National AI Strategic Assessment: From Readiness to Value Creation

FOUNDATION for MANUFACTURING EXCELLENCE

Executive Summary

Across approximately **475 manufacturer responses** collected through multiple manufacturer-focused AI readiness and technology adoption assessments, a clear national pattern emerges: manufacturers are interested in artificial intelligence, but most remain in the early stages of adoption. The dominant need is practical guidance, not technology alone. Manufacturers are looking for a trusted way to understand where AI can create business value, assess their readiness, select the right use cases, and implement low-risk pilots tied to measurable outcomes.

National Insights at a Glance

- **475+ manufacturers** contributed to the collective national assessment.
- **48%** of respondents demonstrate only limited or basic awareness of AI concepts and applications.
- **30%** report a moderate understanding of AI and its potential business implications.
- **22%** indicate good working knowledge or more advanced implementation experience.
- Only **10%** report that AI has been integrated into day-to-day operations.
- **60%** identify a lack of internal expertise as a primary barrier to adoption.
- **53%** cite insufficient time or resources to pursue AI initiatives.
- **75%** struggle to identify high-value applications capable of generating measurable business impact.
- Approximately **70%** indicate they would participate in, or consider participating in, guided AI pilot projects within the next six months.

The combined findings show that AI adoption is not yet a broad enterprise-scale transformation for most small and mid-sized manufacturers. Instead, activity is concentrated on awareness, exploration, limited pilots, and early functional use cases. Manufacturers consistently identified barriers that point to a service gap rather than a technology gap. Organizations are seeking practical guidance to identify high-value use cases, assess readiness, build internal capability, and implement solutions responsibly.

These findings suggest that manufacturers require more than access to technology alone. They need trusted support that reduces risk, builds confidence, and connects AI initiatives to measurable business outcomes. The business case for AI is also clear. Respondents are not asking for AI in the abstract; they are looking for help solving operational and commercial problems.

Common profitability pressures identified by manufacturers included:

- Labor productivity constraints
- Production scheduling inefficiencies
- Pricing pressure and low sales win rates
- Scrap and rework reduction opportunities
- Commodity price volatility
- Unplanned equipment downtime
- Excess inventory carrying costs
- Late deliveries and supply chain disruptions
- Increasing compliance and reporting burdens

These are the types of measurable challenges where MEP Centers can help manufacturers move from curiosity to capability.

The findings support a national MEP service model organized around three progressive tiers:

- **Awareness and Literacy** – Building foundational understanding and confidence in AI concepts and applications.
- **Assessment and Application** – Identifying business opportunities, evaluating readiness, and developing implementation roadmaps.
- **Technical Implementation** – Executing pilot projects and scaling solutions that deliver measurable outcomes.

The findings also reinforce **four value pillars** for AI-enabled manufacturing improvement:

- **Make it Faster** – Improve productivity, efficiency, and decision-making.
- **Make it Resilient** – Strengthen supply chains and operational continuity.
- **Make it Better** – Enhance quality, consistency, and process performance.
- **Make it Smarter** – Enable predictive capabilities and data-driven insights.

This points to a clear opportunity for the MEP National Network to serve as a trusted guide for manufacturers navigating AI adoption. **Manufacturers are not seeking technology for its own sake; they are seeking practical, low-risk pathways that connect emerging**

technologies to measurable business outcomes. The proposed three-tier service model, supported by the four value pillars, provides a practical and scalable framework that aligns manufacturer demand with the proven strengths of the MEP National Network. Together, these elements establish a national approach capable of accelerating the transition from AI readiness to meaningful value creation across the small and mid-sized manufacturing sector.

Key National Takeaways

Manufacturers are interested -- but not yet ready.

- 48% report only basic awareness.
- Only 10% have integrated AI into operations.
- Most organizations remain in exploration mode.

The challenge is practical implementation. Manufacturers need help with:

- identifying use cases,
- assessing readiness,
- developing internal capabilities,
- demonstrating ROI.

Business outcomes drive adoption. Priority opportunities include:

- scheduling,
- labor productivity,
- quoting,
- forecasting,
- quality,
- predictive maintenance.

MEP is uniquely positioned to respond. The Network already provides:

- trusted guidance,
- neutral expertise,
- implementation support,
- measurable impact reporting.

Methodology and National Assessment Approach

This assessment synthesizes findings from multiple manufacturer-focused AI readiness and technology adoption surveys conducted across diverse regions of the United States. Collectively, the available materials captured responses from approximately 475 manufacturers representing a broad cross-section of industries, company sizes, production models, and organizational roles.

The underlying instruments were designed independently and did not include identical question sets. As a result, response totals vary by topic. For questions where raw data were available and comparable, counts and percentages were calculated directly from the datasets. Where only a summary report or survey instrument was available, the analysis uses the documented findings as contextual support. This approach avoids overstating precision while still allowing national patterns to emerge.

For clarity, percentages in this report generally reflect the denominator for the specific question being analyzed, not the full 475-response assessment base. Multi-select questions may total more than 100% because respondents were able to select more than one option. Charts include the question-level denominator where appropriate.

Assessment Base

Input Category	Responses / Denominator	Use in Assessment
AI readiness and profitability surveys with raw responses	142	Used for AI readiness, barriers, systems, pathways, service demand, and implementation interest.
Manufacturing technology / AI implementation dataset	265	Used for AI implementation areas, implementation stage, barriers, roles, industry, and company size.
AI readiness summary report	101	Used to validate early-stage maturity, service demand, pilot interest, and readiness themes.
Manufacturing insights summary	115	Used to reinforce workforce, automation, innovation, and technology adoption trends.
AI adoption survey instrument	0 response data	Used as evidence of common service-design questions being fielded across the Network.

The purpose of this assessment is to identify consistent national patterns that can inform service design, resource allocation, and future investment strategies, rather than to

develop a statistically weighted national dataset.

Four Value Pillars

To better understand where artificial intelligence can create the greatest value for manufacturers, the findings from this assessment were examined through a business outcomes lens. Across the collective responses, manufacturers consistently identified operational priorities that aligned with four national value pillars.

These pillars translate AI from a broad technology concept into manufacturer-relevant business outcomes and provide a framework for interpreting the findings presented throughout this report. In addition, they offer a practical structure for organizing implementation services, communicating the value proposition of AI, aligning pilot initiatives with measurable performance goals, and supporting the development of scalable solutions that meet manufacturers where they are in their adoption journey.

Value Pillar	Focus Area	Example Use Cases	Expected Outcomes
Make it Faster	Operations & Efficiency	Scheduling optimization; throughput improvement; quoting workflows; labor productivity; workflow automation.	Faster production, lower administrative burden, better schedule confidence, improved responsiveness.
Make it Resilient	Supply Chain & Maintenance	Demand forecasting; inventory optimization; supplier risk; predictive maintenance; asset reliability.	Fewer shortages, reduced downtime, lower inventory costs, improved resilience.
Make it Better	Quality & Process Optimization	Scrap reduction; quality inspection; process parameter optimization; yield improvement; compliance support.	Improved quality, reduced rework, better consistency, stronger process control.
Make it Smarter	Predictive & Decision Intelligence	Forecasting; cost modeling; decision dashboards; knowledge capture; digital twins; scenario planning.	Better decisions, clearer ROI, improved forecasting, stronger organizational learning.

The four pillars also create a practical way to align technical assistance with manufacturer needs. Manufacturers may not ask for AI directly; they ask for help improving schedules, reducing scrap, forecasting demand, or capturing knowledge from experienced workers. The value pillar framework enables Centers to translate those business needs into appropriate AI-enabled solutions.

National Manufacturer Profile

The assessment reflects a strong small and mid-sized manufacturer base, with participation from companies across a broad range of manufacturing environments. Respondents included business owners, senior executives, operations leaders, engineering and technology leaders, quality professionals, human resources leaders, and other decision-makers. This diversity is important because AI adoption is not solely an information technology initiative; it has implications across multiple business functions.

Key characteristics of the respondent population included:

- Representation from **small and mid-sized manufacturers operating in diverse manufacturing environments**;
- Participation in **executive leadership, operations, engineering, quality, human resources, and technology functions**;
- Recognition that **AI adoption influences business strategy, workforce development, operational performance, and decision-making across the enterprise**.

Industry participation was similarly broad and included manufacturers from sectors such as:

- Fabricated metal products;
- Machinery manufacturing;
- Food manufacturing and processing;
- Industrial equipment;
- Aerospace and defense;
- Medical devices;
- Energy-related manufacturing;
- Automotive;
- Plastics and rubber products;
- Primary metals; and
- Other specialty manufacturing industries.

