8 KEY MANUFACTURING AUTOMATION TRENDS

Automation in manufacturing is more prevalent than ever. But like most technologies, it's changing and evolving quickly. Stay on top of the trends—and one step ahead of the competition.

1 ADDITIVE MANUFACTURING

Additive manufacturing has come strongly into focus as a way to solve several needs in various industries—from efficient creation of customized medical devices/implants to the need for lighter parts in automotive and aerospace.

21.21% ANNUAL GROWTH
predicted for the global additive manufacturing market

$44 BILLION
The expected size of the additive manufacturing market by 2027

2 ARTIFICIAL INTELLIGENCE (AI)

AI is a driving force behind today's most sophisticated manufacturing automation applications. New vision and sensor technologies, deep learning and more are taking the possibilities of AI to new heights.

16% PROFIT GROWTH
The percentage large OEMs can boost their bottom line by deploying AI at scale

83% OF COMPANIES
claim that AI is a top priority in their business plans

PREDICTIVE POWER
A key application of AI is better predictive technology—not only for foundational elements like machine maintenance, but going as far as predictive quality, according to Siemens.

53% INCREASE
in mobile robot shipments in 2022

3 AUTONOMOUS MOBILE ROBOTS (AMRs)

AMRs are here to stay—helping with everything from food delivery and patient care to ecommerce fulfillment and materials handling.

4 COLLABORATIVE ROBOTICS

Collaborative robotic systems help manufacturers achieve greater efficiencies, faster.

85% TIME SAVINGS
The amount of time one one robotics customer saved on a welding task by switching to a collaborative robot system

#1 IN GROWTH
Collaborative robots were the fastest growing segment in industrial robotics in 2022

5 DARK FACTORIES

Also known as lights-out manufacturing, we're seeing more and more fully automated production sites that can run 24/7, 365 days a year with little or no on-site human interaction.

80% COST REDUCTION
for dark factories (as compared to traditional)

250% ERROR REDUCTION
for dark factories (as compared to traditional)

6 DEEP-LEARNING-POWERED VISION

Deep learning has found a sweet spot in vision-based applications, particularly inspection. These applications can save big in an area where manufacturers are spending a lot.

15–20% OF SALES REVENUE
The percentage that experts estimate most organizations spend on quality control

40% OF OPERATIONAL COSTS
is the high end of the spectrum for the "cost of quality"

7 ENTERPRISE RESOURCE PLANNING (ERP) TECHNOLOGY

ERP systems are becoming more sophisticated and, yes, automated. Manufacturers need their ERPs to work harder to better control inventory, logistics and more.

5 KEY ERP NEEDS
The five functions most crucial for manufacturing ERP systems are material requirements planning, built-in quality control, built-in shop floor management, inventory control and batch/lot tracking.

8 INDUSTRIAL INTERNET OF THINGS (IIOT)

IIoT is entering a new generation—in which manufacturers will use AI to better leverage the massive amounts of data generated.

99% OF DATA
generated from IIoT systems goes unused; AI advancement are helping fix this

160% INCREASE IN PRODUCTIVITY
for those who leverage IIoT applications

WANT TO KNOW MORE?

Don't miss Automate, the largest showcase of automation in North America, **May 22–25, 2023, in Detroit, Michigan, USA.**

automateshow.com

Sources: 3Dnatives, Research and Markets, Capgemini, Forbes, Siemens, FANUC, Interact Analysis, Efficient Manufacturing/Industr.com, ASQ, CIO Insight, SAS, Industry Week

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