

Automotive Brake-by-Wire Market Forecasts to 2034 – Global Analysis By Brake Type (Electro-Hydraulic Brake (EHB) and Electro-Mechanical Brake (EMB)), Component, Propulsion Type, Level of Automation, Application, Sales Channel and By Geography

<https://marketpublishers.com/r/AD96E1CB6B68EN.html>

Date: July 2026

Pages: 0

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

ID: AD96E1CB6B68EN

Abstracts

According to Statistics MRC, the Global Automotive Brake-by-Wire Market is accounted for \$9.8 billion in 2026 and is expected to reach \$28.6 billion by 2034, growing at a CAGR of 14.3% during the forecast period. Automotive Brake-by-Wire is an advanced braking technology that replaces traditional mechanical and hydraulic linkages with electronic controls. It utilizes sensors, electronic actuators, and control units to transmit brake commands from the driver to the braking mechanism without a physical connection. This system enables faster response times, adaptive braking behavior, precise brake force distribution, and seamless integration with advanced driver-assistance systems (ADAS).

Market Dynamics:

Driver:

Advancements in vehicle electrification and safety

The significant expansion of electrification in the automotive sector serves as the primary market catalyst. Modern vehicles incorporate numerous electronic components to boost functional efficiency and minimize weight. Automotive electronics have gained significant importance in modern vehicles, necessitating the adoption of sophisticated systems like automotive brake-by-wire systems. Furthermore, the push toward electric and hybrid vehicles, which require efficient electronic braking solutions, continues to

drive market growth. Additionally, regulations mandating the inclusion of advanced braking technologies in new vehicles to reduce accidents further drive market expansion.

Restraint:

High development and maintenance costs

The automotive brake-by-wire market is experiencing a shift from mechanical to electromechanical or all-electronic systems. This transition involves the use of electronic components and subsystems, leading to increased development costs. Maintenance and repair expenses are also higher due to the complexity of these systems. Software development, testing, and updates are significant costs, especially for keeping up with evolving vehicle architectures and technologies. Component integration adds to the overall development expenses, making brake-by-wire systems a substantial investment for automakers. The high cost of development and maintenance of electronic braking systems poses a challenge to widespread adoption, particularly among smaller operators and for budget vehicle models.

Opportunity:

Growth of autonomous vehicles and software-defined vehicles

As autonomous vehicle development progresses, brake-by-wire systems are critical for precise, responsive control, enabling safer and more efficient driving experiences. These systems are essential for advanced driver-assistance systems (ADAS) and are integral to the architecture of software-defined vehicles. The increasing demand for advanced vehicle technology, electric automobiles, self-driving technology, and vehicle control is expected to drive significant growth. Manufacturers are now able to design brake-by-wire solutions from the ground up for these next-generation platforms, leading to more seamless integration and optimized performance, especially as the industry moves towards higher levels of autonomous driving functions.

Threat:

Cybersecurity vulnerabilities and system reliability concerns

The reliance on wireless data transmission, networked connectivity, and complex software exposes brake-by-wire systems to potential cyberattacks. Compromised

braking data or malicious interference with monitoring systems could lead to incorrect maintenance decisions or undetected system faults, posing significant safety risks. Protecting the integrity and confidentiality of brake-by-wire system data is a growing challenge that requires constant vigilance and investment. Furthermore, concerns over system reliability and redundancy in the event of electrical or software malfunctions can deter adoption. Ensuring fail-operational capability and robust backup systems is critical to maintain braking performance and driver confidence, making cybersecurity and reliability paramount threats to market growth.

Covid-19 Impact:

The COVID-19 pandemic initially disrupted the Automotive Brake-by-Wire market due to a sharp decline in vehicle production and sales, leading to deferred orders and reduced spending by cash-strapped automakers. However, the crisis also highlighted the need for operational efficiency and advanced safety features. As the industry recovered, there was a renewed focus on vehicle electrification, automation, and safety, which are key drivers for brake-by-wire technology. The pandemic effectively underscored the value of these systems in enabling advanced driver-assistance and positioning the market for rapid growth as the industry prioritizes resilience, safety, and cost-effectiveness.

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 need for physical sensing and data acquisition infrastructure. This segment includes critical components such as actuators, sensors, electronic control units (ECUs), and electric motors that are directly installed on the vehicle. The ongoing trend of integrating brake-by-wire into new vehicle production requires a substantial volume of these hardware components, especially as Electro-Hydraulic Brake systems continue to maintain a strong presence in the market.