Respondents also represented a variety of production environments, including:

- **Make-to-order** operations;
- **Engineer-to-order** production models;
- **High-mix/low-volume** manufacturing environments;
- **Batch production** facilities; and
- **Continuous production** operations.

These production characteristics help explain why several themes emerged consistently throughout the assessment. Manufacturers operating in complex production environments frequently identified the need for improved visibility, coordination, and decision support.

As a result, manufacturers consistently highlighted opportunities related to:

- Production scheduling and sequencing;
- Throughput improvement and capacity optimization;
- Quoting efficiency and responsiveness;
- Labor productivity enhancement;
- Cross-functional data visibility; and
- Practical decision-support capabilities that can adapt to changing operating conditions.

The findings suggest that manufacturers facing greater operational complexity, particularly those operating in make-to-order, engineer-to-order, and high-mix environments, may realize significant value from AI applications designed to improve planning, prioritize resources, and support more informed decision-making.

Supporting innovation data show that manufacturers are already investing in process improvement, organizational innovation, production technology, workforce practices, and customer engagement. The AI opportunity should therefore be positioned as an extension of business improvement and competitiveness, not as a standalone technology campaign.

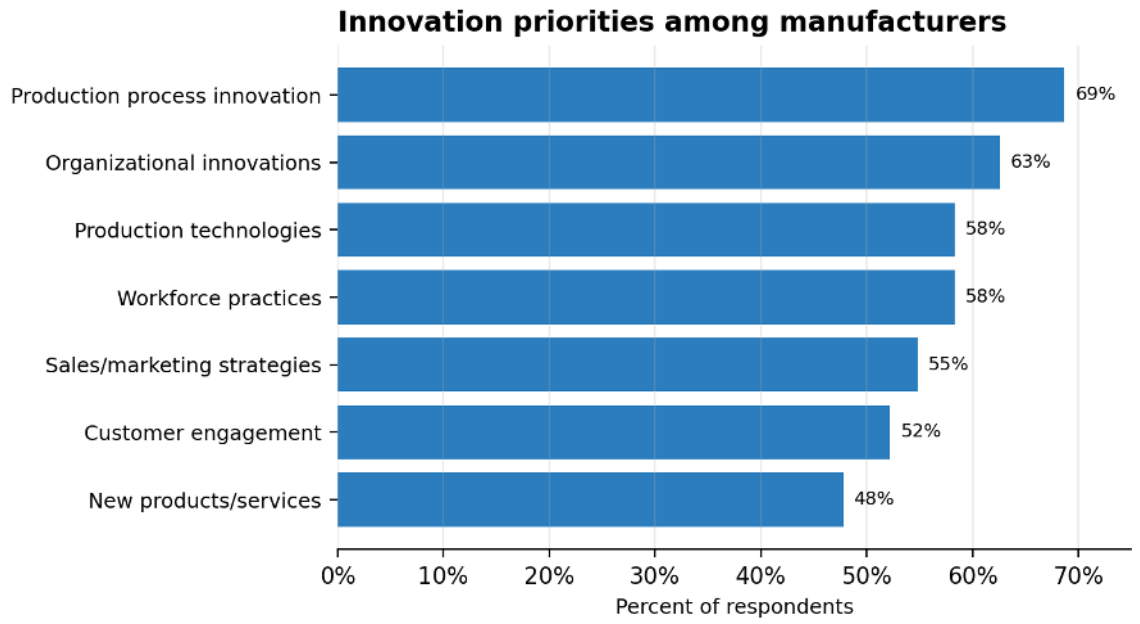

Figure 1. Innovation priorities among manufacturers; n=115 for the manufacturing insights dataset. Multi-select question; percentages may exceed 100%.

AI Readiness and Current Use

AI readiness remains developing. Across comparable AI readiness responses, nearly half of respondents were in limited or basic awareness, while fewer than one-quarter reported good working knowledge or advanced implementation. This suggests a national market that is aware of AI, but not yet confident in how to apply it to manufacturing operations.

The current-use data reinforces the same conclusion. Most manufacturers are not yet deploying AI broadly across operations. The largest share of respondents reported exploring or researching AI, followed by organizations not currently using AI and those piloting limited tools. Only a small group reported that AI is integrated into operations.

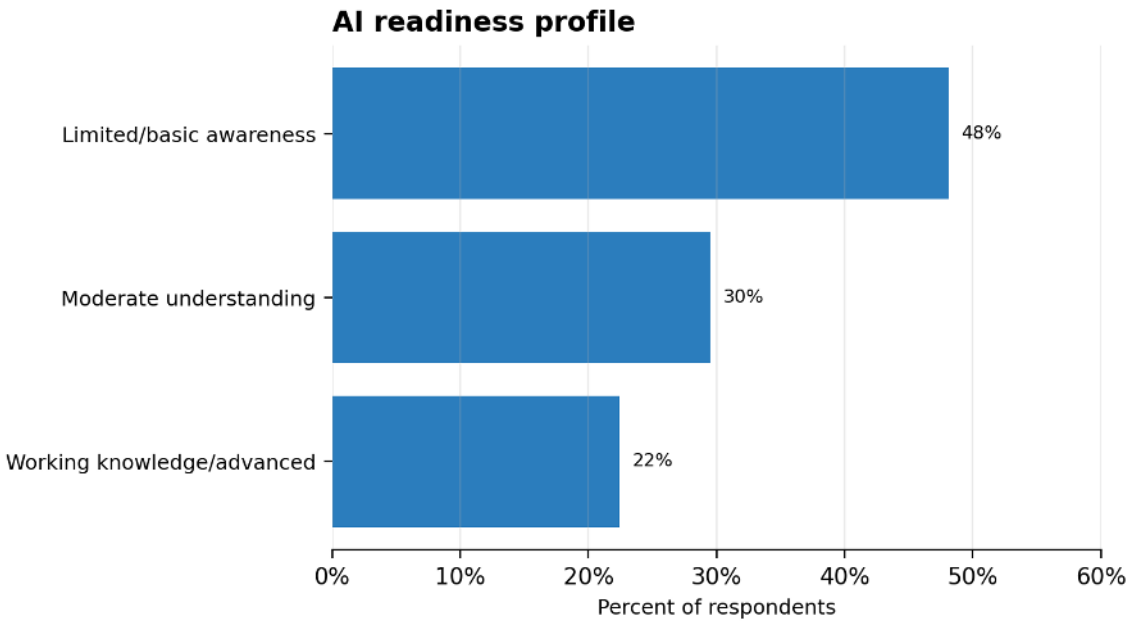

Figure 2. AI readiness profile; n=241. Includes comparable raw readiness responses plus summarized readiness distribution from one AI readiness report.

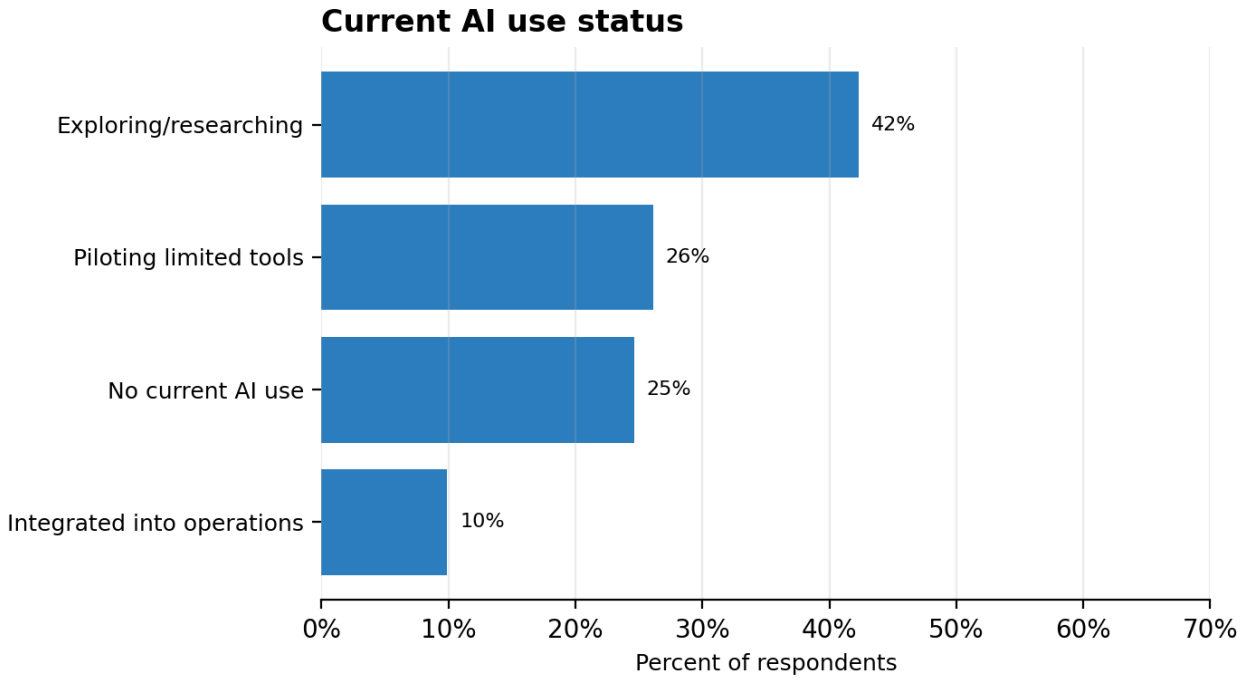

Figure 3. Current AI use status; n=142. Based on raw AI readiness and profitability survey responses.

