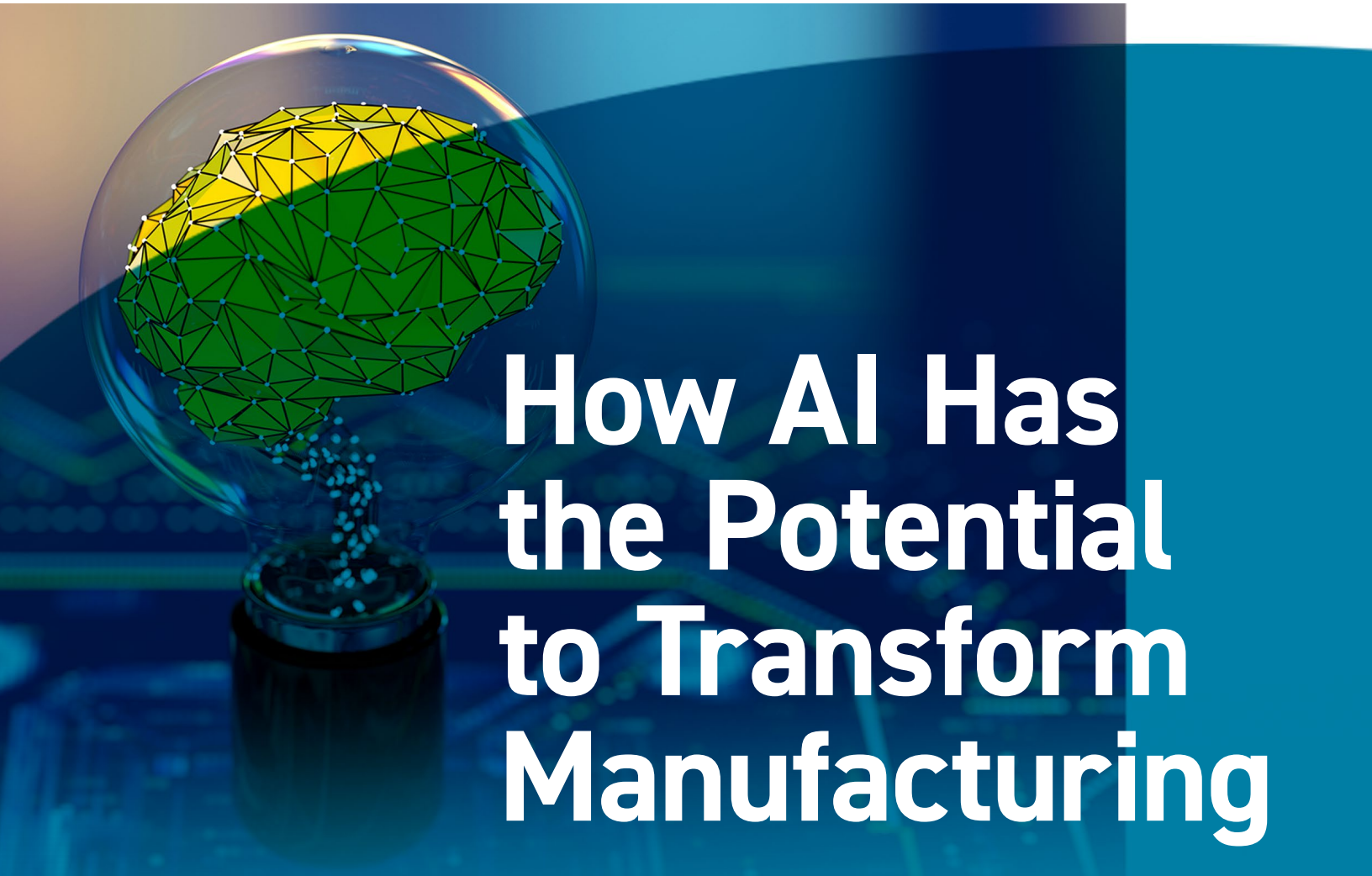
INDUSTRIAL MANUFACTURING



How AI Has the Potential to Transform Manufacturing

2023 will likely go down in history as the "breakthrough" year for Artificial Intelligence. To say that the use of AI tools has increased exponentially over the past six months is an understatement. Much like the introduction of the internet in the late 1990s, AI has the potential to disrupt life as we know it.

