



The Promise of AI in Industrials – Rethinking ROI

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Artificial intelligence is no longer just hype—it's delivering real impact across the industrial sector. But while adoption is accelerating elsewhere, many industrial firms are still playing catch-up. This article explores how AI is reshaping the ROI equation, what's holding industrials back, and how leaders can move from pilot to scale with purpose and urgency.



AI has moved beyond hype – it's driving real impact across industries



Artificial Intelligence (AI) is no longer a futuristic promise. It's a pressing operational opportunity that's reshaping industries in real time. Adoption is accelerating, investment is deepening, and measurable value is being delivered—across both macro trends and micro use cases:



Investment

Over one-third (36%) of manufacturers now allocate more than 10%+ of their IT budgets to AI². Global digital transformation spend is projected to reach \$3.9 trillion by 2027, with AI as the primary driver of process reinvention.



Tangible Gains

In a recent survey across eight countries, 96% of manufacturing leaders reported operational improvements from AI deployment³. Fortune 100 companies are seeing results—Amazon cut overstock by 20%⁴ and Pfizer accelerated drug development timelines by 20%⁵. Siemens has leveraged digital twins and AI in their Erlangen factory, cutting energy consumption by 42% and increasing productivity by ~70%⁶.



¹"ChatGPT Crosses 365 Billion Annual Searches in 2024: Report." *ETtech* (Economic Times), June 2, 2025. Accessed June 30, 2025, <https://economictimes.indiatimes.com/tech/artificial-intelligence/chatgpt-crosses-365-billion-annual-searches-in-2024-report/articleshow/121574978.cms>.

²"Intelligent Manufacturing: A Blueprint for Creating Value Through AI-Driven Transformation." KPMG International, May 2025. PDF file. Accessed June 30 2025, <https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/2025/05/intelligent-manufacturing-report.pdf>.

³"Intelligent Manufacturing: A Blueprint for Creating Value Through AI-Driven Transformation." KPMG International, May 2025. PDF file. Accessed June 30 2025, <https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/2025/05/intelligent-manufacturing-report.pdf>.

⁴Victor Hale, "Amazon's AI Revolution: Strategic Gains and the Human Cost of Automation," *AlInvest*, June 17, 2025, accessed June 30, 2025, <https://www.ainvest.com/news/amazon-ai-revolution-strategic-gains-human-cost-automation-2506/>.

⁵Brian T. Horowitz, "How AI Drug Manufacturing Is Changing the Game," *HealthTech Magazine*, February 2025, accessed June 30, 2025, <https://www.healthtechmagazine.net/article/2025/02/ai-in-drug-manufacturing-perfcon>.

⁶Rachael Brown. "Siemens Erlangen Factory Named Digital Lighthouse by WEF." *Manufacturing Digital*, October 11, 2024. Accessed July 6, 2025. <https://manufacturingdigital.com/digital-factory/siemens-erlangen-factory-named-digital-lighthouse-by-wef>.



AI's early hype cycle has given way to concrete adoption. Mentions of "AI" on earnings calls have surged, with Q4 2024 hitting a peak—around 240 S&P 500 companies referencing it⁷. This is spanning well beyond the tech sector. As Caterpillar CEO Jim Umpleby noted⁸:

[Caterpillar] launched an internal generative AI solution designed to optimize the creation of intelligent leads . . . helping customers avoid unplanned downtime.

Leaders of Industrial sector are forming partnerships with leading tech organizations to drive these changes forward. Siemens's Management remarked in their Q2 2025 earnings⁹:

[Siemens] announced a series of new AI-driven Siemens accelerator applications . . . with partners such as Microsoft, NVIDIA and AWS . . . Our Siemens industrial co-pilot received the prestigious Helmers Award for . . . business impact.

For Rockwell Automation, the AI-powered tools they are putting out have picked up traction; CEO Blake Moret remarked in Q2 2025 earnings¹⁰:

[Rockwell is] pleased to see sharply increased adoption of the FactoryTalk design studio, which features a GenAI Copilot to accelerate the time to design and commission automation projects.

⁷John Butters, "More Than 40% of S&P 500 Companies Have Cited 'AI' on Earnings Calls for 5th Straight Quarter," *FactSet Insight*, June 6, 2025, accessed June 30, 2025, <https://insight.factset.com/more-than-40-of-sp-500-companies-have-cited-ai-on-earnings-calls-for-5th-straight-quarter>.

⁸4Q 2024 Caterpillar Inc. Earnings Call Transcript, Caterpillar Inc., January 30, 2025, PDF file, accessed June 30, 2025, https://s25.q4cdn.com/358376879/files/doc_financials/2024/q4/4Q-2024-Caterpillar-Inc-Earnings-Call-Transcript_1-30-2025_vF.pdf.

⁹Siemens AG, *Earnings Release and Financial Results Q2 FY 2025*, press release and presentation, May 15, 2025, Siemens Investor Relations, <https://www.siemens.com/global/en/company/investor-relations.html>.

