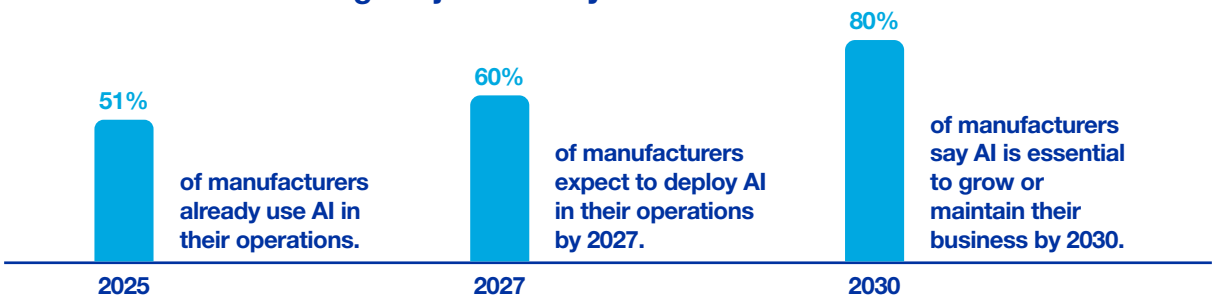
INNOVATING TO WIN: MANUFACTURERS POISED FOR AI SURGE

Future of Manufacturing Project Survey 2025



AI has become essential to modern, competitive manufacturing in America: for example, manufacturers use cutting-edge AI tools like AI-powered cameras to enhance worker safety and eliminate product defaults, AI simulations to design new products and optimize shop floor operations, and AI data analytics to control costs and manage supply chains more efficiently, and manufacturers are embedding AI in new, intelligent products. The wide range of AI uses in manufacturing illustrates how the technology is shifting from an experiment to an essential pillar of modern manufacturing.

Unlocking AI-driven prosperity across manufacturing hinges on an agile, risk-based policy framework—one that streamlines compliance, fosters transparency and aligns energy, workforce, privacy and innovation rules with the realities of smart manufacturing.

Adopt a Pro-AI Regulatory Approach

The growing number and variety of use cases of AI in manufacturing require an optimized regulatory environment.

Five recommendations for a pro-AI regulatory approach:

1 Review existing federal laws and regulations.

Policymakers should identify laws and regulations that prevent or inhibit the development or deployment of AI. Additionally, when considering new rules, policymakers should take into account where existing requirements are sufficient rather than adopting new, AI-specific ones.

2 AI is context-specific, so "AI regulation" should be too.

Innovation requires a risk-based rather than one-size-fits-all approach.

3 Right-size any AI regulation compliance burden.

Workable, balanced regulations will avoid roadblocks to U.S. AI leadership—and industry standards and self-assessments, rather than audits, can help minimize the compliance burden.

25%
of survey respondents say they are building their own AI solutions.

61%
either purchase AI solutions or work with a partner to implement AI in their business.

4 Incorporate best practices for transparency of AI development.

AI deployers need to understand how AI systems are developed so they can comply with their regulatory obligations.

5 Ensure a level playing field between open and proprietary AI solutions.

Preserving manufacturers' freedom of choice will enable AI advancements across a wide range of companies.

NATIONAL ASSOCIATION OF Manufacturers

Develop the Manufacturing Workforce of the AI Age

Manufacturers need employees with improved, AI-ready knowledge and skills to use AI throughout manufacturing operations:

- Policymakers should support training programs, career and technical education institutions and initiatives like the Stronger Workforce for America Act.

Manufacturers need more employees with higher education degrees in data science and computer science to develop and deploy AI:

- The U.S. has the opportunity to enhance access to STEM education at all levels and expand high-skilled immigration.

82% of survey respondents say the most important AI employee challenge is their workforce's lack of skills to leverage AI effectively.

Only **22%** of survey respondents expressed concern about AI causing job displacement.

With **449,000** unfilled manufacturing jobs in March 2025, manufacturers' challenge is to find workers to fill open jobs to meet customer demand.

Advance Energy and Permitting Reform

Given the energy demands of data centers necessary for AI growth, manufacturers advocate for:

- An "all-of-the-above" energy approach leveraging America's abundant supplies of natural gas, oil, coal, hydropower, minerals and metals, nuclear, biomass, wind and solar resources; and
- Streamlining the permitting process via accelerated permit processes, expedited judicial review, enforceable deadlines, categorical exclusions under NEPA and a streamlined Clean Water Act.

Protect Personal Data

To protect consumers and ensure that manufacturers using AI have reliable rules of the road, Congress should pass a comprehensive privacy law that:

- Fully preempts state laws, avoiding an unworkable patchwork of regulation;
- Provides liability protections that prevent frivolous litigation; and
- Adopts a risk-based approach that enables innovation and AI.

Support U.S. Manufacturing of AI Chips

To secure U.S. AI leadership and innovation, policymakers should:

- Promptly execute funding agreements with chip manufacturers; and
- Renew the Advanced Manufacturing Investment Credit.

Incentivize U.S. AI Innovation

Tax policy is crucial to the investments in research and equipment necessary for AI innovation. Congress should:

- Restore immediate R&D expensing to reduce the cost of groundbreaking research;
- Revive full expensing to enable purchases of important capital equipment; and
- Reinstate an interest deductibility standard that allows debt financing for job-creating investments in AI.