



**THE FACTORY IS
CHANGING**

The Complexity Within

The factory floor is evolving, moving from large, centralized operations to more adaptable, modular systems.



AMRs - Programmable Movement

"We used to design the factory around how material moved. Now, material movement adapts to the factory. "

Automated Mobile Robots (AMRs) have transformed logistics from fixed paths to programmable, flexible routes, optimizing flow and efficiency within the modern manufacturing environment.





Robotics - Programmable Motion

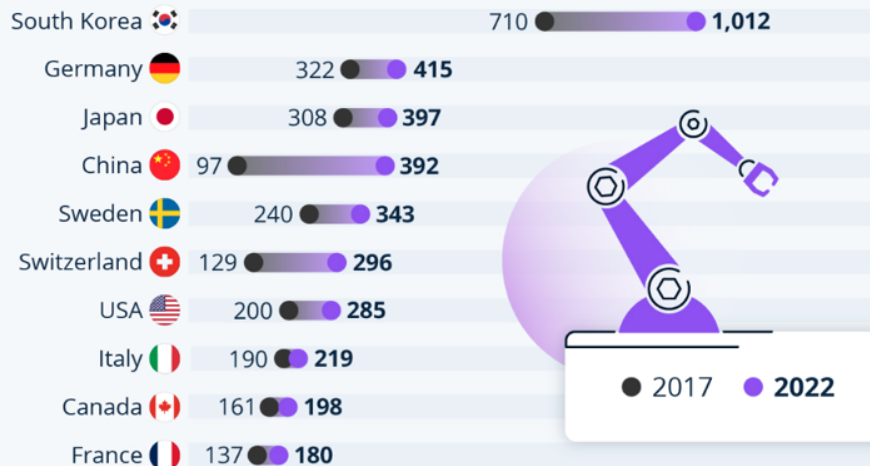
"The robot fundamentally changed automation by allowing motion to be programmed, rather than mechanically designed around the product."

This shift from fixed mechanisms to adaptable programming unlocks new levels of flexibility and efficiency in manufacturing processes.

Robot Density - US is behind

The Countries With the Highest Density of Robot Workers

Number of installed robots per 10,000 employees in the manufacturing industry



Selected countries. Worldwide average: 151 per 10,000 employees in 2022.
Source: International Federation of Robotics

7th

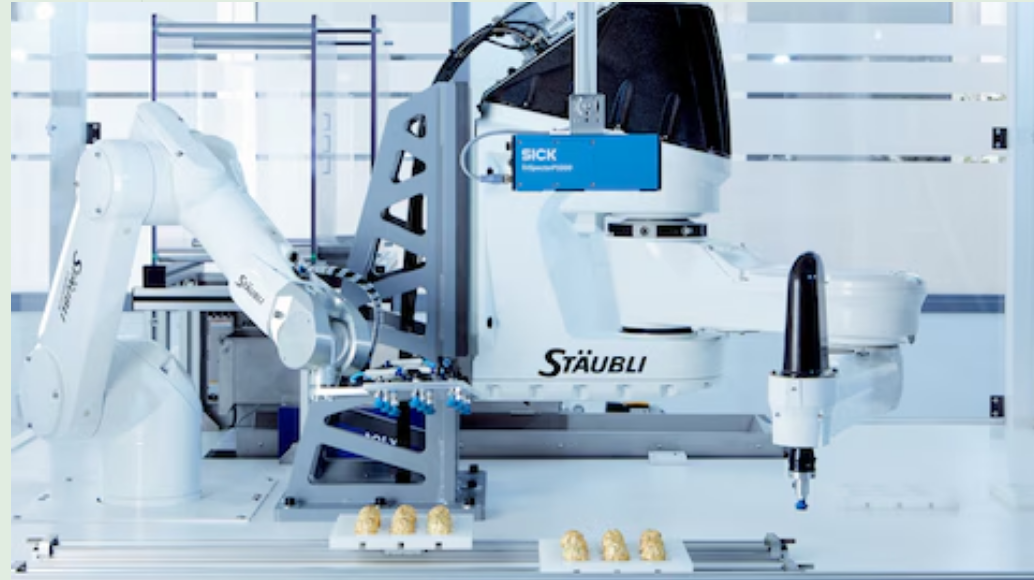
The US ranks 7th globally in robot density, a figure projected to grow by

9.4%

This growth is essential to bridge the workforce gap and boost

Vision - Perception became Programmable

"Then vision changed something else. Instead of mechanically forcing the world to look exactly the same every time, we taught the machine to see what changed."

