Manufacturing Industry Trends to Watch in 2024

Businesses in the manufacturing sector contribute significantly to the economy by utilizing raw materials to create a wide range of finished products. In recent years, this industry has experienced considerable growth and has capitalized on recent legislation that provided substantial funding and tax incentives. The Infrastructure and Jobs Act, the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act, and the Inflation Reduction Act have collectively stimulated private-sector investments in the manufacturing sector. Professional services firm Deloitte reported that as of July 2023, annual construction spending in manufacturing stood at $201 billion, representing a 70% year-over-year increase. This increase in spending sets the stage for additional industry growth in 2024.

In the manufacturing industry, changing regulations and evolving market dynamics will continue to bring changes in the future. Other trends to watch include digital transformation, supply chain challenges, labor shortages, and liability from per- and polyfluoroalkyl substances (PFAS) in products. Monitoring the latest sector developments and appropriately adjusting operations and risk management practices to respond to these shifts is essential, as each has significant impacts on the success and public perception of a business.Check out this article for more details on 2024 manufacturing industry developments.

Digital Transformation

Manufacturers will continue to embrace digital transformation and technology adoption in 2024. Businesses will look to these tools to improve their operations by enhancing productivity and forecasting and mitigating supply chain disruptions.

One tool that is gaining increasing traction is generative artificial intelligence (AI). Generative AI is a type of AI that receives data inputs and creates new content (e.g., text, images, audio) based on that data. Generative AI can be used to create optimal product designs, improve quality control, address supply chain issues and enhance predictive maintenance. Generative AI can also help manufacturers promptly respond to client requests and questions.

Manufacturing businesses are also increasingly utilizing technology, including AI, augmented reality and virtual reality, to build industrial metaverses. Such digital spaces can create virtual representations of physical locations that manufacturers can use to design and test products or train employees. Key components of an industrial metaverse are digital twins, which are digital replicas of physical objects that can receive data from their physical counterparts in real time. This data can inform virtual model simulations, which generate information that can be applied to the physical object to improve its performance.

In addition, smart factory initiatives are also being utilized to increase network capacity, reduce delays in network communication and enable high-speed data processing. Such solutions often permit manufacturing businesses to minimize downtime on the production floor and elevate performance. Furthermore, manufacturers are imlpementing robotics, the Internet of Things (IoT) and blockchain to improve their businesses' efficiency and overall performance capabilities.

Technology undoubtedly has several benefits, but it's worth noting that its use can introduce various risks. For instance, the increased connectivity via the IoT and reliance on digital systems can expose manufacturers to cyberthreats like data breaches, ransomware attacks and sabotage. Also, collecting and processing large amounts of data raises concerns about privacy compliance and the protection of sensitive information. Other risk considerations include dependency on technology, workforce displacement, regulatory compliance challenges, ethical implications and data integrity concerns.

Proactive planning, cybersecurity, talent development, regulatory collaboration and ethical considerations are vital for the safe integration of manufacturing technologies.

Supply Chain Challenges

Although supply chains are showing signs of normalizing, disruptions remain a significant risk due to various external threats, such as natural disasters, geopolitical tensions, trade disputes and unexpected events like the COVID-19 pandemic. According to Deloitte, the average delivery time for production materials was 87 days in August 2023. This was down from a peak of 100 days in July 2022 but still not back to the pre-pandemic average of 63 days.

To mitigate supply chain risks and help ensure supply chain resiliency, manufacturing businesses have employed several tactics, including:

- **Leveraging technology**—Manufacturing businesses have implemented workplace technology to enhance supply chain visibility and resilience. Deloitte reports that 76% of manufacturers are adopting digital tools for improved supply chain transparency. Examples include work instruction software and digital ecosystems, which can streamline supply chain workflows, ensure regular communication with suppliers, provide status updates on material shipment processes and deliver notifications regarding possible disruptions. Some manufacturers have also started using AI, metaverse technology and digital twins to strengthen their supply chains and find efficiencies.
- **Strengthening relationships**—Manufacturing businesses are more likely to receive additional support when navigating supply chain issues by building strong relationships with their suppliers. For example, businesses with solid supplier connections may benefit from solutions like modified shipment routes and prioritized access to high-demand materials as they become available.
- **Diversifying suppliers**—Some manufacturing businesses have added redundancies to their supply chains by investing in several suppliers for the same materials instead of relying on a small selection of primary suppliers. With these diversifying strategies, businesses can increase the likelihood of maintaining access to essential production materials even if their primary suppliers are experiencing disruptions.
- **Nearshoring and reshoring**—In addition to diversifying their supply chains, some manufacturing businesses have also begun engaging in nearshoring and reshoring. Nearshoring involves shifting production from overseas countries to nearby countries, while reshoring entails moving production back into a business's home country. Businesses that implement these strategies may be able to minimize their risks of being impacted by global shipment delays and associated supply chain disruptions.