The Electro-Mechanical Brake (EMB) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the Electro-Mechanical Brake (EMB) segment is predicted to witness the highest growth rate. EMB systems completely eliminate hydraulic circuits, offering advantages in reduced weight, simplified structure, lower maintenance costs, and easier integration with electric and autonomous vehicle platforms. The release of new regulatory standards is providing policy endorsement for mass production of EMB, with industry expectations for commercial application to be realized in the coming years.

This is driving intense competition and innovation among suppliers to achieve first-mover advantage in EMB mass production.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, due to the presence of major vehicle manufacturers and high-volume sales of hybrid and electric vehicles from leading automakers. The region's rapid expansion of vehicle production and sales, particularly in developing economies, fuels the demand for advanced braking systems. Additionally, significant investments in automotive technology and government initiatives supporting electrification and safety innovations contribute to the high adoption rate in this region.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is also anticipated to exhibit the highest CAGR, further solidifying its market dominance. The growth is fueled by the expansion of vehicle fleets and the establishment of new automotive assembly lines in countries like China and India. As the region's vehicle fleet size increases, so does the demand for efficient and technologically advanced braking solutions to meet stringent safety regulations and consumer expectations. Governments in various Asia Pacific countries are heavily investing in modernizing their automotive capabilities and promoting indigenous manufacturing.

Key players in the market

Some of the key players in Automotive Brake-by-Wire Market include Robert Bosch GmbH, Continental AG, ZF Friedrichshafen AG, Hitachi Astemo Ltd., ADVICS Co., Ltd., Brembo N.V., DENSO Corporation, Hyundai Mobis Co., Ltd., Mando Corporation, Knorr-Bremse AG, Aptiv PLC, AISIN Corporation, Akebono Brake Industry Co., Ltd., Forvia Hella, and Valeo SA.

Key Developments:

In April 2025, Nexteer Automotive launched its Electro-Mechanical Brake (EMB) system, an advanced Brake-by-Wire solution that enhances safety, comfort, and energy efficiency, supports software-defined chassis integration, and eliminates hydraulic components for improved design flexibility and reduced environmental impact.

In March 2025, ZF and Brembo announced the launch of advanced brake-by-wire systems to replace hydraulic brakes with electronic components, promising improved safety, faster response, and reduced maintenance. Brembo's Sensify system debuted in 2025, while ZF's EMB system is set to equip millions of vehicles in the coming years.

In January 2025, ZF secured a major contract to supply its Electro-Mechanical Brake (EMB) brake-by-wire technology for millions of light vehicles. The hybrid system combines electric rear brakes and hydraulic front calipers, enhancing flexibility, safety, and enabling software-defined vehicle functions.

Brake Types Covered:

Electro-Hydraulic Brake (EHB)

Electro-Mechanical Brake (EMB)

Components Covered:

Electronic Control Unit (ECU)

Brake Actuator

Brake Pedal Simulator

Sensors

Electric Motor

Software & Control Algorithms

Wiring Harness & Connectors

Propulsion Types Covered:

Internal Combustion Engine (ICE) Vehicles

Hybrid Electric Vehicles (HEVs)

Plug-in Hybrid Electric Vehicles (PHEVs)

Battery Electric Vehicles (BEVs)

Fuel Cell Electric Vehicles (FCEVs)

Levels of Automation Covered:

Conventional Driver Assistance

Level 1 (Driver Assistance)

Level 2 (Partial Automation)

Level 3 (Conditional Automation)

Level 4 (High Automation)

Level 5 (Full Automation)

Applications Covered:

Passenger Mobility

Commercial Transportation

Autonomous Vehicles

Performance & Sports Vehicles

Off-Highway Vehicles

Sales Channels Covered:

OEM

Aftermarket

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 AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY BRAKE TYPE

- 5.1 Electro-Hydraulic Brake (EHB)
- 5.2 Electro-Mechanical Brake (EMB)

6 GLOBAL AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY COMPONENT

- 6.1 Electronic Control Unit (ECU)
- 6.2 Brake Actuator
- 6.3 Brake Pedal Simulator
- 6.4 Sensors
- 6.5 Electric Motor
- 6.6 Software & Control Algorithms
- 6.7 Wiring Harness & Connectors

7 GLOBAL AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY PROPULSION TYPE

- 7.1 Internal Combustion Engine (ICE) Vehicles
- 7.2 Hybrid Electric Vehicles (HEVs)
- 7.3 Plug-in Hybrid Electric Vehicles (PHEVs)
- 7.4 Battery Electric Vehicles (BEVs)
- 7.5 Fuel Cell Electric Vehicles (FCEVs)