¹⁰Rockwell Automation, *Q2 2025 Earnings Call Transcript*, May 2, 2025, <https://www.rockwellautomation.com/en-us/company/investor-relations.html>.

In short, AI is no longer an experiment—it’s a cross-industry (Exhibit 1) catalyst solving real problems at real speed.

Exhibit 1

AI is delivering measurable gains across industries

Vertical	Company	Problem Solved	Impact
Environmental Sustainability	Google	AI cuts data center energy use by predicting cooling needs and reducing waste	Reduced data center energy usage by 30% , saving millions of kWh annually and lowering carbon emissions
Financial Services	JPMORGAN CHASE & CO.	AI detects fraud in real time by analyzing transactions with machine learning	Detected 2.5 times more fraudulent activities, saving \$150 million annually
Healthcare	Pfizer	Accelerated drug discovery through molecular analysis	Reduced drug development timelines by 20%
Industrials	CAT	AI-based Condition Monitoring software to identify issues and recommend maintenance	Connects over 1.5 million assets with predictive maintenance solutions
Retail	amazon	Smarter inventory management with predictive analytics	Reduced overstock by 30% , saving millions annually
Semi-conductors	SYNOPSYS	Faster chip design through automated layout and verification	Reduced design time by 30% , enabling faster time-to-market for next-generation processors

Source: Literature search; public reports



Where do Industrials stand on adoption?

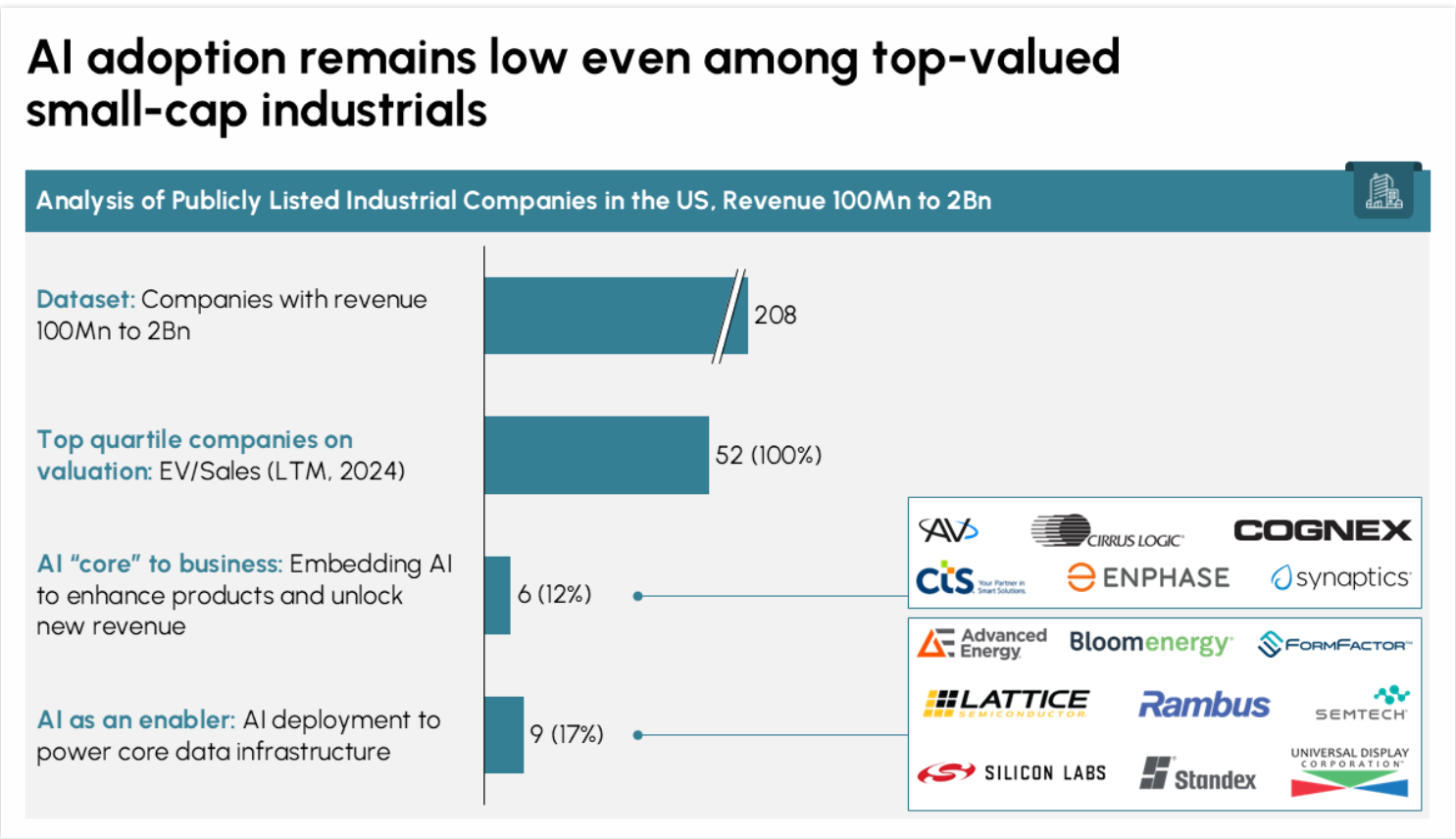


Despite the clear momentum around AI, industrial companies continue to lag other sectors in adoption. Just 59% of industrial firms have deployed AI tools—well below the cross-sector average of 71%, and significantly behind sectors like Technology, Media & Telecom and Professional Services, where adoption exceeds 79%¹¹.