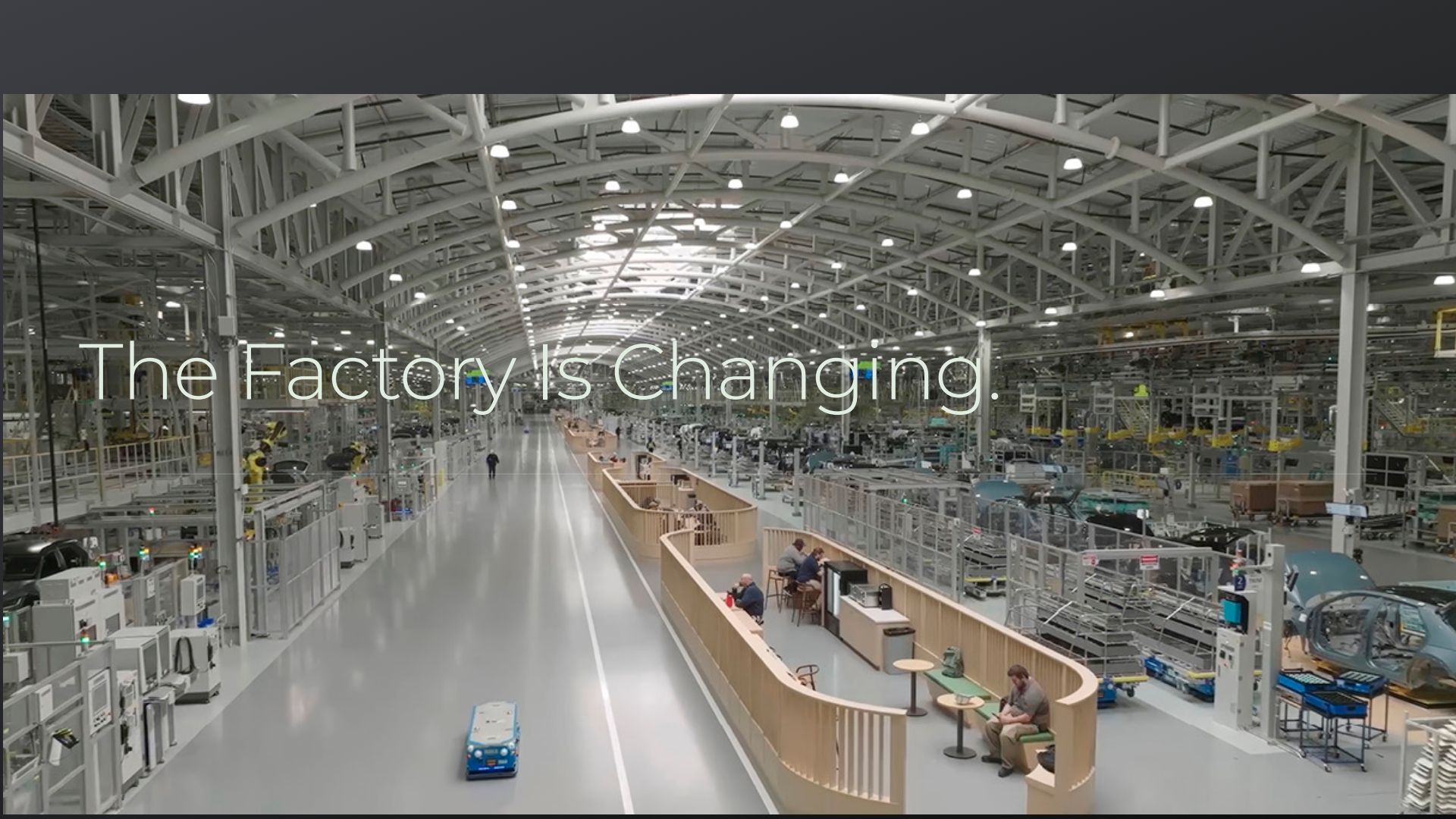


Software - The Factory is Programmable



"We used to program machines, but now we're beginning to program the entire factory."

