







Foreword

Canada's construction industry is at a critical inflection point, where Al offers both a solution to entrenched productivity challenges and a chance to lead globally.

The Canadian construction industry is at a tipping point. We are standing on the edge of an unprecedented transformation, powered by artificial intelligence (AI), that could redefine how we design, build and maintain our buildings and infrastructure.

As demands on the construction industry evolve and the pressure to build faster, safer, and more sustainably intensifies, the need for data-driven decision-making has never been greater. Yet, the full potential of AI in construction remains largely untapped, not because the technology isn't ready, but because our systems, relationships, and ways of working have not yet evolved to support it.



Due to these consolidating factors, we believe that the time is ripe for a step change transformation of the Canadian construction sector into an Al-enabled industry. However, Al cannot deliver its promised value if the data it needs is locked in silos, scattered across organizations, formats and proprietary systems.

No single company, research lab or government body can solve this in isolation.

Therefore, we need a coordinated effort across the industry to create datasharing frameworks that balance privacy, security and competitive interests, so that innovation can scale across the entire industry.

At the heart of this challenge lies a fundamental question: How do we unlock the value of data across a fragmented industry while protecting the interests of all stakeholders?

In July 2025, participants from across Canada's AEC sector, including contractors, engineers, technology innovators, researchers, and policymakers, came together for the Construction Bytes Workshop, sponsored by the National Research Council of Canada and Autodesk Research, and facilitated by Yeji Data Lab. The goal was bold: to collaboratively explore how data sharing, governance, and Al can reshape productivity, trust, and innovation across the sector.

What emerged was more than just a conversation. It was a blueprint for progress, grounded in real operational pain points, shared industry values, and a growing appetite for collaboration. This white paper captures the outcomes of that workshop, the case studies that inspired new thinking, and the key barriers and opportunities facing the sector today.

Three forces have aligned to make now the moment we must act.

### **Mature Technology**

Rapid advancements in AI, cloud computing and IoT sensors mean that these tools are no longer experimental; they are commercially viable and ready to deploy. AI is already creating rapid and large-scale transformations across many industries (McKinsey, 2025).

### **Intensifying Pressures**

Labour shortages, rising costs, climate commitments and the rising need to deliver complex buildings and infrastructure faster and more sustainably are straining our industry's capacity.

### A Global Opportunity

Construction, a \$13T global sector, is projected to grow 50% by 2040, positioning Canada's \$176B market as a launchpad for innovations that can scale worldwide (Statistics Canada, Table 34-10-0286-01 Investment in building construction, McKinsey Analysis Based on Data from IHS Markit and McKinsey Global Institute, 2024).

With these forces, and federal initiatives like the Pan-Canadian Al Strategy, investments in domestic compute (Innovation, Science and Economic Development Canada, 2024) and a proposed bureau dedicated to "frontier technologies" (Global News, 2025) are lining up to create an enabling environment for these transformations.

"Let it be a call to action, for deeper collaboration, smarter data infrastructure, and a more agile, Al-enabled future for construction in Canada."

~ Quote from Workshop Participant

The Canadian construction industry is at a tipping point with AI poised to transform design, building, and maintenance.

The industry faces pressures: labour shortages, rising costs, climate commitments, and lagging productivity.

This workshop provided the blueprint for data sharing, governance, and Al adoption, sponsored by the NRC and Autodesk Research, facilitated by Yeji Data Lab.

**Executive Summary** 

Al adoption isn't optional, it's the pathway to reducing costs, accelerating housing delivery, and achieving sustainability while overcoming data and trust barriers.

The construction industry currently stands at a critical juncture, presenting opportunities for transformative change through the integration of Al and robust data sharing mechanisms. This report synthesises insights derived from a comprehensive workshop, "Construction Bytes: Charting an Al-Enabled Future of Construction," convened on July 17, 2025.

Organized collaboratively by the National Research Council Canada, Autodesk Research, and Yeji Data Lab, the workshop gathered prominent industry leaders, technologists, and diverse stakeholders. Its primary objective was to diligently examine how AI can fundamentally advance established construction practices while simultaneously addressing the profound challenges inherent in AI through data, governance, and the cultivation of collaborative frameworks in construction.

Key findings underscore a recognition of Al's inherent potential to augment productivity, substantially mitigate costs, and improve quality standards across the construction lifecycle.

