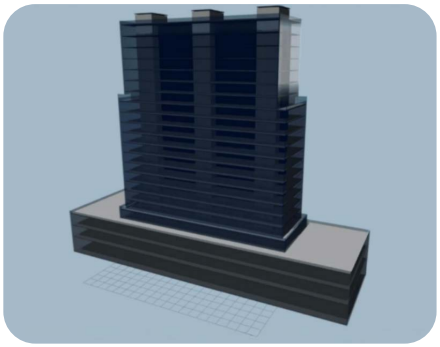
09. Collaboration and Communication

AI-powered assistants can facilitate stakeholder communication, automate meeting summaries, and support decision-making by synthesizing large volumes of project data.

GENERATIVE AI + INVESTMENT TRENDS CASE STUDIES

LIFTBUILD GEND INITIATIVE

LIFTbuild, a subsidiary of Bartow Malow, built a generative design solution named BOLT that ingests project parameters and site constraints to then generate thousands of design variations. Manual design previously took 4-9 weeks to complete floor plans and interior layouts, with BOLT reducing preliminary design time by 50% while generating a Revit model with optimised layouts. This demonstrates a successful dual innovation strategy, proving that domain expertise can be transferred into a scalable tool to drive repeatable long-term value.



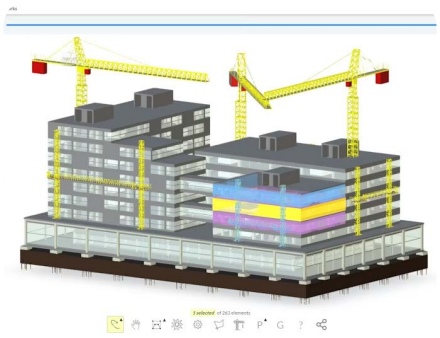


SUFFOLK CONSTRUCTION'S PREDICTIVE SAFETY AI

Traditional safety management relies on reactive lagging indicators, and manual inspections often fail to detect subtle environmental changes. In Suffolk Construction utilised the "Vinnie" AI (now Oracle-acquired platform - Newmetrix) to forecast job site accidents where real-time imagery could generate a 7-day safety forecast with 80% accuracy. By leveraging a specialised third-party vendor, Suffolk could scale repeatable automation while avoiding the integration risks of a proprietary build.

BUILD GROUP AUTOMATED SCHEDULING WITH ALICE TECHNOLOGIES

Build Group, a contractor based out of the U.S., employed ALICE Technologies' AI to analyse their initial project schedule and then generate hundreds of alternate schedules. The optimally generated schedule enabled Build Group to save several weeks, reducing the overall timeline by 17% and saving 14% on labour costs. This demonstrates how adaptable technology strategies with ecosystem partners can drive immediate ROI without the burden of in-house platform development.



KEY LEARNINGS

- **Data stewardship is foundational:** Organisations must prioritise shared data standards and data readiness before layering on predictive or generative tools.
- **Augmenting vs. replacing:** Beyond just automating high-volume tasks, capturing sustainable value requires inclusive capability building and strong change management to retain talent and integrate AI into human-led workflows.

S02

STRATEGIC CASE STUDY ON AI, ROBOTICS + THE FUTURE OF CONSTRUCTION SOFTWARE

PROCORE TO ACQUIRE DRONEDEPLOY

In late 2025 and early 2026, Procore made two acquisitions that provide an important window into how one of the world's leading construction technology companies believes artificial intelligence will reshape the future of the built environment.

The first acquisition, Datagrid, strengthened Procore's artificial intelligence capabilities and accelerated the company's development of construction-specific AI agents. The second acquisition, DroneDeploy, expanded Procore's ability to capture and interpret the physical world through drones, robotics, cameras and visual intelligence.

Viewed independently, both acquisitions appear logical extensions of Procore's existing construction management platform. Datagrid improves the company's ability to reason about construction information. DroneDeploy expands its ability to collect and understand that information, with the acquisition providing immediate synergy that will generate revenue in the short-term. Viewed together, however, they reveal a much broader strategic ambition.

Procore is attempting to move from being the system of record for construction projects to becoming the system of action for construction delivery. This distinction is central to understanding how artificial intelligence will reshape enterprise software.

As AI models become increasingly capable of understanding images, video, language and spatial information, software no longer needs to wait for humans to describe what has happened. AI systems can increasingly observe the world directly, interpret events and initiate workflows without requiring every action to begin with manual data entry. This creates a new strategic battleground.