This pattern has important implications for service design. A national AI service model should not assume that manufacturers are ready for large-scale implementation. The first

step for many will be understanding use cases, assessing internal readiness, selecting a business problem, and building confidence through structured pilots.

Where Manufacturers Are Using AI

Among companies already using AI, adoption is spread across both operational and business-support functions. Current use appears in HR/workforce, engineering/design, sales/quoting, finance/forecasting, supply chain/inventory, quality inspection, predictive maintenance, production scheduling, and demand forecasting.

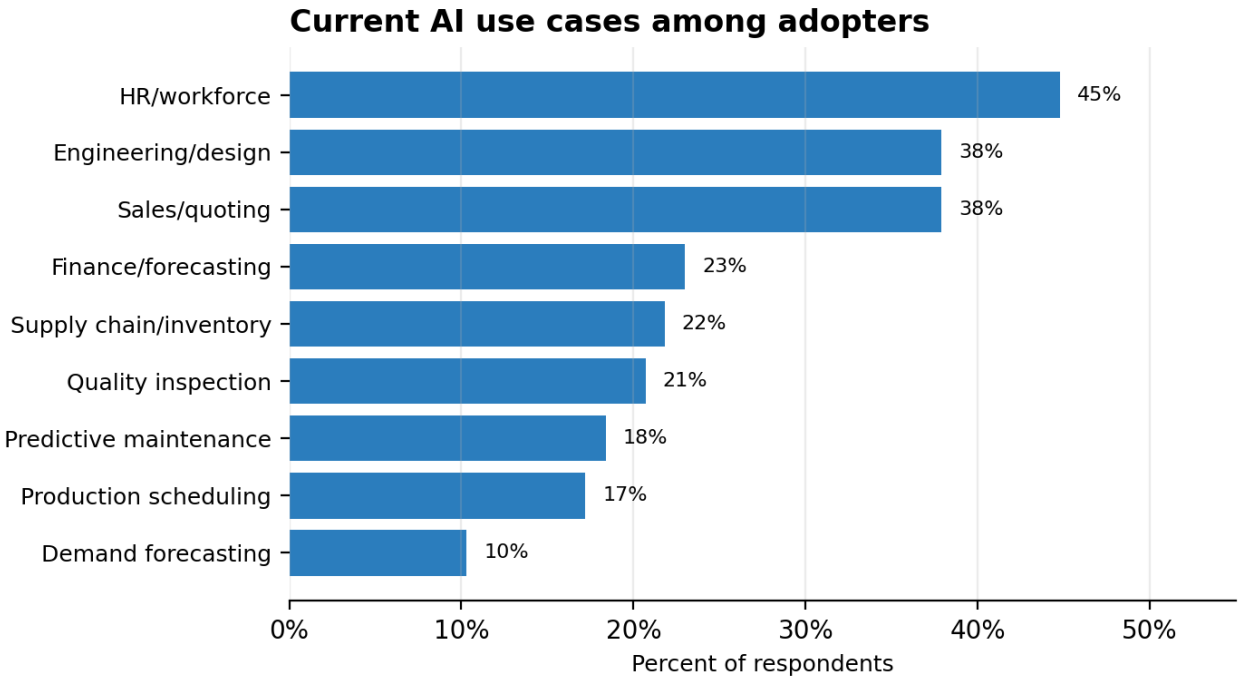

Figure 4. Current AI use cases among adopters; n=87. Multi-select question; percentages may exceed 100%.

The data suggest that AI adoption is not limited to robotics or shop-floor automation. Many manufacturers appear to be starting with lower-risk business and decision-support applications, such as documentation, forecasting, quoting, dashboards, training materials, and customer-facing workflows.

A broader implementation dataset shows similar patterns. Planning or implementation activity was highest in office productivity/documentation and data analysis/forecasting/decision support, followed by production/maintenance, sales/marketing/customer service, product design/engineering/R&D, and HR/training/recruiting.

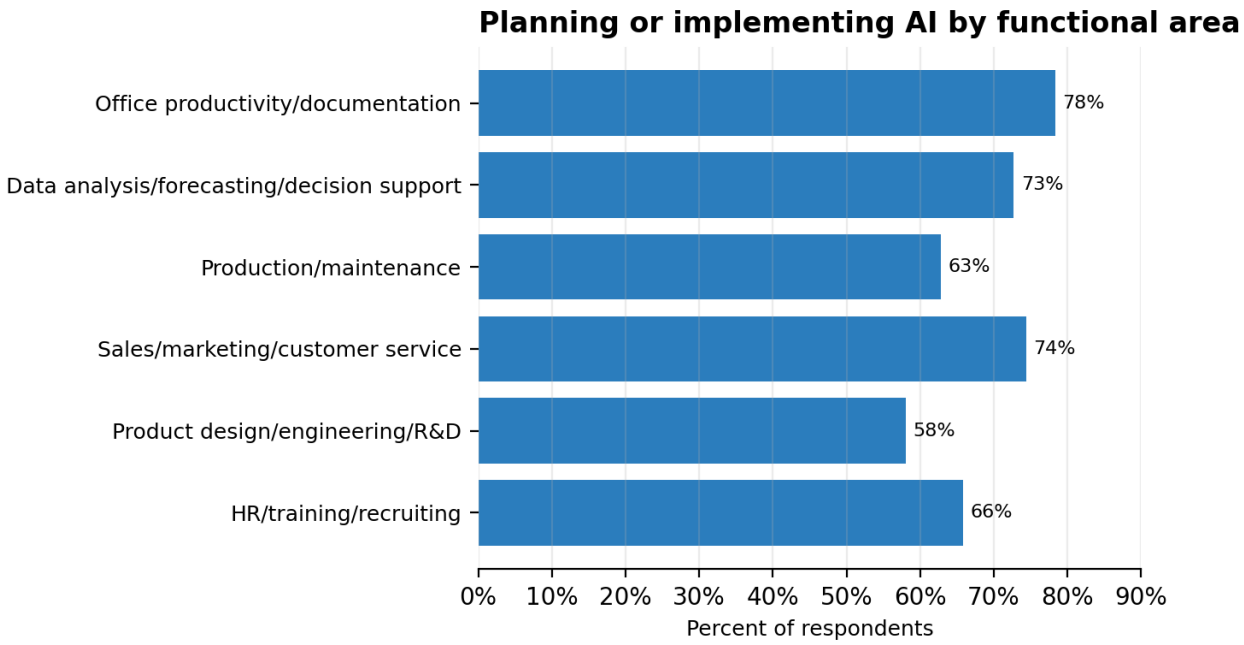

Figure 5. Planning or implementing AI by functional area; denominators vary by area. Percentages shown are based on valid responses for each functional area.

This sequence matters. Manufacturers often begin with accessible, lower-risk entry points before moving into more advanced operational applications. A national MEP model should meet manufacturers where they are while providing pathways toward deeper technical implementation.

Barriers to Adoption

While interest in AI continues to grow, manufacturers consistently identified several factors limiting broader adoption. These barriers are less about access to technology and more about organizational readiness and implementation capability.

Manufacturers most frequently cited challenges related to:

- **Internal expertise and capacity** – limited staff knowledge, competing priorities, and insufficient resources to evaluate or lead implementation efforts;
- **Identifying practical use cases** – uncertainty regarding where AI can create meaningful value within specific manufacturing environments;
- **Demonstrating return on investment** – difficulty quantifying expected outcomes prior to implementation;
- **Cybersecurity and data governance** – concerns related to intellectual property protection, customer data, and responsible use practices; and

- **Technology integration and data readiness** – varying levels of digital maturity and challenges integrating AI with existing systems and workflows.

