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Microsoft Solutions Partner

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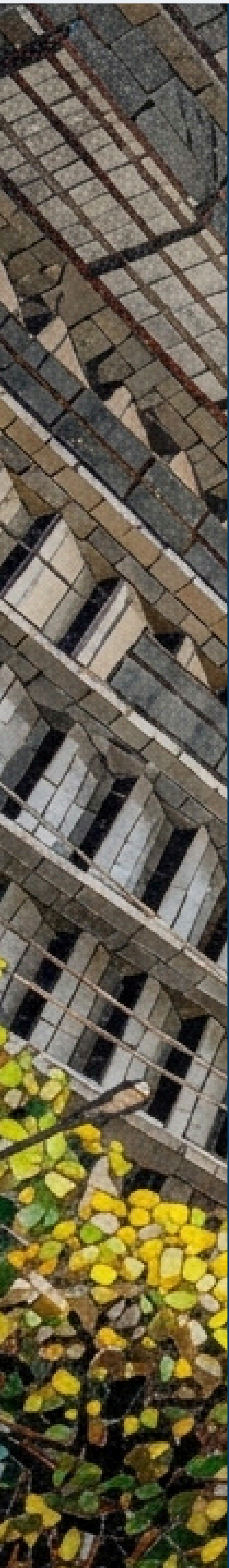
From AI Pilots to Better Decisions in AEC

How connected intelligence helps AEC firms improve project performance, reduce risk and turn data into a competitive advantage.



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Executive summary

AI is one of the defining boardroom conversations of the decade. Yet according to Bluebeam's 2026 Building the Future: AEC Technology Outlook, only 27% of AEC firms currently use AI for automation, problem-solving or decision-making. Among those that do, 68% have realised savings of at least £36,945, while 94% plan to increase investment over the next year.

Despite growing interest, many organisations remain focused on the technology itself rather than the business value it can create.
AEC leaders are under pressure to improve profitability, increase project predictability, address resource constraints and deliver greater client value. At the same time, vast amounts of project, commercial and operational data remain fragmented across systems and teams. The result is a familiar challenge: more data than ever, but not enough insight to make confident decisions quickly.

While AI adoption is accelerating, few firms have translated pilots into measurable, enterprise-wide outcomes. Research reveals a significant readiness gap, with most leaders expecting AI to reshape their business, but only a minority believing their organisation is fully prepared to take advantage of it.

> EXECUTIVE INSIGHT: Nearly 80% of organisations using generative AI are simply layering it onto existing processes rather than redesigning how work gets done, limiting its ability to create lasting business value.

Brian Henry
Professional Services Industry Lead
HSO

The Intelligence Gap:

Why More Data Isn't the Answer

Most AEC organisations have never had access to more information. Every project generates a vast volume of operational, commercial and financial data, schedules, contracts, change orders, resource allocations, forecasts, client communications and delivery records all feed a growing pool of organisational knowledge.

Yet many leadership teams face a familiar frustration: critical decisions still require significant effort to gather, validate and interpret information before any action can be taken.

The challenge is not a lack of data. It is fragmentation.

Information is dispersed across ERP systems, project management applications, CRM platforms, spreadsheets, document repositories, collaboration tools and specialist point solutions. As firms scale through acquisition, expansion or diversification, this complexity compounds.

The result is what can best be described as the AEC Intelligence Gap, the gap between the information organisations possess and the intelligence they can effectively use.

