

Heavy-Duty Vehicles Plastic Component Market - Global Industry Size, Share, Trends Opportunity, and Forecast, Segmented By Component Type (Engine Covers, Transmission Covers, Intake Air Modules, Oil Pan Modules, Cam Cover Modules, Cluster Panels/Dashboard, Bumpers, Seating, Wheels and Tires, Doors, Interior & Exterior Trims, Others), By Material Type (Polyvinyl Chloride, Polyurethane, Polypropylene, Polyethylene, Polyamide, Acrylonitrile Butadiene Styrene, Polycarbonate, Others), By Vehicle Type (Tractors, Loaders, Scrapers, Excavators, Trucks, Combine Harvester, Buses), By Region & Competition, 2021-2031F

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Abstracts

The Global Heavy-Duty Vehicles Plastic Component Market is projected to expand from USD 13.16 Billion in 2025 to USD 19.99 Billion by 2031, reflecting a CAGR of 7.22%. These components consist of engineered polymer parts designed to replace traditional metal assemblies in the powertrain, interior, and exterior bodywork of large commercial vehicles like trucks and buses. Growth in this sector is largely propelled by the need to reduce weight, thereby improving fuel efficiency and complying with increasingly strict global emission regulations. By adopting these lightweight materials, manufacturers aim to reduce operational costs for fleet owners without compromising structural durability. This demand is further highlighted by robust production figures; for instance, the European Automobile Manufacturers' Association reported 327,896 new truck

registrations in the EU in 2024.

Nevertheless, the market faces a substantial obstacle regarding the volatility of raw material costs, particularly for petrochemical-based resins. Since resin prices are tied to fluctuating oil markets, component manufacturers face instability that complicates long-term supply contracts. This price unpredictability often squeezes profit margins within the intensely competitive automotive supply chain, posing a hindrance to broader market expansion.

Market Driver

Strict government mandates regarding fuel economy and emissions are compelling the industry to integrate lightweight materials to ensure compliance. To reduce gross vehicle weight, fuel consumption, and carbon output, manufacturers are increasingly replacing heavy metal components with high-performance plastics. This shift is reinforced by legislative pressure, such as the regulation highlighted in a May 2024 press release by the Council of the European Union, which mandates a 90% reduction in CO2 emissions for new heavy-duty vehicles by 2040 compared to 2019 levels. Consequently, engineers are incorporating polymer composites throughout vehicle architectures to meet environmental targets while preserving payload capacity.

The rise of the electric heavy-duty vehicle market is also accelerating the demand for plastic components as a means to mitigate range anxiety through weight optimization. Because electric powertrains rely on heavy battery packs, significant weight reductions in areas like thermal management systems, interior trim, and body panels are necessary to maximize range. As noted in the 'Global EV Outlook 2024' by the International Energy Agency in April 2024, global electric truck sales reached approximately 54,000 units in 2023, spurring innovation in heat-resistant plastics for battery casings. Furthermore, the China Association of Automobile Manufacturers reported that commercial vehicle production in China hit 4.04 million units for the prior year in 2024, emphasizing the vast scale of vehicles requiring these advanced material solutions.

Market Challenge

A major impediment to the growth of the Global Heavy-Duty Vehicles Plastic Component Market is the cost volatility associated with raw materials, particularly petrochemical-based resins. Because these components rely heavily on crude oil, erratic shifts in global oil prices lead to immediate and unstable resin costs. This

unpredictability creates a risky financial landscape for manufacturers, who struggle to sustain profitable margins while adhering to fixed-price contracts with original equipment manufacturers (OEMs). As a result, suppliers frequently hesitate to commit to capacity expansions or long-term agreements, effectively slowing the transition from metal to plastic assemblies.

This instability extends to the broader supply chain, causing delays in component orders and vehicle deployment. The market's difficulty in maintaining momentum under these economic pressures is evident in recent industry data. For example, the Society of Motor Manufacturers and Traders reported a 14.5% year-on-year decline in new heavy goods vehicle registrations in the UK during the third quarter of 2025. This contraction in vehicle volume highlights how operational and financial uncertainties, fueled by fluctuating input costs, can disrupt the overall market trajectory.

Market Trends

The integration of Post-Consumer Recycled Materials is transforming the market as manufacturers adopt circular economy principles to mitigate the environmental footprint of vehicle production. This trend involves converting waste plastics into vehicle-grade resins for non-structural parts, such as interior trims and front grilles, thereby reducing reliance on virgin fossil fuel extraction. By using recovered materials, OEMs can decrease a vehicle's embodied carbon without compromising mechanical performance. For instance, Scania reported in May 2025 that replacing virgin materials with recycled PET plastic in truck grilles reduced annual CO2 emissions by 62 tonnes, a strategy that supports sustainability goals while buffering against petrochemical price volatility.

Additionally, the expansion of Additive Manufacturing for Custom Parts is reshaping logistics and maintenance within the heavy-duty vehicle sector. This shift favors a decentralized model where spare polymer components are printed on-demand at local hubs, moving away from centralized mass production and reducing physical warehousing inefficiencies. This approach is essential for supplying low-volume plastic parts like clips, covers, and handles, keeping older truck models operational without extended delays. As highlighted in a January 2025 press release by Daimler Truck, implementing this digital inventory system cut spare part delivery wait times by up to 75%, allowing fleet operators to minimize downtime while manufacturers reduce capital tied up in slow-moving stock.

Key Market Players

Adient plc

BASF SE

Toyota Boshoku Corporation

Continental AG

Lear Corporation

FORVIA Group

Magna International Inc.

OPmobility SE

IAC Group GmbH

LyondellBasell Industries N.V.

Report Scope

In this report, the Global Heavy-Duty Vehicles Plastic Component Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Heavy-Duty Vehicles Plastic Component Market, By Component Type

Engine Covers

Transmission Covers

Intake Air Modules

Oil Pan Modules

Cam Cover Modules

Cluster Panels/Dashboard

Bumpers

Seating

Wheels and Tires

Doors

Interior & Exterior Trims

Others

Heavy-Duty Vehicles Plastic Component Market, By Material Type

Polyvinyl Chloride

Polyurethane

Polypropylene

Polyethylene

Polyamide

Acrylonitrile Butadiene Styrene

Polycarbonate

Others

Heavy-Duty Vehicles Plastic Component Market, By Vehicle Type

Tractors

Loaders

Scrapers

Excavators

Trucks

Combine Harvester

Buses

Heavy-Duty Vehicles Plastic Component Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Heavy-Duty Vehicles Plastic Component Market.

Available Customizations:

Global Heavy-Duty Vehicles Plastic Component Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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