The gap is even wider among smaller industrials. Even in the top quartile (by EV/ Sales valuation multiples) of small cap companies, only 12% report AI-based offerings as core to their business and just another 17% use AI as a revenue enabler (Exhibit 2).



Exhibit 2



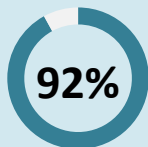
Source: Factset; Ayna team analysis

¹¹Alex Singla et al., "The State of AI: How Organizations Are Rewiring to Capture Value," McKinsey & Company, March 12, 2025, accessed June 30, 2025, <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai>.

What's holding industrials back? Firstly, for many industrial firms the strategy for developing these AI tools lacks the necessary infrastructure: data. Global industrial companies typically acquire 3x more companies than comparable sectors and are notoriously dispersed, with many having operations in many parts of the world. The cost associated with this is that data is often siloed and can't be reconciled easily. Moreover, industrial firms often struggle with implementing the management systems necessary to have quality data available for layering on AI applications. The result is garbage in, garbage out; the quality of the AI model will reflect the quality of the underlying data. Retroactively improving data quality is much harder than having the infrastructure set up from day 1, causing industrials to lag other sectors as they must catch up on data first.



From an executive lens, two persistent barriers stand in the way of scaled impact:



Talent Gaps

of industrial leaders cite a lack of AI-ready talent and organizational capability¹².




Infrastructure Deficits

point to weak technology foundations—especially around data processing and visualization—as a major constraint¹³.



¹²AI Project Survey, Boston Consulting Group in partnership with the World Economic Forum, accessed June 30, 2025, <https://www.bcg.com/about/partner-ecosystem/world-economic-forum/ai-project-survey>.

¹³Ibid



At the same time, industrials face mounting structural headwinds—each compounding the urgency for AI adoption:

Aging Workforce



Many industrials are confronting significant talent transitions. Boeing, for example, is facing a wave of retirements among its most experienced engineers and mechanics—creating gaps in institutional knowledge and increasing pressure on automation and upskilling¹⁴.

Rising Customer Expectations



Buyers are demanding smarter, more connected offerings. Honeywell reports a growing expectation for integrated, intelligent solutions—pushing legacy players to rethink both product and service models¹⁵.

Legacy Systems and Operational Complexity



Fragmented infrastructure continues to drag on efficiency. Siemens, despite its leadership in industrial automation, struggles to implement AI across global factories due to legacy equipment and siloed systems—delaying ROI and compressing margins¹⁶.

Misalignment



In many firms, the Chief Data Officer reports to the CFO or Treasurer, leading to a reactive focus on data requests rather than proactive transformation. Moreover, the reactive nature of the role leads to a lack of proper data management infrastructure being implemented. As a result, AI initiatives in industrials typically take 12 to 24+ months to move from pilot to scale—twice the time seen in sectors like finance and tech.

These four factors together with competitive pressure are escalating issues for the sector. In year 1, the effect is lost insights; in year 2, the impact is lost talent; in year 3, the outcome is lost market share.

¹⁴Edward Conard, “The Mean Tenure of Boeing Engineers Has Fallen from 16.4 to 12.6 Years over the Last Decade as Job Cuts and Competition from Space Firms Increase—the Brain-Drain Is Threatening the Institutional Know-How,” *Macro Roundup*, accessed June 30, 2025, <https://www.edwardconard.com/macro-roundup/the-mean-tenure-of-boeing-engineers-has-fallen-from-16-4-to-12-6-years-over-the-last-decade-as-job-cuts-and-competition-from-space-firms-increase-the-brain-drain-is-threatening-the-institutional-know/?view=detail>.

¹⁵Honeywell International Inc., “Honeywell Announces Intent to Separate Automation and Aerospace, Enabling the Creation of Three Industry-Leading Companies,” *PR Newswire*, February 6, 2025, accessed June 30, 2025, <https://investor.honeywell.com/news-releases/news-release-details/honeywell-announces-portfolio-update>.