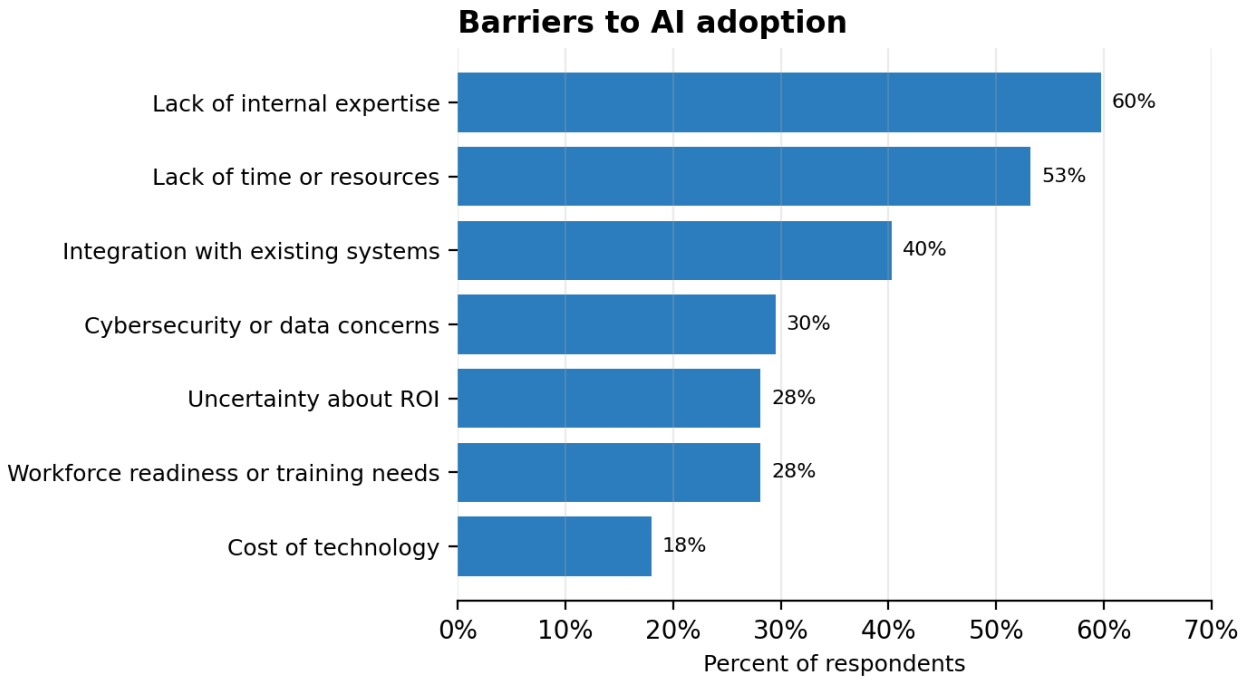

Figure 6. Barriers to AI adoption; n=139. Multi-select question; percentages may exceed 100%.

A broader implementation dataset reinforced the same theme from a different angle. The most common barrier was identifying value-creating applications, selected by 75% of respondents. More than half cited technical talent to implement or maintain technology, and more than one-third cited implementation risk or workforce training needs.

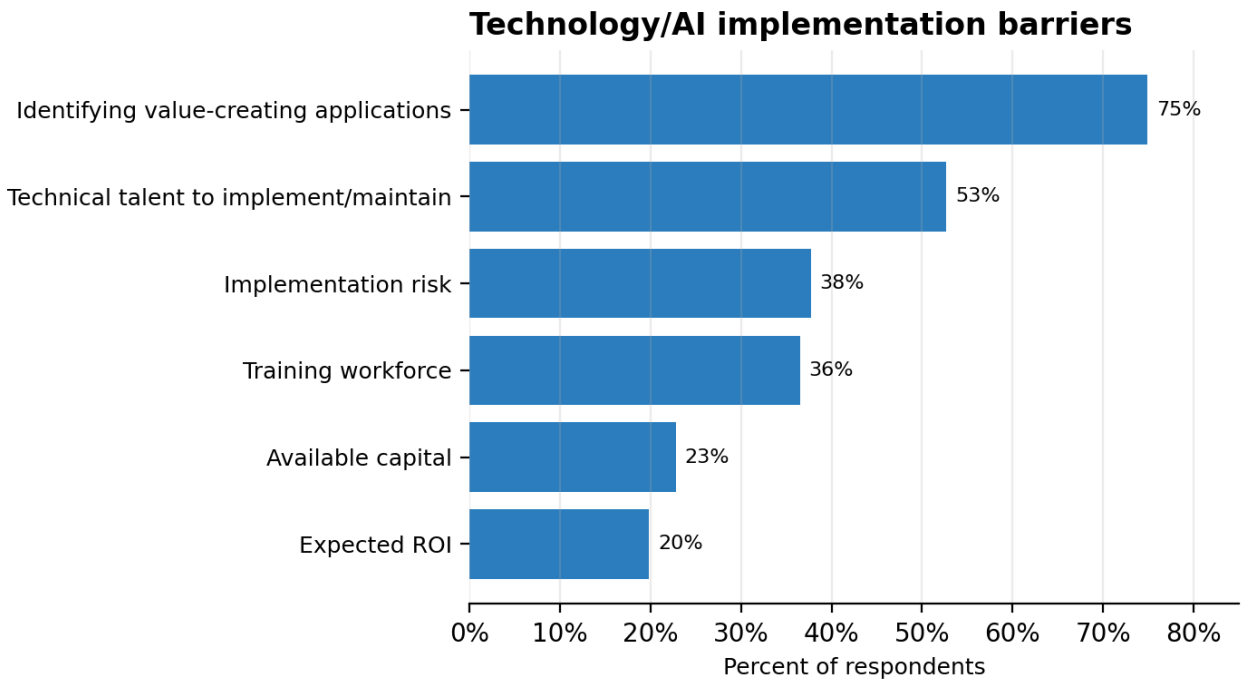

Figure 7. Barriers to technology and AI implementation; n=167. Respondents selected up to three barriers.

Taken together, the findings show that cost is not the only, or even the dominant, obstacle. Manufacturers need help defining the business case, evaluating readiness, identifying practical use cases, protecting data, training workers, and measuring outcomes. These are precisely the types of services the MEP National Network is positioned to provide.

Key Observation: The greatest barriers to AI adoption are not technological; they are organizational. Manufacturers require trusted guidance, practical implementation pathways, and confidence that investments will generate measurable business outcomes.

Understanding the barriers to adoption is only part of the picture. Equally important is understanding the operational challenges manufacturers are trying to solve through AI.

Business Challenges and Profitability Pressures

Manufacturers are approaching AI through a practical business lens. The most frequently selected profitability pressure was labor productivity, followed by production scheduling inefficiencies, low win-rate or pricing pressure, scrap/rework, commodity price volatility, unplanned downtime, inventory carrying costs, late deliveries, and compliance burden.

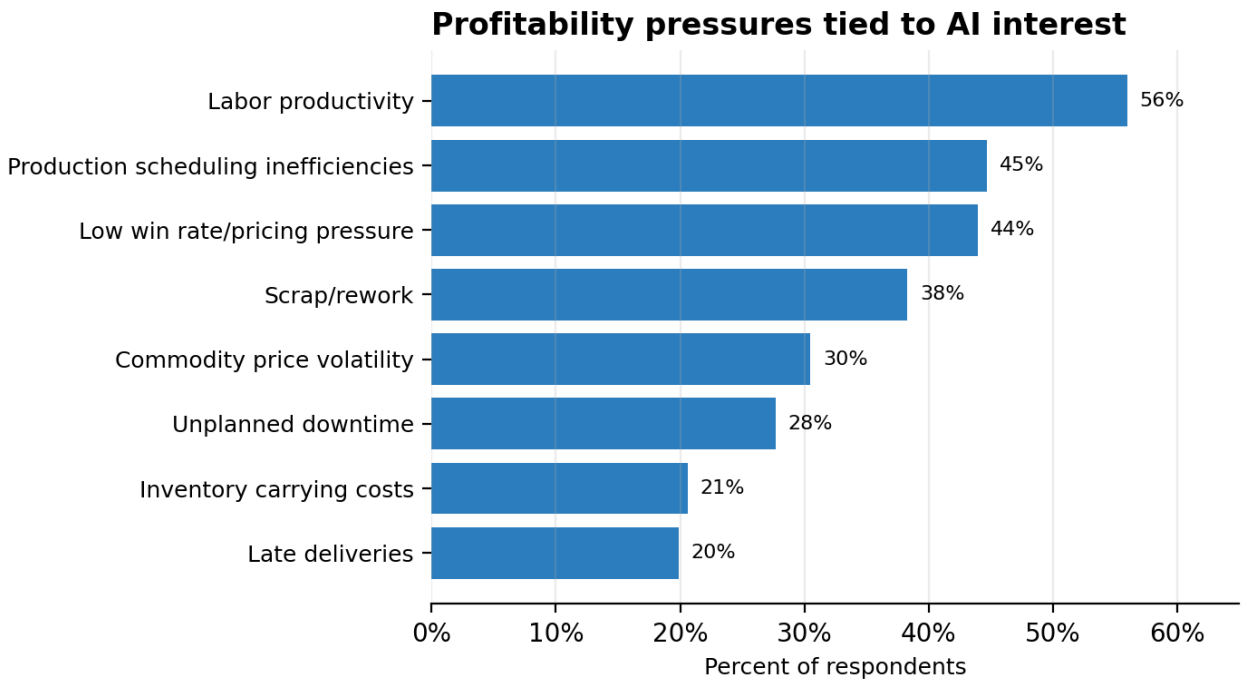

Figure 8. Profitability pressures tied to AI interest; n=141. Respondents selected up to three areas; percentages may exceed 100%.

