Digital Transformation Market In Manufacturing - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 110 pages | Mordor Intelligence

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Report description:

The digital transformation market in manufacturing is expected to register a CAGR of 19.4% over the forecast period. With the advent of industry 4.0 in the manufacturing industry, various plants are fostering digital technologies to enhance, automate, and modernize the whole process. Further, in digital transformation, such as robotics and IoT, robots can work 24x7 without causing glitches or errors, positively impacting market growth over the forecast period.

Key Highlights
For more organizations, industry 4.0 technologies, like robotization, are part of day-to-day operations. For instance, project and office furniture manufacturer Vepa uses robotization in its warehouse, helping it to double its turnover. It is expected that collaborative robots will be increased use in manufacturing.
According to the IFR, the market for collaborative robots is expected to reach USD 12.3 billion by 2025. Intelligent robots work alongside workers and can be programmed by most factory workers to perform the most routine, tedious tasks and accurately deliver them.
Further, according to the Ministry of Electronics and Information Technology, the government of India released a national strategy for additive manufacturing (commonly known as 3D printing) to encourage cooperation between academia, government, and industry to make India a global hub for design, development, and deployment of 3D printing.
Implementing IoT in the manufacturing industry helps detect any error at an early stage, which further lessens errors and mistakes and mitigates the number of products returned to the company. Additionally, North America has made considerable strides in adopting IoT, especially in manufacturing. According to smartamerica.org, the US government updated its IoT security infrastructure by about USD 41 trillion in 20 years.
The rising penetration of industrial IoT across regions has significantly contributed to the market's growth. For instance, the "Made in China 2025" announcement is aimed to broadly upgrade the Chinese industry by moving toward quality-focused and

innovation-driven manufacturing.
Furthermore, many vendors are also releasing an advanced platform to accelerate the implementation of robotics within warehouses and manufacturing facilities. In September 2022, HP announced the retail availability of its Metal Jet-S100 Solution at the 2022 International Manufacturing Technology Show. HP Metal Jet S100 is a 3D metal printing device created to help industries print 3D metals in mass qualities.
In addition, some countries, such as South Africa, have an unemployment rate close to 25%, which propels the challenges associated with adopting digital transformation in the manufacturing industry in the region. Moreover, the lack of a skilled workforce will likely hugely impact business growth in revenue and production.

Manufacturing Digital Transformation Market Trends

Robotics is Expected to Register Significant Growth

Compared to conventional manufacturing processes, improved efficiency and a reduction in production costs are boosting the adoption of automation technology, driving digital transformation across the manufacturing segment. The application of robots in manufacturing assists in increasing efficiency, from raw material handling to finished product packing. These robots are programmed to operate 24x7 and can be customized to perform complex functions. According to the IFR, Japan is the world's largest producer of industrial robots delivering 45% of the global supply.
According to IFR, around 453,000 industrial robots were shipped worldwide this year, and it is anticipated that 518,000 industrial robots will be shipped in the next few years. Such expansion in industrial robots may further drive market growth.
Further, highly trainable and collaborative robots across the manufacturing sector are being deployed in hazardous working environments. For instance, autonomous dump trucks used at mining sites can be remotely controlled by operators, eliminating the need for human drivers.
Further, in January 2022, Wise Robotics partnered VisionNav Robotics to bring more significant innovation to UK warehouses. The collaboration means VisionNav's innovative technology is expected to be functional as part of the Wise Robotics range. This is anticipated to help UK operators increase order fulfillment and reduce the ongoing costs of running a warehouse in the face of well-documented supply chain challenges.
Furthermore, the emerging automotive industry in Asia creates significant global industrial robot market opportunities. For instance, China is the world's largest electric vehicle market. According to IEA, China recorded total registration of 3.4 million electric vehicles, which accounted for 51.5% of the global market share. Further, according to CGTN, China unveiled its plan to become a global robotics hub by 2025.
Adopting robots in manufacturing plants aids innovative machinery in identifying irregularities and can help fix mechanical issues without human intervention, allowing the company to increase efficiency and minimize delays.

North America is Expected to Hold a Major Share

Modern manufacturing facilities in the United States rely on new technologies and innovations to produce higher quality products significantly, with lower costs. Regional companies are adopting sophisticated and intelligent solutions to survive the current competitive scenario.
Furthermore, according to the Association for Advancing Automation (A3), companies in North America sold 12,305 robots in Q2 2022, a significant increase compared to the previous year. Further, according to Robotic Industries Association (RIA), the most critical driver of the year-to-date increase in industrial robots was an 83% growth in units purchased by automotive OEMs for process automation. ?

The Canadian government is also focusing on funding startups to promote digitization in its manufacturing sector. For instance, Wivv Wearables, based in Vancouver, announced receiving USD 2.3 million as a part of the government's USD 39 million funding for 17 companies in B.C. With this investment, the company has planned to establish a biomechanics lab and digital manufacturing center.
Growth in the number of SMEs and rising digitization in manufacturing by large firms like IBM and General Electric are aiding the development of IoT in the regional manufacturing market. SMEs are becoming increasingly flexible in incorporating the latest technologies with their existing systems, whereas large manufacturers have heavy budgets for digitization.
Furthermore, in November 2022, Honeywell announced a strategic partnership with OTTO Motors, a division of Clearpath Robotics, providing warehouses and distribution centers across North America an automated option to handle some of the most labor-intensive roles in an increasingly scarce job market. The collaboration facilitates Honeywell customers to reduce errors, increase efficiency, and enhance safety by deploying OTTO's autonomous mobile robots (AMRs) in their facilities.
Additionally, manufacturing companies actively seize the opportunity to increase production efficiency by adopting advanced technologies equipped with AI and ML capabilities. For instance, the transportation, infrastructure, and agriculture parts producer-Linamar, based in Ottawa, attracted an investment of USD 100 million through the Federal as well as the Ontario government to adopt advanced manufacturing technologies, such as advanced robotics, equipment data analysis, prediction, vision systems, and 3D printing.

Manufacturing Digital Transformation Market Competitor Analysis

Digital transformation in the manufacturing market is highly competitive and consists of several major players. In terms of market share, few significant players currently dominate the market. The market appears to be moderately concentrated. The major players leverage strategic collaborative initiatives to increase their market shares and profitability. The companies operating in the market are also acquiring start-ups working on digital transformation in manufacturing technologies to strengthen their product capabilities.

August 2022: Siemens built its first ?digital native' factory at a Chinese motor drive subsidiary using a digital twin as a critical tool. Siemens Numerical Control in China became a digital enterprise by consolidating three production sites into one factory built with a digital twin. This created Siemens' largest R&D and manufacturing center outside Germany.
March 2022: Geek+, a player in the global autonomous robot market, announced the introduction of its multilevel storage and retrieval system: Sky-Storage & Ground-Pick. The solution uses Geek+'sX-series four-way shuttle robots to boost storage density while devoting the ground floor to picking operations entrusted to the flagship P800 robots.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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