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From Static to Strategic: AI's Role in Next-Generation Industrial Real Estate

By Steve Weikal and James Robert Scott

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The NAIOP Research Foundation was established in 2000 as a 501(c)(3) organization to support the work of individuals and organizations engaged in real estate development, investment and operations. The Foundation's core purpose is to provide information about how real properties, especially office, industrial and mixed-use properties, impact and benefit communities throughout North America. The initial funding for the Research Foundation was underwritten by NAIOP and its Founding Governors with an endowment established to support future research. For more information, visit naiop.org/foundation.

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Disclaimer

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Executive Summary

The rapid emergence of generative artificial intelligence (AI) as a powerful and disruptive technology has drawn renewed interest in AI applications for commercial real estate. Many observers have noted that generative AI offers firms new capabilities in financial analysis, market research and customer service. Advances in AI are also expanding the capabilities of other digital and physical technologies and increasing the productivity of physical assets, particularly those in the logistics industry and industrial real estate.

The NAIOP Research Foundation's 2020 report, "The Evolution of the Warehouse: Trends in Technology, Design, Development and Delivery," also by Steve Weikal and James Robert Scott, examined how emerging building and logistics technologies were reshaping warehouse and distribution center development and operations. Rapid advances in AI have since accelerated several of the trends observed in the earlier report. The NAIOP Research Foundation commissioned this report to examine how AI is affecting industrial building development and shaping the technological systems within these buildings. The authors reviewed secondary sources and interviewed professionals working in development, logistics, robotics and software development to offer insights into emerging trends that will be of interest to industrial building developers, owners and tenants:

- AI applications for commercial real estate aim to lower costs, shorten timelines and improve outcomes at several stages in the development process, from site selection to building design and interior buildouts.
- Various AI platforms promise to increase the efficiency and output of warehouse and distribution facilities, helping occupiers optimize operational design, increase the productivity of warehouse management and automated systems, and field more advanced robotics.
- Businesses do not need to make large investments in internal databases or specialized talent to use AI effectively. A range of companies now offer off-the-shelf AI products and services for the commercial real estate and logistics industries and to firms of all sizes.
- Developers interested in building warehouses and distribution centers that can support AI-enabled automation such as advanced robotics should prepare for the additional infrastructure needed to support these systems. Typical requirements include additional power capacity and networking infrastructure, power redundancy and enhanced temperature control.
- The net effect of AI on future demand for industrial space remains unclear. More effective automated marketing to consumers and businesses could boost e-commerce sales, but related demand growth could be offset by more efficient building layouts and supply chains.

Introduction

The landscape for warehouse and industrial real estate has transformed significantly since "The Evolution of the Warehouse" was published in 2020. The COVID-19 lockdowns that began in March 2020 and extended into 2021 exposed significant vulnerabilities in the global supply chain—particularly its dependence on manual processes and fragmented technologies. At the same time, powerful advancements in AI emerged, highlighted by the introduction of more accessible large language models (LLMs), including applications like ChatGPT in 2022. These developments marked a pivotal shift in data analytics and strategic decision-making capabilities.

The authors' previous report anticipated that data analytics and AI would drive greater efficiency in supply chains and industrial real estate. This report revisits that prediction, examining the latest applications of AI in the warehouse sector and outlining a vision for a highly automated, digitally interconnected system designed to improve precision, flexibility and responsiveness in a rapidly evolving market environment.

Overview of AI: History, Context and Current Conditions

The concept of AI emerged in 1950 when Alan Turing proposed that machines could simulate human intelligence and introduced the "Turing Test."[1] However, the field wasn't formally established until 1956 at the Dartmouth College Summer Research Project, when John McCarthy coined the term "artificial intelligence."[2] Progress slowed during the "AI winters" of the 1970s and early 1980s due to unmet expectations, but renewed interest emerged in the late 1980s with "expert systems."[3] This was followed by major advances in machine learning, big data, machine vision and computing power during the 1990s and 2000s, highlighted by key milestones such as Deep Blue's victory over Garry Kasparov and IBM's Watson winning Jeopardy![4] The 2010s brought breakthroughs in deep learning and neural networks, dramatically expanding AI's reach.[5] Over the past two years, LLMs like GPT-4 have fueled the rise of generative AI, enabling the analysis of vast datasets, pattern recognition, content generation and accurate predictions across industries, including real estate.

