

Robotics Education Market Forecasts to 2034 – Global Analysis By Component (Hardware, Software, and Services), Education Level (Primary Education, Secondary Education, Higher Education, and Vocational Education), Learning Mode, Robot Type, End User, and By Geography

<https://marketpublishers.com/r/RD09F6E538C9EN.html>

Date: July 2026

Pages: 0

Price: US\$ 4,150.00 (Single User License)

ID: RD09F6E538C9EN

Abstracts

According to Statistics MRC, the Global Robotics Education Market is accounted for \$1.9 billion in 2026 and is expected to reach \$4.9 billion by 2034 growing at a CAGR of 12.7% during the forecast period. Robotics education encompasses the teaching of robotics principles, programming, engineering, and related STEM concepts through specialized hardware, software, and educational services. This market includes educational robot kits, programmable robots, robot components, simulation software, coding platforms, curriculum materials, teacher training, and professional development services. The market serves primary, secondary, higher, and vocational education levels, preparing students for careers in automation, engineering, artificial intelligence, and related fields. Growing emphasis on STEM education, increasing adoption of robotics in various industries, and government initiatives promoting technology education are key drivers of market expansion.

Market Dynamics:

Driver:

Growing emphasis on STEM education and digital skills development

The increasing global focus on STEM education and preparing students for technology-

driven careers is a primary driver for the robotics education market. Governments and educational institutions worldwide are prioritizing science, technology, engineering, and mathematics curricula to develop workforce skills for the digital economy. Robotics education provides hands-on learning experiences that engage students in engineering design, coding, and problem-solving. The growing recognition of robotics as an effective tool for developing critical thinking, creativity, and collaboration skills supports market expansion. As technology continues transforming industries, demand for robotics education programs and resources continues growing across all education levels.

Restraint:

High costs of robotics equipment and teacher training

The significant costs associated with robotics education equipment and teacher professional development represent major restraints for market growth. Robotics kits, programming software, and related hardware require substantial investment, which may be prohibitive for schools with limited budgets. Teacher training and ongoing professional development add to implementation costs. Maintaining and upgrading equipment requires additional financial commitment. In developing regions, limited educational funding restricts robotics program availability. These cost barriers limit adoption, particularly in under-resourced schools and districts, affecting equitable access to robotics education opportunities.

Opportunity:

Expansion of online and virtual robotics platforms

The growth of online and virtual robotics platforms presents significant opportunities for market expansion. Virtual robotics simulators enable students to program and test robot behaviors without physical hardware, reducing equipment costs and expanding access. Online coding platforms and interactive tutorials provide self-paced learning opportunities. Virtual robotics competitions enable participation regardless of geographic location. The expansion of remote and hybrid learning models has accelerated adoption of digital robotics education resources. As technology platforms become more sophisticated and accessible, virtual robotics education offerings are growing, creating new market opportunities and expanding reach to underserved regions.

Threat:

Rapid technological change and equipment obsolescence

The rapid pace of technological advancement and resulting equipment obsolescence pose significant threats to the robotics education market. Robotics technology evolves quickly, with new platforms, programming languages, and capabilities emerging regularly. Educational institutions may hesitate to invest in equipment that could become outdated before full use. Maintaining curriculum relevance requires continuous updates, straining instructional resources. The challenge of balancing established platforms with emerging technologies creates complexity for program planning. Obsolescence concerns may lead schools to delay adoption or limit investment, affecting market growth.

Covid-19 Impact:

The COVID-19 pandemic significantly affected robotics education, with school closures disrupting hands-on learning activities. Programs dependent on physical robot kits and equipment faced particular challenges during remote instruction. However, the pandemic accelerated adoption of virtual robotics platforms and online learning resources, enabling continued instruction. Teacher professional development shifted to online delivery, expanding access. The crisis highlighted the importance of digital skills and STEM education, reinforcing the value of robotics programs. Post-pandemic, hybrid learning models combine hands-on and virtual approaches, with sustained investment in robotics education resources.

The Hardware segment is expected to be the largest during the forecast period

The Hardware segment is expected to account for the largest market share during the forecast period, driven by the essential role of physical robot kits, components, and equipment in hands-on robotics education. Hardware includes programmable robot kits, sensors, actuators, controllers, and construction components that enable students to build and program physical robots. The segment benefits from the proven effectiveness of tangible, hands-on learning experiences. Schools invest in classroom sets and lab equipment that require regular updates. Growing robotics program enrollment and expanding access across education levels sustain hardware demand. As robotics education expands worldwide, hardware remains the foundational investment, securing the largest market share.