Procore's acquisitions follow the same model as AECOM with a different vision, but the same underlying view of how the market is changing. Information is no longer enough, the platforms want to control the flow an impact of this information.

PROCORE DroneDeploy

> *"AI pilots come with a lot of promise and excitement, but many of them die on the vine before they ever get going. There are four main reasons why. AI has to solve a real problem for doing the work, it has to live where people are already working, it must be trustworthy, and we must recognize that AI can't fix any one industry entirely.*
>
> *Without those four elements, AI adoption of a new tool or implementation will be sparse, at best. At worst, it can cause fractures across an entire company."*
>
> KRIS LENGIEZA,
> FIELD COO AT PROCORE

- **For Engineers:** Job-site documentation and routine inspections will become automated outputs of continuous sensing systems, shifting human focus from data collection to high-level technical judgment and exception management.
- **For Investors:** Competitive advantage in enterprise software is shifting away from storing databases toward owning proprietary training data, workflows, and the authoring layer itself.

S02

BEYOND THE SYSTEM OF RECORD
PROCORE'S AI STRATEGY



"AI features will become table stakes. What won't be commoditized is the context behind them.

For decades, Procore has been where owners, contractors, and specialty trades collaborate on a single platform, which means our AI works with real project data and full context, not generic knowledge. With Procore AI giving our digital coworkers the ability to see the jobsite and understand the impact of decisions, we can move from simply documenting work to helping teams act on what's happening.

People make the decisions, and every recommendation traces back to its source. That represents a true system of intelligence."

AJEI GOPAL,
PRESIDENT AND CEO OF PROCORE

Enterprise software is shifting from digitizing paper processes to automating decisions and workflows. Construction has historically lagged behind because software relied heavily on manual data entry.

While a project exists across physical work, BIM models, schedules, and contracts, connecting these domains traditionally required human observation. Engineers, project managers, and superintendents had to inspect sites and write reports before any data entered the platform.

This manual process creates a lag between reality and documentation. Multimodal AI changes this dynamic entirely. Cameras, drones, and site robotics can continuously capture physical conditions, allowing software to evaluate job sites against design intent, flag deviations, and initiate workflows automatically.

Recognizing this shift, Procore is transforming from a System of Record into a System of Action. A System of Record simply organizes past information. A System of Action actively participates in execution by detecting events, triggering responses, and coordinating work.

In an AI-native workflow, site sensors capture an installation, computer vision flags a BIM deviation, and the system automatically alerts the subcontractor with a suggested fix. The software stops merely documenting work and starts actively managing it. Executing this vision, however, requires continuous physical perception, which explains Procore's acquisitions of Datagrid and DroneDeploy.

DroneDeploy has evolved from a drone mapping tool into a hardware-agnostic visual intelligence platform. Its strategic value lies in controlling the "authoring layer" of construction data.

While traditional software receives information after human interpretation, DroneDeploy captures physical reality directly to create the primary digital record of a job site.

This gives Procore rich upstream context alongside a massive proprietary dataset. Spanning 20 trillion square feet of imagery and over 100,000 labeled safety observations, this visual data provides essential training infrastructure for construction-specific AI.

BEYOND THE SYSTEM OF RECORD
ORCHESTRATING THE AUTONOMOUS JOBSITE

Paired with Datagrid's AI reasoning, these acquisitions establish a complete AI stack:

- DroneDeploy provides perception
- Datagrid provides reasoning
- Procore provides workflow execution

Proocore is positioning itself as the management layer for site robotics, coordinating autonomous devices much like a general contractor manages subtrades. As labor shortages accelerate, managing machine-generated work will become as vital as managing human crews.

For engineers, routine documentation and inspections will increasingly become automated, shifting human effort toward technical judgment, validation, and exception management. For investors, competitive advantage in enterprise software is moving away from static databases toward controlling proprietary data generation and primary execution workflows.

Integrating multimodal AI alongside competitors like Autodesk, Bentley, and Trimble remains a complex challenge. However, the strategic direction is clear. Procore acquired DroneDeploy, betting that future software will not just document the built environment, but understand and orchestrate it.

PROCORE

Datagrid™ FROM PROCORE

DroneDeploy

"AI agents shouldn't just point you to a document and say, 'here you go, good luck.' To be impactful in our industry, they should review the submittals, consider timelines, and have context on everything that goes into a project.

We've seen the best success for companies when agents go beyond context and draw from decades of historical data, skills, and company procedures. Your team has that already. Agents only open up new efficiencies and improvements. And the introduction of agents doesn't have to be a massive overhaul. Start on a smaller scale: What's one thing you struggle with right now, or what would be helpful to take off your plate? Once you've solved that, your team will be eager to bring on even more."