AI Accelerates Locational Decision-Making

AI is significantly accelerating the ability of developers and tenants to analyze data and identify optimal warehouse locations. By integrating data on regulations, incentives, complex logistics networks, customer demand patterns and delivery costs, AI enables faster, more informed decision-making.[6] These increasingly powerful tools can help pinpoint ideal sites for both smaller distribution facilities that support last-mile and last-touch delivery in dense urban and suburban areas, as well as larger, multistate or multimarket distribution facilities. Logistics giant Prologis, for example, was an early adopter in using AI to evaluate a range of factors, including access to major ports, proximity to key transportation routes, drive times and consumer density, in addition to site-specific variables that affect throughput and operational efficiency.[7]

While Esri and ArcGIS continue to be the industry standard for modeling distribution and transit networks, a new wave of technology startups provides powerful AI-driven tools to companies of all sizes to enhance their locational decision-making. Companies such as CARTO, Spatial.ai and

Deepblocks offer advanced geospatial data science and visualization tools that support a wide range of site selection and planning objectives. Firms like AlphaGeo, UrbanFootprint and Climate X focus specifically on evaluating locational risks related to natural disasters, adding a critical layer of resilience planning to the decision-making process. Meanwhile, the nonprofit National Zoning Atlas works to digitize, demystify and democratize information about zoning conditions in more than 33,000 jurisdictions in the United States, while analytics platform StateBook provides data on federal, state and local tax incentives. PermitFlow, an AI-enabled tool that analyzes and automates the permitting process, speeds the time from project proposal to approval.

Generative AI in Planning and Design

AI has emerged as a transformative force in warehouse building design and space optimization, moving beyond traditional location-based decision-making to revolutionize how facilities are conceived, designed and operated. One significant advancement in AI-driven warehouse design comes through generative AI systems that can rapidly iterate through hundreds of development scenarios for a project site. These sophisticated systems can cycle through multiple project design solutions along with their associated cost valuations, enabling users to input data for project sites and receive comprehensive outputs within minutes—including visualizations, optimized layout proposals, value metrics and insights into potential development options.[8]

This shift toward performance-based evaluation represents a fundamental change in how warehouse facilities are assessed. Daniel English, co-founder of Legacy Investing, advocates for evaluating warehouses more like data centers, which are measured in terms of megawatts rather than simple square footage. He emphasizes that metrics such as "output per cubic foot" or "lines per hour" (a measure of picking efficiency) provide more meaningful assessments of warehouse performance, and AI can now calculate these critical performance indicators quickly and accurately.[9]

AI and Predevelopment

At the predevelopment stage, specialized AI platforms are revolutionizing the speed and accuracy of site analysis and design optimization. Companies such as TestFit, London-based Giraffe and Warsaw-based OutlineAI offer rapid prototyping capabilities for site design, providing strategic analysis of optimum building configurations, parking layouts, road access and zoning compliance. These AI systems ingest vast datasets to guide developers through their highest-and-best-use and return on investment calculations in a fraction of the time required by traditional methods.

REAL-WORLD IMPLEMENTATION: PROLOGIS AND TESTFIT PARTNERSHIP

One of the most prominent examples of AI implementation in warehouse design comes from the partnership between Prologis and TestFit, a Dallas-based proptech company. Prologis is using TestFit's real-time AI platform to better judge the feasibility of potential warehouse sites.

TestFit's comprehensive real estate feasibility platform delivers critical insights into design, constructability assessment and cost forecasting during early-stage site planning. This gives Prologis' development team powerful and timely capabilities when evaluating new logistics facilities. The system's efficiency gains can reduce site planning process timelines by as much as 90 percent.[10]

Advanced Layout Optimization and Space Utilization

While AI-driven predevelopment tools represent a significant breakthrough in site analysis, effective site planning is critically linked to the operational requirements within the building itself. Advanced AI technologies are now capable of modeling comprehensive warehouse layouts and generating optimized configurations within defined spatial constraints. These tools ensure feasible layouts by considering key factors such as accessibility standards, minimum clearance requirements and aisle connectivity.