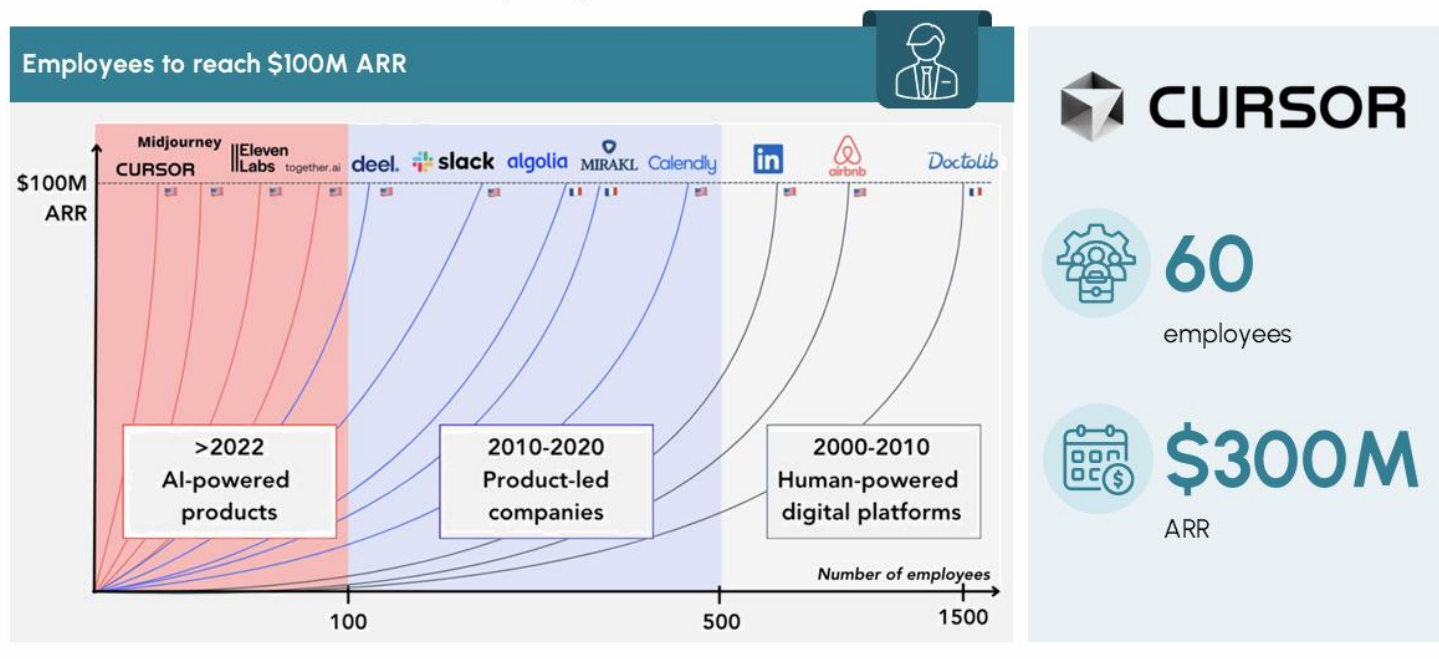
¹⁶Maria Korolov, “Siemens Focuses on Zero Trust, Legacy Hardware, Supply Chain Challenges to Ensure Cybersecurity of Internal Systems,” *CSO (IDG Communications)*, April 25, 2023, accessed June 30, 2025, <https://www.csoonline.com/article/575099/siemens-focuses-on-zero-trust-legacy-hardware-supply-chain-challenges-to-ensure-cybersecurity-of-in.html>.

Meanwhile, AI-native companies are pulling ahead—and fast. Many are reaching \$5M in ARR 3–5x faster than both traditional SaaS and AI 100 firms. Even more striking is their revenue efficiency. Take Cursor, a code generation startup that reached \$300M in ARR with just 60 employees. On average, AI-native orgs hit \$100M in ARR with far fewer people than the software giants of the past (Exhibit 3).



Exhibit 3

As Industrials wait, new players with AI native orgs are racing ahead with fewer employees



Source: <https://thegrowthmind.substack.com/p/100m-arr-with-100-employees-ai-startups>

The contrast couldn't be clearer: while industrials deliberate, disruptors are already scaling—with speed, efficiency, and impact.



