

Robotic Process Automation for Manufacturing Market Forecasts to 2034 – Global Analysis By Process Type (Production Process Automation, Quality Inspection Automation, Supply Chain Automation, Inventory Management Automation, Procurement Automation, Maintenance Automation, and Finance & Administrative Automation), Deployment Mode, Component, Service Type, Technology, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Robotic Process Automation for Manufacturing Market is accounted for \$4.9 billion in 2026 and is expected to reach \$17.9 billion by 2034 growing at a CAGR of 17.5% during the forecast period. Robotic process automation for manufacturing refers to software-based digital robots, or bots, configured to mimic human interactions with enterprise applications in order to execute rule-based, repetitive tasks across production, quality, and administrative workflows. These bots capture screen data, manipulate structured and unstructured information, trigger predefined responses, and interface with enterprise resource planning, manufacturing execution, and supply chain systems, thereby replicating manual keystrokes and mouse actions without requiring changes to legacy infrastructure, while enabling continuous, rule-driven task execution across shop-floor and back-office operations.

Market Dynamics:

Driver:

Labor Cost Pressures

Rising labor costs and persistent shortages of skilled shop-floor workers are pushing manufacturers to automate repetitive back-office and production-support tasks such as order entry, invoice reconciliation, and inventory updates. Manufacturers increasingly deploy software bots to handle high-volume, rule-based processes that previously required dedicated administrative staff, while freeing employees to focus on higher-value engineering activities, thereby improving throughput, reducing error rates, and strengthening plant-level operational efficiency across shifts.

Restraint:

Legacy System Integration

Many manufacturing facilities continue to operate aging enterprise resource planning platforms and proprietary shop-floor control systems that lack modern application programming interfaces, which complicates deployment of automation bots designed for standardized digital workflows. Integrating robotic process automation with fragmented legacy infrastructure requires extensive customization and testing, increasing implementation timelines and costs, while compatibility issues between older controllers and newer software layers can delay adoption and constrain scalability across manufacturing networks.

Opportunity:

AI-Enabled Cognitive Automation

The convergence of robotic process automation with artificial intelligence and machine learning is opening opportunities to automate increasingly complex, judgment-based manufacturing tasks beyond simple rule-based processes, including quality defect classification and demand forecasting. Manufacturers are exploring intelligent automation platforms that combine computer vision and natural language processing with traditional bots, enabling adaptive decision-making, while software vendors invest heavily in cognitive capabilities that expand addressable use cases and revenue potential.

Threat:

Workforce Displacement Concerns

Growing automation of administrative and production-support roles raises concerns among manufacturing labor unions and employees regarding potential job displacement, which can generate workforce resistance and slow enterprise-wide automation rollouts. Negative public perception surrounding automation-driven layoffs may prompt regulatory scrutiny or new labor protection policies in certain jurisdictions, while manufacturers face reputational risks if automation initiatives are perceived as prioritizing cost reduction over employee retention, complicating stakeholder communication during deployment programs.

Covid-19 Impact:

The pandemic initially disrupted manufacturing operations through workforce shortages and plant shutdowns, prompting urgent interest in remote-capable automation to maintain continuity. Mid-pandemic, manufacturers accelerated bot deployment for supply chain visibility and contactless administrative processing amid social distancing mandates. Post-pandemic, automation became embedded in resilience strategies, with manufacturers permanently expanding robotic process automation to buffer against future labor disruptions.

The production process automation segment is expected to be the largest during the forecast period

The production process automation segment is expected to account for the largest market share during the forecast period, due to manufacturers prioritizing automation of core production-line workflows including scheduling, work-order routing, and machine-data logging, which directly influence throughput and cost efficiency. Widespread deployment of bots across production coordination tasks reflects their measurable return on investment, while integration with manufacturing execution systems enables real-time visibility, reinforcing this segment's dominant position across manufacturing facilities.

The cloud-based segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the cloud-based segment is predicted to witness the highest growth rate, driven by manufacturers favoring subscription-based deployment models that reduce upfront infrastructure investment and accelerate time-to-value for automation initiatives. Cloud-based platforms enable centralized bot management

across geographically dispersed plants, as remote monitoring and rapid scaling become critical for multi-site manufacturers, which in turn encourages migration away from on-premise systems, thereby fueling accelerated adoption momentum across the industry.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to the United States possessing a mature manufacturing automation ecosystem supported by early enterprise software adoption and substantial capital investment in digital transformation initiatives. Leading vendors including UiPath Inc. and Automation Anywhere Inc. maintain strong regional presence, while favorable policy support for reshoring manufacturing and technology adoption continues to reinforce North America's dominant position across segments.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to rapid manufacturing expansion across China, India, and Southeast Asia combined with government-backed smart manufacturing and Industry 4.0 initiatives promoting digital transformation. Rising labor costs and competitive pressure are prompting regional manufacturers to adopt automation at an accelerated pace, while growing availability of affordable cloud infrastructure and local vendors supports broader accessibility of automation across enterprises.

Key players in the market

Some of the key players in Robotic Process Automation for Manufacturing Market include UiPath Inc., Automation Anywhere Inc., Microsoft Corporation, Blue Prism Group plc, IBM Corporation, SAP SE, Oracle Corporation, Pegasystems Inc., NICE Ltd., Appian Corporation, SS&C Technologies Holdings, Inc., ABB Ltd., Siemens AG, Rockwell Automation, Inc., Schneider Electric SE, Emerson Electric Co. and Hitachi, Ltd.

Key Developments:

In June 2026, UiPath Inc. unveiled an enhanced agentic automation suite tailored for discrete manufacturing, integrating computer vision-based quality inspection with existing production scheduling bots for faster plant-wide deployment across facilities.

In May 2026, Siemens AG partnered with a leading cloud hyperscaler to embed automation bots directly within its manufacturing execution software, enabling seamless data exchange between shop-floor equipment and enterprise systems.

In April 2026, IBM Corporation expanded its automation platform with generative artificial intelligence capabilities, allowing manufacturers to build custom bots for exception handling and supply chain documentation without extensive coding expertise.

Process Types Covered:

Production Process Automation

Quality Inspection Automation

Supply Chain Automation

Inventory Management Automation

Procurement Automation

Maintenance Automation

Finance & Administrative Automation

Deployment Modes Covered:

On-Premise

Cloud-Based

Hybrid

Components Covered:

Software

Services

Service Types Covered:

- Consulting
- Implementation & Integration
- Training & Support
- Managed Services

Technologies Covered:

- Artificial Intelligence
- Machine Learning
- Intelligent Document Processing
- Computer Vision
- Process Mining
- Natural Language Processing
- Analytics & Reporting

Applications Covered:

- Order Processing
- Invoice Processing
- Production Scheduling
- Quality Management

Predictive Maintenance

Compliance Management

Asset Management

End Users Covered:

Automotive

Electronics & Semiconductor

Food & Beverage

Pharmaceuticals

Chemicals

Industrial Machinery

Metal & Mining

Other Manufacturing Industries

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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