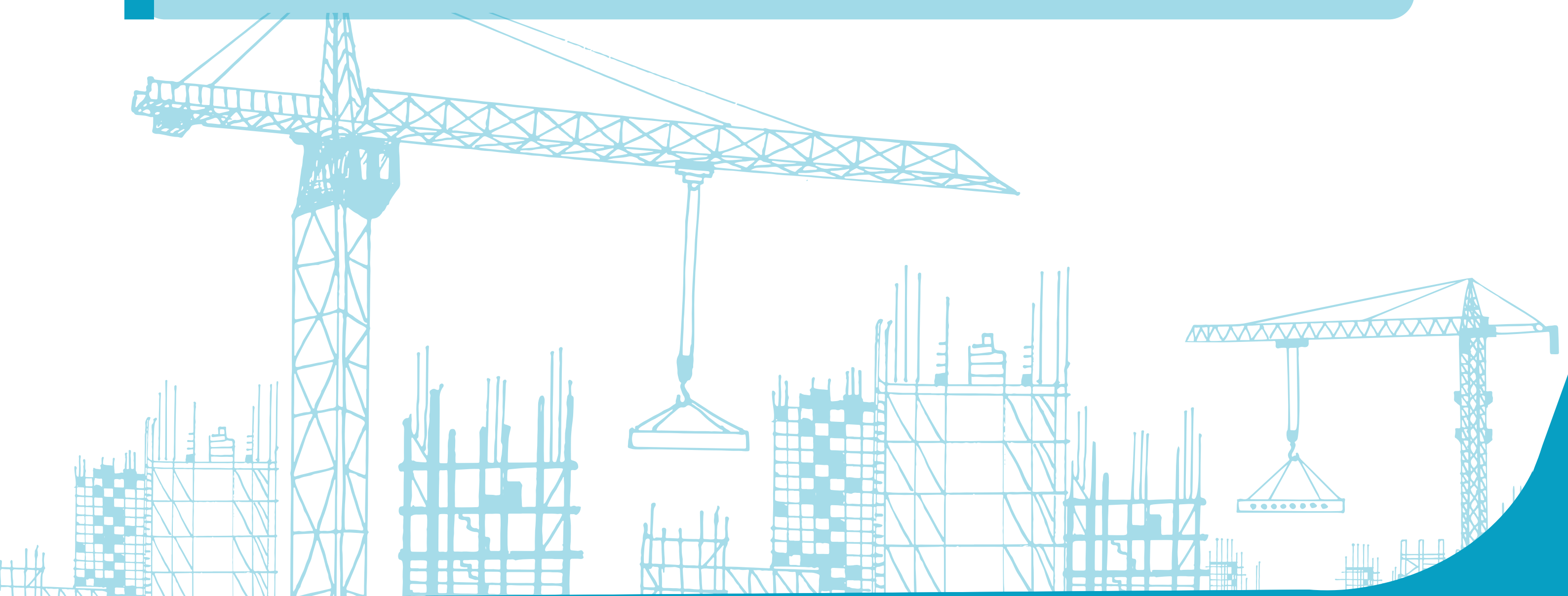
Many firms have invested heavily in technology over the past decade, yet valuable information remains trapped in operational silos. Project teams spend considerable time gathering information manually, validating reports and reconciling conflicting data sources before meaningful decisions can be made.

This has tangible business consequences. Disconnected information contributes to:

- Reduced visibility into project profitability
- Delayed identification of commercial risk
- Slower decision-making
- Inconsistent forecasting
- Poor resource allocation
- Increased administrative effort
- Underutilisation of institutional knowledge

The consequence: organisations become reactive rather than proactive. Leaders spend time explaining what happened instead of understanding what is likely to happen next. This is where artificial intelligence can create real value, not because it automates everything, but because it helps organisations turn information into intelligence.

> EXECUTIVE INSIGHT: AEC firms are not suffering from a lack of data. They are suffering from a lack of connected intelligence.



The Intelligent AEC Firm Framework

One of the advantages of working across dozens of Architecture, Engineering and Construction firms is the ability to identify patterns that are often difficult to see from inside a single organisation.

While individual firms are focused on their own projects, challenges and priorities, a broader industry perspective reveals a clear divide between organisations that are creating measurable value from AI and those that remain trapped in experimentation.