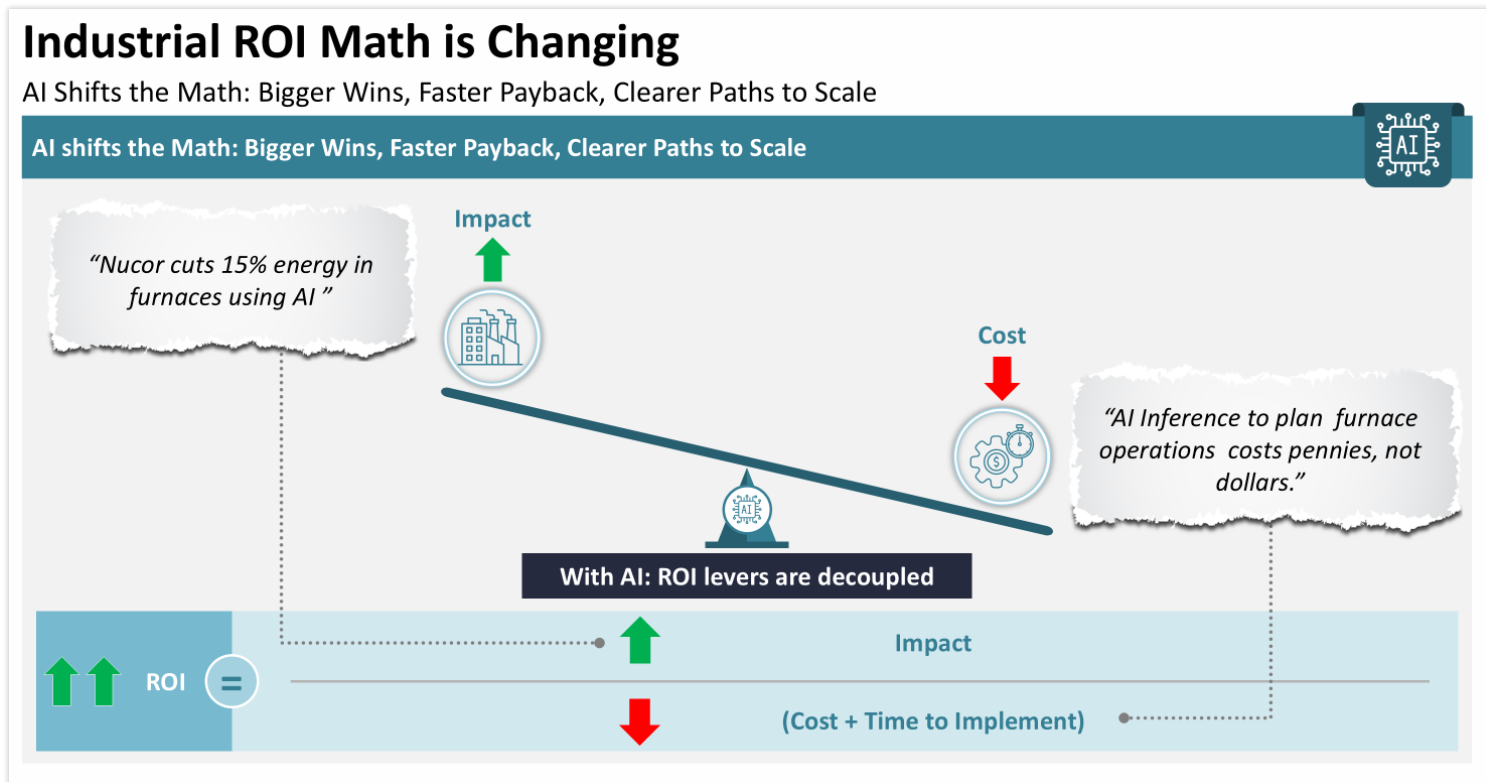
The new math of Industrial ROI



Before AI, digital investments had a tough ROI hurdle. Gains were slow and costs were high. A tool designed to reduce downtime via SOPs or better scheduling might require hiring two employees, spending \$10K on training, and taking four months to fully implement. This made optimization the only path to justifying investment—everything had to run perfectly to deliver value.

AI radically changes the equation. With inference costs measured in pennies and workflows increasingly automated, AI enables faster wins, shorter payback periods, and scalable solutions. Instead of training dozens of employees, firms can deploy AI systems that instantly surface insights, flag defects, or optimize inventory—without a lengthy ramp-up (Exhibit 4).




Exhibit 4



Paired with an environment rich in use cases, this new ROI dynamic opens massive potential for value creation in industrials. We’ve identified 46 high-impact use cases (Table 1) across sales & marketing, supply chain, R&D, operations, and support functions (HR, IT, finance). From streamlining receivables to predictive maintenance and generative product design, the opportunity set is wide—and growing.



Table 1. Potential Use Cases for Generative AI in Industrials, by Function

 Function and Use case	 AI Application	 Potential Impact
Sales & Marketing		
Aftermarket growth	BOM-based parts listings, sales leads from installed base, AI chatbots for customers	30-40% boost
Quoting automation	AI-driven tech doc parsing; tailored proposals based on customer behavior	2x-3x incr. in quoting volumes
Product configuration	Leverage multilingual prompts, purchase history, and product portfolio for smart recommendations	Time-to-quote reduced by 80%+
Pricing improvement	Use market and competitor insights for dynamic pricing and quoting	5-10% price realization
Lead generation	Exhaustive customer scan for high quality leads	15-30% increase in lead conversion rate
Email campaigns	Plan outreach campaigns with personalized info, automated follow-ups, and recommendations to nurture leads	15-35% increase in email open rates
Up-sell and cross-sell	Analyze purchasing behavior of existing customer base to drive future buying behavior	20-50% boost in CLV
E-commerce channel optimization	Build interactive websites, chatbots for customer management, and analytics for customer engagement	10-25% boost in search to purchase ratio
Global market expansion enablement	Instantly translate and culturally adapt marketing content for global markets	30-50% faster entry into new markets;10-20% increase in international revenue contribution



Function and
Use case



AI Application



Potential Impact

Sales & Marketing [Cont'd...]

