

Personal Computer (Pc)-Based Automation Market Outlook 2025-2034: Market Share, and Growth Analysis By Component (Industrial PCs (IPCs), Human-Machine Interfaces (HMIs), Programmable Logic Controllers (PLCs), Supervisory Control And Data Acquisition (SCADA)), By Deployment (On-premise, Cloud), By Sales Channel, By End-user Industry

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Abstracts

The Personal Computer (Pc)-Based Automation Market is valued at USD 31.1 billion in 2025 and is projected to grow at a CAGR of 6.6% to reach USD 55.4 billion by 2034.

Personal Computer (PC)-Based Automation Market Overview

The personal computer (PC)-based automation market has seen significant growth due to the increasing adoption of automation technologies across various industries. PC-based automation utilizes personal computers or workstations as the central control unit for managing and monitoring automated processes in manufacturing, building management systems, and other industrial applications. This approach offers flexibility, scalability, and ease of integration with existing systems, making it an attractive solution for industries looking to improve efficiency and reduce costs. With advancements in software, hardware, and communication protocols, PC-based automation systems have become more powerful and cost-effective, allowing businesses of all sizes to leverage automation for improved productivity and performance. The market includes a wide range of applications, such as factory automation, process control, robotics, and data acquisition, all benefiting from the central processing capabilities of personal computers. As industries continue to embrace Industry 4.0 and the Internet of Things (IoT), PC-based automation has become an integral part of the digital transformation strategies of

organizations worldwide, driving market growth across sectors such as manufacturing, energy, healthcare, and logistics. The PC-based automation market has experienced notable advancements driven by technological innovation and the growing need for more efficient automation solutions. One key trend has been the integration of artificial intelligence (AI) and machine learning (ML) algorithms into PC-based automation systems, enabling predictive maintenance, process optimization, and improved decision-making capabilities. These technologies help organizations reduce downtime, extend equipment lifespan, and enhance operational efficiency. Additionally, there has been an increased focus on cybersecurity, as the growing connectivity of automation systems makes them more vulnerable to cyber threats. As a result, PC-based automation solutions are being equipped with more advanced security features, such as encryption, multi-factor authentication, and real-time threat detection. The rise of cloud-based systems and edge computing is another significant development, allowing for faster data processing and more efficient management of large-scale automation systems. These trends are creating new opportunities for businesses to optimize their operations and reduce costs. Moreover, the demand for customizable and modular automation systems that can be tailored to specific industry needs has driven further growth in the market, allowing more industries to adopt PC-based automation solutions. The PC-based automation market is expected to continue evolving with further technological advancements and the increasing integration of advanced automation technologies. The continued growth of the IoT and the deployment of 5G networks will provide even more opportunities for PC-based automation systems to expand, enabling faster data transfer, more seamless communication between devices, and greater scalability for complex automation setups. The continued adoption of AI and IoT in manufacturing, particularly in the automotive, food and beverage, and pharmaceuticals industries, will further drive the demand for PC-based automation solutions that provide real-time data analysis and enhanced control. Additionally, the ongoing trend towards sustainable production practices will push industries to adopt more energy-efficient and eco-friendly automation systems. The integration of PC-based automation with other emerging technologies such as blockchain and digital twins will provide businesses with even greater visibility into their operations, allowing for better optimization and real-time decision-making. As industries look to automate more processes and reduce costs, the market for PC-based automation solutions will continue to grow, providing organizations with the tools they need to stay competitive in an increasingly digital world.

Key Insights Personal Computer (Pc)-Based Automation Market

Integration of AI and Machine Learning: The adoption of AI and ML

technologies is improving the efficiency of automation systems, enabling predictive maintenance, process optimization, and real-time decision-making.

Focus on Cybersecurity: As automation systems become more interconnected, enhanced cybersecurity measures such as encryption and multi-factor authentication are increasingly integrated into PC-based automation solutions.

Rise of Cloud-Based and Edge Computing: Cloud and edge computing are enabling faster data processing, real-time management, and scalable automation solutions, improving operational efficiency.

Modular and Customizable Solutions: The demand for automation systems that can be tailored to specific industries and needs is driving growth in modular and flexible PC-based automation solutions.

Sustainability and Energy Efficiency: The push towards sustainable production practices is encouraging the development of energy-efficient automation systems to reduce environmental impact and operational costs.

Increased Demand for Operational Efficiency: The need to optimize production processes, reduce costs, and enhance performance is driving the adoption of PC-based automation solutions across industries.