The most forward-thinking firms are not necessarily investing more heavily in artificial intelligence than their competitors. What sets them apart is that they are investing more deliberately. Rather than attempting to connect every data source or solve every challenge simultaneously, they focus on creating an environment where both structured and unstructured data can be transformed into actionable insight.

They start with the business problem, identify the use case most likely to deliver measurable value and connect only the data required to support that outcome. Once value has been proven, they expand incrementally, building intelligence capabilities use case by use case.

By contrast, organisations that struggle to realise value from AI often take the opposite approach. Isolated experimentation flourishes without a clear strategy, governance framework or understanding of how information should be accessed and managed. In some cases, firms have invested heavily in AI initiatives before discovering that inadequate governance, fragmented development activity and unintended access to sensitive information have created more complexity than value.

The lesson is increasingly clear: successful AI adoption is not about doing everything at once. It is about building a trusted intelligence foundation, demonstrating value quickly and scaling deliberately.

Many organisations still approach AI as a series of isolated initiatives: a pilot in one department, a productivity tool for a small group of users, a proof of concept aimed at a single challenge. These activities can create localised benefit, but they rarely transform the organisation.

The firms generating the greatest value take a broader view. Rather than chasing individual tools, they focus on building a more intelligent enterprise through four distinct stages.

1 Connected Firm

A trusted data foundation is established. Operational, project, customer and financial information becomes connected and accessible across the enterprise. The objective is visibility, leaders gain confidence in reporting, project controls and performance management.

2 Intelligent Firm

AI begins augmenting decision-making. Information is no longer simply reported, it is interpreted. Project managers see risk earlier, commercial teams make better pursuit decisions, and leadership gains stronger insight into future performance. The organisation moves from hindsight to foresight.

3 Agentic Firm

AI becomes embedded within business processes. Intelligent agents gather information, orchestrate routine activities, prepare recommendations and manage workflows within defined governance frameworks. People spend less time finding information and more time applying expertise.

4 Autonomous Enterprise

Connected data, intelligent systems and human expertise operate together at scale. Automation accelerates execution, intelligence improves decision-making, and human accountability remains intact, a business that responds more intelligently to opportunity, risk and market change.

> EXECUTIVE INSIGHT: The organisations that create advantage will not be those with the most AI pilots. They will be those that can consistently transform information into better decisions.

Where AI Is Creating Value Across the AEC Lifecycle

The most successful AI programmes are not built around technology. They are built around business outcomes.

Many organisations begin their AI journey by focusing on operational efficiency: producing proposals faster, reducing administrative effort, automating reporting and freeing up valuable subject matter expertise. These are important first steps, but they represent only the initial phase of value creation.

The real opportunity emerges when organisations establish a trusted intelligence foundation, connecting project, operational, commercial and customer information in a way that enables both structured and unstructured data to work together. At that point, AI moves beyond process improvement and begins delivering strategic insight.

Marketing and business development provide a compelling example. While AI can help accelerate proposal development, automate project data updates and support go/no-go decisions, the longer-term value comes from the questions organisations can start to answer once the underlying data foundation is in place.

For example:

- What messaging themes appear most frequently in successful proposals?
- How do win rates differ between repeat clients and new clients?
- What are the most common reasons projects are won or lost?
- Which competitors are encountered most frequently, and in what situations?
- Based on similar projects delivered previously, what project approach, fee structure and resource plan should be recommended for a new opportunity?

This shift from process automation to decision intelligence is where many firms begin to unlock the greatest value from AI.

Four areas are emerging as particularly valuable across the sector.

Win Work More Effectively

Pursuits remain one of the most resource-intensive activities in any firm.

- Proposal development
- Go/no-go decision making
- Opportunity qualification
- Project experience retrieval
- Pipeline analysis and forecasting

Deliver Projects More Predictably

Project performance remains the greatest driver of profitability.

- Schedule analysis
- Project performance monitoring
- Predictive risk identification
- Automated reporting
- Resource optimisation

Protect and Improve Margin

Margin pressure remains one of the industry's defining challenges.

