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Global 2D Pupil Expansion Optical Waveguide Modules Market Growth 2025-2031

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Abstracts

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The global Automotive Active Grille Shutters market size is predicted to grow from US$ 1755 million in 2025 to US$ 2722 million in 2031; it is expected to grow at a CAGR of 7.6% from 2025 to 2031.

Automotive active grille shutters are a system of automatically controlled louvers or vanes positioned in front of a vehicle's radiator. These shutters open and close to regulate airflow to the engine compartment. When cooling is needed, the shutters open to allow air to flow through the radiator. When cooling is not required, such as during warm-up or highway cruising, the shutters close to improve aerodynamics, reducing drag and improving fuel efficiency.

The trend in active grille shutter technology is focused on improving performance, expanding functionality, and reducing complexity. Key trends include: enhanced control algorithms that consider a wider range of parameters, such as engine temperature, vehicle speed, ambient temperature, and even driving style, for more precise airflow management; improved actuator designs for faster opening and closing times, as well as increased durability and reliability in harsh environments; integration with other vehicle systems, such as the climate control system and engine management system, for optimized overall vehicle performance; the use of lighter-weight materials, such as plastics and composites, to reduce weight and improve fuel efficiency; and the development of more compact designs to allow for greater styling flexibility. Furthermore, there's a growing emphasis on predictive control strategies that anticipate cooling needs based on navigation data or traffic conditions, enabling proactive shutter adjustments. The trend is also towards more sophisticated diagnostic capabilities,

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allowing for early detection of potential issues. This aligns with the automotive industry's focus on improving fuel economy, reducing emissions, and enhancing vehicle performance and aerodynamics.

The Automotive Active Grille Shutters (AGS) market is part of the larger trend toward increasing vehicle fuel efficiency, aerodynamics, and reducing emissions. Active grille shutters are a key component in improving the overall performance and efficiency of modern vehicles by optimizing airflow to the engine and cooling systems. These shutters adjust automatically depending on driving conditions, contributing to better fuel economy and reduced environmental impact. As the automotive industry focuses on innovation, fuel efficiency, and emission standards, the active grille shutters market is witnessing significant growth.

Fuel efficiency and CO2 emission reduction are among the top priorities for automakers due to stringent government regulations, especially in regions like the European Union, North America, and China.

Active grille shutters improve aerodynamics by controlling airflow to the engine and cooling systems, reducing drag and fuel consumption, particularly at high speeds. By optimizing airflow, they enhance vehicle performance and contribute to meeting emission reduction standards.

Regulatory frameworks such as Euro 6, CAFE (Corporate Average Fuel Economy) standards, and fuel economy regulations in various countries continue to encourage the adoption of AGS to improve vehicle efficiency.

LP Information, Inc. (LPI) ' newest research report, the “Automotive Active Grille Shutters Industry Forecast” looks at past sales and reviews total world Automotive Active Grille Shutters sales in 2024, providing a comprehensive analysis by region and market sector of projected Automotive Active Grille Shutters sales for 2025 through 2031. With Automotive Active Grille Shutters sales broken down by region, market sector and sub-sector, this report provides a detailed analysis in US$ millions of the world Automotive Active Grille Shutters industry.

This Insight Report provides a comprehensive analysis of the global Automotive Active Grille Shutters landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on Automotive Active Grille Shutters portfolios and capabilities, market entry strategies,

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market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global Automotive Active Grille Shutters market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for Automotive Active Grille Shutters and breaks down the forecast by Type, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global Automotive Active Grille Shutters.

This report presents a comprehensive overview, market shares, and growth opportunities of Automotive Active Grille Shutters market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Visible Type

Non-Visible Type

Segmentation by Application:

Commercial Vehicle

Passenger Vehicle

This report also splits the market by region:

Americas

United States

Canada

Mexico

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- Brazil

APAC

- China
- Japan
- Korea
- Southeast Asia
- India
- Australia

Europe

- Germany
- France
- UK
- Italy
- Russia

Middle East & Africa

- Egypt
- South Africa
- Israel
- Turkey
- GCC Countries

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The below companies that are profiled have been selected based on inputs gathered from primary experts and analysing the company's coverage, product portfolio, its market penetration.

Rochling

Valeo

Magna International

Wirthwein

SRG Global

Batz

HBPO GmbH

Techniplas

Brose Fahrzeugteile

STARLITE

Mirror Controls International

Huatong Automotive Molding

Tong Yang Group

Sonceboz

Key Questions Addressed in this Report

What is the 10-year outlook for the global Automotive Active Grille Shutters market?

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What factors are driving Automotive Active Grille Shutters market growth, globally and by region?

Which technologies are poised for the fastest growth by market and region?

How do Automotive Active Grille Shutters market opportunities vary by end market size?

How does Automotive Active Grille Shutters break out by Type, by Application?

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