

Automated Machine Tending Market Forecasts to 2034 – Global Analysis By Robot Type (Articulated Robots, Collaborative Robots, SCARA Robots, Cartesian Robots, Delta Robots and Other Robot Types), Machine Type, Task, Robot Payload, End User, and Geography

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Abstracts

According to Statistics MRC, the Global Automated Machine Tending Market is accounted for \$2.8 billion in 2026 and is expected to reach \$6.2 billion by 2034 growing at a CAGR of 10.5% during the forecast period. Automated Machine Tending refers to robotic systems that automatically load and unload machine tools or production equipment during manufacturing processes. These systems commonly combine industrial or collaborative robots with machine vision, grippers, sensors, CNC machines, and control software to transfer raw materials, workpieces, and finished components. Machine tending is used for operations such as machining, turning, milling, grinding, and metalworking. Automation reduces repetitive manual handling while improving machine utilization, production consistency, and operator safety. Robotic systems can also support continuous or lights-out manufacturing where appropriate. Growing demand for manufacturing productivity and workforce efficiency is driving adoption. Advances in collaborative robotics, vision systems, and simplified programming are expanding machine-tending applications among both large manufacturers and smaller production facilities.

Market Dynamics

Driver:

Growing demand for labor reduction in machine operations

Persistent labor shortages in manufacturing, particularly for machine operators willing to work in repetitive and often hazardous conditions, are driving adoption of automated machine tending systems. Rising labor costs make automation increasingly cost-competitive relative to manual machine tending operations. Consistency requirements for part quality and cycle times demand the precision and repeatability that robots provide. Safety regulations limiting human exposure to machinery hazards accelerate adoption of robotic tending solutions. The need to maximize machine utilization through continuous operation drives investment in automation that eliminates breaks and shift changes.

Restraint:

High capital investment and integration complexity

High capital investment requirements for automated machine tending systems present significant barriers, particularly for small and mid-sized machine shops with limited capital budgets. Integration complexity with existing machine tools, fixtures, and control systems extends deployment timelines and increases project risk. Limited standardization across machine tool interfaces creates integration challenges and reduces flexibility. Programming requirements for different part geometries and machine configurations demand specialized expertise. Uncertain payback periods for low-volume, high-mix production limit adoption.

Opportunity:

Advances in collaborative robots and easy programming

Advances in collaborative robot technology and simplified programming interfaces are expanding the addressable market for automated machine tending to smaller manufacturers. Collaborative robots can operate safely alongside human workers without extensive guarding, reducing installation costs and increasing flexibility. Growing availability of pre-engineered machine tending solutions reduces deployment complexity and time. Advances in vision systems enable robots to handle part variations without precise positioning. Integration with machine tool controls enables automated changeover and production scheduling.

Threat:

Competition from traditional automation and manual operations

Competition from traditional hard automation and manual machine tending may limit

adoption of robotic systems in applications where volumes do not justify higher costs. Economic pressures may cause manufacturers to delay automation investments and extend existing equipment lifecycles. Technology complexity may erode operator confidence and slow implementation velocity. Workforce displacement concerns may generate organizational resistance to automation programs. Rapid technology evolution creates obsolescence risk for early adopters.

Covid-19 Impact:

The COVID-19 pandemic accelerated adoption of automated machine tending as manufacturers sought to maintain production despite workforce disruptions and social distancing requirements. Supply chain disruptions highlighted the importance of operational resilience and the ability to maintain production with reduced labor availability. The post-pandemic period has witnessed sustained investment as manufacturers prioritize automation to address ongoing labor shortages. Growing focus on reshoring and supply chain resilience drives automation investment. Labor market tightness reinforces the economic case for machine tending automation.

The articulated robots segment is expected to be the largest during the forecast period

The articulated robots segment is expected to account for the largest market share during the forecast period as articulated robots offer the flexibility and reach required for diverse machine tending applications. Articulated robots can access machines from multiple angles and handle complex part geometries. Established application knowledge and programming capabilities support segment leadership. Articulated robots are widely deployed in automotive, metalworking, and general manufacturing. Broad application range and proven reliability ensure continued market dominance.

The collaborative robots segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the collaborative robots segment is predicted to witness the highest growth rate driven by increasing adoption of cobots that can operate safely alongside human workers without extensive guarding. Collaborative robots enable automation of tasks previously considered too complex or costly for traditional industrial robots. Growing availability of affordable cobot solutions and simplified programming interfaces is expanding adoption across small and mid-sized manufacturers. Collaborative robots offer flexibility for high-mix, low-volume production. Safety

innovations continue expanding collaborative robot capabilities and applications.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share owing to dominant manufacturing base, high robot density, and extensive automation investments across major economies. China, Japan, and South Korea are world leaders in industrial robot adoption with substantial machine tending deployments. Strong manufacturing infrastructure and government support reinforce regional market leadership. Significant automotive and electronics manufacturing drives machine tending automation across the region. Industrial automation continues expanding across Asian manufacturing economies.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by rapid industrialization, increasing labor costs, and growing automation adoption across manufacturing sectors. China, India, and Southeast Asian countries are expanding automated machine tending deployment to maintain manufacturing competitiveness. Rising wages are making automation increasingly cost-effective across the region. Government initiatives supporting manufacturing modernization and automation accelerate market growth. Significant manufacturing capacity expansion creates substantial machine tending opportunities.

Key players in the market

Some of the key players in the Automated Machine Tending Market include FANUC Corporation, Yaskawa Electric Corporation, ABB Ltd., KUKA AG, Comau S.p.A., Stäubli International AG, Universal Robots A/S, EPSON Robotics, Omron Corporation, Doosan Robotics Inc., Techman Robot Inc., DENSO Corporation, Nachi-Fujikoshi Corp., Mitsubishi Electric Corporation, and Kawasaki Heavy Industries, Ltd.

Key Developments:

In September 2026, FANUC Corporation launched a new collaborative robot model specifically designed for machine tending applications, featuring integrated vision and force sensing for automated part loading and unloading without precise fixture positioning.

In May 2026, Universal Robots A/S introduced an enhanced machine tending solution featuring simplified programming and quick-change grippers for flexible production across diverse machine tools.

In December 2025, ABB Ltd. expanded its automated machine tending portfolio with new robot models featuring improved payload capacity and reach for handling larger parts in metalworking applications.

In August 2025, Yaskawa Electric Corporation announced the launch of a new machine tending cell featuring integrated vision and robot control for automated loading and unloading of CNC machines.

Robot Types Covered:

Articulated Robots

Collaborative Robots

SCARA Robots

Cartesian Robots

Delta Robots

Other Robot Types

Machine Types Covered:

CNC Machines

Press Machines

Injection Molding Machines

Grinding Machines

Assembly Machines

Other Machine Types

Tasks Covered:

Machine Loading

Machine Unloading

Part Transfer

Part Inspection

Part Sorting

Other Tasks

Robot Payloads Covered:

Up to 10 kg

10–50 kg

51–100 kg

101–200 kg

Above 200 kg

End Users Covered:

Automotive

Metalworking

Aerospace

Electronics

Industrial Machinery

Other End Users

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)

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