These findings are important because they connect AI to measurable business outcomes. Manufacturers are not asking for AI as an abstract digital transformation exercise. They are looking for ways to improve productivity, stabilize schedules, reduce scrap, increase quoting accuracy, improve forecasting, reduce inventory costs, and make better decisions.

The manufacturing insights dataset reinforced this business-outcomes orientation. When asked how technology should help their businesses, manufacturers most frequently selected improving productivity, reducing costs, increasing capacity or reducing lead time, addressing labor shortages, and enabling quality checks.

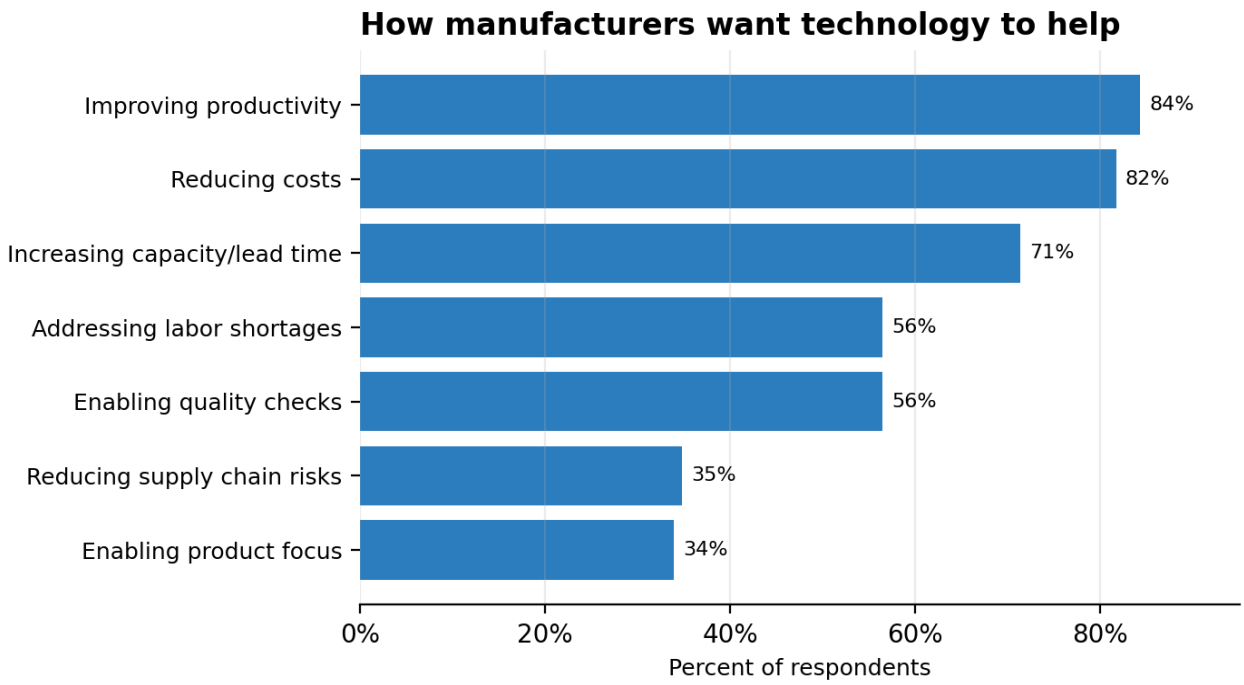

Figure 9. How manufacturers want technology to help their business; n=115. Multi-select question; percentages may exceed 100%.

These findings reinforce the importance of framing AI as a business-improvement initiative. Manufacturers are most likely to engage when solutions are tied to operational challenges, competitiveness, and measurable performance outcomes.

Systems, Data Readiness, and Measurement Discipline

The data indicates that many manufacturers are operating in the messy middle of digital maturity. Spreadsheets/manual tracking and ERP systems are both common. More advanced manufacturing execution systems are much less common. This means AI services must be designed for imperfect, mixed, and partially integrated environments.

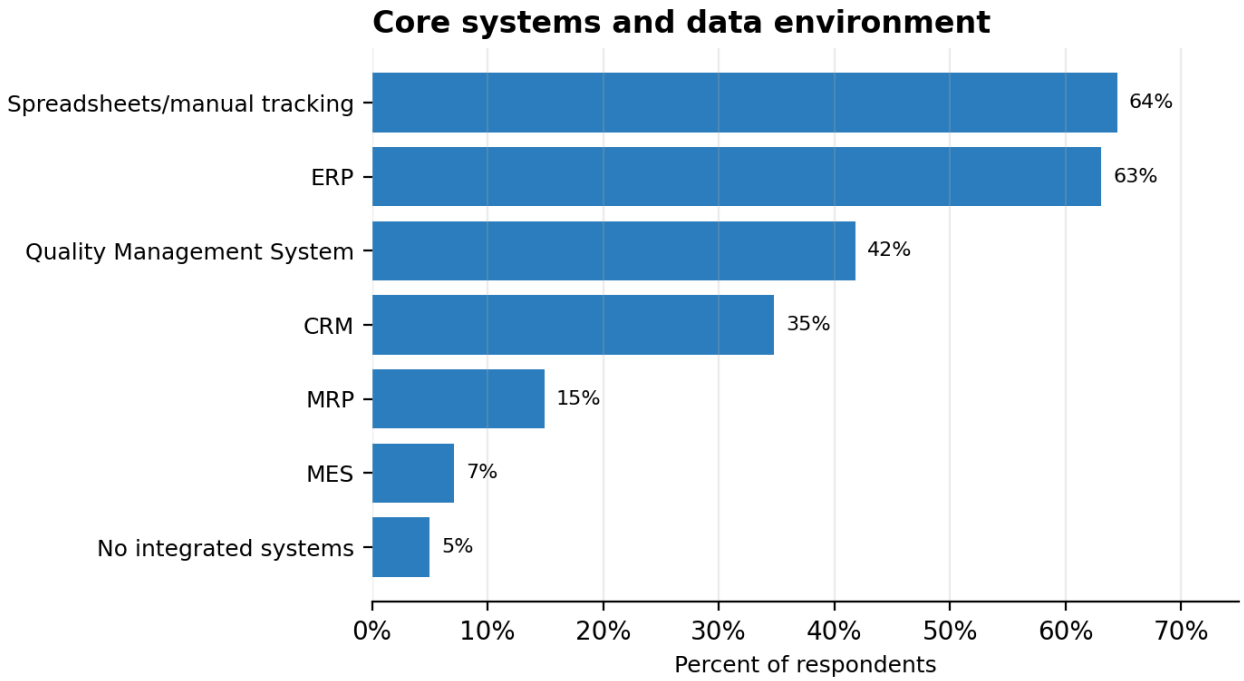

Figure 10. Core systems and data environment; n=141. Multi-select question; percentages may exceed 100%.

Measurement maturity is also uneven. On-time delivery is tracked by two-thirds of respondents, but other operational and financial indicators are less consistently tracked. Inventory turns, quote-to-close ratio, OEE, first-pass yield, and maintenance cost per asset are tracked by smaller shares of respondents. Nearly one in five respondents indicated that none of the listed metrics are tracked consistently.