Cherry Bekaert
Your Guide Forward

This is especially true when it comes to generative AI. Even though many of these tools are new to the market in just the last few months, a recently released survey from The Conference Board revealed that more than 50% of employees are using generative AI for work tasks. The majority of respondents also said that generative AI tools have had a positive impact on their productivity. To put it simply: AI is changing our world, and corporate investment in AI is quickly growing with no signs of slowing down.

AI Defined

At its basic level, AI is the simulation of human intelligence processes by machines—typically computer systems. AI tools ingest large amounts of data and use patterns to make predictions about the future. Generative AI—such as the widely known ChatGPT—is a form of AI technology that can seamlessly produce content such as text, imagery, audio and more through a streamlined, user-friendly interface.

Fast-Paced Acceleration

AI is not a new concept. In fact, the term first came into existence in the 1950s, and the development of this capability has been evolving ever since. So, what's happened more recently to cause this significant shift? The backbone of AI is data, and for the first time, there's an infinite amount of data in the cloud. Secondly, there is now enough processing power for machine learning to start to train itself to learn from that data without human intervention.

In other words, this technology is building the functionality to draw conclusions, while also optimizing algorithms as it continues to learn. Finally, natural language learning is taking place simultaneously, meaning you can talk to your computer and get a reasonable response back. These key forces are converging to help fuel the rapid expansion of AI use in both our work and personal lives.

> AI won't replace people, but the people that use AI will replace those that do not."

AI's Impact on Manufacturing

According to recent research from an IBM study (CEO decision-making in the age of AI: Act with intention, IBM Institute for Business Value), "three out of four (75%) CEOs believe the organization with the most advanced generative AI wins." In a nutshell, AI's usefulness is universal across sectors and functions. When it comes to manufacturing specifically, there's a long list of practical AI applications that have the potential to rapidly transform the industry. Some specific use cases include:

- **Predictive maintenance:** Analyzing data to predict when equipment fails, preventing unplanned downtime
- **Energy efficiency:** Optimizing energy consumption in real time, minimizing costs and increasing sustainability
- **Generative design:** Developing designs that are more efficient and durable, reducing costs and improving performance
- **Robotics:** Automating processes, freeing humans for skilled tasks while improving accuracy
- **Quality assurance:** Inspecting for and identifying defects, in the hopes of increasing customer satisfaction
- **Inventory management:** Tracking inventory and optimizing ordering to reduce costs and increase efficiency
- **Product reliability:** Proactively identifying and troubleshooting product issues for customers, minimizing downtime

- **Product customization:** Enabling more flexible processes to accommodate specific customer preferences
- **Process optimization:** Optimizing manufacturing processes to improve efficiency and reduce costs
- **Demand forecasting:** Analyzing market trends and historical sales to better forecast product demand
- **Price forecasting:** Leveraging macroeconomic factors to forecast materials pricing to help optimize purchase decisions
- **Safety compliance:** Ensuring compliance with safety regulations to improve employee safety while also reducing costs

Where to Start?

The most important thing to understand about AI's use in the business landscape is that AI itself will not replace people, but people who use AI are going to replace people who don't. This is an important skill for every function within your organization to learn. If you acquire it early, you will gain a competitive advantage. So, it's not a question of if you should get started with AI; it's a question of where to start.

We often recommend choosing one small process to experiment with as a pilot—and scale from there. Let's take the sales function as a possible example. If your sales team is engaged in cold calling, imagine a use case where you leverage AI to craft those conversations instead.

The same applies to inbound sales emails: you can leverage AI tools to automate those responses as well. This helps with consistency, because a computer is infallible in terms of follow-up and sticking to a cadence.

By automating these routine functions, it frees up your sales team to devote more time to higher-value tasks such as cultivating high-quality leads, closing deals and building new customer relationships.

