

BY SARAH MCGOLDRICK

ON THE SHELF AND ON THE JOB SITE: AI IS TRANSFORMING THE WAY WE DO BUSINESS

Artificial intelligence (AI) is being integrated into all aspects of construction planning and logistics. From the lumber yard to the job site, customer interaction, inventory, and shipping are all being managed artificially in some capacity.

According to a survey by the Association for Project Management, 32 percent of project professionals working in construction report their organization is already using AI in projects, and 43 percent said their organization is planning to use it in the near future.

Just 24 percent of respondents said their organization is not using AI and does not intend to in the future.

For the majority of businesses in the hardware industry, AI is quickly becoming the direction of the future. Today, companies like IKEA have utilized the technology to improve the customer experience and ensure that the right product is being put in the hands of consumers.

The technology is also being perfected for businesses to track buying patterns and even movement around a store, so products can be more effectively placed on shelves in the right locations.

IKEA is one business that has always been ahead of the curve when it comes to innovation. The company has woven AI throughout the customer journey to provide enhanced personalized solutions.

"We use AI to provide personalized recommendations, smart home solutions, and augmented reality (AR) applications. We call it 'democratizing interior design' for the many—by combining decades of IKEA life at home knowledge with the latest developments in spatial computing and AI, we can make our customers their own interior designers," said Alicia Carroll, public relations leader, IKEA Canada.

This has been achieved through the IKEA Kreativ platform, an easy-to-use experience that aims to inspire customers, unlock their creativity, and help them visualize how home furnishing solutions will look, fit, and function in their homes through lifelike interactive design, according to Carroll.

In a few simple clicks, customers are able to create a realistic view of their homes, allowing them to make an informed choice based on their product needs.

Carroll said the company also uses an advanced demand forecasting tool that, with the help of AI, turns vast data points from 80 years of retailing into significantly improved, accurate demand sensing and forecasting.

"Improved forecasting helps to ensure better availability, lower costs throughout the whole supply chain, steer better use of raw material and resources, and ultimately enable lower prices for our customers," she said.

Carroll said IKEA recognizes the "incredible potential of AI and the technologies connected to it to unlock more value for customers and co-workers.

"We aim to use AI to empower our co-workers and augment their capabilities, creativity, and decision-making," she said. "For example, AI powers the 'Billie' chatbot that is leveraged for IKEA remote selling, bringing increasing benefits to customers and co-workers. As the AI-powered 'Billie' chatbot resolves simpler queries, upskilled and re-skilled co-workers are empowered to play a more value-added and inspiring role for more complex customer calls. Customers will also continue to experience more personalized recommendations as we integrate AI-empowered tools into our operations."

Looking towards the future, Carroll said that IKEA continues to explore the possibilities AI has to offer beyond the customer experience, operations, and supply chain.

"We are constantly exploring new uses of AI and technology for sustainability, and we champion climate-positive AI practices," she said.

With any technology, there are challenges. Carroll said the company takes a wise and vigilant approach to the development and implementation of AI.

"Our priority is to continuously build digital trust and safeguard our customers

implementation, she said that IKEA has a significant AI-literacy movement underway.

"Technological innovations are evolving fast, and while we are excited by the possibilities, we will build on the strengths of the IKEA values in our efforts to create a better everyday life for many people," she said.

INTEGRATION AND IMPLEMENTATION

Through the integration of AI into the customer experience paired with leveraged augmented AI in combination with electronic shelf labels (ESLs), Diego Mazzone,

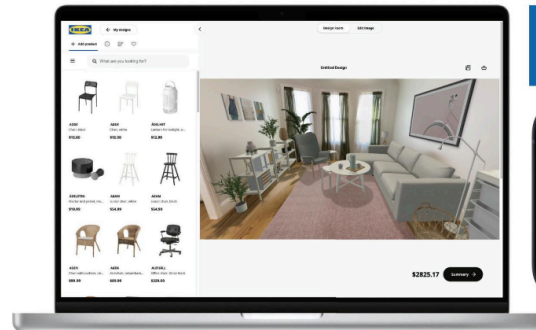
"We aim to use AI to empower our co-workers and augment their capabilities, creativity, and decision-making."

and co-workers against any risks that artificial intelligence may pose. Our dedicated, interdisciplinary, and constantly growing AI teams are embedding our trustworthy AI principles into everything that we design so that the development, deployment, and use of AI are robust, auditable, interpretable, fair, inclusive, and sustainable. We are embedding IKEA values into our use of technology, right from the start," she said.

To further improve innovation and

president and CEO of JRTech, believes this technology now creates an Endless Aisle concept for retailers, allowing customers to access out-of-stock items through online ordering without the store needing to maintain large inventories.

"JRTech integrates AI into business management systems primarily through its AI-driven inventory management tools. These tools help detect shelf gaps and ensure that inventory is always optimized in



The AI-powered IKEA Kreativ platform aims to help customers visualize how home furnishing solutions will look, fit, and function in their homes through lifelike interactive design.



real-time,” Mazzone said. Additionally, he said JRTech utilizes AI-powered solutions such as Brain Corp's Autonomous Mobile Robots and Focal Systems' shelf-mounted inventory scanning cameras.

“These technologies help detect stock gaps, track inventory levels in real-time, and assist with restocking based on customer demand and promotions. Cobots (collaborative robots) minimize physical movement and support employees in stock management, reducing labour fatigue,” he said.

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Tariffs and unpredictable supply chains have also forced retailers to find more efficient ways to stay on top of sudden price changes and shifts in inventory. Through the use of AI, Mazzone said the technology

can now implement dynamic pricing strategies, adjust prices based on supply chain costs, demand fluctuations, and regional pricing trends.