Nevertheless, a series of considerable constraints continue to persist. These challenges are particularly pronounced concerning the establishment of clear data sharing protocols, the cultivation of inter-organizational trust, and the imperative for industry-wide standardization.

The workshop successfully identified

priority use cases

for AI implementation, with project document generation, comprehensive knowledge capture, and proactive predictive quality control emerging as paramount.

This prioritization was determined through a participant voting process, further substantiated by subsequent in-depth discussions regarding the practical implications and tangible benefits of each use case.

Furthermore, attendees expressed significant apprehensions concerning the complexities of data privacy, the potential for litigation risks, and the critical necessity for developing and implementing robust governance structures.

The trajectory forward mandates a collaborative, industry-wide endeavour, requiring a unified approach from all stakeholders. This comprehensive effort encompasses the establishment of commonly accepted data standards, the cultivation of trustworthy and interoperable data-sharing ecosystems, and the accelerated development of Al applications capable of delivering demonstrable benefits while upholding privacy considerations and safeguarding competitive integrity.

Ultimately, successful advancement in this AI era is contingent upon achieving a judicious balance between technological innovation and the irreplaceable value of human expertise, ensuring that AI consistently serves to augment, enhance, and empower AEC professional judgment, rather than merely replacing it.

**75%** 

of participants
became more open
to data sharing after
attending the
workshop



Al can significantly increase productivity, reduce costs, and improve quality across the construction lifecycle.

Concerns remain around data privacy, litigation risks, and governance frameworks.

Moving forward requires a unified industry-wide effort to build standards, trustworthy ecosystems, and Al applications that enhance human expertise.

Where Are We Now?

Despite Al's potential, construction lags because of entrenched practices, siloed data, and cultural resistance, highlighting the urgency for systemic change.

Discussions consistently revealed a discernible disparity between Al's theoretical potential and the current state of industry readiness for its widespread adoption. Identified constraints, often deeply entrenched within existing practices and mindsets, include the following which have been mapped out to different points of the value chain across the industry.



### **Planning** Construction Ops & Mgmt **PAIN POINTS** Design Procurement Lack of clear data governance frameworks Lack of standardization in data formats and taxonomies Concerns about job displacement and erosion of expertise Cultural resistance to data sharing Siloed information systems Insufficient digital literacy Other Pain Points among industry Limited access to professionals high-quality data



There is a clear gap between Al's theoretical potential and the industry's readiness to adopt it.

Deeply entrenched practices and mindsets hinder Al adoption.

Adoption struggles are linked to data silos, fragmented systems, and cultural resistance.

#### Themes

Al can unlock creativity and efficiency, but only if the industry embraces standardization, automation, predictive insights, and shared knowledge and incentive to break free from inefficiency.

69%

of participants were open to further collaborating in either piloting AI use cases, industry data trust, industry consortiums



Several overarching themes emerged consistently from the workshop discussions, going beyond individual use cases and highlighting fundamental areas where AI can drive industry change.

# Standardization and Interoperability

This represents a fundamental necessity for establishing common data formats, classifications, and terminologies across the industry. It is perceived as critically enabling AI to operate at scale by facilitating a shared comprehension and processing of data originating from diverse sources and systems. The prevailing lack of consensus on basic definitions (e.g., "what constitutes a house") across various governmental tiers and industry segments underscores the profound magnitude of this challenge, which AI could help to overcome through automated mapping and translation.

### **Predictive Analytics**

The sophisticated application of historical data and real-time signals to anticipate problems, forecast outcomes, and optimize resource allocation was a recurring theme. This signifies a fundamental shift from reactive problem-solving to proactive prevention and strategic foresight, allowing for early intervention and risk mitigation.

# Knowledge Synthesis

The systematic aggregation and combination of lessons learned across diverse projects and organizational boundaries was highlighted as crucial for accelerating industry-wide improvement. This capability, enabled by AI, facilitates "learning beyond, like, projects we just use," meaning that insights from one project can inform countless others. This process is also anticipated to "open up headspace in industry for innovation" by empowering firms to learn from a collective, continuously expanding body of knowledge.

#### **Process Automation**

Opportunities for automating repetitive, rule-based, and time-consuming tasks, particularly within documentation generation and compliance procedures, were consistently identified as a direct pathway to enabling construction professionals to concentrate on higher-value, more creative, and problem-solving activities. This is considered a direct route to achieving significant efficiency gains and improving job satisfaction.

"In medicine, sharing knowledge is considered an ethical responsibility. In AEC, we still treat data as 'secret sauce.' But your secret sauce is not that much different from mine, share everything."