Campaign performance optimization	Auto-generate, deploy, and analyze multiple content variants to optimize campaign performance in real-time	5-15% increase in marketing function productivity
Organic traffic growth	Optimized metadata, headlines, and descriptions to improve organic search rankings and drive inbound traffic	GenAI traffic growing 165x faster than organic search; 23% higher conversion rate compared to organic traffic

R&D

Product design iterations	Real-time generation of options based on product parameters	40-50% reduction in R&D cycle time
Unlock new product design ideas	Custom designs allows more experimentation	5-10x increase in number of design concepts explored
Predictive Materials Modelling	Predicts material behavior under stress, reducing test cycles	20-30% faster material qualification
Reverse engineering from 3D scans	Converts physical parts into digital CAD models	30-60% faster part digitization vs manual CAD modeling
Patent Scanning	Uses NLP to identify innovation gaps and patent risks	10-30% faster IP risk assessment
Design feedback	Incorporates real-world usage data to improve future designs	20-40% faster design improvement cycles



Function and Use case



AI Application



Potential Impact

Operations

SOP effectiveness	Chatbots to explain production process, handle routine queries	20-30% improvement in process compliance
Quality control	Detect errors and quality issues for example in materials from images	10-15% improvement in defect detection rate
Institutionalize SOP	Train labor on mfg. SOP with images and videos	50% faster onboarding
Parts availability	Real-time material and parts availability, automated ordering	50%+ reduction in stock out rates
Supplier selection & onboarding	Chatbots for RFQs/RFPs, contracts and SOPs for suppliers	30%+ reduction in onboarding time
Supplier engagement	Automate buying process (raising POs, invoicing, payments)	10-20% improvement in on-time delivery
Predictive maintenance	Detects early signs of equipment failure using sensor data to reduce unplanned downtime and extend asset life	10-40% reduction in unplanned downtime; 3-10% increase in asset life
MES scheduling	Dynamically adjusts production schedules in real time based on floor conditions, order priorities, and resource shifts	10-20% reduction in schedule-related delays
Self-optimizing robotic systems	Empowers robotic systems to self-adjust parameters for efficiency and resilience, reducing manual reconfiguration	10-25% improvement in production flexibility and uptime; 15-30% reduction in manual reconfiguration time



Function and
Use case



AI Application



Potential Impact

Operations [Cont'd...]

Defect prioritization	Clusters and ranks defects by frequency, severity, or recurrence, streamlines root cause targeting and faster resolution	20–60% faster root cause identification; 30–70% improvement in issue resolution velocity
Maintenance simulation	Virtually tests different maintenance schedules, strategies, or failure scenarios; helps optimize resource use and prevent trial-and-error on live assets	10–25% planning efficiency gain; 5–15% maintenance cost reduction

Supply Chain and Logistics

Inventory optimization	Anticipates customer demand and balances inventory costs using AI-driven replenishment and safety stock recommendations	5–15% inventory cost reduction
Risk simulation	Simulates disruption scenarios to identify vulnerabilities and optimize recovery strategies across the supply network	30–60% faster risk identification
Storage optimization	Optimizes item placement in storage locations based on real-time picking patterns	10–30% increase in picking productivity; 5–15% reduction in storage space usage
Cold chain quality assurance	AI Monitors temperature-sensitive zones and alerts deviations; ensures product quality for perishables	5–10% reduction in regulatory compliance costs
Inventory automation	Uses drones or robots to perform cycle counts and stock audits	5–15% improvement in inventory record accuracy



Function and
Use case



AI Application



Potential Impact

Supply Chain and Logistics [Cont'd...]

Dock optimization	AI Forecasts arrival/departure timing to allocate dock doors efficiently; reduces bottlenecks and truck idle time	15–30% reduction in truck wait times
Labor planning	Predicts workload trends to align workforce levels; reduces overstaffing and overtime	5–15% improvement in labor utilization
Document parsing	Extracts structured data from handwritten or unstructured delivery slips; accelerates receiving and improves record accuracy.	80–95% reduction in manual data entry

Support Functions

Streamline receivables collection process	Automated follow-ups and reminders	20-30% DSO reduction
Enhance finance performance visibility	Chatbots connecting disparate data sources (BI tools, multiple ERP systems)	50-60% faster monthly reporting
Profitability modeling	Identifies true cost drivers for product/customer segments improving margin management	3-5% EBITDA margin improvement
Forward-Looking Forecasting	AI models analyze historical financials, market trends, and real-time data to generate more accurate revenue, cost, and cash flow projections	20-30% improvement in forecast accuracy



Function and
Use case



AI Application

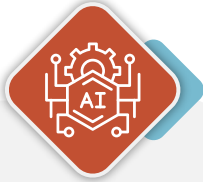


Potential Impact

Support Functions [Cont'd...]

