

Automotive Ultrasonic Technologies Market - Forecast from 2026 to 2031

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Abstracts

Automotive Ultrasonic Technologies Market is projected to increase at a 6.06% CAGR, growing from USD 2.162 billion in 2025 to USD 3.078 billion in 2031.

The global automotive ultrasonic technologies market is experiencing substantial growth, primarily driven by rising demand for vehicle safety features, particularly advanced driver assistance systems (ADAS). This expansion can be attributed to increased consumer awareness regarding road safety needs, especially in developing nations experiencing higher rates of traffic accidents. The market is further propelled by numerous technical breakthroughs in automotive ultrasonic technology, including the introduction of high-frequency ultrasonic sensors, artificial intelligence (AI), and Internet of Things (IoT) integration. Additionally, the burgeoning trend of vehicle electrification and the expanding popularity of electric vehicles (EVs), driven by global efforts to reduce vehicular emissions, is leading to increased product adoption.

Technology Overview and Applications

Automotive ultrasonic technologies employ ultrasonic waves with frequencies exceeding 20 kHz to detect or measure objects within a vehicle's vicinity. These sensors utilize sound waves to determine the distance between the sensor and surrounding objects, and can be positioned on various vehicle components, such as front or rear bumpers, to facilitate parking and navigation. Automotive ultrasonic technologies find frequent application in parking assist systems to detect object proximity and provide visual or auditory guidance, collision avoidance systems that adjust vehicle speed to prevent accidents, and blind spot monitoring systems that detect vehicles or objects in the driver's blind spot.

Compared to conventional sensors such as cameras or radar, automotive ultrasonic technology can identify soft or irregularly shaped objects with greater effectiveness. These sensors offer multiple advantages, including precise and dependable readings even in severe weather conditions, while remaining cost-effective and requiring minimal maintenance. Market drivers include growing disposable income levels, increased acceptance of luxury autonomous vehicles, favorable government legislation mandating safety system installation in vehicles, and intensive research and development efforts. The rising need for effective parking assistance and obstacle detection systems delivering precise range measurements in vehicles is fueling market expansion.

Market Growth Drivers

The growing demand for Level 3 (L3) and Level 4 (L4) autonomous vehicles is predicted to fuel significant growth in ultrasonic sensor sales. These higher degrees of vehicle automation rely heavily on advanced sensors, particularly ultrasonic sensors, to improve safety and enable numerous autonomous activities. As L3 and L4 vehicles become more prevalent, the demand for sophisticated sensor technologies such as ultrasonic sensors will increase substantially, boosting sales throughout this industry segment.

Integration with advanced driver assistance systems (ADAS) is driving considerable market expansion. The market share of automotive ultrasonic technology is predicted to grow as vehicles become more integrated with ADAS features including lane-keeping assistance, adaptive cruise control, and traffic jam assistance. This integration enhances vehicle safety and establishes the foundation for increased automation. Ultrasonic sensors constitute an important component of many ADAS functions, with numerous manufacturers investing in automotive ultrasonic technology to develop more modern products that provide consumers with enhanced safety and dependability.

The growing interest in Internet of Things (IoT)-based technology is significantly aiding market growth. The IoT represents a network of interconnected computing devices that enables data transfer for specified purposes without human or computer assistance. Modern automotive manufacturers are widely adopting these technologies as they enhance vehicle performance and improve user experiences. Furthermore, implementing smart parking systems with ultrasonic technology aids in better parking execution, saves driver time, and provides exact information regarding the vehicle's rear positioning.

Product Innovations

Murata Manufacturing Co., Ltd. offers the MA48CF15-7N, an ultrasonic sensor designed for automotive applications featuring excellent sensitivity and quick response time, housed in a hermetically sealed enclosure to prevent liquid infiltration. As vehicle designs incorporate increased degrees of autonomy, more precise short and medium-range object detection devices become essential. The sensor identifies object presence and distance by emitting ultrasonic waves and detecting their reflections.

Continental AG's CUS320 sensor is designed for low-speed maneuvering situations, enabling various use cases ranging from driver warning to automated parking. The sensor evaluates the time of flight to an object using the Echo-Localization principle and converts this time to a calculated distance. Continental-designed software for ultrasonic signal processing interprets these measurements and determines appropriate actions.

Market Segmentation and Regional Analysis

The ICE (internal combustion engine) segment is poised to hold a major market share and develop at the quickest rate over the forecast period. Government policies and regulations focusing on passenger and vehicle safety are expected to support market growth. The expansion and modernization of vehicle fleets are pushing sensor technology usage in automobiles, contributing to market development. The passenger car sector in ICE vehicles is likely to dominate the market during the projected period, with increased demand for sophisticated safety and driver assistance features fueling rapid expansion of ultrasonic sensors.

The European region is likely to capture a major market share and is poised to expand at a significant rate over the forecast period. European automakers have been aggressively incorporating ultrasonic sensors to meet safety standards and market demand for sophisticated driver assistance systems. The adoption of electric and hybrid vehicles has increased demand for ultrasonic sensors to improve safety features and overall vehicle economy. European safety rules and standards are stringent, compelling automakers to implement increasingly modern safety measures with ultrasonic sensors as essential components. European consumers are demonstrating increased interest in vehicles equipped with ADAS capabilities, driving manufacturers to incorporate these features as standard or optional offerings, thereby intensifying competition and driving demand for automotive ultrasonic technology throughout the region.

Recent Market Developments

In June 2023, Murata announced the release of the MA48CF15-7N ultrasonic sensor device for automotive applications, featuring excellent sensitivity, quick response time, and hermetically sealed housing. The sensor offers a wide detection range from 15cm to 550cm with excellent obstacle detection accuracy.