~ Quote from Workshop Participant

Standardization and interoperability are critical for scaling AI, as the industry lacks common formats and definitions.

Process automation offers efficiency by reducing repetitive, low-value tasks and freeing professionals for higher-value work.

Knowledge synthesis across projects enables collective learning and accelerates innovation.

Identifying Opportunities for Impact

By prioritizing high-value use cases such as project documentation, predictive quality control, and supply chain optimization, the industry can deliver measurable ROI quickly.

Participants collaboratively identified and rigorously prioritized key Al use cases through a structured voting process, allocating points to various brainstormed opportunities based on their perceived impact and feasibility.

"Sharing lessons learned so we're not doing the same things over and over again opens up headspace in the industry for innovation."

~ Quote from Workshop Participant

The detailed results, reflecting the collective assessment of industry needs, were as follows (ordered in importance based on participant feedback, importance score is shown in the visual):

### 1 Project document generation

Use AI to automatically generate development documents like feasibility studies, schedules, or shadow reports, speeding up approval timelines and reducing manual effort.

# 2 Knowledge capture, retention, and transfer over a generational shift

Create tools to capture the expertise of retiring professionals and make it accessible to others through searchable, structured systems, preserving institutional memory.

### 3 Predictive quality control and risk assessments

Leverage past data and real-time inputs (e.g., IoT sensors) to predict and prevent quality issues before they happen, reducing costly rework and enhancing safety.

# 4 Procurement and supply chain optimization

Use AI to forecast material needs, optimize delivery schedules, and avoid procurement delays to improve cost efficiency and project flow.

### 5 Forecasting labour, materials, and equipment demand and sequencing

Apply predictive models to plan and sequence resource use across project timelines, avoiding bottlenecks and keeping teams on track.

# 6 Project-based sustainability metrics during construction

Track real-time emissions, energy use, and waste during construction, helping teams make greener decisions aligned with decarbonization goals.

# 7 Identify non-value-adding practices across projects

Analyze workflows to eliminate repetitive or low-value tasks to free up skilled workers for higherimpact activities.

# 8 Shared logistics and delivery coordination data for timing and site logistics

Coordinate delivery schedules and site logistics across stakeholders using shared data, reducing conflict, downtime, and on-site inefficiencies.

Prioritization of the use cases reflecting a clear desire for practical, high-impact solutions to immediately address industry needs Project-based Shared logistics and sustainability metrics delivery coordination data Knowledge capture, retention, and Procurement and supply during construction for timing and site logistics transfer over a generational shift chain optimization 9 26 30 Project document Predictive quality control and Forecasting labour, materials, and Identify non-value-adding practices across projects equipment demand and sequencing generation risk assessments Size of bubble reflects the number of votes it Strategic Investment High ROI Luxuries Low Hanging Fruit received during the prioritization activity

**Innovation in Canada** 

Canada's strong Al ecosystem and national innovation strategies provide a unique opportunity to turn construction's productivity gap into global leadership.

Canada is uniquely positioned to lead the future of digital construction. We have made AI and data strategy a national priority, with billions invested in advancing research, innovation, and commercial adoption. Several federal programs directly support the types of work piloted through this workshop:

- National Research Council's
   Construction Digitalization and
   Productivity Challenge Program:
   Supports cross-sector collaboration
   to digitise construction, enhance
   productivity, and enable sustainable
   practices. This program also offers
   funding, technical resources, and
   access to researchers to test, scale,
   and validate new technologies.
- National Research Council's
   Artificial Intelligence for Design
   Challenge Program: Develops and provides AI technologies and capabilities to accelerate discovery, R&D, and innovation processes.
   This program is not specific to construction, but contributions to this program could be deployed in the construction industry.
- Innovation, Science and Economic Development Canada's Pathway to Commercialization Program: Allows eligible SMEs to receive commercial contracts based on the successful testing and market-readiness of their innovation.
- Pan-Canadian AI Strategy (via CIFAR): Promotes responsible, inclusive, and high-impact AI adoption across key sectors, including infrastructure and the built environment. This also helps support innovative leaders to convey the commercialization benefits of AI use cases to the industry.
- Innovation Superclusters (DIGITAL, SCALE.AI, NGen): Provides coinvestment and collaborative environment for piloting AI and digital tools in real-world environments. This also helps connect startups, enterprises, and public institutions around shared innovation missions.
- Canada's Greener Homes and Net-Zero Goals: Create an incentive landscape for low-carbon, digitally enabled construction and retrofit solutions, particularly through data transparency and AI optimization.

