Automatic Emergency Brake System Market Assessment, By Vehicle Type [Passenger Cars, Commercial Vehicles], By Product Type [Low-Speed Automatic Emergency Braking System, High-Speed Automatic Emergency Braking System, Pedestrian Automatic Emergency Braking System], By Brake [Disc, Drum], By Sensor Type [Radar, LiDAR, Camera], By Region, Opportunities and Forecast, 2017-2031F

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Report description:

Global automatic emergency brake systems market is projected to witness a CAGR of 12.19% during the forecast period 2024-2031, growing from USD 46.61 billion in 2023 to USD 116.98 billion in 2031. Growing awareness concerning road safety, increased road accidents, strict regulations concerning vehicle and road safety, and a rise in vehicle production are driving the global automatic emergency brake system market growth in the forecast period. Manufacturers of automatic emergency brake systems are designed to mitigate and prevent serious crashes and alert drivers to brake or respond with a warning signal if the driver does not react quickly enough. In addition, automatic emergency brake systems automatically apply the brake to avoid a collision or reduce its seriousness.

This market is projected to rise at a rapid rate due to the growing requirement for advanced vehicles with effective safety features and the increasing trend of personalization. Automatic emergency brake systems have proved to be an important safety feature because they continuously monitor the vehicle's surroundings, including pedestrians, traffic, and roads. Presently, consumers prefer vehicles with high-end safety features, including autonomous emergency braking systems to prevent possible collisions, which is propelling the global automatic emergency braking systems market share. Moreover, manufacturers in the automatic emergency brake system market are investing significantly in the development of this system to address the rising demand for road safety. Also, research and development efforts by automakers are focused on introducing new vehicles by integrating efficient and compatible emergency braking systems.

For instance, in February 2023, Tata Motors Limited announced a Red Dark Edition SUV featuring advanced driver-assistance

systems (ADAS) features, including forward collision warning, autonomous emergency braking, rear collision warning, and others.

Growing Sales of Autonomous Cars Drive Market Growth

In the automatic emergency brake systems market, the rising adoption of innovative technologies, including computerized driving and self-driving, is a key driving factor. Autonomous driving is a combination of different things, including V2X sales, RADAR, LiDAR, and other features that make driving less dangerous. Autonomous vehicles equipped with ADAS aim to improve road safety by automating tasks, including steering, supervision, and braking, utilizing LiDAR and others to decrease the risk of accidents. The rising adoption of autonomous vehicles is projected to enhance efficiency by automatically adjusting the fuel flow based on the automobile's speed. Consumer demand for fuel-efficient vehicles has propelled manufacturers to incorporate lightweight components, decreasing the overall weight of automobiles. Manufacturers are heavily investing in research and development activities to develop ADAS-integrated automatic emergency brake systems focused on enhancing vehicle stopping distances.

For instance, in April 2023, Tesla Inc. updated its automatic emergency braking system to function in reverse driving mode. This new functionality is projected to improve driver and passenger safety while reversing.

Innovations in Sensor Technology and the Integration of ADAS Push the Market Growth

Automatic emergency braking systems rely on sensor technologies, including cameras, LiDAR, radar, and ultrasonic sensors, to perceive the vehicle's surroundings and recognize potential collision risks. The continuous trend of advancing sensor technology makes automatic emergency brake system (AEBS) systems more accurate and reliable. Sensors with higher resolution, extended range, and improved object recognition capabilities play an important role in accurately detecting and assessing potential collision scenarios. In addition, an automatic emergency braking system is frequently integrated with other ADAS features like adaptive cruise control, pedestrian detection, and lane departure warning. This integration forms all-inclusive safety packages that collaborate to prevent accidents and enhance overall driving safety. In addition, automakers are introducing automotives with improved safety features to accomplish full autonomy.

For instance, in February 2024, Renault Group announced the introduction of the Dacia Duster SUV in France, which offers a 4x4 terrain control transmission with five driving modes and an automatic emergency braking system.

Government Compliance and Mandates Drive the Demand for Automatic Emergency Brake System

Government regulatory bodies in different regions are mandating the significant adoption of ADAS systems in vehicles. These regulations are propelled by the potential to save lives and decrease the social and economic costs of accidents. By implementing such regulations, authorities are pushing automakers to integrate automatic emergency brake system solutions into their vehicles, thereby driving its significant integration. Also, the global trend towards strict safety regulations and standards propels the adoption of AEBS technology. Regulatory bodies acknowledge the potential of automatic emergency braking systems to decrease accidents and injuries, leading to mandates for their integration into automobiles. Furthermore, efforts to balance global safety standards contribute to standardization in automatic emergency brake system technology in different countries.

For instance, in January 2024, the Government of India issued a draft norm for installing an advanced driver assistance system and an advanced emergency braking system to improve driver behavior, reduce accidents, and alert the driver if any object comes in front of a vehicle.

Radar Segment Registers the Largest Market Share by Sensor Type

The Radar segment dominates the largest market share in the global automatic emergency brake system market due to rising demand for automatic emergency brake systems in passenger cars and the rapid trend of personalization. Radar sensors can measure distance, relative motion, and speed of surrounding objects, making them perfect for collision avoidance applications. These sensors emit radio waves that bounce off objects, allowing the system to introduce a detailed map of the vehicle's surroundings and reliably detect both moving and stationary objects. In addition, radar sensors excel in recognizing objects at longer distances compared to other sensor types. Manufacturers are working effectively to enhance the compatibility of radar to improve vehicle and driver safety.

For instance, Robert Bosch GmbH designed the radar sensors to detect relevant objects in complex and heavy traffic and warns the driver coupled with triggering automatic emergency braking as late as possible. These sensors allow the detection of crossing vehicles and help to avoid or mitigate unavoidable collisions.

North America Registers the Largest Market Share in the Global Market

North America registers the largest market share in the global automatic emergency brake system market due to strict rules and regulations concerning road safety, an increase in awareness among consumers related to safety features, and a rapid trend of personalization. North American countries favor the use of automatic emergency brake systems as they improve safety and security for drivers and vehicles, thereby propelling market growth. In addition, some countries are mandating the incorporation of these tools, further aiding their adoption.
For instance, in May 2023, the U.S. Department of Transportation's National Highway Traffic Safety Administration announced a Notice of Proposed Rulemaking that demands pedestrian AEB systems and automatic emergency braking on passenger cars and light trucks.
Future Market Scenario (2024-2031F)
- The rapid trend of electric vehicles and automated vehicles is propelling the demand for automatic emergency brake systems.
- Strict government regulations concerning road safety are influencing the growth of the global automatic emergency brake systems market share.
- Increase in production of passenger cars and growing awareness about passenger safety accelerating the global automatic emergency brake system market share.
- The rise in technological advancement in semi-autonomous and autonomous vehicles is fostering the growth of the global automatic brake systems market.

Key Players Landscape and Outlook
Companies in the global automatic emergency brake system market are investing in different research and development activities to expand their footprint and address the rising demand for automatic emergency braking solutions. Giant market players are adopting strategies of joint venture, new product development, merger and acquisition, amalgamation, partnership, and collaboration to expand their product portfolio and gain a competitive edge in the global market. In addition, companies are making constant innovations and advancements in braking systems to gain traction and become competitive in the global market.

In May 2022, ZF Friedrichshafen AG announced the launch of the Collision Mitigation System, which offers active braking to help avoid frontal collisions with other vehicle owners and helps counter the adverse effects of braking momentum on passengers.
In November 2023, Volvo CE announced the introduction of a Collision Mitigation System for the Volvo Wheel Loader, which has an automatic braking feature to offer job site safety.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.
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