

Airless Tires Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (Radial and Bias), By Vehicle (Military Vehicles, LCV, HCV, Terrain Vehicles, Utility Vehicles and Others), By Material (Rubber and Plastic), By Tire Size (Less than 20 inches, 21-25 inches and Others), By Sales Channel (OEMs and Aftermarket), By Region & Competition, 2021-2031F

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Abstracts

The Global airless tires market is anticipated to expand from USD 64.67 billion in 2025 to USD 91.37 billion by 2031, reflecting a compound annual growth rate (CAGR) of 5.93%. Also known as non-pneumatic tires, this technology relies on innovative structural designs rather than internal air pressure to cushion the ride and support the weight of the vehicle. A primary factor fueling this market's expansion is the prevention of flat tires and the resulting downtime, which improves safety and operational efficiency across multiple sectors. Furthermore, these tires are highly attractive for use in rugged settings because they eliminate the need for routine air pressure checks and puncture repairs, drastically lowering overall maintenance demands.

Data from the U.S. Tire Manufacturers Association (USTMA) highlights the massive potential for airless technology adoption, revealing that its member companies—which make up 76% of the U.S. tire sector—shipped 336.3 million passenger, light truck, and truck tires in 2025. Despite this vast opportunity, market growth may be hindered by the steep upfront costs associated with manufacturing these products. The advanced materials and highly specialized production techniques required for non-pneumatic tires elevate their initial price point, potentially slowing down widespread commercial

acceptance.

Market Driver

The prevention of flat tires and the reduction of routine maintenance are major forces driving the global airless tires market. By removing air-filled cavities from the design, this technology solves a significant problem for fleet managers and everyday drivers who regularly deal with the expenses and delays caused by blowouts, punctures, and pressure monitoring. This improved dependability leads to greater safety for travelers and maximized uptime for commercial fleets. To illustrate the financial impact, a July 2025 report from Fleet Management Weekly noted that heavy-duty truck operating costs reached \$91.27 per hour in 2023, meaning a single hour of downtime equates to roughly \$700 per day in lost opportunity; airless tires can successfully prevent these costly interruptions.

Another key driver is the growing implementation of non-pneumatic tires in specialized fields, such as autonomous, electric, commercial, military, and off-road vehicles. Because these vehicles frequently navigate harsh terrains where a tire blowout could be disastrous, the inherent durability and toughness of airless designs are highly beneficial. For example, Michelin's UPTIS prototype underwent rigorous evaluation when 40 La Poste delivery vans were equipped with the tires in late 2024, collectively driving almost 3 million kilometers on public roads throughout North America, Asia, and Europe. This expansion into premium, niche markets is poised to speed up broader industry growth, a trend further supported by a March 2026 U.S. government request on SAM.gov for 11,096 solid rubber tires, showcasing a steady demand for non-pneumatic options in specialized uses.

Market Challenge

The high upfront cost of manufacturing remains a primary obstacle to the expansion of the global airless tires market. Because these non-pneumatic alternatives rely on intricate material blends and highly specialized fabrication processes, producing them is naturally more expensive than manufacturing standard air-filled tires. These elevated production expenses are ultimately passed on to the end-user in the form of steeper retail prices, erecting a substantial roadblock to broad commercial acceptance.

This premium pricing strategy can discourage potential customers, especially within an industry that is currently seeing fluctuating demand for traditional tire products. For instance, data from the European Tyre and Rubber Manufacturers' Association

(ETRMA) revealed a 1% drop in consumer tire sales and a 4% decrease in truck and bus tire sales during the first half of 2025. These statistics point to a difficult economic climate where both individual consumers and corporate fleets are highly mindful of initial capital investments. As a result, the steep upfront expenditure required for airless tires acts as a major drawback, hindering the technology's ability to gain significant traction among cost-conscious buyers who prioritize affordability.

Market Trends

Breakthroughs in manufacturing techniques and material sciences are fundamentally transforming the global airless tires market, paving the way for lighter, stronger, and more efficient products. Recent innovations feature the creation of high-strength materials, intricate cellular designs, and sophisticated polymer composites, as well as the incorporation of eco-friendly, recycled elements. By overcoming older challenges related to weight, pricing, and performance parity with traditional pneumatic tires, these improvements are hastening the commercial viability and rollout of airless options. Highlighting this shift toward sustainability, a July 2025 report from MOTOR noted that Pirelli released a standard production tire containing over 70% bio-based and recycled materials, showcasing an industry-wide commitment to green manufacturing that is actively influencing non-pneumatic developments.

Another major trend shaping the airless tire sector is the incorporation of real-time monitoring systems and smart sensor technologies. By integrating sensors directly into the structural framework of the non-pneumatic tire, operators can continuously track essential metrics like structural integrity, weight load, and operating temperature. This constant stream of data enables predictive upkeep, boosts overall safety, and maximizes vehicle performance, which is especially valuable for autonomous platforms and specialized fleets that cannot easily perform manual tire inspections. Illustrating the value of these smart integrations, Cerebrum Sensor Technologies and Titan International announced in February 2026 that their intelligent agricultural tire system could lower soil compaction by 35% and reduce air pressure by up to 50%, underscoring the practical advantages of connected tire technologies in demanding settings.

Key Market Players

Continental AG

Bridgestone Corporation

Michelin Group

Goodyear Tire & Rubber Co.

Hankook Tire & Technology Group

Trelleborg AB

Toyo Tire Corporation

Amerityre Corporation

Tannus Ltd

Polaris Inc.

Report Scope

In this report, the Global Airless Tires Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Airless Tires Market, By Type

Radial

Bias

Airless Tires Market, By Vehicle

Military Vehicles

LCV

HCV

Terrain Vehicles

Utility Vehicles

Others

Airless Tires Market, By Material

Rubber

Plastic

Airless Tires Market, By Tire Size

Less than 20 inches

21-25 inches

Others

Airless Tires Market, By Sales Channel

OEMs

Aftermarket

Airless Tires 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

Airless Tires Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (Radi...

Airless Tires Market.

Available Customizations:

Global Airless Tires 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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