8 GLOBAL AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY LEVEL OF AUTOMATION

- 8.1 Conventional Driver Assistance
- 8.2 Level 1 (Driver Assistance)
- 8.3 Level 2 (Partial Automation)
- 8.4 Level 3 (Conditional Automation)
- 8.5 Level 4 (High Automation)
- 8.6 Level 5 (Full Automation)

9 GLOBAL AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY APPLICATION

- 9.1 Passenger Mobility
- 9.2 Commercial Transportation
- 9.3 Autonomous Vehicles
- 9.4 Performance & Sports Vehicles
- 9.5 Off-Highway Vehicles

10 GLOBAL AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY SALES CHANNEL

- 10.1 OEM
- 10.2 Aftermarket

11 GLOBAL AUTOMOTIVE BRAKE-BY-WIRE MARKET, BY GEOGRAPHY

- 11.1 North America
 - 11.1.1 United States
 - 11.1.2 Canada
 - 11.1.3 Mexico
- 11.2 Europe
 - 11.2.1 United Kingdom
 - 11.2.2 Germany
 - 11.2.3 France
 - 11.2.4 Italy
 - 11.2.5 Spain
 - 11.2.6 Netherlands
 - 11.2.7 Belgium
 - 11.2.8 Sweden
 - 11.2.9 Switzerland
 - 11.2.10 Poland
 - 11.2.11 Rest of Europe
- 11.3 Asia Pacific
 - 11.3.1 China
 - 11.3.2 Japan
 - 11.3.3 India
 - 11.3.4 South Korea
 - 11.3.5 Australia
 - 11.3.6 Indonesia
 - 11.3.7 Thailand
 - 11.3.8 Malaysia
 - 11.3.9 Singapore

- 11.3.10 Vietnam
- 11.3.11 Rest of Asia Pacific
- 11.4 South America
 - 11.4.1 Brazil
 - 11.4.2 Argentina
 - 11.4.3 Colombia
 - 11.4.4 Chile
 - 11.4.5 Peru
 - 11.4.6 Rest of South America
- 11.5 Rest of the World (RoW)
 - 11.5.1 Middle East
 - 11.5.1.1 Saudi Arabia
 - 11.5.1.2 United Arab Emirates
 - 11.5.1.3 Qatar
 - 11.5.1.4 Israel
 - 11.5.1.5 Rest of Middle East
 - 11.5.2 Africa
 - 11.5.2.1 South Africa
 - 11.5.2.2 Egypt
 - 11.5.2.3 Morocco
 - 11.5.2.4 Rest of Africa

12 STRATEGIC MARKET INTELLIGENCE

- 12.1 Industry Value Network and Supply Chain Assessment
- 12.2 White-Space and Opportunity Mapping
- 12.3 Product Evolution and Market Life Cycle Analysis
- 12.4 Channel, Distributor, and Go-to-Market Assessment

13 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 13.1 Mergers and Acquisitions
- 13.2 Partnerships, Alliances, and Joint Ventures
- 13.3 New Product Launches and Certifications
- 13.4 Capacity Expansion and Investments
- 13.5 Other Strategic Initiatives

14 COMPANY PROFILES

- 14.1 Robert Bosch GmbH
- 14.2 Continental AG
- 14.3 ZF Friedrichshafen AG
- 14.4 Hitachi Astemo Ltd.
- 14.5 ADVICS Co., Ltd.
- 14.6 Brembo N.V.
- 14.7 DENSO Corporation
- 14.8 Hyundai Mobis Co., Ltd.
- 14.9 Mando Corporation
- 14.10 Knorr-Bremse AG
- 14.11 Aptiv PLC
- 14.12 AISIN Corporation
- 14.13 Akebono Brake Industry Co., Ltd.
- 14.14 Forvia Hella
- 14.15 Valeo SA

List Of Tables

LIST OF TABLES

Table 1 Global Automotive Brake-by-Wire Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Automotive Brake-by-Wire Market Outlook, By Brake Type (2023-2034) (\$MN)

Table 3 Global Automotive Brake-by-Wire Market Outlook, By Electro-Hydraulic Brake (EHB) (2023-2034) (\$MN)

Table 4 Global Automotive Brake-by-Wire Market Outlook, By Electro-Mechanical Brake (EMB) (2023-2034) (\$MN)