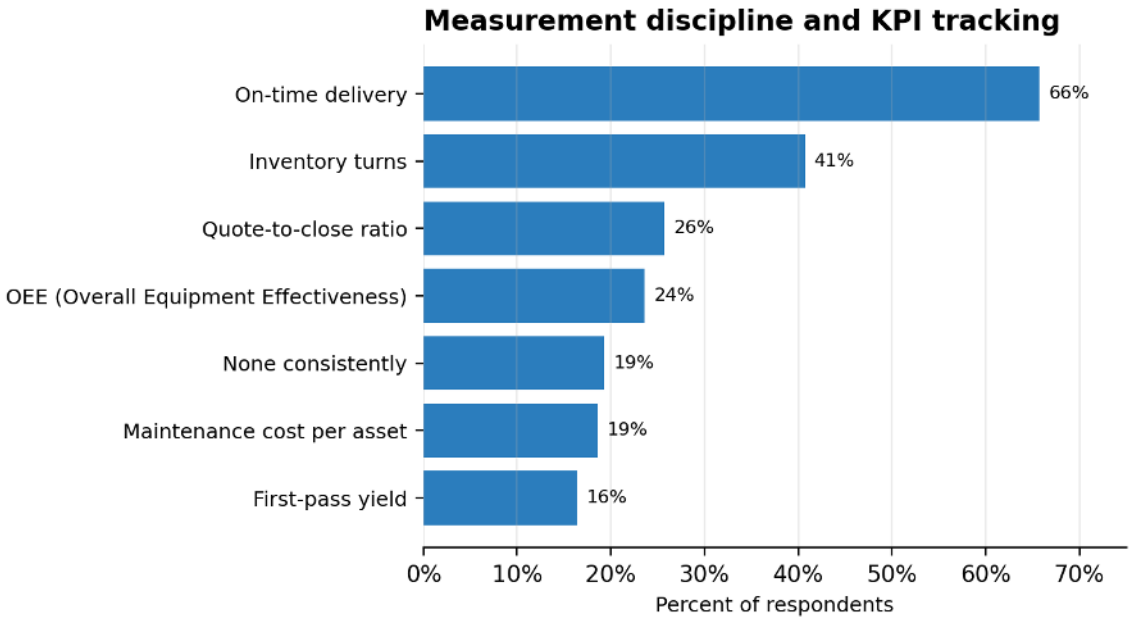

Figure 11. Measurement discipline and KPI tracking; n=140. Multi-select question; percentages may exceed 100%.

This has direct implications for AI implementation. If a company has not defined the performance baseline, it will be difficult to demonstrate ROI. Readiness assessments, data-quality reviews, KPI selection, and measurement discipline must therefore be treated as core service components, not optional pre-work.

- AI pilots should incorporate readiness activities that evaluate systems, data availability, data quality, and KPI baselines.
- Manufacturers may require support establishing measurement disciplines before AI initiatives can be credibly tied to business outcomes.
- Readiness and measurement support should be considered foundational elements of any AI service offering.

National AI Opportunity Areas

The most immediate opportunity pathways are practical and operational. Smart scheduling and throughput ranked first, followed by revenue and quoting optimization, demand forecasting and inventory optimization, predictive maintenance and asset reliability, and AI quality and compliance.

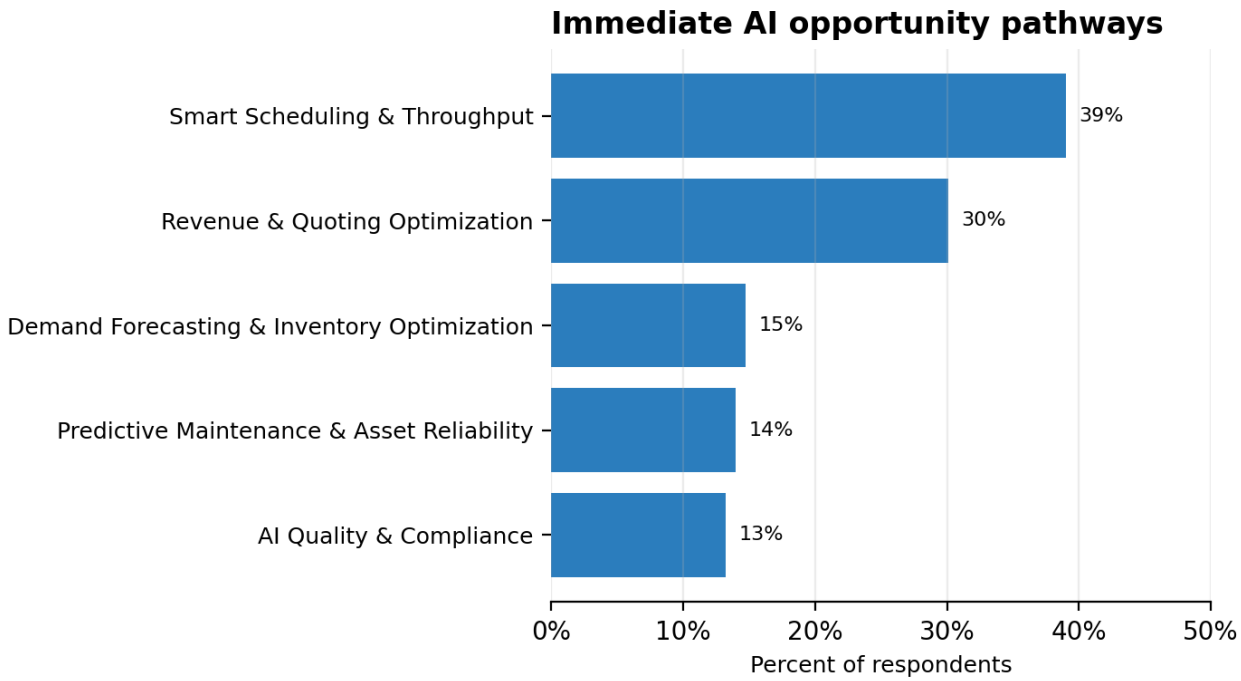

Figure 12. Immediate AI opportunity pathways; n=136. Some respondents selected more than one pathway.

Second-priority pathways within 12-24 months indicate where the market may move next as data maturity improves. Demand forecasting and inventory optimization, smart scheduling and throughput, revenue and quoting optimization, AI quality and compliance, and predictive maintenance all appear as logical next-wave service opportunities.

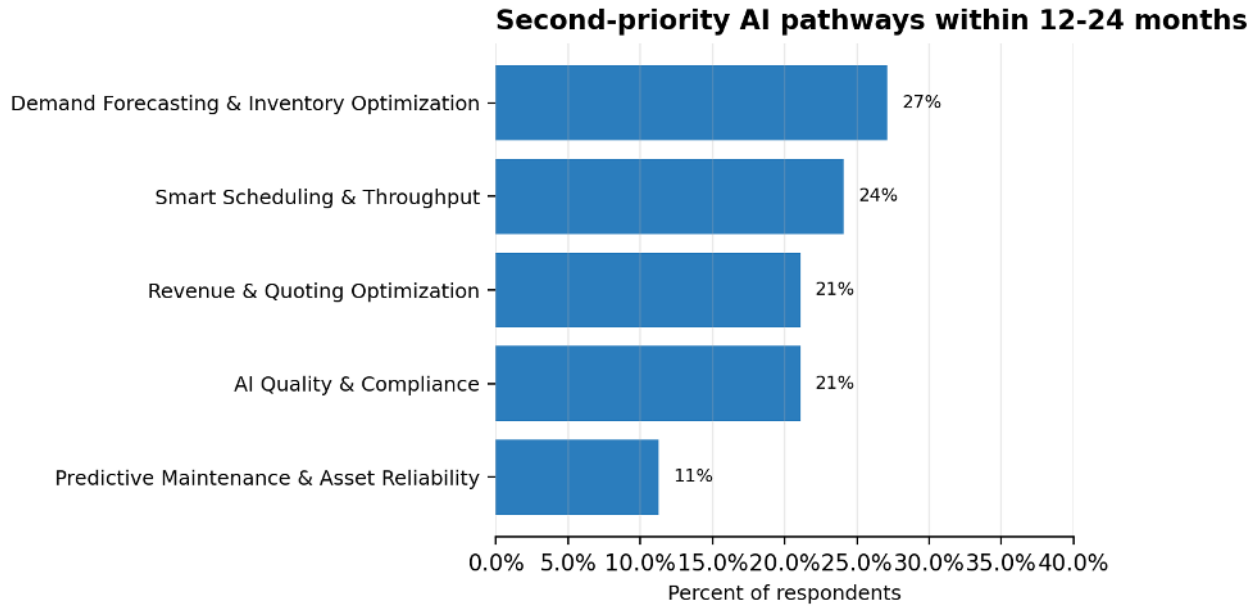

Figure 13. Second-priority AI pathways within 12-24 months; n=133. Some respondents selected more than one pathway.