This shift means automation is no longer confined to individual machines; instead, sophisticated software orchestrates the entire production process, creating a truly programmable factory environment.



The Factory Is Changing.

SCALE

The New Economics

Old World: Rigid Scale

The old model prioritized massive scale, building enormous factories designed for a narrow range of products. This meant significant upfront investment and little flexibility when market demands shifted.

Economies of SCALE

New World: Programmable Scope

Today's factories leverage programmable technologies like robotics and AI to achieve economies of scope. This allows for rapid adaptation to new products and customization, all within a more agile and efficient operational footprint.

Economies of REPLICATION

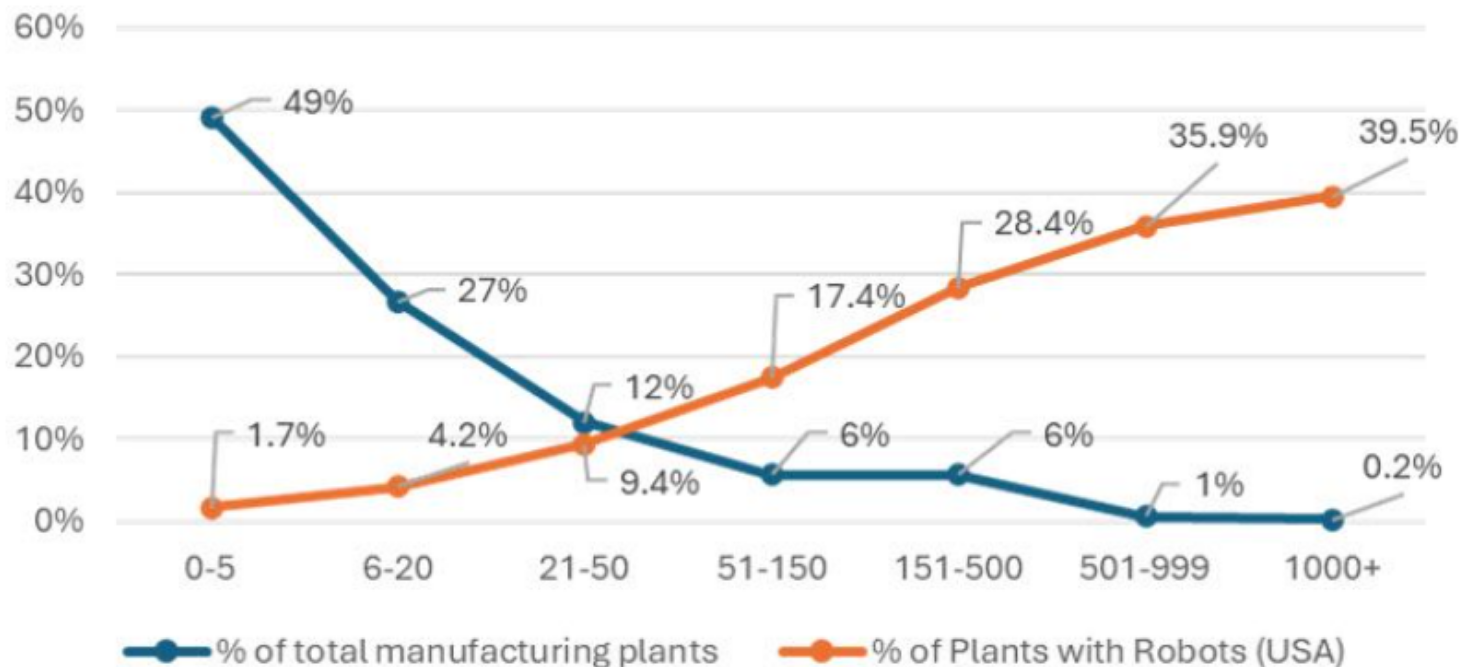
Megafactory →



Microfactories



Percentage of US Manufacturers (Segmented by the Number of Employees)