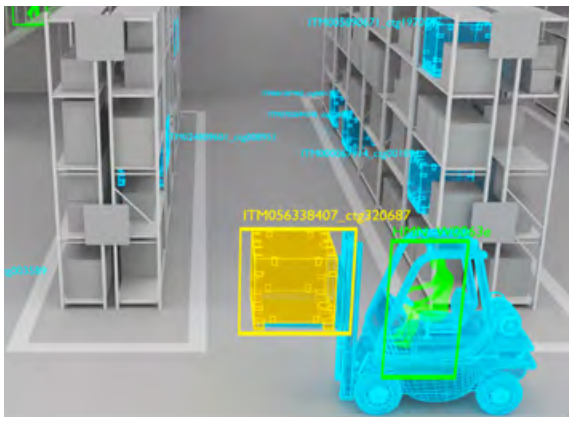
RIIICO, for example, simplifies the creation of CAD-ready 3D digital twins—robust, three-dimensional models that represent a building. This makes data more accessible and usable by engineering teams during the design phase. RIIICO's approach enhances systems from Siemens Tecnomatix, NVIDIA Omniverse and Dassault 3D Experience by providing an accurate, fine-grained, interactive graphical representation of building layouts and key building systems.[11] This technology reduces 3D modeling time by up to 80 percent and can help teams program production-critical robots up to 30 percent faster. RIIICO received Siemens' Inventors of the Year award in 2024, and its technology was successfully used to optimize factories for the Schaeffler Group.

Beyond new facility development, AI technologies are transforming the optimization of existing warehouse operations through the implementation of sophisticated digital twins. Companies like Claryo and Synkrato are pioneering the integration of digital twin technology with operational management, creating comprehensive virtual representations of warehouses that provide facilities management teams with actionable insights to improve operational performance.

Claryo's AI-powered Virtual Facility platform generates a photo-realistic, spatially accurate digital representation of existing facilities through user-friendly data collection methods including mobile phone photography and drone scanning technology. The platform's strength lies in its seamless integration capabilities with existing facility management systems. Virtual Facility provides front-line, real-time operational data that reflects current warehouse conditions and performance metrics, which can then be fed back into facility management systems.

Similarly, Synkrato's Warehouse Operating System (WOS) uses AI to rapidly generate digital twins of physical warehouse operations, simulate real-world processes with high fidelity, and enable comprehensive testing and analysis of alternative operating scenarios without disrupting current physical operations. The system's sophistication lies in its ability to ingest diverse data streams, including inventory levels, historical order patterns, shipping timelines and customer demand fluctuations, to generate increasingly accurate predictive models and actionable recommendations for optimal building configuration and operational workflows.

Figure 1: AI for Digital Modeling



AI and advanced scanning technologies using drones, LiDAR robotics or hand-held devices can now generate a spatially accurate digital representation of facilities to enable space and operational optimization.

Source: Getty Images

Collectively, these technological innovations demonstrate how AI-driven optimization systems are transforming warehouse operations through sophisticated data analysis and intelligent space utilization. By processing vast volumes of operational data, including inventory patterns, order histories and demand fluctuations, these AI platforms identify optimal arrangements of goods and resources that maximize space efficiency while simultaneously boosting operational performance and reducing operational costs. This responsive capability enables warehouses to maintain operational agility in an increasingly dynamic logistics environment, ensuring facilities can adapt quickly to market shifts while maintaining peak efficiency and cost-effectiveness.