Table 5 Global Automotive Brake-by-Wire Market Outlook, By Component (2023-2034) (\$MN)

Table 6 Global Automotive Brake-by-Wire Market Outlook, By Electronic Control Unit (ECU) (2023-2034) (\$MN)

Table 7 Global Automotive Brake-by-Wire Market Outlook, By Brake Actuator (2023-2034) (\$MN)

Table 8 Global Automotive Brake-by-Wire Market Outlook, By Brake Pedal Simulator (2023-2034) (\$MN)

Table 9 Global Automotive Brake-by-Wire Market Outlook, By Sensors (2023-2034) (\$MN)

Table 10 Global Automotive Brake-by-Wire Market Outlook, By Electric Motor (2023-2034) (\$MN)

Table 11 Global Automotive Brake-by-Wire Market Outlook, By Software & Control Algorithms (2023-2034) (\$MN)

Table 12 Global Automotive Brake-by-Wire Market Outlook, By Wiring Harness & Connectors (2023-2034) (\$MN)

Table 13 Global Automotive Brake-by-Wire Market Outlook, By Propulsion Type (2023-2034) (\$MN)

Table 14 Global Automotive Brake-by-Wire Market Outlook, By Internal Combustion Engine (ICE) Vehicles (2023-2034) (\$MN)

Table 15 Global Automotive Brake-by-Wire Market Outlook, By Hybrid Electric Vehicles (HEVs) (2023-2034) (\$MN)

Table 16 Global Automotive Brake-by-Wire Market Outlook, By Plug-in Hybrid Electric Vehicles (PHEVs) (2023-2034) (\$MN)

Table 17 Global Automotive Brake-by-Wire Market Outlook, By Battery Electric Vehicles (BEVs) (2023-2034) (\$MN)

Table 18 Global Automotive Brake-by-Wire Market Outlook, By Fuel Cell Electric

Vehicles (FCEVs) (2023-2034) (\$MN)

Table 19 Global Automotive Brake-by-Wire Market Outlook, By Level of Automation (2023-2034) (\$MN)

Table 20 Global Automotive Brake-by-Wire Market Outlook, By Conventional Driver Assistance (2023-2034) (\$MN)

Table 21 Global Automotive Brake-by-Wire Market Outlook, By Level 1 (Driver Assistance) (2023-2034) (\$MN)

Table 22 Global Automotive Brake-by-Wire Market Outlook, By Level 2 (Partial Automation) (2023-2034) (\$MN)

Table 23 Global Automotive Brake-by-Wire Market Outlook, By Level 3 (Conditional Automation) (2023-2034) (\$MN)

Table 24 Global Automotive Brake-by-Wire Market Outlook, By Level 4 (High Automation) (2023-2034) (\$MN)

Table 25 Global Automotive Brake-by-Wire Market Outlook, By Level 5 (Full Automation) (2023-2034) (\$MN)

Table 26 Global Automotive Brake-by-Wire Market Outlook, By Application (2023-2034) (\$MN)

Table 27 Global Automotive Brake-by-Wire Market Outlook, By Passenger Mobility (2023-2034) (\$MN)

Table 28 Global Automotive Brake-by-Wire Market Outlook, By Commercial Transportation (2023-2034) (\$MN)

Table 29 Global Automotive Brake-by-Wire Market Outlook, By Autonomous Vehicles (2023-2034) (\$MN)

Table 30 Global Automotive Brake-by-Wire Market Outlook, By Performance & Sports Vehicles (2023-2034) (\$MN)

Table 31 Global Automotive Brake-by-Wire Market Outlook, By Off-Highway Vehicles (2023-2034) (\$MN)

Table 32 Global Automotive Brake-by-Wire Market Outlook, By Sales Channel (2023-2034) (\$MN)

Table 33 Global Automotive Brake-by-Wire Market Outlook, By OEM (2023-2034) (\$MN)

Table 34 Global Automotive Brake-by-Wire Market Outlook, By Aftermarket (2023-2034) (\$MN)

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

I would like to order

Product name: Automotive Brake-by-Wire Market Forecasts to 2034 – Global Analysis By Brake Type (Electro-Hydraulic Brake (EHB) and Electro-Mechanical Brake (EMB)), Component, Propulsion Type, Level of Automation, Application, Sales Channel and By Geography

Product link: <https://marketpublishers.com/r/AD96E1CB6B68EN.html>

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

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/AD96E1CB6B68EN.html>