THIAGO DA COSTA,
SVP OF AL & DATA AT PROCORE
(FORMER CEO AND FOUNDER OF DATAGRID)

"Construction demand is at an all-time high, and so is schedule pressure. Data centers, fabs and infrastructure projects can't slip, and there aren't enough experienced superintendents to go around.

Today, supers spend hours a week walking the site just to figure out what got done. Drones, 360 capture and robots can now document the entire jobsite daily. AI checks it against the model and schedule, and flags what's behind before it becomes a delay. Supers get to spend their judgment on what's next, not on reconstructing what already happened.

That's why DroneDeploy joined Procore: to connect the physical site to the project record, so AI can see what's happening, reason about it and help teams act."

MIKE WINN,
SVP, REALITY CAPTURE & ROBOTICS AT PROCORE
(FORMER CEO AND CO-FOUNDER AT DRONEDEPLOY)

STRATEGIC RATIONALE + OPPS
INSIDE AECOM'S CONSIGLI ACQUISITION

In their press release, AECOM claims that with the acquisition of Consigli they will

- have access to proprietary in-house developed AI Technology,
- be able to strategically differentiate themselves,
- get quick access to a lot of AI talent,
- accelerate innovation at scale and
- accelerate the establishment or further growth of the AI competence center. Let's examine each of these claims, but first, let's look at Consigli.

CONSIGLI

Consigli is a Norwegian AI startup founded in 2020 and headquartered in Oslo. The company specializes in AI solutions for the engineering and construction industry, branding itself as "The Autonomous Engineer"[17]. Its platform leverages AI to automate and optimize a wide range of engineering and BIM workflows. Consigli claims that their technology acts as an AI agent that can:

- Read project briefs and generate layouts.
- Perform load calculations and optimize structures.
- Build BIM models (including clash-free BIM level 3 models with drawings, system strategies, and bills of quantities)
- Automate MEP (mechanical, electrical, plumbing) engineering, space analysis, unit optimization, and tender documentation.
- De-risk tender documents and automate documentation for operations and maintenance.
- Reduce engineering time by up to 80–90%, and material use by around 20%[18].

CONSIGLI AECOM



Consigli founder and CEO Janne Aas-Jakobsen, AEC Magazine 2025

AECOM acquired Consigli for approximately $390M after collaborating on several projects. The acquisition is seen as a bold strategic move, giving AECOM direct access to in-house AI technology and top AI talent (including Consigli's founder, Janne Aas-Jakobsen, who now leads AI engineering at AECOM). The goal appears to be to embed AI deeply into AECOM's workflows, accelerate design cycles, reduce costs, and enhance sustainability and competitiveness in the global engineering market. Consigli had around 20–30 employees at the time of acquisition and had raised several million dollars in venture funding.

Based on information publicly available, it is difficult to test Consigli's claims about the platform or assess the financial impact on AECOM of the acquisition.

S03

STRATEGIC RATIONALE + OPPS
WHAT DROVE THE DEAL?

ACCESS TO PROPRIETARY IN-HOUSE AI TECHNOLOGY

- The benefits to AECOM in having a proprietary in-house AI Platform include:
- The ability to develop specific, targeted capabilities without having to rely on external vendors.
- Short term, operational savings when compared with premium priced industry platforms.
- Decreased dependency on, and increased leverage with, AEC vendors such as Autodesk.

STRATEGIC DIFFERENTIATION

- If the bold claim of 80-90% efficiency gain is achievable, this will give AECOM a significant competitive advantage in the market-place.
- The platform should be able to help AECOM reduce risk, compress design cycles, and deliver projects more efficiently.
- According to AECOM, clients are increasingly requesting real-time, data-driven insights. The platform should be able to provide this.
- AECOM will be in a better position to quickly learn what opportunities AI will offer. This establishes them as the industry leader.
- By acquiring Consigli, AECOM has proactively addressed the potential existential risk of AI.

ACCESS TO AI TALENT

AECOM did not only acquire Consigli's platform, but also its CEO and AI engineering team. This brings top AI talent and the associated authority to AECOM, at least in the short-term.

ACCELERATING INNOVATION AT SCALE

AECOM and Consigli had worked together prior to the acquisition. This should help with integration and adoption.

The acquisition will provide Consigli with direct access to the global engineering-delivery pipeline of a major AEC company with the potential to scale the technology rapidly across AECOM.