Vendor fraud detection	AI systems analyze invoices and transaction patterns to detect duplicate billings or unauthorized payments; reducing financial leakages and compliance risks	10-20% reduction in payment errors
Recruitment automation	Automated review of resumes, candidate recommendations, interview scheduling	50-70% faster hiring
Address routine employee queries	Paid vacation, sick leave, onboarding, benefits	80-90% faster response time
Employee training materials	Images and video-based content for different functions	30-40% reduction in time spent on training
Automated IT help desk responses	GenAI chatbots resolve routine IT issues (password resets, app access, FAQs) to reduce human workload	25-35% reduction in help desk ticket volume
Identity Threat Detection	AI monitors access patterns to identify unauthorized, suspicious, or insider activity — reducing data breach risks	30-40% reduction in security incident costs

While many industrial companies are still playing catch-up, several players are quietly pulling ahead by embedding AI directly into their products and services. Among them are six select examples.



AeroVironment

AI-driven unmanned systems



Cognex

AI-enabled machine vision for automation



Enphase Energy

Smart energy and storage systems



Helios Technologies

Fluid power and motion control



Symbotic

Warehouse robotics and AI logistics



Zebra Technologies







Real-time sensing and tracking

With each standing out in its niche, these companies are proving the winning recipe for getting ROI from leveraging AI is the following: have talented individuals drive AI development and strategy, leverage strong data infrastructure ecosystems, and use the technology to solve meaningful, winnable problems. Focus on these three allows companies to leapfrog others. (Exhibit 5).



Exhibit 5

How leading small-sized industrials are embedding AI to drive growth and efficiency

	Dominant in U.S. small drone market with cross-domain autonomous deployment	From AI-powered drones to real-time mission intelligence, AeroVironment is redefining defense technology at scale
	Machine vision leader powering industrial automation	Redefining industrial automation with AI-driven sensors, few-shot learning, and the world's first 3D AI sensor—scaling fast with deep R&D and bold global ambitions
	Enabling solar and storage in 4.8M+ homes with microinverter tech	With AI built into 4M+ systems, Enphase is forecasting energy, speeding sales through GenAI-powered Solargraf, and scaling smart support across the board
	Spanning 90+ countries, accelerating innovation via motion and electronic solutions	Shifting from hydraulics to AI-powered systems—driving recurring revenue and product control with acquisitions like i3 and Joyonway, and smart solutions like WaterGuru and Cheflinc
	AI leader in warehouse automation for major U.S. retailers	Symbotic is embedding AI into 1,000+ Gen 9 bots—doubling warehouse throughput and unlocking software-led margin gains
	75%+ market share in RFID, barcode scanning	Zebra is embedding AI into 50+ frontline tools—unlocking 30% profit upside with GenAI copilots and full rollout by 2025



The 3C framework for driving AI ROI



From our experience, what separates the leaders is not access to tech, but how they deploy AI to drive measurable outcomes. We call this the 3C Framework—Compress, Coordinate, Compound:

Compress



Shrink time, cost, and cognitive load

→ Example: Use AI vision models to automate inspection logging, shift reports, and quality checks. Spot welding defects in real time at the press line.

Coordinate



Sync decisions across people and systems

→ Example: Integrate MES, SCADA, and ERP systems. Use AI copilots to surface real-time bottlenecks and balance inventory with production plans.

Compound



Stack and scale your AI gains over time

→ Example: Reuse trained AI models across similar lines or facilities. Deploy a defect detection model from one site to 20+ others, building a repeatable digital playbook.



Micron's smart factory offers a textbook example.

Compress



Automated wafer inspection and quality checks

Coordinate



AI insights fed into ERP to isolate issues by production line

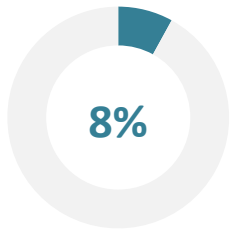
Compound



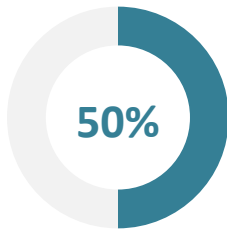
AI solutions scaled across sites and new facilities



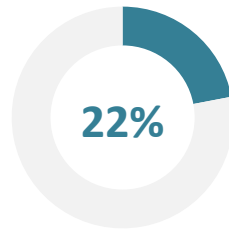
The results¹⁴?



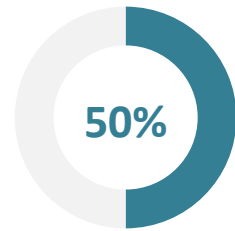
gain in labor
productivity



faster resolution of
quality issues



reduction
in scrap



faster time-to-market
across product lines

AI isn't just changing what's possible, it's transforming how industrial companies achieve impact at scale.