AI-Enabled Automation Systems

The warehouse automation market is experiencing explosive growth, with projections indicating expansion from $25 billion in 2024 to more than $54 billion by 2029.[12] Amazon is on the cusp of using more robots than humans in its warehouses,[13] developing six new warehouse robot models over the past three years and expanding automation capabilities across nearly every stage of the fulfillment process. The company aims to automate 30 percent to 40 percent of order fulfillment by 2030.[14]

Automated Storage and Retrieval Systems (ASRS)

Industrial logistics operators continue to face acute labor shortages, accelerating the push toward automation to keep goods moving efficiently through warehouse environments. According to the American Staffing Association, job openings in the warehouse and transportation sector are projected to grow from 1.7 million in 2025 to 2.1 million by 2030.[15] In response, next-generation, AI-enabled ASRS continue to attract attention—not only among warehouse operators but also with venture capital investors.

Startups like Mytra, founded by a former Tesla head of robotics,[16] and Covariant, the developer of the AI-powered CovariantBrain, exemplify this shift. CovariantBrain, trained on millions of simulated and real-world episodes, enables robotic systems to operate with near-human autonomy—continually improving accuracy and throughput.[17] Both companies are pioneering solutions that allow warehouses to scale productivity even amid workforce constraints.

Market leaders like Walmart Inc. are also investing heavily in this technology. The company is building, expanding and retrofitting its grocery fulfillment centers with advanced ASRS infrastructure to enhance supply chain efficiency and maintain its competitive edge in grocery distribution.[18] These hyper-efficient systems are becoming foundational to the next generation of high-volume, high-precision warehouse operations.

Robotics

According to the NMSC Warehouse Robotics Market report, the total number of global warehouse robots across all types was approximately 479,000 units in 2024, with projections reaching 1.5 million units by 2030.[19] An exciting new category of robots, called mobile manipulators, can both navigate and grasp objects in complex situations. They are increasingly being adopted in warehouses to handle tasks with precision. A particularly significant advancement comes from Amazon's introduction of the Vulcan robot, the first warehouse robot capable of "feeling" the items

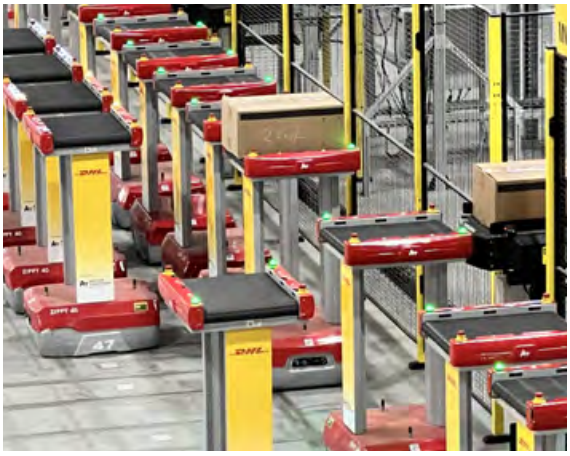
it handles.[20] This breakthrough in tactile sensing technology allows robots to handle items stowed in hard-to-reach places that are less ergonomic for human employees, demonstrating the evolution toward more sophisticated human-robot collaboration.[21] Other startups like Dexterity and Agility Robotics are similarly focused on AI-trained robots that can pick and place the most delicate items with "human-like finesse," reducing the risk of damage.[22]

Despite the rapid growth of all types of robots, many warehouses face challenges integrating robotics in ways that complement, rather than replace, human labor. Poor collaboration between humans and machines can lead to operational inefficiencies, safety concerns and resistance from the human workforce—barriers that must be addressed to fully realize the benefits of automation.[23] According to researchers at MIT's Sloan School of Management, the future of warehouse operations hinges on a delicate balance between human capability and robot autonomy, empowered by AI.[24]

Robots powered by LLMs offer a promising solution. By understanding and responding to complex verbal instructions, providing real-time assistance and asking clarifying questions, LLM-driven robots can work more seamlessly alongside human workers. Communication through LLMs not only enhances task execution but also fosters greater worker acceptance of AI, enabling smoother integration of intelligent machines into everyday warehouse operations.[25] Google's Gemini Robotics, for instance, integrates LLMs with spatial reasoning capabilities, enabling workers to issue natural-language commands such as, "Move these boxes from this pallet to that shelf." The system interprets the user's intent, translates it into executable steps and relays those instructions to the robotic or automated equipment—streamlining complex tasks through intuitive human-machine interaction.[26]