ACCELERATES THE ESTABLISHMENT OF AN AI COMPETENCE CENTER

An AI Competence Center[19] with Consigli's CEO as head of AI Engineering will be able to provide guidance, support, and structured change management to support AI adoption across AECOM.

AECOM now has a clear advantage over its competitors to accelerate the integration and scaling of AI capabilities into AEC delivery.



Intuit Dome by AECOM.
Image courtesy Los Angeles Clippers

S04

RISK + CHALLENGES
MANAGING TO NAVIGATE

Building on the strategic rationale and opportunities outlined in the previous chapter, this section examines the key risks and challenges associated with pursuing AI at scale in a highly fragmented, project-based industry. These risks extend beyond technology itself and include organizational integration, adoption and change management, data and regulatory constraints, platform commoditization, and economic viability.

01. ORGANIZATIONAL INTEGRATION & TALENT RETENTION

Integrating a small, AI-native organization into a large, global engineering firm introduces inherent organizational tension. Startups typically operate with high autonomy and rapid iteration, while established engineering firms prioritize governance, risk management, and predictable delivery. If not managed carefully, these differences can slow innovation and dilute the value of the acquired capability.

Two closely related risks stand out. Cultural misalignment may constrain experimentation if agile AI teams are forced too quickly into governance-heavy processes, while insufficient integration can isolate them from the core business. Talent retention is equally critical: the long-term value of the acquisition depends on retaining scarce AI expertise beyond the initial post-acquisition period, particularly as autonomy, influence, or learning opportunities evolve.

02. ADOPTION & CHANGE MANAGEMENT

Even where AI capabilities are technically sound, their impact depends on effective adoption across the organization. Introducing AI into established engineering workflows requires sustained investment in change management, training, and leadership engagement. Without this, new tools risk remaining isolated experiments rather than becoming embedded in day-to-day delivery.

A related challenge is use-case viability. Adoption often stalls when organizations struggle to identify repeatable, high-value applications beyond local or project-specific contexts. In the absence of clear, demonstrable business value, enthusiasm may fade and AI initiatives may fail to scale. Successfully navigating this risk requires deliberate prioritization of use cases, realistic expectations about where scale is possible, and ongoing alignment between technology investment and business outcomes.



RISK + CHALLENGES (CONTINUED)
MANAGING TO NAVIGATE

03. DATA, SECURITY & REGULATORY RISKS

AI capabilities are only as effective as the data they rely on, and data readiness remains uneven across the AEC industry. Project data is often fragmented, inconsistently structured, and governed by differing contractual and regulatory constraints. As a result, organizations pursuing AI at scale may need to invest significantly in data foundations before meaningful value can be realized.

At the same time, AI platforms introduce heightened security, compliance, and regulatory exposure. Engineering data is often sensitive, subject to client confidentiality, data-protection legislation, and sector-specific regulations. In addition, the use of AI in engineering workflows raises questions around accountability, transparency, and liability—particularly where AI-assisted outputs influence design decisions or safety-critical outcomes.

These risks do not preclude AI adoption, but they do require deliberate governance, clear data stewardship, and realistic expectations about the pace at which AI can be deployed responsibly at scale.

04. FINANCIAL VIABILITY & ROI UNCERTAINTY

Realizing financial returns from AI investments at scale remains challenging in the AEC industry. The prevailing time-and-materials business model often limits the ability to capture the value of productivity gains, as efficiency improvements may reduce billable hours unless pricing and contracting models evolve toward value- or outcome-based approaches.

In addition, organizations frequently underestimate the long-term costs of building, operating, and maintaining secure, scalable AI platforms, including ongoing investment in talent, governance, compliance, and infrastructure. Combined with limited industry-wide evidence of sustained AI-driven ROI, this creates uncertainty around the economic viability of large, proprietary AI initiatives.

These constraints do not negate the potential value of AI, but they do reinforce the need for realistic expectations, disciplined investment decisions, and close alignment between AI initiatives, commercial models, and measurable business outcomes.

05. PLATFORM COMMODITIZATION & COMPETITIVE PRESSURE

A central risk of investing heavily in proprietary, in-house AI platforms is rapid platform commoditization. AI capabilities are evolving quickly and are increasingly embedded into the offerings of large technology providers and established AEC software vendors. As a result, features that initially appear differentiating may become widely available within a short time frame.

This dynamic is reinforced by user-base economics. With a limited internal user base, even large engineering firms may struggle to justify the long-term investment required to build, operate, and continuously evolve proprietary AI platforms. If such platforms are commercialized externally, they are likely to face intense competition from vendors with broader reach, greater R&D capacity, and established distribution channels.