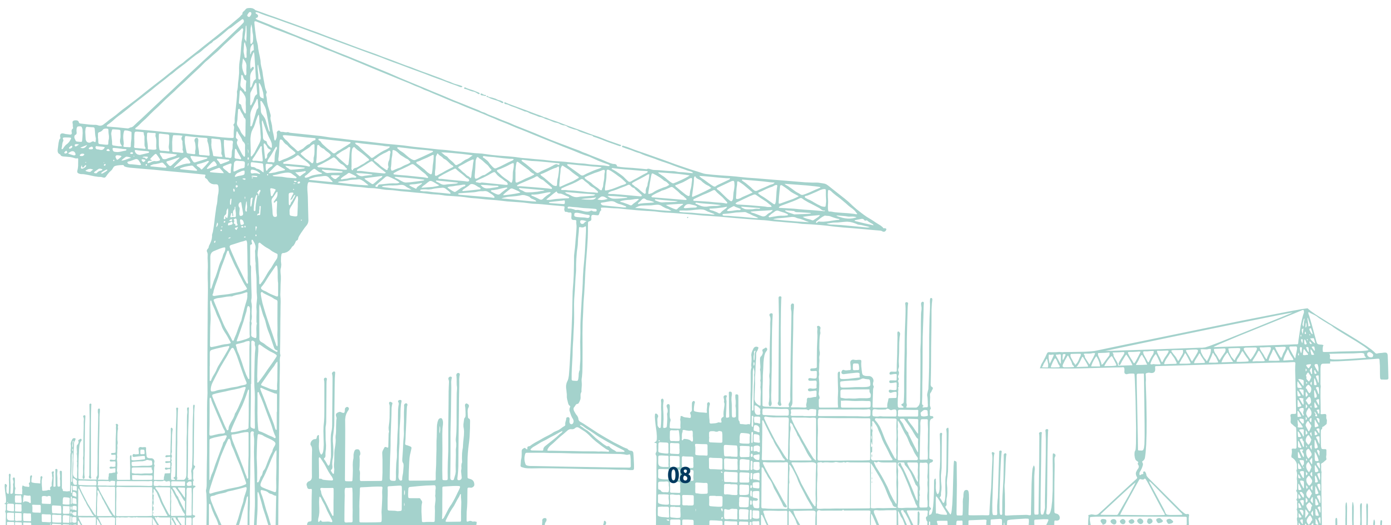
- Commercial risk analysis
- Project estimate validation
- Forecasting
- Resource planning
- Cost performance management

Scale Organisational Knowledge

The most valuable asset in most AEC firms is expertise, often trapped in projects, documents and individuals.

- Search project histories
- Analyse contract information
- Surface relevant expertise
- Reuse knowledge assets
- Generate draft project content

Taken together, the outcome is not simply faster proposals or quicker reports. It is better-informed commercial decisions, made earlier and with greater confidence.