“Dynamic pricing allows retailers to offer more competitive and real-time prices based on external factors like tariffs or supply chain changes, with the integration of augmented reality (AR)-enabled ESLs.”

AR overlays digital information onto the real world, while “AI provides the ‘intelligence’ to understand and interact with

ensure customers find the products they need, reducing stockouts and wait times.

By utilizing AI-powered analytics, Mazzone said that his company has been able to provide retailers with valuable data on customer behaviour, which can be used to optimize store layouts, pricing, and marketing efforts. He said the company plans to enhance AI-driven inventory management systems and warehouse robotics to improve store operations.

“JRTech is pushing the integration of AR with ESLs, allowing customers to interact with products digitally and purchase out-of-stock items,” he said.

The rising costs associated with loss prevention are also heavy on the mind of Mazzone.

In our first quarter of *HHIQ*, Hardlines explored the ongoing impact of loss prevention on businesses. In this issue we report that theft now costs Canadian retailers more than \$3 billion annually, according to the Retail Council of Canada. Additionally, Statistics Canada data showed that in 2023, shoplifting increased more than 18 percent.

Mazzone believes that AI technology used to monitor store security through cameras, identifying potential theft or unusual activity in real-time, has the potential to significantly reduce these numbers in the future.

IMPLEMENTATION AND ADOPTION

Looking ahead, Mazzone predicts some moderate adoption resistance. He said that some retailers may be hesitant to adopt AI technologies due to costs or perceived complexity.

He said this can be addressed through offering seamless integration and clear, measurable benefits. He added that while automation might also raise concerns about job loss, JRTech emphasizes that AI and robotics assist employees by taking over repetitive tasks, freeing them up to focus on higher-value work.

Shifts in the economy and supply chains that would otherwise impact a retailer's

bottom line can also be mitigated through the use of dynamic pricing and inventory management tools to ensure retailers can stay flexible and responsive to changing conditions.

“By continuing to integrate AR with ESLs, JRTech is pushing to expand the phygital experience, merging physical and digital shopping to enhance customer engagement,” he said.

BUILDING A FUTURE WITH AI

Like most industries, AI is now at the forefront of construction in Canada. Already utilized for the planning of electrical and plumbing in homes, AI is now a key tool in site planning.

Vancouver-based Unlockland is at the forefront of addressing Canada's housing challenges, particularly in areas of urban intensification and in-filling. AI can also level the playing field when it comes to home construction, allowing more people access to the opportunity to build their own home with technology that is accessible to the home builder and homeowner.

“Our platform automatically interprets complex zoning regulations and instantly identifies compliant development possibilities, eliminating tedious manual research that traditionally takes months. Just as the post-war government created innovative solutions for housing veterans, our AI agents generate value-maximizing development plans by automatically adjusting building layouts, unit mixes, and density while ensuring full compliance with local regulations,” said Lucas Xie, co-founder and chief product officer at Unlockland/Meton AI Inc.

He said this technology directly supports Canada's goal of doubling housing production to 500,000 units annually by identifying underutilized properties that could support contextually appropriate density.

Xie noted that home builders and contractors, particularly smaller firms, are often excluded from major development opportunities. This technology can identify

viable projects with our instant site analysis feature.

“They can compare multiple development options with adjustable parameters and leverage our one-click professional documents for stakeholders and authorities—capabilities previously only available to large, well-resourced developers,” he said.

In cities, meanwhile, AI can use predictive permit success rates and zoning compliance features to implement progressive housing policies, ensuring equitable distribution of new housing and accelerating approval processes for projects that meet community needs.

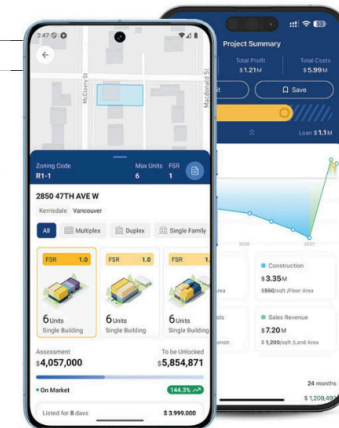
Individual homeowners can also explore development potential through our intuitive 3D visualization tools.

“Canada faces an unprecedented housing crisis disproportionately impacting younger Canadians, newcomers, and Indigenous communities. Our technology addresses these challenges by lowering barriers to development participation, particularly for those historically excluded from wealth-building through real estate. As government policies aim to correct long-standing market failures, Unlockland provides implementation tools that ensure these reforms translate into actual housing units for all Canadians,” he said.

Xie believes that AI-driven intelligence helps transform months of complex analysis into minutes of actionable insights, perfectly aligned with the need to accelerate housing development under programs like Build Canada Homes (BCH).

Additionally, he said his technology can be incorporated into new federal incentives for construction that can reduce both costs and emissions, similar to how he said BCH will prioritize Canadian technologies and resources like mass timber and softwood lumber.

“The housing crisis requires participation from all Canadians, not just established developers. The traditional housing development model has concentrated power in the hands of large firms with the



Vancouver-based Unlockland automatically interprets complex zoning regulations and instantly identifies compliant development possibilities, eliminating tedious manual research that traditionally takes months.

resources to navigate complex regulatory systems and financing structures,” he said, adding that AI fundamentally transforms this dynamic by democratizing access to sophisticated planning and development tools. “By lowering technical barriers and providing instant zoning analysis and development potential assessments, we’re creating pathways for historically marginalized voices to participate meaningfully in housing creation, ensuring the future of Canadian housing represents our diverse needs and communities rather than perpetuating the systems that created our current challenges.”

He adds that AI can be the catalyst for community-led development that builds not just homes, but social cohesion and environmental resilience.

“By transforming property development decisions that traditionally took months into minutes of actionable insights, we’re helping implement the vision of housing as a right rather than merely a commodity,” he said.