Figure 2: Different Types of Warehouse Robots

Autonomous mobile robots (AMRs).
Source: AddVerb



Mobile sortation robots (MSRs).
Source: AddVerb

Figure 2: Different Types of Warehouse Robots — Continued

Humanoid robots.
Source: Agility Robotics

CoBots.
Source: Locus Robotics

Autonomous Warehouse Vehicles

Autonomous mobile robots (AMRs) follow predetermined, fixed paths using physical infrastructure, while automated guided vehicles (AGVs) use advanced sensors, cameras, lidar (light detection and ranging) and AI-powered software to navigate dynamically. Both AMRs and AGVs are increasingly equipped with advanced AI capabilities that allow them to navigate warehouse floors and perform complex tasks such as picking, sorting and transporting material, all while collaborating seamlessly with human workers.[27] The AMR/AGV segment is expected to generate approximately $22 billion in revenue by 2030, with AMR sales growing at a compound annual growth rate of around 30 percent between 2024 and 2030.[28]

The latest generation of autonomous warehouse vehicles demonstrates significant improvements in accuracy and flexibility compared with earlier robots due to enhanced AI-driven navigation and safety systems. Modern autonomous warehouse vehicles utilize advanced sensor technology—including laser scanners, cameras and radar—to detect spatial objects, identify obstacles and navigate complex warehouse environments safely. Many of today's warehouse robots are also equipped with AI vision systems that have enabled fulfillment centers to achieve order processing speed improvements of 200 percent to 300 percent, significantly enhancing productivity.[29]

With AI, autonomous warehouse vehicles can now analyze vast amounts of data in real time to anticipate future trends and make intelligent decisions about optimal routing and task execution, enhancing operational flexibility in warehouse logistics. Recently, MIT researchers, drawing inspiration from urban traffic management systems designed to prevent collisions and optimize movement paths, developed AI programs that can quadruple the efficiency of certain warehouse robots.[30]

Locus Robotics has established itself as a leading provider of autonomous mobile robots for fulfillment warehouses, with its LocusBots surpassing 500 million picks within DHL Supply Chain facilities.[31] The company's multi-bot solution has helped DHL consistently double worker productivity worldwide, with different robot form factors working together as a coordinated fleet. Vecna Robotics' solutions include case picking automation, picking and putaway systems, and robotic pallet jacks that work seamlessly with warehouse management systems to optimize order release and route planning. Companies like Ambi Robotics and Boston Dynamics are even designing robots that tackle truck loading and unloading—long the holy grail of warehouse logistics.[32]

Modern autonomous warehouse vehicles demonstrate seamless integration capabilities with existing warehouse management systems, enabling automated scheduling, load tracking and route optimization. This integration ensures streamlined workflows and reduces the likelihood of operational errors while maintaining compatibility with established logistics infrastructure.[33]

Drones

Maintaining accurate inventory is a persistent challenge for warehouse operators, particularly in large facilities that handle thousands of stock keeping units. Traditional manual counts are labor-intensive and error-prone, often resulting in costly discrepancies and customer frustration. Autonomous drones offer a transformative solution, enabling real-time monitoring and precise inventory tracking. Startups like Uvionix, Verity and ZenaDrone harness spatial AI, computer vision and advanced sensors to pinpoint exact locations, navigate narrow aisles and swiftly scan barcodes and RFID (radio frequency identification) tags—updating inventory systems in real time with exceptional accuracy.[34]

Figure 3: Warehouse Drones

Uvionix warehouse drones can navigate narrow aisles, pinpoint exact inventory locations, and swiftly scan barcodes and RFID tags.