Wabtec's Nalin Jain on Driving Digital Transformation in Rail and Mining

How a 150-Year-Old Industrial Giant is Reinventing Itself with AI

Nalin Jain, Group President of Digital Intelligence at Wabtec Corporation, recently joined Ayna CTO Parthesh Shastri for a conversation on how a legacy industrial firm is embracing AI, machine learning, and digital technologies to drive transformation in sectors like rail and mining. Wabtec, a 150-year-old industrial mainstay, is proving that age is no barrier to innovation—its AI-powered Trip Optimizer has already saved 752 million gallons of fuel and cut emissions by up to 25%.

Before leading Wabtec's digital journey, Jain held CEO roles at GE Aviation and GE Transportation in South Asia. Since joining Wabtec in 2019, he has overseen its global equipment business and now leads its digital portfolio. In this conversation, he shares practical lessons for other industrial leaders on delivering AI ROI, managing change, and putting customers at the center of digital transformation. (The transcript has been edited for clarity and length.)

¹⁴Micron Technology, "Smart Sight: How Micron Uses AI to Enhance Yield and Quality," Micron, accessed June 30, 2025, <https://www.micron.com/about/blog/applications/ai/smart-sight-how-micron-uses-ai-to-enhance-yield-quality>.



Four Buckets of AI Value

Nalin believes the goal of AI is not to replace humans but to augment them—empowering teams and customers to do more, faster. At Wabtec, AI value creation falls into four distinct “buckets”:

1. **Internal Efficiency:** Reengineer workflows by automating repetitive processes. For instance, AI is being used to streamline inspection logging and document generation.
2. **Production Enablement:** AI acts as a co-pilot for developers and employees, improving code quality and reducing cycle times across projects.
3. **Customer Service:** Chatbots and knowledge libraries enhance responsiveness, enabling faster and smarter support.
4. **Product Integration (Emerging):** Wabtec is layering AI onto its physics-based product algorithms—transforming legacy products into intelligent, adaptive systems.

Be Customer Centric and Technology Driven

Industrial companies face a unique challenge: they must navigate the slow-moving nature of physical industries while keeping pace with the rapid evolution of digital technologies. According to Nalin, success in this environment hinges on two imperatives—stay relentlessly focused on customer value and embrace a tech-forward mindset. For him, being customer-first means starting with real-world problems and developing targeted solutions that deliver measurable value, rather than pursuing technology for its own sake. At the same time, industrial leaders must reframe technology not as a constraint but as a lever for innovation. Nalin’s team at Wabtec exemplifies this mindset by adopting an agile approach—quickly prototyping, testing, and deploying digital tools to accelerate impact.



Why digital design is all about adoption

Nalin draws a clear distinction between traditional engineering and digital product development. Traditional industrial products—like train engines or aircraft components—are purpose-built and must function flawlessly from day one. Their design is fixed, and innovation typically occurs incrementally. In contrast, digital solutions start with a customer problem and evolve through continuous iteration. They aren't defined by a single function, but by how well they adapt to changing needs. This is why Nalin stresses the importance of a “minimum viable product” (MVP) mindset when building software solutions. In the digital world, success comes not from perfection at launch, but from the ability to experiment, fail fast, learn quickly, and improve continuously.

Where should industrial firms start?

For many industrial leaders, the question isn't whether to embrace AI, but where to begin. Nalin suggests starting with the most repetitive tasks—those done hundreds of times a day—where automation and intelligence can unlock immediate productivity gains. Another powerful entry point is customer service, where AI-enabled tools like chatbots and knowledge systems can dramatically improve response times and service quality. Finally, internal operations offer fertile ground for AI deployment. By combining IoT and machine learning, firms can better monitor equipment, predict failures, and reduce manual oversight on the shop floor. Nalin also underscores the need to look beyond your own industry to learn from faster-moving sectors. In his view, the greatest challenge isn't technical—it's cultural. “Technology is not the biggest barrier,” he says. “Change management is.”

Conclusion: So, what next?

AI is no longer a future concept—it's actively reshaping the present. Productivity gains now require less labor, and meaningful returns on investment demand less capital. This shift is empowering industries across the board, but few stand to benefit more than industrials—if they can harness AI strategically. With aging workforces, shifting customer expectations, and the burden of legacy systems, the pressure to adapt is mounting. However, the opportunity for leveraging technology for gains is greater than ever if done properly. AI has changed the calculus on return on investment, allowing you to get multiple factors of greater productivity at a lesser cost.

To meet this moment, industrial firms must move beyond experimentation and focus on deploying AI with purpose. That means identifying clear use cases, defining measurable outcomes, and aligning initiatives with broader business goals. Structured approaches—like the 3C framework of Compress, Coordinate, and Compound—can help ensure efforts translate into tangible value, rather than becoming just another tech initiative.

The AI wave isn't going anywhere. For industrial leaders, the real question is no longer if AI will matter, but how fast they can make it work to their advantage. Those who crack the code now will compound gains on their AI investments over time and lead in the industrial era ahead.





THANK YOU