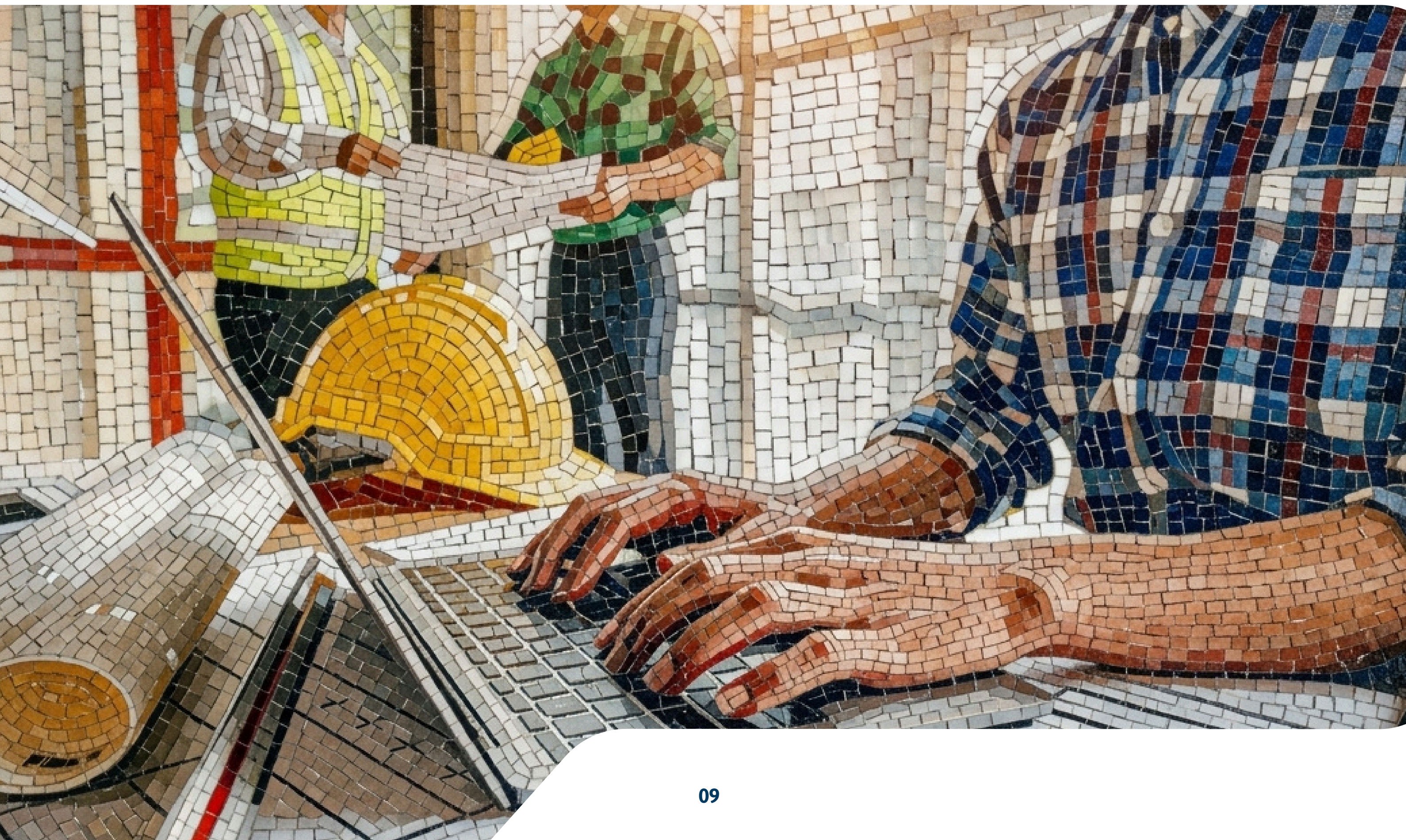
From Data to Decisions: The Next Frontier

Many organisations assume AI success begins with automation. In reality, it begins with intelligence. The greatest challenge most firms face is not automating work, it is making sense of information.

AEC businesses generate vast volumes of structured and unstructured data every day: financial records, design documents, schedules, risk registers, project reports, commercial forecasts and correspondence. Very little of it is connected.

A connected intelligence approach creates a common operational view across business functions and project teams enabling organisations to move beyond reporting and towards decision support. Instead of asking what happened, leaders begin asking what is likely to happen next, and ultimately, what action they should take.

That shift, from information management to decision intelligence, may be one of the most transformative opportunities available to the sector.



Human by Exception, Not Human Removed

One of the most persistent myths about AI is that it reduces the importance of people. The opposite is true.

Architecture, engineering and construction remain fundamentally human industries. Clients place their trust in expertise, judgement and accountability. Design decisions, commercial negotiations, project governance and stakeholder management cannot be delegated entirely to technology.