Canada has a robust research community (including Mila, Vector Institute, academic-industry partnerships) and a track record of open innovation. Canadian institutions are known for global leadership in federated learning, privacy-aware AI, and responsible data use. Our institutions are also focused on cross-sector initiatives where infrastructure, housing, energy, and technology intersect.



Canada's construction industry faces a 40% productivity gap relative to global leaders (OECD, 2023). With aging infrastructure, skilled labour shortages, and pressure to build faster and greener, there is a national imperative to:

- Leverage AI to streamline approvals, optimize operations, and reduce rework
- Share data to drive predictive insights, smarter decisions, and sector-wide learning
- Foster inter-organizational collaboration as a strategic advantage, not just a technical upgrade

Canada has both the policy infrastructure and the innovation momentum to serve as a testbed for digital transformation in AEC. The opportunity is not just to modernize construction workflows, but to shape a Canadian model for how AI, data sharing, and collaboration can redefine productivity, safety, and sustainability across the built environment.

Federal programs like NRC's Construction Digitalization Challenge and Al for Design Challenge directly support construction digitalization. The opportunity is to leverage AI, data sharing, and collaboration to create a Canadian model for productivity, safety, and sustainability.

data strategy as a national priority, with billions invested in innovation and adoption.

Canada has positioned Al and

#### What's Next

Progress depends on moving from ideas to action by building MVPs, establishing benchmarks, and setting measurable KPIs to prove Al's value across projects.

The workshop illuminated both the immense potential and the complex challenges of adopting AI in the construction industry.

Participants expressed strong alignment around the transformative power of AI to enhance productivity, improve quality, accelerate housing delivery, and drive sustainability.

However, the conversation also surfaced core barriers: fragmented data environments, lack of standardization, resistance to sharing, and limited digital readiness.

To move forward, the industry must now shift from dialogue to structured action including the following:

# 1. Defining & Launch MVPs of Our Al Use Cases

Select a set of partner firms to codevelop and pilot Minimum Viable Products (MVPs) for the most promising AI applications identified during the workshop.

#### These pilots will:

- Address specific, high-value pain points with measurable business outcomes.
- Demonstrate ROI through realworld testing and iteration.
- Deliver open-source code and evaluation reports to foster industry-wide trust and transparency.
- Make open-source-by-default for non-sensitive code and including evaluation reports a deliverable (so others can adopt/extend).

# 2. Co-Design and Pilot a Federated Data Governance Framework

Develop and implement a data governance framework.

This framework should:

- Define a standardized ontology for the Canadian construction sector to ensure interoperability.
- Establish clear legal frameworks for data use, including licensing structures and model data sharing agreements.
- Incorporate robust security protocols, such as attribute-based access control, to safeguard sensitive information.
- Leverage existing models as reference architectures.
- Initial pilots should focus on highimpact datasets identified during the workshop:
  - · Project document generation,
  - Knowledge capture, retention, and transfer over a generational shift
  - · Predictive quality control
  - · Risk assessments
- Publish a data classification policy (open, partner-shared, restricted, sensitive) plus a publishability checklist.

Provide an Information Delivery Specification package for priority submissions for processes such as permit checks and handovers.

# 3. Establish Benchmark Datasets for the Construction Industry

Curate domain-specific, anonymized datasets aligned with top-priority Al use cases. These datasets will serve as foundational assets for testing, training, and validating Al models.

Key actions include:

- Aggregating and standardizing industry-relevant data across participants.
- Add anonymization & syntheticdata guidelines to ensure datasets meet privacy and anonymization standards to encourage adoption.
- Prioritizing high-impact use cases such as automated project documentation, scheduling, and predictive quality control.
- Seed a few starter benchmarks aligned to industry top use cases.

# 4. Define KPIs and Benchmarks for Success

Establish clear performance indicators and success metrics to evaluate the impact of data sharing and Al implementation.

Recommended KPIs include:

- Reduction in document generation time
- Improvements in schedule accuracy and lead time predictability.
- Decrease in rework hours and associated costs.

Performance results should be publicly shared to encourage transparency, trust, and broader industry participation.

Add data-sharing health metrics including dataset completeness percentage, freshness/latency, time-to-access, percentage of projects on CDE, reuse rate.