Taken together, these pressures suggest that sustainable advantage is unlikely to come from platform ownership alone. Instead, competitive differentiation is more likely to stem from how effectively organizations integrate AI into their delivery models, leverage their domain expertise and data, and adapt as AI capabilities commoditize.

S05

MARKET + INDUSTRY RESPONSE
UNDERSTANDING OF LOGIC

How did the market respond? AECOM's share price movements in late 2025 reflect two distinct market reactions that should not be interpreted as a single trend. The sharp decline in the days preceding the Consigli acquisition announcement was driven by fundamental earnings concerns, while the acquisition itself prompted only a modest and measured response.

THE EARNINGS-DRIVEN DECLINE (PRE-ACQUISITION)

In the week prior to the Consigli announcement, AECOM's share price fell by roughly 25%, a move triggered by the company's Q4 FY2025 earnings release. Although earnings per share were slightly ahead of expectations, the market focused on a revenue miss relative to analyst forecasts. This shortfall prompted several analysts to downgrade the stock or cut price targets, reinforcing investor concerns about near-term growth momentum.

The combination of a top-line miss, cautious analyst commentary, and a broader risk-off sentiment in the market led to a pronounced sell-off. This decline was fully underway before any news of the Consigli acquisition emerged.

MARKET RESPONSE

When AECOM announced its acquisition of Consigli, the market response was not dramatic. The share price moved only slightly lower, approximately 1–2%, a typical reaction to an acquisition that introduces short-term integration costs but is strategically aligned with long-term innovation goals.

Importantly, there was no evidence of a renewed sell-off or a negative reassessment of AECOM's strategic direction. The muted reaction suggests that investors viewed the acquisition as incrementally positive or neutral, and not as a source of additional risk (and value).

INDUSTRY RESPONSE

The industry's response provides an important counterbalance to the market narrative. The industry reacted in a very different way. Competitors of Consigli claimed on LinkedIn and X a sudden uptick in user activity as firms reassessed their reliance on Consigli and explored alternative AI-engineering platforms. This surge in competitive engagement underscores that, even though the market treated the acquisition with muted caution, the industry interpreted it as a meaningful shift. One that introduced uncertainty for existing users and simultaneously validated the strategic importance of AI-driven engineering tools. Together, the market and the industry signals show two parallel dynamics: a financial reset unrelated to the acquisition, and an industry awakening triggered directly by it.

CONCLUSION
A PRECURSOR TO OTHER DEALS?

AECOM's acquisition of Consigli demonstrates ambition and a willingness to lead the AEC industry's adoption of AI. However, the long-term success of this investment will depend on how effectively AECOM navigates the industry's inherent complexities. The following recommendations are provided as practical steps for AEC companies to take to unlock meaningful value from AI and ensure sustainable progress.

ORGANIZATIONAL RECOMMENDATIONS

The AEC industry faces persistent challenges rooted in its fragmented structure, project-based variability, and complex regulatory landscape. These factors will make it difficult for organizations to standardize processes, scale digital solutions, and fully realize the benefits of AI. The successful adoption of AI by AEC organizations will require not only technical innovation, but a focus on change management, data readiness, and the ability to adapt to rapid technological change.



01. Focus on your people

Success will depend on engaging your workforce, building AI literacy, and fostering a culture of experimentation and learning. Invest in comprehensive change management programs, empower 'AI champions', and ensure AI is seen as a tool to augment (not replace) professional expertise. Prioritize transparent communication, continuous training, and support structures that help people adapt to new workflows and responsibilities.



02. Adopt a dual innovation strategy

Organizations should empower teams to develop micro-automations and project-specific AI solutions to address unique, local challenges, while systematically identifying and scaling repeatable use cases that deliver value across projects and geographies. Ensure that enabling functions such as IT, HR, finance, and tender management are included, as they are more likely to offer repeatable use cases. Collaborate with your clients to design contracts and procurement models that incentivize the development of scalable digital solutions. Establish clear metrics and feedback loops to measure adoption and value realization to ensure continuous improvement and alignment with organizational goals.

Organizations should not only experiment with AI, but actively create the conditions under which repeatability can emerge. This requires identifying patterns across projects and portfolios, and aligning organizational governance, capabilities, and investment choices to deliberately create windows of opportunity for scaling. While many of the structural levers for repeatability sit at an industry or procurement level, organizations must assess for themselves whether such opportunities exist or can be shaped internally, and be ready to act on them to create scalable value.