In March 2023, Pepperl+Fuchs expanded ultrasonic sensor technology for mobile machine applications with CAN integration, enabling machine makers to include E1-approved ultrasonic sensors with built-in interfaces into their mobile machines.

Key Benefits of this Report:

Insightful Analysis: Gain detailed market insights covering major as well as emerging geographical regions, focusing on customer segments, government policies and socio-economic factors, consumer preferences, industry verticals, and other sub-segments.

Competitive Landscape: Understand the strategic maneuvers employed by key players globally to understand possible market penetration with the correct strategy.

Market Drivers & Future Trends: Explore the dynamic factors and pivotal market trends and how they will shape future market developments.

Actionable Recommendations: Utilize the insights to exercise strategic decisions to uncover new business streams and revenues in a dynamic environment.

Caters to a Wide Audience: Beneficial and cost-effective for startups, research institutions, consultants, SMEs, and large enterprises.

What do businesses use our reports for?

Industry and Market Insights, Opportunity Assessment, Product Demand Forecasting, Market Entry Strategy, Geographical Expansion, Capital Investment Decisions, Regulatory Framework & Implications, New Product Development, Competitive Intelligence

Report Coverage:

Historical data from 2022 to 2024 & forecast data from 2025 to 2031

Growth Opportunities, Challenges, Supply Chain Outlook, Regulatory Framework, and Trend Analysis

Competitive Positioning, Strategies, and Market Share Analysis

Revenue Growth and Forecast Assessment of segments and regions including countries

Company Profiling (Strategies, Products, Financial Information, and Key Developments among others.

Automotive Ultrasonic Technologies Market Segmentation

By Type

Proximity Detection

Distance Range Measurement

By Vehicle Type

Passenger Vehicle

Commercial Vehicle

Light Duty

Heavy Duty

By Application

Parking Assistance

Blind Spot Detection

Collision Avoidance

Others

By Geography

North America

USA

Canada

Mexico

South America

Brazil

Argentina

Others

Europe

Germany

France

United Kingdom

Spain

Others

Middle East and Africa

Saudi Arabia

UAE

Others

Asia Pacific

China

India

Japan

South Korea

Indonesia

Thailand

Others

Contents

1. EXECUTIVE SUMMARY

2. MARKET SNAPSHOT

- 2.1. Market Overview
- 2.2. Market Definition
- 2.3. Scope of the Study
- 2.4. Market Segmentation

3. BUSINESS LANDSCAPE

- 3.1. Market Drivers
- 3.2. Market Restraints
- 3.3. Market Opportunities
- 3.4. Porter's Five Forces Analysis
- 3.5. Industry Value Chain Analysis
- 3.6. Policies and Regulations
- 3.7. Strategic Recommendations

4. TECHNOLOGICAL OUTLOOK

5. AUTOMOTIVE ULTRASONIC TECHNOLOGIES MARKET BY TYPE

- 5.1. Introduction
- 5.2. Proximity Detection
- 5.3. Distance Range Measurement

6. AUTOMOTIVE ULTRASONIC TECHNOLOGIES MARKET BY VEHICLE TYPE

- 6.1. Introduction
- 6.2. Passenger Vehicle
- 6.3. Commercial Vehicle
 - 6.3.1. Light Duty
 - 6.3.2. Heavy Duty

7. AUTOMOTIVE ULTRASONIC TECHNOLOGIES MARKET BY APPLICATION

- 7.1. Introduction
- 7.2. Parking Assistance
- 7.3. Blind Spot Detection
- 7.4. Collision Avoidance
- 7.5. Others

8. AUTOMOTIVE ULTRASONIC TECHNOLOGIES MARKET BY GEOGRAPHY

- 8.1. Introduction
- 8.2. North America
 - 8.2.1. USA
 - 8.2.2. Canada
 - 8.2.3. Mexico
- 8.3. South America
 - 8.3.1. Brazil
 - 8.3.2. Argentina
 - 8.3.3. Others
- 8.4. Europe
 - 8.4.1. Germany
 - 8.4.2. France
 - 8.4.3. United Kingdom
 - 8.4.4. Spain
 - 8.4.5. Others
- 8.5. Middle East and Africa
 - 8.5.1. Saudi Arabia
 - 8.5.2. UAE
 - 8.5.3. Others
- 8.6. Asia Pacific
 - 8.6.1. China
 - 8.6.2. India
 - 8.6.3. Japan
 - 8.6.4. South Korea
 - 8.6.5. Indonesia
 - 8.6.6. Thailand
 - 8.6.7. Others

9. COMPETITIVE ENVIRONMENT AND ANALYSIS

- 9.1. Major Players and Strategy Analysis

- 9.2. Market Share Analysis
- 9.3. Mergers, Acquisitions, Agreements, and Collaborations
- 9.4. Competitive Dashboard

10. COMPANY PROFILES

- 10.1. Continental AG
- 10.2. Texas Instruments Incorporated
- 10.3. Murata Manufacturing Co., Ltd
- 10.4. Robert Bosch GmbH
- 10.5. Magna International Inc.
- 10.6. Elmos Semiconductor SE
- 10.7. TDK Corporation
- 10.8. Valeo
- 10.9. Aisin Corporation
- 10.10. Hyundai Mobis

11. APPENDIX

- 11.1. Currency
- 11.2. Assumptions
- 11.3. Base and Forecast Years Timeline
- 11.4. Key Benefits for the Stakeholders
- 11.5. Research Methodology
- 11.6. Abbreviations

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