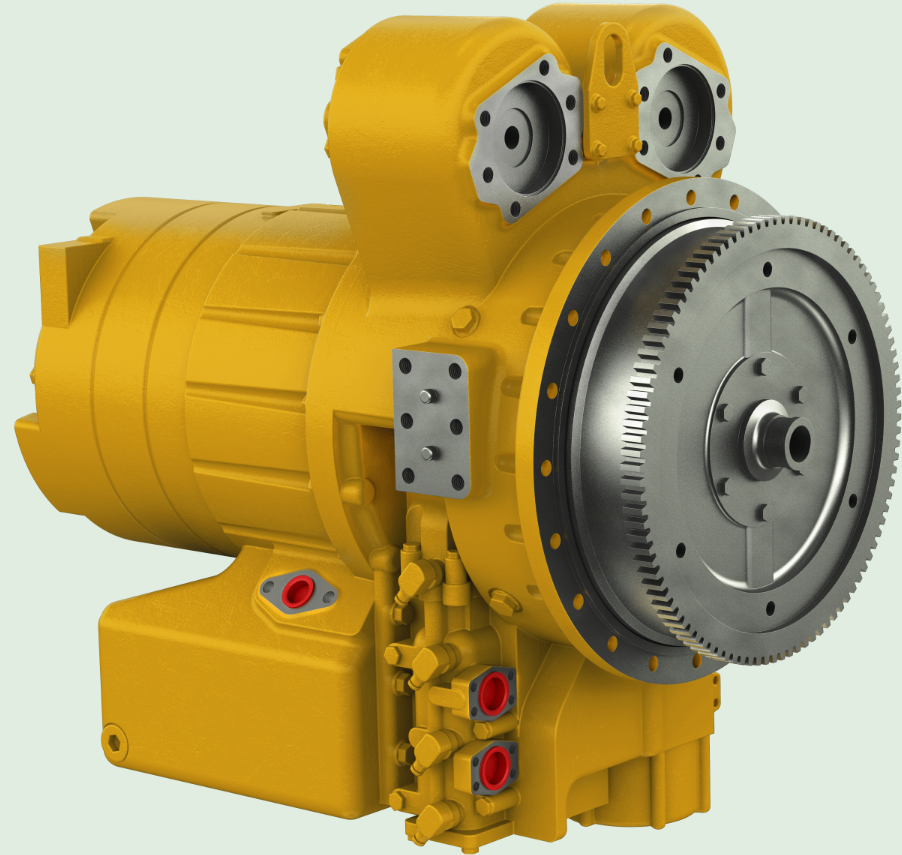


- IBISWorld industry data (2025 estimate)
- Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW) - 2025
- The Robot Report

Example 1: Transmission Kits

The Traditional Kitting Model

The traditional approach to kitting involved large facilities and extensive manual labor.



Customer data was changed for this presentation.

CAT Kits: Metrics of Inefficiency

15,000 SQ FT

This massive operation required 15,000 square feet and involved 10 baggers and 4 pullers.

16,000 MILES

The previous system's inefficiency was highlighted by 16,000 miles of WIP travel annually.

Volume Output

Producing 750,000 kits and 6.6 million individual pieces per year, this process was a prime example of outdated, large-scale manufacturing.

Customer data was changed for this presentation

AutoKit - The Microfactory Realized

< 100 SQ FT

Total system footprint footprint reduction by 99.3%.

>99% Accuracy

Quality improv.

No Direct Labor Required

Only 1FTE per shift for replenishment

Recipe-Driven Changeovers

No tooling changes.



XTKAT

Customer data was changed for this presentation

AutoKit: The Microfactory in Motion



Experience the future of manufacturing with AutoKit

DURATION: 01:00

Example 2: Haddy

Haddy leverages AI-powered 3D printing for mission-critical applications, from defense drone hulls to custom furniture. This US-based operation delivers rapid, sustainable production, bringing concepts to deployment in mere days.



Mission Critical 3D Printing

Defense & Drone



Marine & Industrial



USA Manufacturing





What does the Factory 2030 look like?

The Formula for 2030

REMOVE SCALE

The factory of the future isn't about massive scale, but smart, adaptable technology. We're moving beyond the need for sprawling mega-factories.

KEEP TECHNOLOGY

The key is embracing flexibility and intelligent automation. This allows for agile production that can pivot quickly to meet changing demands and market opportunities.

ADD FLEXIBILITY

By integrating advanced software, robotics, and vision systems, we can create highly efficient, smaller-footprint facilities that deliver superior results.

THE FACTORY IS SHRINKING