Technological Advancements in IoT and AI: Advancements in IoT and AI are enhancing the capabilities of PC-based automation systems, enabling predictive analytics, real-time monitoring, and smarter decision-making.

Industry 4.0 and Digital Transformation: The growing emphasis on digitalization and Industry 4.0 is pushing businesses to adopt automation technologies, including PC-based systems, to improve production and operational efficiency.

Need for Scalability and Flexibility: The growing need for scalable and flexible automation solutions that can be customized to different industry requirements is driving the adoption of PC-based systems.

Cybersecurity Risks and Vulnerabilities: As automation systems become more connected, they are increasingly vulnerable to cyber threats, requiring enhanced security measures to protect sensitive data and prevent disruptions in operations.

Personal Computer (Pc)-Based Automation Market Segmentation

By Component

Industrial PCs (IPCs)

Human-Machine Interfaces (HMIs)

Programmable Logic Controllers (PLCs)

Supervisory Control And Data Acquisition (SCADA)

By Deployment

On-premise

Cloud

By Sales Channel

Direct Sales

Indirect Sales

By End-user Industry

Automotive

Oil and Gas

Food and Beverage

Electronics

Energy and Power

Other End-user Industries

Key Companies Analysed

Apple Inc.

Samsung Electronics Co. Ltd.

Microsoft Corporation

Dell Technologies Inc.

Sony Corporation

Lenovo Group Limited

Hewlett-Packard (HP) Inc.

Panasonic Corporation

International Business Machines Corporation

Schneider Electric SE

Fujitsu Limited

Micron Technology Inc.

Toshiba Corporation

NVIDIA Corporation

Intel Corporation

Advanced Micro Devices Inc.

ASUSTeK Computer Inc.

Western Digital Corporation

Seagate Technology Holdings plc

Acer Inc.

Rockwell Automation Inc.

Logitech International S.A.

Razer Inc.

Corsair Components Inc.

Kingston Technology Company Inc

Personal Computer (Pc)-Based Automation Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Personal Computer (Pc)-Based Automation Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and

innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Personal Computer (Pc)-Based Automation market data and outlook to 2034

United States

Canada

Mexico

Europe — Personal Computer (Pc)-Based Automation market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Personal Computer (Pc)-Based Automation market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Personal Computer (Pc)-Based Automation market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Personal Computer (Pc)-Based Automation market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the Personal Computer (Pc)-Based Automation value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Personal Computer (Pc)-Based Automation industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Personal Computer (Pc)-Based Automation Market Report

Global Personal Computer (Pc)-Based Automation market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Personal Computer (Pc)-Based Automation trade, costs, and supply chains

Personal Computer (Pc)-Based Automation market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Personal Computer (Pc)-Based Automation market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Personal Computer (Pc)-Based Automation market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Personal Computer (Pc)-Based Automation supply chain analysis

Personal Computer (Pc)-Based Automation trade analysis, Personal Computer (Pc)-Based Automation market price analysis, and Personal Computer (Pc)-Based Automation supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Personal Computer (Pc)-Based Automation market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

Contents

1. TABLE OF CONTENTS

- 1.1 List of Tables
- 1.2 List of Figures

2. GLOBAL PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET SUMMARY, 2025

- 2.1 Personal Computer (Pc)-Based Automation Industry Overview
 - 2.1.1 Global Personal Computer (Pc)-Based Automation Market Revenues (In US\$ billion)
- 2.2 Personal Computer (Pc)-Based Automation Market Scope
- 2.3 Research Methodology

3. PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET INSIGHTS, 2024-2034

- 3.1 Personal Computer (Pc)-Based Automation Market Drivers
- 3.2 Personal Computer (Pc)-Based Automation Market Restraints
- 3.3 Personal Computer (Pc)-Based Automation Market Opportunities
- 3.4 Personal Computer (Pc)-Based Automation Market Challenges
- 3.5 Tariff Impact on Global Personal Computer (Pc)-Based Automation Supply Chain Patterns

4. PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET ANALYTICS

- 4.1 Personal Computer (Pc)-Based Automation Market Size and Share, Key Products, 2025 Vs 2034
- 4.2 Personal Computer (Pc)-Based Automation Market Size and Share, Dominant Applications, 2025 Vs 2034
- 4.3 Personal Computer (Pc)-Based Automation Market Size and Share, Leading End Uses, 2025 Vs 2034
- 4.4 Personal Computer (Pc)-Based Automation Market Size and Share, High Growth Countries, 2025 Vs 2034
- 4.5 Five Forces Analysis for Global Personal Computer (Pc)-Based Automation Market
 - 4.5.1 Personal Computer (Pc)-Based Automation Industry Attractiveness Index, 2025
 - 4.5.2 Personal Computer (Pc)-Based Automation Supplier Intelligence