CONCLUSION (CONTINUED)
A PRECURSOR TO OTHER DEALS?

03. Address AI risks

Robust governance and ethical frameworks will be essential to manage the risks associated with AI adoption. Develop clear policies for data privacy, security, and compliance with regulatory requirements. Establish transparent protocols for AI validation, auditability, and liability, especially in high-risk areas like HR, engineering calculations and decision-making.

Foster a culture of ethical awareness, ensuring that AI systems are used responsibly and that human oversight remains central. This requires active change management to embed governance principles into everyday ways of working, rather than treating them as a purely legal or compliance exercise. Governance structures should be regularly reviewed and updated to keep pace with evolving technology, organizational practices and societal expectations.

04. Invest in data foundations

No AI strategy will succeed without robust, accessible, and well-governed data. Prioritize the creation of reliable data repositories, standardized metadata, and clear data stewardship models[20]. Adopt federated or data mesh[21] approaches where appropriate to reflect the project-based structure of the industry. Strong data governance and interoperability will be essential to unlock the full potential of AI for your organization and to ensure compliance with regulatory and client requirements.

05. Foster collaboration and ecosystem engagement

AI adoption will be most successful when organizations actively engage with the broader ecosystem including clients, partners, regulators, and industry bodies. Collaborate to set standards, share data, and drive sector-wide adoption. Participate in joint digital academies, competence frameworks, and cross-organizational exchange programs. By building strong relationships and contributing to collective capability-building, organizations can accelerate AI acceptance and maximize its impact, setting the stage for industry-wide transformation.



CONCLUSION (CONTINUED)
A PRECURSOR TO OTHER DEALS?



06. Build a flexible and strategic approach to technology platforms

Where possible, technology choices should enable adaptability, not lock organizations into rigid solutions. Rather than investing heavily in proprietary AI platforms or attempting to build and maintain complex technology stacks internally, most AEC organizations will benefit from partnering with established technology vendors who can provide robust, cloud-based AI platforms[22]. This approach will allow organizations to focus on what truly differentiates them: their domain expertise and unique data.

Key actions should include:

- Investing in internal capability to integrate, configure, and orchestrate best-of-breed third-party platforms, as opposed to building everything in-house.
- Retaining ownership and stewardship of your organization's domain knowledge and data, which are the real sources of competitive advantage.
- Designing technology strategies that can adapt to new tools, vendors, and client expectations, rather than committing to a single, monolithic solution.
- Prioritizing open standards and interoperability to avoid vendor lock-in and ensure flexibility as AI ecosystems evolve.

By remaining flexible and focusing on domain knowledge, organizations can respond quickly to technological change, avoid the risks of commoditization, and ensure that their AI investments deliver sustainable value.



07. Develop new offerings

Look beyond internal efficiency and consider how AI can help you create new value propositions for your clients. This could include services that help clients organize and leverage their own data, drive data-driven decision-making across the asset lifecycle, or provide advanced analytics and insights. Position your organization as a trusted partner in a client's digital transformation journey, using Data & AI to solve their most pressing challenges.