Labor Challenges

Recent legislation has provided funding that is expected to help generate job growth in the manufacturing sector. For example, the Inflation Reduction Act has spurred investments in clean energy, and the CHIPS and Science Act will inject significant funding into the manufacturing of semiconductors. However, although voluntary turnover rates are cooling, the manufacturing industry continues to grapple with skilled labor shortages. Deloitte reported labor mark tightness is expected to continue in 2024. Rising labor costs are also expected this year, even as inflation slows and prices stabilize. According to the Institute for Supply Management, wages and benefits costs are expected to rise 5.2% in 2024.

Manufacturing businesses must take steps to address the labor challenges they may encounter. These measures may include diversifying outreach efforts at community events (e.g., job fairs) to encourage the next generation of manufacturing employees; leveraging training and apprenticeship programs to continue to expand new workers' professional abilities; utilizing technology to streamline processes and improve efficiencies; providing comprehensive and ongoing safety training to new and existing workers of all experience levels; offering flexibility and more competitive wages and benefits; and attempting to bring employees who recently left the industry back to work through various incentives (e.g., flexible employment arrangements and career advancement opportunities).

It may also be beneficial for manufacturers to explore underrepresented demographics to increase their talent pools and expand their searches by using talent recruitment agencies. Cultivating and maintaining a positive and safety-forward company culture can also help businesses attract and retain employees and reduce workplace accidents.

PFAS

A concern in the manufacturing industry is the presence of PFAS in their products. PFAS consist of a large grouping of over 7,000 chemicals that have been widely manufactured and distributed across the United States since the 1940s. Because PFAS don't break down easily in the environment and bioaccumulate in the human body, they are known as "forever chemicals." PFAS can be found in various products, including food packaging, nonstick cookware, household cleaners, firefighting agents, textiles, adhesives, furniture and auto parts.

PFAS have been the subject of increased litigation and regulation over the past few years. Such scrutiny stems from the health and safety concerns of these substances as well as their environmental impacts. Specifically, according to the Environmental Protection Agency (EPA), exposure to certain levels of PFAS may lead to several adverse health conditions, including certain cancers, fertility issues, developmental delays in children, obesity, hormone interference and immune system dysfunction. PFAS are also found in soil and water and can build up in fish and other wildlife. Because of these impacts, businesses that manufacture PFAS or products containing these substances may face elevated liability exposures.

For example, two types of PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), are no longer allowed to be manufactured in the United States, and the EPA has prioritized addressing PFAS concerns. In October 2023, the EPA published a final rule requiring all manufacturers of PFAS and PFAS-containing articles that developed these in any year since 2011 to report information to the EPA regarding PFAS uses, production volumes, disposal, exposures and hazards. Additionally, the EPA recently noted that addressing exposure to PFAS will be one of its six National Enforcement and Compliance Initiatives during the fiscal years 2024-27. Several states have also established PFAS regulations. Altogether, these efforts can place several compliance requirements on manufacturers that develop or depend on PFAS in their operations.

As manufacturers are being held increasingly responsible for PFAS contamination through regulatory action and litigation, it's essential for them to take steps to minimize liability exposures—namely, by eliminating or limiting overall PFAS utilization, investing in alternatives and ensuring compliance with applicable legislation.

Manufacturing businesses should review both their existing and prior insurance policies to determine whether they provide sufficient coverage for PFAS-related claims. Many insurance policies exclude coverage for incidents involving environmental pollutants or hazardous substances, and these exclusions may apply to PFAS. Based on their particular liability exposures, some businesses may wish to purchase specialized coverage (e.g., pollution liability insurance) to fill in any gaps. Regardless, businesses should consult trusted insurance professionals to secure proper coverage.

Conclusion

There are several trends impacting the manufacturing sector. By staying on top of these developments and mitigating their associated exposures, manufacturing businesses can effectively position themselves to maintain long-term growth and operational success. Contact us today for additional risk management guidance.