The findings suggest a staged approach to AI adoption that builds confidence while delivering measurable value:

Phase 1: Establish Early Wins

Focus on applications that can improve visibility, decision-making, and operational performance with relatively lower implementation complexity:

- Production scheduling and sequencing
- Quoting and revenue optimization
- Demand forecasting
- Decision-support tools

Phase 2: Expand and Scale

As manufacturers strengthen their data foundations and implementation capabilities, organizations can pursue more advanced applications:

- Quality optimization and compliance
- Inventory optimization
- Predictive maintenance
- Asset reliability and performance monitoring

This progression allows manufacturers to demonstrate value early, build organizational confidence, and establish the capabilities needed to support broader AI adoption.

Market Demand for MEP AI Services

Market demand is strongest when AI services are framed as structured, low-risk, and tied to measurable outcomes. In raw AI readiness responses, 22% said they would apply immediately to a structured six-month pilot, while 45% would consider participation within six months. When combined, this indicates a meaningful near-term market for pilot-based programming.

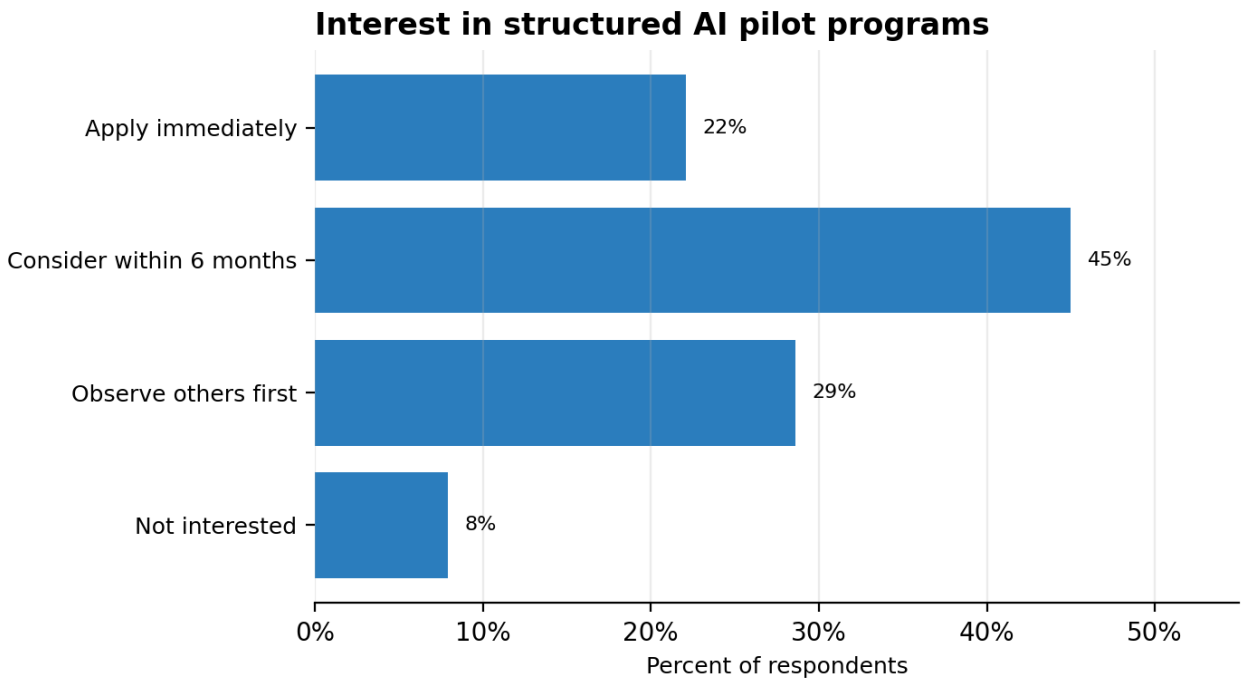

Figure 14. Interest in structured AI pilot programs; n=140.

Investment tolerance clusters at accessible entry points. Among respondents answering the investment question, 58% selected less than $10,000 and 24% selected $10,000-$25,000 if ROI were clear within 12-18 months. This supports a service model built around affordable pilots and clear ROI discipline rather than large enterprise-scale engagements.

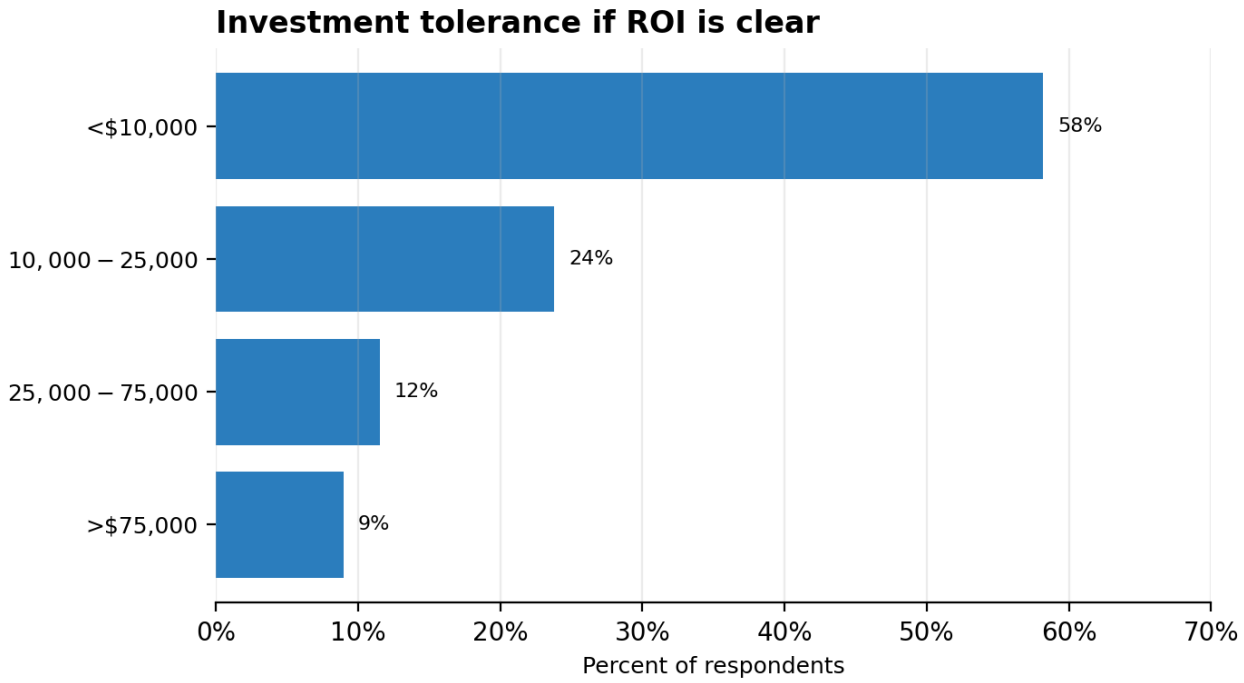

Figure 15. Investment tolerance if ROI is clear; n=122. Multi-select question; percentages may exceed 100%.

Advisory cohort interest is also strong. Approximately 28% answered yes and 47% answered maybe, indicating that many manufacturers are willing to help shape future service offerings if the opportunity is practical, credible, and relevant to their operating challenges.