The Vocational Education segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the Vocational Education segment is predicted to witness the highest growth rate, fueled by increasing demand for skilled robotics technicians, automation specialists, and maintenance professionals across manufacturing and service industries. Vocational robotics programs prepare students for direct workforce entry with practical skills including robot programming, troubleshooting, and maintenance. Industry partnerships and apprenticeship programs are expanding vocational robotics offerings. Governments are investing in vocational education to address skills gaps and support industrial competitiveness. As automation adoption accelerates across industries and skilled labor shortages grow, vocational robotics education delivers the fastest segment growth.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by early STEM education adoption, strong investment in educational technology, and established robotics education programs. The United States and Canada have integrated robotics into school curricula across education levels, with substantial public and private investment. Strong presence of robotics education providers, technology companies, and research institutions supports innovation. Government initiatives promoting technology education and workforce development drive program expansion. With established programs and continued investment, North America maintains its dominant market position throughout the forecast period.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, driven by rapid technological advancement, government STEM initiatives, and large student populations across countries including China, India, Japan, and South Korea. The region is experiencing growing investment in robotics education and automation training programs. Government policies promoting technology education and workforce development support market expansion. Rising electronics manufacturing and robotics adoption create workforce demand for robotics skills. As developing and developed countries across the region expand educational technology investment, Asia Pacific delivers the fastest robotics education market growth globally.

Key players in the market

Some of the key players in Robotics Education Market include LEGO Education, VEX Robotics Inc., Wonder Workshop Inc., Makeblock Co. Ltd., Fischertechnik GmbH, Robotis Co. Ltd., Pitsco Education LLC, Ozobot Inc., UBTECH Robotics Corp. Ltd., PAL Robotics S.L., Epson Robots, KUKA AG, ABB Ltd., FANUC Corporation, Yaskawa Electric Corporation, Universal Robots A/S, Intelitek Inc., and Arduino AG.

Key Developments:

In June 2026, LEGO Education announced that its long-standing, 30-year operational partnership with FIRST will officially conclude following the 2026–2027 competitive cycle, with LEGO Education planning a newly structured independent competition season for 2027–2028 to focus heavily on foundational AI concepts.

In June 2026, VEX Robotics co-hosted the 2026 VEX AI Robotics World Championship alongside the Robolabs Foundation at UC Berkeley, featuring fully autonomous robotic platforms engineered to complete complex spatial missions without driver intervention.

In April 2026, UBTECH Robotics signed a tripartite strategic cooperation memorandum with Duy Tan University (DTU) and IPPTech to build a comprehensive AI and Robotics Education Ecosystem in Vietnam, which includes transferring curriculum architectures and founding a specialized AI Training Center.

In March 2026, VEX Robotics launched 'VEXcare™,' a dedicated domestic product protection plan that allows school districts to purchase 1-year or 2-year service extensions on fragile electronic components.

Components Covered:

Hardware

Software

Services

Education Levels Covered:

Primary Education

Secondary Education

Higher Education

Vocational Education

Learning Modes Covered:

Classroom Learning

Online Learning

Blended Learning

Robot Types Covered:

Educational Robots

Humanoid Robots

Programmable Robots

Robotic Kits

End Users Covered:

Schools

Colleges and Universities

Training Institutes

Research Institutions

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

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL ROBOTICS EDUCATION MARKET, BY COMPONENT

- 5.1 Hardware
- 5.2 Software
- 5.3 Services

6 GLOBAL ROBOTICS EDUCATION MARKET, BY EDUCATION LEVEL

- 6.1 Primary Education
- 6.2 Secondary Education
- 6.3 Higher Education
- 6.4 Vocational Education

7 GLOBAL ROBOTICS EDUCATION MARKET, BY LEARNING MODE

- 7.1 Classroom Learning
- 7.2 Online Learning
- 7.3 Blended Learning

8 GLOBAL ROBOTICS EDUCATION MARKET, BY ROBOT TYPE

- 8.1 Educational Robots
- 8.2 Humanoid Robots
- 8.3 Programmable Robots
- 8.4 Robotic Kits

9 GLOBAL ROBOTICS EDUCATION MARKET, BY END USER

- 9.1 Schools
- 9.2 Colleges and Universities
- 9.3 Training Institutes
- 9.4 Research Institutions