The Importance of Data

AI technology relies on data. With that in mind, one of the most important steps on your AI journey is to formalize a strong data strategy. This is truly where your competitive advantage will come from in this space. There are a growing number of AI tools on the market, but what you feed them is what's going to matter. That starts with getting your data clean and organized while also developing formalized processes around collecting and maintaining it.

AI requires large amounts of diverse, unbiased data to make meaningful connections and findings. **Only 20% of organizations report data accuracy of 80% or higher.** This means that a large majority of companies are at risk of implementing AI strategies based on inaccurate data sets, which is more likely to lead to flawed results. *(Adapted from "Managing Data for AI: Role of the CDP, 2023 Report)*

Leveraging AI for R&D in Manufacturing: A Case Study

When you look across the manufacturing sector, R&D costs have ballooned over time (Increasing tenfold since the 1990s, according to Forrester) without a great return rate (75% of R&D projects never reach their expected ROI, also according to Forrester). One of the most common reasons R&D projects fail is because they are too slow to market and the value prop for customers was not fully understood.

This was a challenge we helped solve for a large manufacturer of consumer goods. They were spending a lot of time and money on product research, but they were late to market with the innovations they were releasing.

We helped to accelerate the consumer trends discovery process to drive better and more nimble product creation. To accomplish this, we leveraged an AI tool that identifies real-time signals in the market from online reviews and video posts as well as patent filings, earnings, call transcripts and other sources.

This information helped to quickly paint a clear picture of emerging market trends and has served as an effective tool to speed up the initial discovery process for our client.

How Cherry Bekaert Can Help

AI is forcing middle-market industrial and consumer companies to upgrade their digital transformation efforts. Cherry Bekaert has extensive experience in developing strategies for AI deployments in practical business use cases.

Our Digital Advisory team is comprised of strategists who have broad industry experience and keen business acumen. Utilizing an agile and flexible approach, we help examine your goals with a focus on people, process, technology and culture. We are here to help organizations manage risks, enable growth and support sustainable operations.

Additionally, our T&Co. by Cherry Bekaert is comprised of strategists and consultants that help organizations see market trends before the competition to anticipate the needs of customers and take advantage of new untapped growth opportunities. Our professionals develop unique strategies and innovation processes to create sustainable, industry-breaking profitable growth.

Leveraging our strategic process, we help digitally enabled organizations – especially middle-market companies – do more with less. Cherry Bekaert stays on top of the latest technology trends, but we know that technology is not a one-size-fits-all solution. Cherry Bekaert is here to guide you on what technology makes sense to adopt as it pertains to delivering the highest value to your organization.

Let Us Be Your Guide Forward

Jason Hodell
Partner, Industrial Industry Practice Leader
jason.hodell@cbh.com
872.299.5451

Francesco Fazio
Partner, Strategic Growth & Innovation
francesco.fazio@cbh.com
800.277.0070

cbh.com/ digital-advisory

cbh.com

About Cherry Bekaert

Cherry Bekaert, ranked among the largest assurance, tax and advisory firms in the U.S., serves clients across industries in all 50 U.S. states and internationally. "Cherry Bekaert" is the brand name under which Cherry Bekaert LLP and Cherry Bekaert Advisory LLC, independently owned entities, provide professional services in an alternative practice structure in accordance with applicable professional standards. Cherry Bekaert LLP is a licensed CPA firm that provides attest services, and Cherry Bekaert Advisory LLC and its subsidiary entities provide business advisory and non-attest services spanning the areas of transaction advisory, risk and accounting advisory, digital solutions, cybersecurity, tax, benefits consulting, and wealth management. We exercise a deliberate curiosity to know our clients' industries and work collaboratively to create shared success. For more details, visit **cbh.com/disclosure.**

Cherry Bekaert LLP and Cherry Bekaert Advisory LLC are members of Allinial Global, an accountancy and business advisory global association. Allinial Global connects its members to other Certified Public Accounting firms, Chartered Professional Accountants, and consulting firms worldwide, fostering the independence, profitability, and continuous improvement of its members. | To learn more about Cherry Bekaert, visit **cbh.com.**

Cherry Bekaert
Your Guide Forward

v. 10.20.2023 Article_How-AI-Has-Potential-Transform-Manufacturing_1232584702