Source: Uvionix

Warehouse Management Systems

AI is causing buildings themselves to enter a transformative era, one in which automation is defined not only by operational efficiency but by intelligent engagement. Modern commercial buildings generate massive amounts of data from HVAC, lighting, occupancy and energy systems, as well as countless internet-connected devices. Natural language interfaces now offer a more accessible and intuitive way to interact with this data. Rather than navigating complex dashboards or combing through spreadsheets, users can simply ask a question and receive a relevant, real-time response. A warehouse worker might inquire, "What is our energy consumption this week?" or "Are all entrances secured for the next shift?"—and the building will respond.[35]

Moreover, these hyper-smart buildings will do more than answer questions; they will proactively detect potential issues, autonomously generate actionable insights and assist teams in prioritizing tasks based on data-driven analysis. As AI and building data converge, conversational interfaces are poised to become a new standard of building interaction. As Mike Laurie, founder of Planit Engineering, recently observed, "Talking buildings are not a novelty." Rather, they represent the next step in making warehouses smarter, more responsive and more human-centered.[36]

AI Implications for Warehouse Infrastructure

Power

The integration of AI and robotics in industrial warehouses has fundamentally transformed power infrastructure requirements, creating unprecedented demands for both capacity and reliability. As warehouse strategist and business futurist Geoff Kasselman noted, "To operate a fleet of robots in a facility requires significantly more power, as well as redundancy, or it will render the CapEx investment useless," with robots unable to perform at the level for which they were designed.[37]

Warehouse automation fundamentally transforms energy consumption patterns, shifting the focus of resource requirements from traditional building systems to power-intensive robotic operations. Most of the energy in a conventional facility is allocated to space heating and lighting, but automated warehouses direct a large share of a building's electrical load toward material handling equipment and robotic fleets that consume substantially more energy than manual operations. These systems simultaneously generate significant heat loads, requiring enhanced cooling infrastructure and further redirecting energy from traditional HVAC toward temperature control for robotic systems. Unlike marginally conditioned conventional warehouses, most robotics and automated operations require tightly controlled climates with electric HVAC systems that can support high heat loads, making robust cooling infrastructure as crucial to operational reliability as powering the robots themselves.[38] Modern warehouse energy management relies on advanced real-time monitoring, dynamic demand management and submetering to balance these competing electrical and thermal loads, maximize efficiency and support sustainability.[39]

The transition to AI-enabled robotic fleets creates two infrastructure challenges: dramatically increased power capacity requirements and the need for comprehensive redundancy systems. Modern warehouse automation requires robust backup solutions, including uninterruptible power supplies (UPS), battery energy storage systems (BESS) and backup generators, to ensure continuous operation during outages and the ongoing protection of substantial capital investments in automation equipment.[40]

Advanced AI systems address these challenges through sophisticated energy management that integrates demand response systems, smart grid connectivity and intelligent battery storage. AI-powered predictive analytics efficiently manage excess energy storage during off-peak periods and redistribute power during high-demand operational cycles, while maintaining autonomous operation during utility outages.[41] These systems dynamically coordinate power distribution across multiple robotic fleets, optimizing energy usage by scheduling high-power operations during favorable utility rates and intelligently managing simultaneous power demands throughout the facility.[42]

The evolution toward fully automated warehouses ultimately depends on creating robust, intelligent electrical infrastructure capable of supporting intensive 24/7 operations. This convergence of AI, robotics and advanced power management represents a fundamental industry shift toward facilities that maintain operational reliability and system redundancy while continuously optimizing energy efficiency and costs.

Data and IT

Modern warehouses deploying robotics, AMRs and ASRS require sophisticated data processing and AI capabilities to support real-time operations. These smart facilities generate vast data streams from sensors, cameras and robotic systems that demand immediate analysis for applications like predictive maintenance, inventory optimization and autonomous navigation.[43]

High-bandwidth fiber-optic networks and private 5G systems provide the ultralow latency communications essential for coordinating multiple robotic systems and ensuring millisecond-response capabilities for safety and efficiency.[44] To eliminate cloud processing delays, companies like Vertiv and Schneider Electric deploy micro data centers—compact modular computing units installed within or near warehouse facilities. These self-contained systems integrate servers, storage, networking, power and cooling in configurations optimized for industrial environments.[45]

Modern warehouse IT infrastructure must seamlessly connect inventory management, order fulfillment, quality control and safety systems to enable real-time visibility and data-driven decision-making across all operations.[46] These integrated systems then utilize AI-powered demand forecasting to enable warehouses to refine supply chain processes, anticipate shifts in demand and make well-informed decisions regarding procurement, transportation and inventory management.[47]