The most effective operating model is one where:

- AI manages information, performs analysis and orchestrates workflows
- Humans provide judgement, retain accountability and make the final decisions

This model lets organisations realise the benefits of AI while maintaining trust, governance and professional responsibility. The organisations that succeed will not replace expertise, they will amplify it.

Construction Claims Intelligence: A Practical Example

One of the most compelling applications of AI in construction is claims management and delay analysis. Large-scale projects can generate thousands of documents, communications and project records.

When disputes arise, organisations must assemble evidence from project schedules, ERP systems, site records, email correspondence, document repositories and external data sources, traditionally a highly manual process.

AI can accelerate evidence gathering, correlate project events, analyse delay impacts and generate structured evidence packs for review. The value extends beyond speed: leaders gain improved visibility, consistency and confidence in commercial decision-making, with benefits that extend into wider project assurance and organisational learning.

ARCADIS

Arcadis has publicly focused on creating greater visibility across operations, resources and project delivery to support better-informed decision-making across a large and complex organisation. The broader lesson for the industry: connected information creates the foundation for organisational intelligence, operational agility and future AI capability.

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HSO has explored AI-enabled approaches that combine project schedules, ERP information, commercial data and document repositories to accelerate claims assessment, delay analysis and evidence gathering, helping professionals access the information they need more quickly and with greater confidence, rather than replacing their expertise.

A 90-Day Executive Action Plan

DAYS 1–30 - Align

- Define strategic priorities
- Establish executive sponsorship
- Identify one high-value use case
- Assess information readiness
- Define governance requirements

DAYS 31–60 - Validate

- Launch a focused pilot
- Establish baseline measures
- Capture user feedback
- Validate outcomes
- Refine operating processes

DAYS 61–90 - Scale

- Review business impact
- Expand successful initiatives
- Integrate into operational processes
- Formalise governance
- Build a future opportunity portfolio

The objective is not large-scale transformation. It is measurable progress.

Why HSO's Perspective Is Different

Many discussions about AI focus primarily on technology. HSO's starting point is different: not on deploying tools, but on business outcomes.

Drawing on deep experience across AEC and project-centric industries, HSO helps organisations connect information, modernise operations and create measurable value through intelligent technologies, combining industry expertise with Microsoft business applications, data platforms and AI innovation to support sustainable transformation.

The objective is not simply to implement AI. It is to build more intelligent organisations.

The Future Belongs to the Intelligent AEC Firm

The next generation of industry leaders will not be defined by how many AI tools they deploy. They will be defined by how effectively they turn information into insight, and insight into action.

The organisations that succeed will:

- Connect information across the enterprise
- Improve decision-making through intelligence
- Scale expertise through technology
- Maintain governance and accountability
- Continuously evolve and innovate

AEC firms do not need more data. They need more intelligence. They do not need more reporting. They need better decisions. And they do not need technology for technology's sake, they need technology that creates measurable business value.

The future of the industry will not be defined by artificial intelligence alone. It will be defined by intelligent organisations, and the ones that begin building that capability today will be best positioned to thrive in the decade ahead.

About HSO

HSO isn't your run-of-the-mill technology company. And when it comes to industry-specific software, not all solutions are created equal.

We combine unparalleled expertise and transformative enterprise business solutions with a unique approach to delivery and 24/7 world-wide support to accelerate business growth.

For more than three decades, HSO has been designing, building, delivering and optimising complete management capabilities that improve the results of our professional services clients. We have grown to become one of the world's leading Microsoft partners, using the Microsoft Azure Cloud platform, Dynamics 365, Office 365 and our own industry-specific solutions to help professional services organisations solve their challenges, grasp opportunities and drive success in this new world of digital transformation.

When you partner with HSO, we draw on our experience of more than 1,500 projects across five continents to advise you, but we are firm believers in collaboration - because you are the expert in your organisation.

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