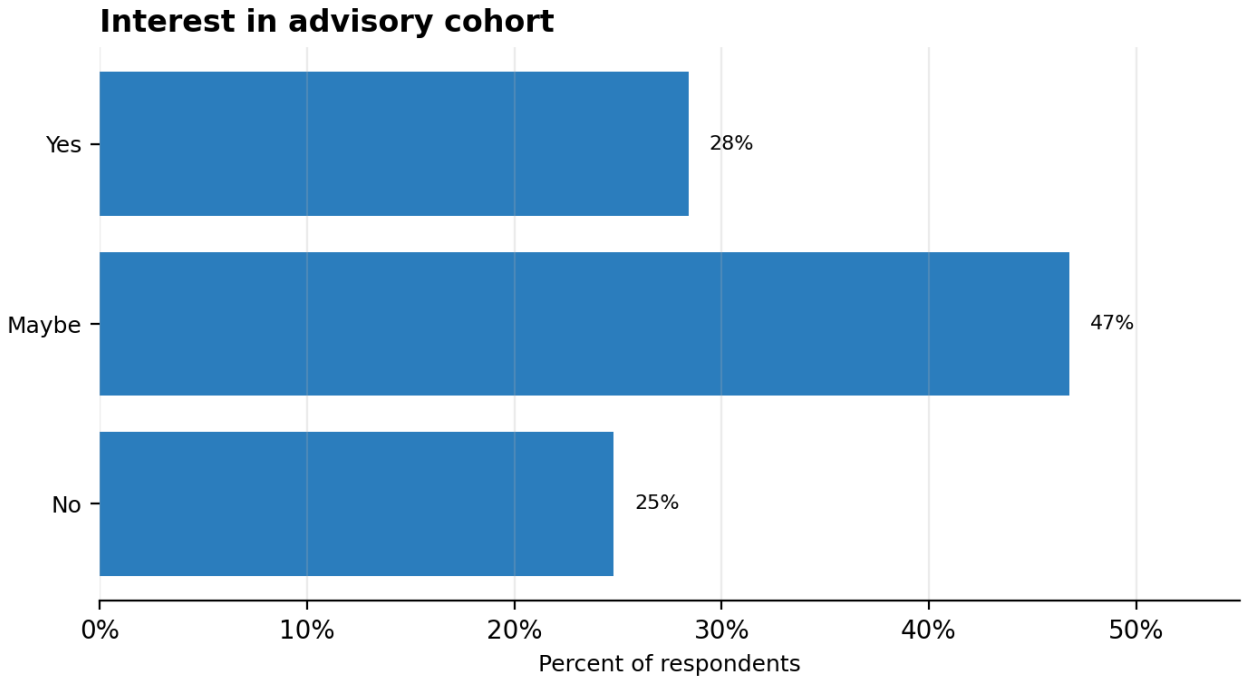

Figure 16. Interest in an AI advisory cohort; n=141.

This progression suggests that manufacturers are seeking evolutionary rather than revolutionary adoption pathways, starting with targeted applications that demonstrate value and expanding as confidence and capabilities mature.

Three-Tier AI Services Expansion Framework

The national findings strongly support a three-tier service model that moves manufacturers from awareness to assessment to implementation. This framework recognizes that manufacturers are at different stages of readiness and that not every company should begin with the same intervention.

Tier	Purpose	Representative Activities	Outcome
Tier 1: Awareness & Literacy	Build foundational understanding of AI concepts, risks, and practical manufacturing use cases.	Webinars; lunch-and-learns; executive briefings; responsible AI education; cybersecurity awareness; case studies.	Manufacturers understand what AI is, where it may apply, and what readiness issues must be considered.
Tier 2: Assessment & Application	Help manufacturers identify value-creating applications and define practical roadmaps.	Readiness assessments; use-case prioritization; data reviews; KPI baselining; opportunity mapping; vendor-neutral guidance.	Manufacturers select practical use cases, define measurable outcomes, and understand implementation requirements.
Tier 3: Technical Implementation	Support pilot deployment and measurable implementation tied to business outcomes.	Pilot projects; solution configuration; dashboard development; workflow integration; quality/process pilots; forecasting models.	Manufacturers demonstrate productivity, resilience, quality, or decision-intelligence improvements.

This tiered model allows the MEP National Network to serve manufacturers at different readiness levels while maintaining a coherent national program structure. It also creates a

pathway for measuring progress: from awareness, to readiness, to application, to implementation impact.

Strategic Implications for the MEP National Network

The MEP National Network is uniquely positioned to support responsible AI adoption among small and mid-sized manufacturers because it already serves as a trusted, neutral, practitioner-oriented resource.

The findings throughout this assessment point toward several strategic considerations for national service design. Collectively, they reinforce the importance of helping manufacturers build readiness, identify practical use cases, and implement AI solutions in ways that are aligned with measurable business objectives.

- Position AI as a business-improvement tool rather than a technology campaign.
- Lead with readiness assessments, use-case prioritization, and ROI framing before implementation.
- Develop early-stage pilots focused on scheduling, throughput, quoting, forecasting, quality, inventory, and decision support.
- Integrate data readiness, KPI development, cybersecurity considerations, and workforce enablement into the service model.
- Use advisory cohorts and peer learning to reduce perceived risk and strengthen manufacturer confidence.
- Frame AI and automation as workforce multipliers that support productivity, knowledge transfer, and competitiveness.

The findings also suggest that Centers should avoid overly broad AI messaging. Manufacturers are more likely to engage when services are connected to familiar business problems: schedule reliability, scrap, quoting pressure, downtime, workforce productivity, quality, and inventory.

A national framework would allow Centers to adapt services locally while maintaining consistent language, metrics, and implementation pathways across the Network.

Implications for Future National Investment

The assessment provides a strong evidence base for future national investment in AI-enabled manufacturing services. The findings consistently demonstrate that manufacturers are seeking trusted guidance to navigate the transition from awareness to implementation. A scalable national approach that combines readiness support,

implementation expertise, workforce preparation, and measurable outcomes could help address the needs identified throughout this assessment.

A federal investment through the MEP National Network would address those barriers by creating a scalable, staged service model that helps manufacturers understand AI, identify business cases, assess readiness, and deploy targeted pilots. The proposed approach is not focused on promoting a specific technology or vendor. It is focused on helping manufacturers apply AI responsibly to improve performance.

Why an Expansion Award Is Warranted

- **National need**: Across the combined assessment base, manufacturers consistently report early-stage AI readiness and a need for practical guidance.
- **Clear implementation needs**: The findings consistently point to the importance of readiness support, practical use-case identification, workforce enablement, data maturity, and outcome-based implementation assistance.
- **Business relevance**: The highest-value AI opportunities align directly with manufacturer pain points including productivity, scheduling, quality, forecasting, downtime, inventory, and quoting.
- **Network fit**: MEP Centers are positioned to provide trusted, vendor-neutral support that lowers risk and improves adoption outcomes.
- **Measurable outcomes**: The proposed three-tier model supports tracking from awareness to readiness to implementation impact.

The Expansion Award would allow the Network to accelerate responsible AI adoption while strengthening U.S. manufacturing competitiveness. It would also create shared infrastructure, common service definitions, measurement discipline, and repeatable models that individual Centers could adapt to meet regional manufacturing needs.

Conclusion

Across the combined body of manufacturer survey data, the conclusion is consistent: manufacturers are interested in AI, but most are not yet ready for broad deployment without support. The dominant need is not access to technology alone. It is the ability to understand AI, identify practical use cases, assess readiness, protect data, prepare the workforce, and measure ROI.

The opportunity for the MEP National Network is not to sell AI technology, but to help manufacturers move from curiosity to capability. Through a staged service model built on Awareness and Literacy, Assessment and Application, and Technical Implementation, the Network can provide a trusted national pathway for responsible adoption.

An AI Services Expansion Award would allow the Network to address a nationally documented need, reduce implementation risk for manufacturers, and support measurable improvements in productivity, resilience, quality, and competitiveness. The assessment findings provide a clear justification for federal investment and a practical framework for action.

With the right combination of trusted guidance, structured implementation support, and measurable outcomes, the MEP National Network is uniquely positioned to help manufacturers translate AI interest into sustained productivity, resilience, and competitiveness.

Appendix: Supporting Data Tables

A. Key AI Readiness and Use Measures

Measure	Base	Finding
AI readiness profile	n=241	48.1% limited/basic; 29.5% moderate; 22.4% working/advanced
Current AI use	n=142	9.9% integrated into operations; 42.3% exploring/researching; 26.1% piloting limited tools
Structured pilot interest	n=140	22.1% apply immediately; 45.0% consider within 6 months
Advisory cohort interest	n=141	75.2% yes or maybe

B. Top AI Adoption Barriers

Barrier	Selections	% of respondents
Lack of internal expertise	83	59.7%
Lack of time or resources	74	53.2%
Integration with existing systems	56	40.3%
Cybersecurity or data concerns	41	29.5%
Uncertainty about ROI	39	28.1%
Workforce readiness or training needs	39	28.1%
Cost of technology	25	18.0%

C. Top Profitability Pressures

Pressure	Selections	% of respondents
Labor productivity	79	56.0%
Production scheduling inefficiencies	63	44.7%
Low win rate/pricing pressure	62	44.0%
Scrap/rework	54	38.3%
Commodity price volatility	43	30.5%
Unplanned downtime	39	27.7%
Inventory carrying costs	29	20.6%
Late deliveries	28	19.9%
Compliance burden	21	14.9%

D. Functional AI Implementation Activity

Functional Area	Planning/Implementation	%	Sustained	%
Office productivity/documentation	119	78.3%	18	11.8%
Data analysis/forecasting/decision support	101	72.7%	17	12.2%
Production/maintenance	71	62.8%	18	15.9%
Sales/marketing/customer service	58	74.4%	14	17.9%
Product design/engineering/R&D	58	58.0%	12	12.0%
HR/training/recruiting	52	65.8%	6	7.6%

Note: Appendix tables are intended to support the national assessment narrative. Because the original survey instruments differed, denominators vary by topic and response totals should not be summed across tables.