"If we all decided on just 10 metrics that every project will track and share across the industry, our ability to improve would be massively greater."

~ Quote from Workshop Participant

The next step is to define and launch MVPs (Minimum Viable Products) to test AI use cases with measurable ROI.

A federated data governance framework must be designed to balance proprietary ownership with shared anonymized datasets.

Benchmark datasets for construction are needed, focusing on predictive quality control, project documentation, and risk assessment.

# 5. Form a Canadian AEC Data Consortium

Create a multi-stakeholder consortium to sustain momentum, coordinate standards, and advocate for policy alignment.

The consortium will:

- Maintain and evolve the open data infrastructure.
- Facilitate consensus on standards, KPIs, and data-sharing protocols.
- Advocate for regulatory clarity on Al and data privacy.
- Provide onboarding tools, templates, and educational resources to enable SME participation in the data ecosystem.
- Provide guidelines for inclusion of a funding model (membership or project grants) and procurement levers with public owners (evaluation points for standardscompliant CDE participation).

# 6. Empower Participants to Activate Internally

Developing and deploying targeted curricula that integrate AI tools and encourage digital literacy among both current and future professionals is essential in order to address existing skill and knowledge gaps within the construction industry. Such programs would equip the workforce with the necessary competencies for an AI-enabled future.

Help firms begin internal AI enablement by supporting internal champions and mapping data environments and priorities.

While these next steps are industry-led, government support will remain crucial, particularly in setting standards, providing funding mechanisms, and enhancing digital literacy. The role of public institutions is not to dictate innovation, but to support its responsible advancement and create the guardrails within which it can flourish responsibly.

As participants voiced throughout the workshop, the goal is not to adopt Al for its own sake, but to build better, faster, greener, and more affordable infrastructure for people and society.

The foundation has now been laid. The opportunity is clear. What remains is the collective will to build the shared systems, policies, and trust that will unlock Al's full potential across the construction sector.

90%

of attendees want to explore a shared data trust



Establish a Canadian AEC Data Consortium to support open data infrastructure, advocate for regulatory clarity, and provide funding models.

Workforce readiness is critical, targeted Al and digital literacy curricula should be developed for current and future professionals.

Government is able to support through standards, funding, and digital literacy, but innovation leadership should remain industry-driven.

#### Implementation Pathways

A clear roadmap, from medium-term data trusts and compliance tools to long-term digital twins and autonomous systems, ensures Al drives sustainable transformation.

The Construction Bytes Workshops focused more on the now, however the insights and key learning derived from the workshop can pave a pathway for the next 5 or more years, as outlined.



### Medium-Term Goals (2-5 years<mark>)</mark>

Building upon the success of our 'What's Next' initiatives, which help initiate the transformative journey, the medium-term goals aim for deeper integration and broader impact:

### > Integrated Data Platforms

Creating interoperable systems that seamlessly connect data across disparate design, construction, and operational phases is a key objective. This could potentially involve leveraging secure public cloud infrastructure to facilitate real-time data exchange and collaboration across project stakeholders.

### > AI-Powered Compliance

Expanding automated compliance checking capabilities to encompass more complex and nuanced regulatory requirements represents a significant step. In this model, AI would handle routine provisions, while human experts would focus on content enrichment, interpreting ambiguous clauses, and validating complex scenarios.

### > Predictive Analytics Deployment

Robust systems for advanced quality control, more accurate cost estimation, and dynamic schedule optimization can be built using extensive historical data and real-time project feeds to inform proactive decision-making, identify potential deviations, and recommend corrective actions.

#### > Industry Data Trust

Establishing formal governance structures for secure, anonymized data sharing is a critical mediumterm objective.

Such a trust, potentially managed by independent and neutral entities, would serve as a neutral repository, creating a collaborative data ecosystem while safeguarding sensitive information.

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### Long-Term Vision (5+ years)

The long-term vision for an Al-enabled construction industry is characterised by highly autonomous and integrated systems, driving industry-wide transformations in efficiency and innovation:

### > Industry-Wide Learning Network

Establishing sophisticated systems for continuous improvement grounded in aggregated project data from across the entire sector. In this network, AI would play a pivotal role in identifying "real problems" beyond mere symptomatic manifestations, extracting deep insights, and disseminating best practices, fostering a culture of perpetual learning and innovation.

### > Autonomous Construction Systems

Deploying advanced Al-driven robotics for repetitive and hazardous construction tasks, encompassing both highly controlled offsite manufacturing environments and dynamic onsite excavation and assembly operations. This could lead to safer, faster, and more precise construction.