10 GLOBAL ROBOTICS EDUCATION MARKET, BY GEOGRAPHY

10.1 North America

10.1.1 United States

10.1.2 Canada

10.1.3 Mexico

10.2 Europe

10.2.1 United Kingdom

10.2.2 Germany

10.2.3 France

10.2.4 Italy

10.2.5 Spain

10.2.6 Netherlands

10.2.7 Belgium

10.2.8 Sweden

10.2.9 Switzerland

10.2.10 Poland

10.2.11 Rest of Europe

10.3 Asia Pacific

10.3.1 China

10.3.2 Japan

10.3.3 India

10.3.4 South Korea

10.3.5 Australia

10.3.6 Indonesia

10.3.7 Thailand

10.3.8 Malaysia

10.3.9 Singapore

10.3.10 Vietnam

10.3.11 Rest of Asia Pacific

10.4 South America

10.4.1 Brazil

10.4.2 Argentina

10.4.3 Colombia

10.4.4 Chile

10.4.5 Peru

10.4.6 Rest of South America

10.5 Rest of the World (RoW)

10.5.1 Middle East

10.5.1.1 Saudi Arabia

10.5.1.2 United Arab Emirates

- 10.5.1.3 Qatar
- 10.5.1.4 Israel
- 10.5.1.5 Rest of Middle East
- 10.5.2 Africa
 - 10.5.2.1 South Africa
 - 10.5.2.2 Egypt
 - 10.5.2.3 Morocco
 - 10.5.2.4 Rest of Africa

11 STRATEGIC MARKET INTELLIGENCE

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications
- 12.4 Capacity Expansion and Investments
- 12.5 Other Strategic Initiatives

13 COMPANY PROFILES

- 13.1 LEGO Education
- 13.2 VEX Robotics Inc.
- 13.3 Wonder Workshop Inc.
- 13.4 Makeblock Co. Ltd.
- 13.5 Fischertechnik GmbH
- 13.6 Robotis Co. Ltd.
- 13.7 Pitsco Education LLC
- 13.8 Ozobot Inc.
- 13.9 UBTECH Robotics Corp. Ltd.
- 13.10 PAL Robotics S.L.
- 13.11 Epson Robots
- 13.12 KUKA AG
- 13.13 ABB Ltd.

- 13.14 FANUC Corporation
- 13.15 Yaskawa Electric Corporation
- 13.16 Universal Robots A/S
- 13.17 Intelitek Inc.
- 13.18 Arduino AG

List Of Tables

LIST OF TABLES

Table 1 Global Robotics Education Market Outlook, By Region (2023–2034) (\$MN)
Table 2 Global Robotics Education Market Outlook, By Component (2023–2034) (\$MN)
Table 3 Global Robotics Education Market Outlook, By Hardware (2023–2034) (\$MN)
Table 4 Global Robotics Education Market Outlook, By Software (2023–2034) (\$MN)
Table 5 Global Robotics Education Market Outlook, By Services (2023–2034) (\$MN)
Table 6 Global Robotics Education Market Outlook, By Education Level (2023–2034) (\$MN)
Table 7 Global Robotics Education Market Outlook, By Primary Education (2023–2034) (\$MN)
Table 8 Global Robotics Education Market Outlook, By Secondary Education (2023–2034) (\$MN)
Table 9 Global Robotics Education Market Outlook, By Higher Education (2023–2034) (\$MN)
Table 10 Global Robotics Education Market Outlook, By Vocational Education (2023–2034) (\$MN)
Table 11 Global Robotics Education Market Outlook, By Learning Mode (2023–2034) (\$MN)
Table 12 Global Robotics Education Market Outlook, By Classroom Learning (2023–2034) (\$MN)
Table 13 Global Robotics Education Market Outlook, By Online Learning (2023–2034) (\$MN)
Table 14 Global Robotics Education Market Outlook, By Blended Learning (2023–2034) (\$MN)
Table 15 Global Robotics Education Market Outlook, By Robot Type (2023–2034) (\$MN)
Table 16 Global Robotics Education Market Outlook, By Educational Robots (2023–2034) (\$MN)
Table 17 Global Robotics Education Market Outlook, By Humanoid Robots (2023–2034) (\$MN)
Table 18 Global Robotics Education Market Outlook, By Programmable Robots (2023–2034) (\$MN)
Table 19 Global Robotics Education Market Outlook, By Robotic Kits (2023–2034) (\$MN)
Table 20 Global Robotics Education Market Outlook, By End User (2023–2034) (\$MN)
Table 21 Global Robotics Education Market Outlook, By Schools (2023–2034) (\$MN)

Table 22 Global Robotics Education Market Outlook, By Colleges and Universities
(2023–2034) (\$MN)

Table 23 Global Robotics Education Market Outlook, By Training Institutes (2023–2034)
(\$MN)

Table 24 Global Robotics Education Market Outlook, By Research Institutions
(2023–2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World
(RoW) Regions are also represented in the same manner as above.

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