

National Assessment Identifies a Practical Path for AI Adoption in Manufacturing

Foundation for Manufacturing Excellence report finds manufacturers are ready for AI but need practical guidance to achieve measurable business value.

WASHINGTON, DC, UNITED STATES, July 14, 2026 /EINPresswire.com/ -- As manufacturers look to artificial intelligence (AI) to improve productivity and competitiveness, many are still searching for guidance on where to begin, according to a new national study released today by the Foundation for Manufacturing Excellence.

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Manufacturers aren't asking for AI because it's the latest technology. They're asking how it can improve productivity, strengthen their workforce, and make them more competitive”

Ranae Stewart, Chairman of the Foundation for Manufacturing Excellence

The report, [National AI Strategic Assessment: From Readiness to Value Creation](#), synthesizes findings from multiple manufacturer-focused AI readiness and technology adoption assessments conducted across the United States. It reveals a consistent national picture: manufacturers recognize AI's potential but need help identifying high-value applications, preparing their workforce, and implementing solutions responsibly.

For many manufacturers, the challenge is not deciding whether AI has potential, it is identifying where to start and how to achieve results without disrupting existing operations.

"AI has invigorated manufacturers' interest in new technologies. More times than not, the conversations we're having with manufacturers eventually gets to AI," said Ranae Stewart, Chairman of the Foundation for Manufacturing Excellence and Senior Executive Director of Purdue Manufacturing Extension Partnership (MEP).

"The excitement and willingness to invest is there, but so are the questions. Companies want to know where AI fits into their business, what problems it can solve, and how to move forward without making costly mistakes. The opportunity isn't simply to introduce new technologies, it's to help manufacturers apply them in ways that strengthen their business."

Key Findings

The study found:

- Nearly half of manufacturers report only limited or basic awareness of AI concepts and applications.
- Only one in ten have integrated AI into day-to-day operations.
- Three in four struggle to identify AI applications that could create meaningful business value.
- Six in ten cite a lack of internal expertise as a primary barrier to adoption.
- Nearly seven in ten would participate in, or consider participating in, a structured AI pilot program within the next six months.

The report concludes that the biggest barriers to AI adoption are organizational, not technological. According to manufacturers, the primary obstacles to implementation are limited internal expertise, uncertainty around return on investment, workforce readiness, cybersecurity concerns, and difficulty identifying practical business applications.



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AI Must Deliver Business Results

Manufacturers are approaching AI as a business strategy, not simply a technology initiative.

The assessment found that manufacturers are most interested in using AI to improve labor productivity, optimize production scheduling, increase quoting accuracy, reduce scrap and rework, strengthen forecasting, minimize equipment downtime, and enhance supply chain performance.

Among organizations already adopting AI, implementation often begins with lower-risk applications such as documentation, engineering support, forecasting, quoting, workforce development, and decision-support tools before expanding into more advanced operational uses.

"Manufacturers aren't asking us for AI simply because it's the latest technology," Stewart said. "They're asking how it can help them schedule production more effectively, reduce scrap, improve quality, strengthen their workforce, and become more competitive. They want practical, result-driven solutions, not just conversations about AI's potential. That's where the MEP National Network can make a real difference."

A Roadmap for AI Adoption

Based on its findings, the report outlines a scalable framework to help manufacturers progress through three stages of AI adoption:

- Awareness and Literacy — Building foundational understanding and confidence in AI.
- Assessment and Application — Identifying high-value opportunities, evaluating readiness, and developing implementation roadmaps.
- Technical Implementation — Deploying targeted AI solutions that deliver measurable improvements in productivity, quality, resilience, and decision-making.

The report emphasizes that successful AI adoption begins with clearly defined business objectives and measurable outcomes, not with technology selection.

Strengthening U.S. Manufacturing Competitiveness

The study also highlights the unique role the [Manufacturing Extension Partnership \(MEP\) National Network](#) can play in helping small and mid-sized manufacturers adopt AI responsibly and confidently.

With vendor-neutral expertise, readiness assessments, workforce development, implementation support, and performance measurement, the Network is positioned to help manufacturers move from AI curiosity to AI capability.

"Manufacturers are under increasing pressure to improve productivity, address workforce challenges, and remain globally competitive," Stewart said. "This assessment reinforces that AI adoption isn't about chasing the latest technology, it's about giving manufacturers the confidence and support they need to solve real business problems and strengthen U.S. manufacturing."

The full report, National AI Strategic Assessment: From Readiness to Value Creation, is available at mfgfoundation.com.

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