

# Artificial Intelligence for Smart Manufacturing Applications Report

Part of the AI & Intelligent Automation  
Service Area Package

**Aditya Kaul, Research Director**  
**Keith Kirkpatrick, Principal Analyst**

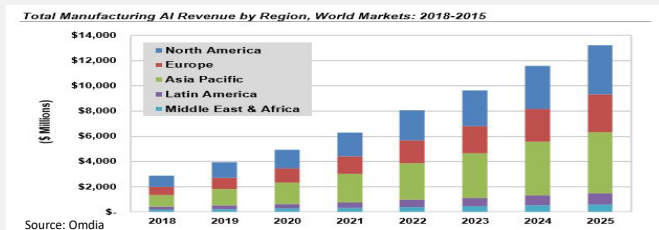
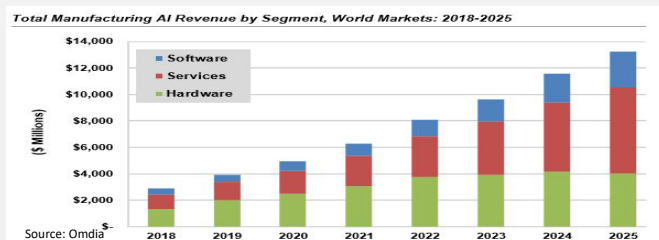
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## Quality Monitoring, Yield Improvement, Root Cause Analysis, Predictive Maintenance, Energy Management, Digital Twins, 3D Printing Arm Control, and Other Key Smart Manufacturing Use Cases: Global Market Analysis and Forecasts

The manufacturing industry exhibits some contradictions when it comes to automation and technology. On the one hand, manufacturing was among the first industries to integrate any type of technology more than a century ago, as the production of goods incorporated tools to aid in the production process. On the other hand, manufacturing companies are risk-averse when it comes to implementing new technology quickly, mainly due to the large amount of capital and time at stake.

However, manufacturing companies are incorporating artificial intelligence (AI) technology to their environments at a modest, yet steady, pace. AI includes the use of machine learning (ML) and deep learning (DL) – often with other enabling technologies. As manufacturing becomes more cost-sensitive and customers demand quality, manufacturers are using AI to enhance the performance of equipment, reduce downtime, and improve the quantity and quality of products. The overarching driver of AI technology is the ability to find insights in large data sources that would be too unwieldy for humans to analyze quickly. According to Omdia, global revenue for AI software, services, and hardware for smart manufacturing applications is expected to reach more than \$13 billion by 2025.

This report assesses the global market for AI technologies used in smart manufacturing applications. The technologies include ML, DL, natural language processing (NLP), computer vision, machine reasoning, and strong AI. Global market forecasts, segmented by region, product and service category, use case, and segment, extend through 2025. Omdia also addresses the market trends, drivers, and barriers to adoption related to manufacturing AI technologies and provides profiles for key market participants.



# Report Coverage

KEY ISSUES ADDRESSED	COVERAGE	APPLICABLE TO
<ul style="list-style-type: none"> <li>• What are the primary AI use cases within manufacturing that will see the fastest growth through 2025?</li> <li>• Which key technologies will enable the use of AI in a manufacturing environment?</li> <li>• Which vendors are actively working with manufacturing customers to bring AI to the factory floor?</li> <li>• What key market drivers have led to the evaluation and use of AI for smart manufacturing applications?</li> <li>• What barriers to adoption exist in the market, and how are they being overcome?</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Total Manufacturing AI Revenue, Worldwide Coverage: 2018 - 2025</b> <ul style="list-style-type: none"> <li>• By Segment               <ul style="list-style-type: none"> <li>• Manufacturing AI Hardware Revenue</li> <li>• Manufacturing AI Services Revenue</li> <li>• Manufacturing AI Software Revenue</li> </ul> </li> <li>• By Product Category               <ul style="list-style-type: none"> <li>• Manufacturing AI-Driven Hardware Revenue</li> </ul> </li> <li>• By Service Category               <ul style="list-style-type: none"> <li>• Manufacturing AI-Driven Services Revenue</li> </ul> </li> <li>• By Use Case               <ul style="list-style-type: none"> <li>• Manufacturing AI Software Revenue</li> </ul> </li> </ul> </li> </ul>	<p><b>Services</b></p> <ul style="list-style-type: none"> <li>• Central Processing Units (CPUs)</li> <li>• Application-Specific Integrated Circuits (ASICs)</li> <li>• Field-Programmable Gate Arrays (FPGAs)</li> <li>• Graphics Processing Units (GPUs)</li> <li>• Network Products</li> <li>• Storage Devices</li> <li>• Installation</li> <li>• Training</li> <li>• Customization</li> <li>• Application Integration</li> <li>• Support and Maintenance</li> <li>• Cloud Services</li> <li>• Transportation</li> <li>• Public Sector</li> <li>• Oil, Gas, and Mining</li> <li>• Insurance</li> <li>• Scientific Research</li> </ul> <p><b>Technologies</b></p> <ul style="list-style-type: none"> <li>• Deep Learning</li> <li>• Machine Learning</li> <li>• Natural Language Processing</li> <li>• Machine Reasoning</li> <li>• Computer Vision</li> <li>• Strong AI</li> </ul> <p><b>Regions</b></p> <ul style="list-style-type: none"> <li>• North America</li> <li>• Europe</li> <li>• Asia Pacific</li> <li>• Latin America</li> <li>• Middle East and Africa</li> </ul> <p><b>Global, regional and local manufacturing companies</b></p> <ul style="list-style-type: none"> <li>• AI platform and algorithm development companies</li> <li>• AI service providers</li> <li>• Industrial robotics developers and manufacturers</li> <li>• Manufacturing execution system vendors</li> <li>• Government agencies</li> <li>• Investor community</li> </ul>

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