- 4.5.3 Personal Computer (Pc)-Based Automation Buyer Intelligence
- 4.5.4 Personal Computer (Pc)-Based Automation Competition Intelligence
- 4.5.5 Personal Computer (Pc)-Based Automation Product Alternatives and Substitutes Intelligence
- 4.5.6 Personal Computer (Pc)-Based Automation Market Entry Intelligence

5. GLOBAL PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET STATISTICS – INDUSTRY REVENUE, MARKET SHARE, GROWTH TRENDS AND FORECAST BY SEGMENTS, TO 2034

- 5.1 World Personal Computer (Pc)-Based Automation Market Size, Potential and Growth Outlook, 2024- 2034 (\$ billion)
- 5.1 Global Personal Computer (Pc)-Based Automation Sales Outlook and CAGR Growth By Component, 2024- 2034 (\$ billion)
- 5.2 Global Personal Computer (Pc)-Based Automation Sales Outlook and CAGR Growth By Deployment, 2024- 2034 (\$ billion)
- 5.3 Global Personal Computer (Pc)-Based Automation Sales Outlook and CAGR Growth By Sales Channel, 2024- 2034 (\$ billion)
- 5.4 Global Personal Computer (Pc)-Based Automation Sales Outlook and CAGR Growth By End-user Industry, 2024- 2034 (\$ billion)
- 5.5 Global Personal Computer (Pc)-Based Automation Market Sales Outlook and Growth by Region, 2024- 2034 (\$ billion)

6. ASIA PACIFIC PERSONAL COMPUTER (PC)-BASED AUTOMATION INDUSTRY STATISTICS – MARKET SIZE, SHARE, COMPETITION AND OUTLOOK

- 6.1 Asia Pacific Personal Computer (Pc)-Based Automation Market Insights, 2025
- 6.2 Asia Pacific Personal Computer (Pc)-Based Automation Market Revenue Forecast By Component, 2024- 2034 (USD billion)
- 6.3 Asia Pacific Personal Computer (Pc)-Based Automation Market Revenue Forecast By Deployment, 2024- 2034 (USD billion)
- 6.4 Asia Pacific Personal Computer (Pc)-Based Automation Market Revenue Forecast By Sales Channel, 2024- 2034 (USD billion)
- 6.5 Asia Pacific Personal Computer (Pc)-Based Automation Market Revenue Forecast By End-user Industry, 2024- 2034 (USD billion)
- 6.6 Asia Pacific Personal Computer (Pc)-Based Automation Market Revenue Forecast by Country, 2024- 2034 (USD billion)
 - 6.6.1 China Personal Computer (Pc)-Based Automation Market Size, Opportunities, Growth 2024- 2034

6.6.2 India Personal Computer (Pc)-Based Automation Market Size, Opportunities, Growth 2024- 2034

6.6.3 Japan Personal Computer (Pc)-Based Automation Market Size, Opportunities, Growth 2024- 2034

6.6.4 Australia Personal Computer (Pc)-Based Automation Market Size, Opportunities, Growth 2024- 2034

7. EUROPE PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET DATA, PENETRATION, AND BUSINESS PROSPECTS TO 2034

7.1 Europe Personal Computer (Pc)-Based Automation Market Key Findings, 2025

7.2 Europe Personal Computer (Pc)-Based Automation Market Size and Percentage Breakdown By Component, 2024- 2034 (USD billion)

7.3 Europe Personal Computer (Pc)-Based Automation Market Size and Percentage Breakdown By Deployment, 2024- 2034 (USD billion)

7.4 Europe Personal Computer (Pc)-Based Automation Market Size and Percentage Breakdown By Sales Channel, 2024- 2034 (USD billion)

7.5 Europe Personal Computer (Pc)-Based Automation Market Size and Percentage Breakdown By End-user Industry, 2024- 2034 (USD billion)

7.6 Europe Personal Computer (Pc)-Based Automation Market Size and Percentage Breakdown by Country, 2024- 2034 (USD billion)

7.6.1 Germany Personal Computer (Pc)-Based Automation Market Size, Trends, Growth Outlook to 2034

7.6.2 United Kingdom Personal Computer (Pc)-Based Automation Market Size, Trends, Growth Outlook to 2034

7.6.2 France Personal Computer (Pc)-Based Automation Market Size, Trends, Growth Outlook to 2034

7.6.2 Italy Personal Computer (Pc)-Based Automation Market Size, Trends, Growth Outlook to 2034

7.6.2 Spain Personal Computer (Pc)-Based Automation Market Size, Trends, Growth Outlook to 2034

8. NORTH AMERICA PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET SIZE, GROWTH TRENDS, AND FUTURE PROSPECTS TO 2034