AI: The Macro Picture

Warehouse Supply and Demand

AI impacts demand for warehouse space in multiple, often opposing, ways. On one hand, it spurs e-commerce growth through increasingly personalized recommendations, dynamic pricing and automated marketing—contributing to increased demand for warehouse space.[48] Conversely, AI significantly improves sales demand forecasting and space optimization, which could cause downward pressure on the overall demand for warehouse space.[49] Some companies already report substantial reductions in the amount of space required to maintain a given level of service.[50] However, more productive buildings should also command higher rents from occupiers willing to pay for more efficient spaces.

Figure 4: From Warehouses to Automated Factories

Factories of the future may be smaller-scale robotic 3D production facilities located close to consumers.

Source: AI-generated image from Freepik

AI is also likely to drive the emergence of new types of industrial facilities. AI-powered logistics optimization is enabling hyperlocal delivery, particularly in urban areas, leading to smaller, more numerous warehouses, known as micro-fulfillment centers, located closer to consumers.[51] Simultaneously, companies like Aibuild, a London-based innovator in software and hardware for large-scale 3D printing, envision the factory of the future as a smart, sustainable hub for on-demand robotic manufacturing and fulfillment, all powered by AI.[52] Global companies such as Tesla and Foxconn are investing in research and development to attain this goal.[53] In the future, factories may use small-scale 3D printing to produce and fulfill products on demand, reducing the need for warehouses that store and move inventory. However, this "clean" manufacturing may also be located in buildings that traditionally would have been used as warehouses.

Labor

AI is increasingly reshaping the traditional warehouse workforce, shifting roles away from manual pick-and-pack tasks and toward more specialized positions in reliability, maintenance and engineering. A joint study by the Politecnico di Milano and Amazon highlights how AI can create new e-commerce jobs rather than eliminate them, while boosting operational efficiency and reducing waste. According to Stefano Perego, Amazon's vice president of international operations, AI technologies enable companies to "reallocate people to higher value-added activities, freeing them from repetitive tasks so they can focus on roles that require analytical thinking, decision-making and interpretation."[54] Tools like Butterfly AI, which delivers AI-enabled, real-time workforce feedback, and Kargo AI, which automates shipping, receiving and driver check-ins at the dock, distribute strategic information and empower employees throughout the enterprise.

At the enterprise level, AI is fundamentally transforming how companies organize and operate. Will O'Donnell, corporate head of global development and growth at Prologis, shared that the firm has leveraged AI for the past five years to enhance decision-making in areas such as market rent analysis, site selection, capital deployment and customer engagement. Prologis has developed over 25 enterprise LLMs and more than 1000 employees have created GPTs, with over 90 percent adoption within the company. "It's probably been some of the fastest adoption of any technology that I've seen within our company," O'Donnell said. AI is seen as a tool to shift employees' focus from data compilation to higher-value tasks like strategic thinking. The goal is to process information faster, allowing for quicker decision-making in a constantly changing environment.[55]

What the Future Holds

Looking to the future, the landscape for industrial real estate is poised for dramatic transformation, driven by the convergence of AI, robotics and next-generation automation. SoftBank's proposed $1 trillion investment in AI-powered industrial parks,[56] Xiaomi's self-optimizing "dark" factory in Beijing that will make more than 10 million mobile phones a year,[57] and Amazon's evolving hybrid warehouse models[58] all signal a shift toward smarter, more responsive, more adaptive supply chains. Meanwhile, advances in conversational interfaces and quantum-capable computing suggest a future in which buildings themselves become intelligent agents in business operations, capable of verbally interacting with the people operating inside them. This kind of proactive communication will turn once-passive structures into active participants in their own performance. Visionary Geoff Kasselman imagines "buildings with robotics, automation, AI and connectivity to everything with quantum-caliber computing power driving it all forward. … [T]hat is a profound testament to what is possible in tomorrow's industrial facilities."[59] The foundation is already being laid for a future in which warehouses are no longer static storage sites but rather intelligent, dynamic hubs at the center of the digital economy.

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