08. Create an adaptable organization

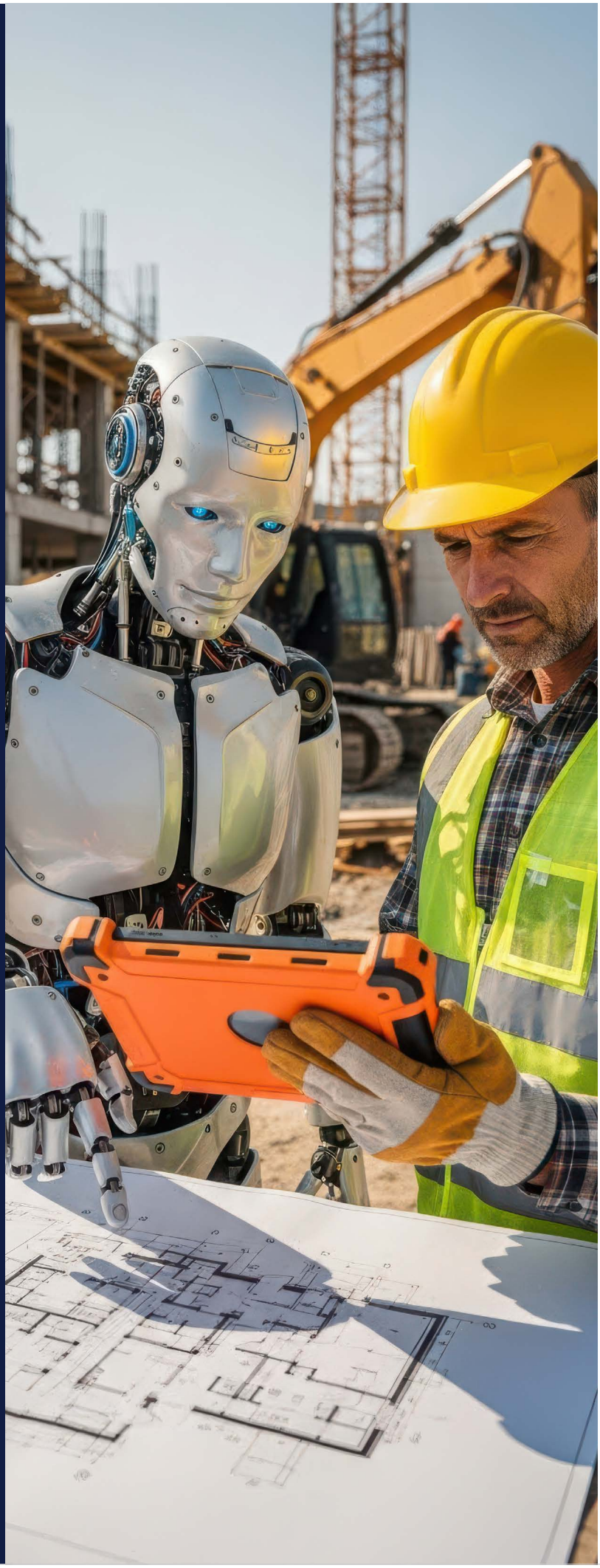
In a world where technology evolves at an ever-increasing pace, organizational adaptability becomes increasingly important. Build structures, leadership, and cultures that can sense change, learn quickly, and reconfigure capabilities as needed. Invest in cross-functional digital leadership, talent retention, and scalable training programs. Encourage controlled experimentation and maintain flexible technology foundations that allow you to pivot as the AI landscape shifts.

OUTLOOK
M&A TO LONG-TERM VALUE CREATION

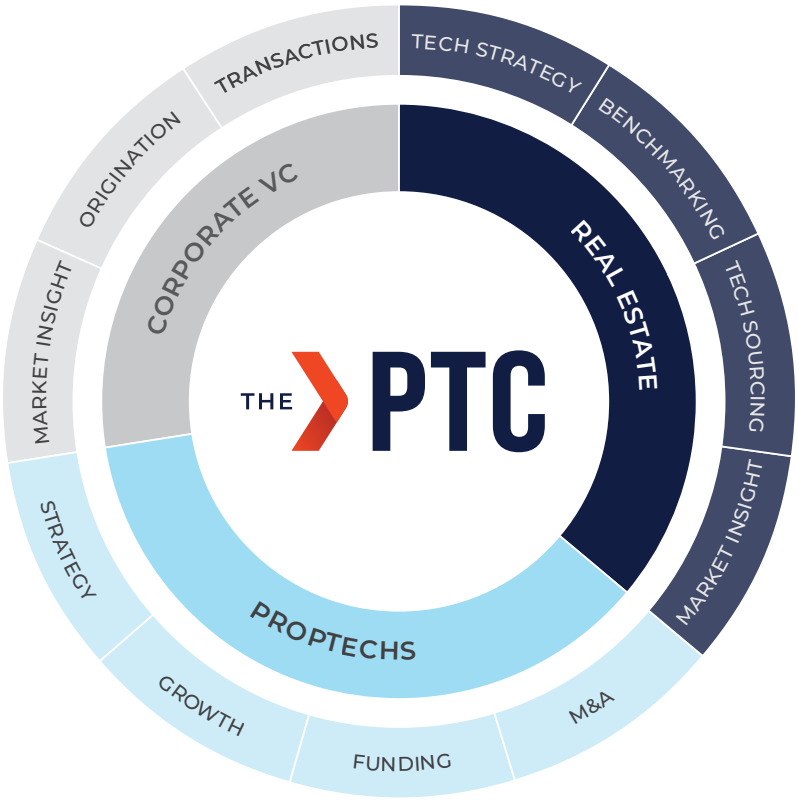
Most of the original thesis and logic from our partners (Bram, Alison and Arjen) still stands the test of time and they have predicted some market movements in advance.

They rightly called out the Consligli deal as an example of a wider trend impacting the AEC space and a predictor of future market consolidation.