8.1 North America Snapshot, 2025

8.2 North America Personal Computer (Pc)-Based Automation Market Analysis and Outlook By Component, 2024- 2034 (\$ billion)

8.3 North America Personal Computer (Pc)-Based Automation Market Analysis and

Outlook By Deployment, 2024- 2034 (\$ billion)

8.4 North America Personal Computer (Pc)-Based Automation Market Analysis and Outlook By Sales Channel, 2024- 2034 (\$ billion)

8.5 North America Personal Computer (Pc)-Based Automation Market Analysis and Outlook By End-user Industry, 2024- 2034 (\$ billion)

8.6 North America Personal Computer (Pc)-Based Automation Market Analysis and Outlook by Country, 2024- 2034 (\$ billion)

8.6.1 United States Personal Computer (Pc)-Based Automation Market Size, Share, Growth Trends and Forecast, 2024- 2034

8.6.1 Canada Personal Computer (Pc)-Based Automation Market Size, Share, Growth Trends and Forecast, 2024- 2034

8.6.1 Mexico Personal Computer (Pc)-Based Automation Market Size, Share, Growth Trends and Forecast, 2024- 2034

9. SOUTH AND CENTRAL AMERICA PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET DRIVERS, CHALLENGES, AND FUTURE PROSPECTS

9.1 Latin America Personal Computer (Pc)-Based Automation Market Data, 2025

9.2 Latin America Personal Computer (Pc)-Based Automation Market Future By Component, 2024- 2034 (\$ billion)

9.3 Latin America Personal Computer (Pc)-Based Automation Market Future By Deployment, 2024- 2034 (\$ billion)

9.4 Latin America Personal Computer (Pc)-Based Automation Market Future By Sales Channel, 2024- 2034 (\$ billion)

9.5 Latin America Personal Computer (Pc)-Based Automation Market Future By End-user Industry, 2024- 2034 (\$ billion)

9.6 Latin America Personal Computer (Pc)-Based Automation Market Future by Country, 2024- 2034 (\$ billion)

9.6.1 Brazil Personal Computer (Pc)-Based Automation Market Size, Share and Opportunities to 2034

9.6.2 Argentina Personal Computer (Pc)-Based Automation Market Size, Share and Opportunities to 2034

10. MIDDLE EAST AFRICA PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET OUTLOOK AND GROWTH PROSPECTS

10.1 Middle East Africa Overview, 2025

10.2 Middle East Africa Personal Computer (Pc)-Based Automation Market Statistics By Component, 2024- 2034 (USD billion)

10.3 Middle East Africa Personal Computer (Pc)-Based Automation Market Statistics By Deployment, 2024- 2034 (USD billion)

10.4 Middle East Africa Personal Computer (Pc)-Based Automation Market Statistics By Sales Channel, 2024- 2034 (USD billion)

10.5 Middle East Africa Personal Computer (Pc)-Based Automation Market Statistics By Sales Channel, 2024- 2034 (USD billion)

10.6 Middle East Africa Personal Computer (Pc)-Based Automation Market Statistics by Country, 2024- 2034 (USD billion)

10.6.1 Middle East Personal Computer (Pc)-Based Automation Market Value, Trends, Growth Forecasts to 2034

10.6.2 Africa Personal Computer (Pc)-Based Automation Market Value, Trends, Growth Forecasts to 2034

11. PERSONAL COMPUTER (PC)-BASED AUTOMATION MARKET STRUCTURE AND COMPETITIVE LANDSCAPE

11.1 Key Companies in Personal Computer (Pc)-Based Automation Industry

11.2 Personal Computer (Pc)-Based Automation Business Overview

11.3 Personal Computer (Pc)-Based Automation Product Portfolio Analysis

11.4 Financial Analysis

11.5 SWOT Analysis

12 APPENDIX

12.1 Global Personal Computer (Pc)-Based Automation Market Volume (Tons)

12.1 Global Personal Computer (Pc)-Based Automation Trade and Price Analysis

12.2 Personal Computer (Pc)-Based Automation Parent Market and Other Relevant Analysis

12.3 Publisher Expertise

12.2 Personal Computer (Pc)-Based Automation Industry Report Sources and Methodology

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