### > Digital Twin Integration

Creating comprehensive, living digital representations of buildings and infrastructure throughout their entire lifecycle. These digital twins would be capable of continuously capturing and integrating information for life cycle assessments, real-time performance monitoring, and predictive building condition assessments, thereby providing advanced, actionable insights for operations and maintenance.

#### > Real-Time Optimization

Enabling dynamic resource allocation, supply chain management, and schedule adjustments based on continuous, real-time Al-derived insights. This would allow projects to adapt instantaneously to changing conditions, maximising efficiency and minimising waste.

While there are immediate actions which will take place, there are longer terms goals to look forward to.

Medium-term goals (2–5 years) include integrated data platforms, Al-powered compliance, predictive analytics, and formal industry data trusts.

Long-term vision (5+ years) imagines highly autonomous and integrated systems reshaping efficiency and innovation.

#### **Cultural Change Management**

Al adoption will fail without cultural transformation, leadership commitment, and trust, framing data sharing as an ethical responsibility is essential for progress.

Technological advancements, however sophisticated, are inherently insufficient to drive comprehensive organizational and industry-wide transformation. Successful implementation of AI within construction necessitates a multifaceted and strategically managed approach to cultural change.

# Demonstrating unwavering leadership commitment across all organizational levels.

Top-down endorsement and active participation from industry leaders is crucial to signal the strategic importance of Al initiatives and to allocate necessary resources.

# Ensuring clear and consistent communication of benefits to all stakeholders.

Transparently articulating how AI will improve daily workflows, enhance safety, and contribute to project success is vital for fostering "shared knowledge and understanding" and gaining buy-in from the workforce.

# Cultivating profound respect for professional expertise and judgment.

Al should be positioned as a tool that serves to "augment, not replace, human decision-making." This involves recognising and valuing the irreplaceable experience and intuition of construction professionals, ensuring Al empowers rather than diminishes their roles.

# Implementing changes gradually, focusing on achieving visible and impactful early wins:

Incremental adoption, with demonstrable successes, helps to build confidence, reduce resistance, and create internal champions for the technology.

### Providing continuous training and support.

Addressing the ongoing generational shift in the workforce and ensuring that "every individual within the system... embraces new technologies" requires sustained investment in upskilling and reskilling programs. This prepares the workforce for evolving roles and responsibilities.

### Overcoming the inherent "cultural hurdle" associated with data sharing.

A "profound apprehension" often exists despite the clear potential for industry-wide advancement. This necessitates actively transitioning from a "gatekeeper" mentality to one of open communication and collaborative data exchange, emphasising collective benefit over individual proprietary control.

# Adopting the philosophical stance that data sharing constitutes an "ethical responsibility of the profession".

Across many disciplines, professionals recognize an obligation to share findings that enhance collective safety, efficiency, and innovation, even while respecting necessary limits on sensitive or proprietary information. By viewing data sharing in this light, construction can position itself as contributing not only to industry advancement but also to the broader public good.



The Construction Bytes initiative shows the Canadian construction industry is actively pursuing AI adoption.

The challenge is less technological and more about cultural change, breaking silos, and building trust.

Canada's strong institutions and policies make it well-positioned to lead globally in <u>Al-driven construction</u>.

### **CONCLUSION**

The foundation has been laid, Canada's institutions, talent, and policies are in place. Now the collective will to act will determine whether AI reshapes construction for societal benefit.

The Construction Bytes initiative demonstrates that the Canadian construction industry is not only aware of the opportunities presented by Al but is actively charting a path toward meaningful adoption. While preliminary, the workshop insights reflect a growing recognition that Al could contribute to productivity gains, waste reduction, faster project delivery, and more sustainable practices across the sector.

Success is likely to depend as much on cultural change, collaboration across silos, and trust built through shared standards and governance as on the technology itself.

Canada is uniquely positioned to lead this transformation: with strong research institutions, supportive federal strategies, and a culture of innovation, the country can serve as a global testbed for Al in construction. An established model that is both globally competitive and locally responsive to pressing housing, infrastructure, and climate challenges will enable the industry to invest in shared data infrastructure, foster collaboration across the value chain, and pilot high-impact use cases.

The road ahead requires working together to unlock the full potential of data and AI for the benefit of the entire sector and society at large. The foundation is set. What remains is the collective will to act.





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