M&A deals grab headlines but can be distracting for organizations as they seek to evolve and incorporate the best of the acquired assets and talent within a larger enterprise. We have highlighted that even with that consideration, M&A is accelerating in this space including the active M&A strategy of Procore including the DroneDeploy acquisition as they seek to augment their offering. Expect the deals and offerings to market to continue to evolve as the building blocks are acquired for GenAI to exploit value in different ways across the life-cycle.



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APPENDIX 01

1. Generative AI (GenAI) refers to models that create new content (text, images, code, audio, video) based on patterns learned from data; common examples include large language models and image diffusion models. In this paper, GenAI is considered both as a standalone capability and as an enabling layer that augments other digital approaches such as computational design and generative design.
2. Vector files (e.g., CAD/BIM/GIS) encode geometry mathematically and remain editable at any scale, unlike pixel-based raster images. Current AI models have limited native support for complex vector semantics.
3. Capabilities, performance, and ROI figures are vendor-stated unless otherwise cited; independent benchmarks are limited.
4. Value-based procurement rewards demonstrable productivity and quality outcomes (e.g., data deliverables, automation reuse), not only lowest upfront price.
5. Organizations should prioritize people to maximize the successful implementation of AI, while recognizing that many tasks will be automated or disappear and that success increasingly depends on reskilling, role evolution, and effective human oversight of AI-enabled workflows.
6. Data continuity is the consistent capture, handover, and re-use of information across planning, design, construction, and operations without loss of fidelity or context.
7. Structural variability describes the state of the AEC industry in which there is a high degree of variation in how projects are scoped, designed, delivered, and governed, limiting the consistency and repeatability of processes across projects and project phases.
8. SMEs (Small and Medium-Sized Enterprises) are firms with limited scale and market power; while definitions vary by jurisdiction, they typically employ fewer than 250 people.
9. The desirability/feasibility/viability triad assesses solutions by user value (desirability), technical achievability (feasibility), and sustainable business impact (viability).
10. Proprietary applications developed in-house (“built”) refer to software, platforms, or automation solutions created and maintained internally by an organization to address specific organizational or project contexts, rather than acquired as off-the-shelf products from external technology vendors. Such applications can provide short-term differentiation and support organizational learning, but often face challenges in achieving repeatability, sustainable scale, and long-term competitiveness when compared with solutions developed by vendors serving a broader market.
11. A platform stack is a layered technology architecture comprising infrastructure, data, core services, and applications. Abstraction or integration layers are used to standardize and mediate access between these layers. While they can increase flexibility, such layers also carry development and operational overhead that is difficult to justify without sufficient scale.

APPENDIX 02

12. As GenAI and AI-assisted low-code/no-code platforms mature, the barrier for professionals to create their own task-specific automations and micro-applications is expected to decline further (e.g. “Vibe Coding”). This is likely to expand the range and speed of project-based automation by enabling domain experts to translate local needs directly into working solutions. Rather than reducing fragmentation, this development may reinforce project-specific innovation as a viable and effective response to variability, while further challenging the scalability of standardized, organization-wide digital solutions.
13. IFC (Industry Foundation Classes) is an open, vendor-neutral data format for building and infrastructure information exchange.
14. A federated environment is a system in which data remains within its original domain or organization but can be accessed, analyzed, or processed collectively through standardized protocols or interfaces. This approach enables collaboration and data sharing across multiple parties without requiring all data to be centralized in a single repository. This fits well within the fragmented environment of the AEC industry.
15. The ‘hype cycle’ frames adoption from technology trigger → peak of inflated expectations trough of disillusionment → slope of enlightenment → plateau of productivity.
16. Be careful of branding inflation. What is now called an AI Agent may actually be an AI assistant. In this paper, ‘AI agents’ refers to semi-autonomous systems that can plan and execute multistep tasks with limited oversight; many current ‘agents’ are still advanced assistants.
17. Consigli markets its platform as ‘The Autonomous Engineer’; capabilities and performance claims are vendor-stated and difficult to independently verify.
18. Stated claims are dependent on scope, data quality, and others; independent, peer-reviewed benchmarking is limited at time of writing.
19. An AI Competence Center is a centralized function for standards, tooling, training, and change enablement to support scaled AI adoption.
20. Data stewardship assigns accountable owners for data quality, lineage, metadata, and access policies across domains.
21. A data mesh is a decentralized IT approach to federated data architecture and organizational design, promoting domain-oriented ownership and interoperability.
22. The AEC industry includes actors with many different business models and levels of control over assets and data; consequently, the strategic case for AI platform ownership may vary.