

India Airless Tires Market Assessment, By Material [Rubber, Plastic], By Type [Radial Tires, Bias Tires], By Rim Size [Less than 15 inches, 15-20 inches, 21-25 inches, 26-30 inches, 31-35 inches, More than 35 inches], By Vehicle Type [Passenger Vehicles, Commercial Vehicles, Two Wheelers, Three Wheelers, Others], By Sales Channel [Direct, Channel], By Region, Opportunities and Forecast, FY2023-FY2031

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Abstracts

India airless tires market size was valued at USD 8.5 million in FY2023, which is expected to reach USD 10.6 million in FY2031, with a CAGR of 2.85% for the forecast period between FY2024 and FY2031. In the financial year 2023, India ranked as the 7th largest tire exporter globally, with a total export value of USD 3 billion, making up 3.3% of the overall export statistics. India's tire sector is witnessing significant industry advancements with emergence and development of airless tires, also known as non-pneumatic or air-free tires. These tires significantly depart from conventional tires dependent on air pressure for support and shock absorption. Airless tires are ingeniously engineered to operate without the requirement for inflation, heralding a new era of tire technology in India.

Airless tires can become game-changing innovation in India's tire industry, offering hassle-free maintenance and eliminating puncture and blowout risks. They provide exceptional reliability for various applications like off-road vehicles, construction machinery, agriculture machinery, light-weight passenger, and consumer cars. It boosts safety and reduces downtime due to tire-related problems, making airless tires highly appealing to Indian consumers.

During financial year 2023, as reported by the Society of Indian Automobile Manufacturers (SIAM), India witnessed sales of 3.8 million domestic passenger vehicles, along with 38,693 three-wheelers and 1.04 million two-wheelers. These figures underscore the significant tire market in the country, which has expanded in tandem with the automotive sector. India, ranked as the world's fifth-largest economy and experiencing rapid growth, is now focusing on logistic and manufacturing, offering abundant opportunities for the implementation of airless tires.

The increasing adoption of electric and autonomous vehicles and rising sustainability and carbon emissions concerns have heightened the demand for long-lasting and low-maintenance tires. Airless tires are poised to contribute significantly to carbon emissions reduction and cater to environmentally conscious consumers. Consequently, India's airless tire market leads in innovation, driven by the proliferation of electric and autonomous vehicles, sustainability considerations, and its dynamic industrial environment.

Airless Tire Market Shows Potential as New Tire Ratings Promote Better Options

The Bureau of Energy Efficiency (BEE) has initiated the Star Labeling Program for Tires in response to India's growing environmental concerns. This program aligns with Stage-I of the Automotive Industry Standards (AIS) and is designed to evaluate tires based on their rolling resistance, which is a critical factor influencing fuel efficiency. Launched as a voluntary program in December 2022, it offers consumers essential tire information, including tread patterns, brand, model, year, size, and class details. Tires with lower rolling resistance coefficients receive higher star ratings, promising increased fuel savings and reduced greenhouse gas emissions. While currently voluntary, this system is expected to become mandatory as it becomes more integral to India's automotive sector. Prominent tire manufacturers, such as Michelin, have achieved notable 5-star ratings, demonstrating their dedication to offer sustainable and technologically advanced tire solutions in the Indian market.

Indian Industrial Automotive and Premium Vehicles Offer Growth Opportunities

India's airless tire market is thriving, driven by robust industrial sectors and luxury vehicle segment. The country holds significant positions in the global automotive industry as the world's largest manufacturer of two and three-wheelers, the second largest in buses and tractors, and the third largest in heavy trucks. It ranks fourth, globally in car production. India's emergence as a manufacturing powerhouse, with a

well-established supply chain and efficient logistics fleet, facilitates the widespread adoption of airless tires, especially in applications that require durability and reliability.

Additionally, the success of airless tires in global agriculture suggests their potential applicability in India's agrarian landscape, offering substantial market opportunities. The luxury vehicle sector, characterized by consumers seeking high-performance and low-maintenance tire solutions, further fuels the growth of the airless tire market. As the demand for premium vehicles continues to rise, India's airless tire market is poised for significant expansion, leveraging these multifaceted growth prospects.

Government Rules on Sustainable Materials Create Path for Airless Tires

Government regulations substantially impact the tire industry due to the potential environmental consequences associated with tire manufacturing, usage, and disposal. These processes can release harmful and toxic substances, making regulatory oversight crucial.

The Indian government is set to implement new tire specifications, ensuring the supply of authentic and safe tires in the country while phasing out cheap imports. These regulations, effective from October 2023, cover passenger automobiles, light commercial vehicles, and heavy commercial vehicles. Starting in April 2024, all tires must meet wet grip and rolling resistance standards, with rolling noise regulations enforced from June 2024. Wet grip is particularly important in India due to frequent rainfall, though tires are not extensively evaluated for this factor. Despite the continued use of a single tire type throughout the year, these regulations signify improved tire quality in the Indian market. However, no specific regulations exist yet regarding airless tires as they are still in the research and development phase and have limited commercialization on roads. However, they may be subject to such laws as they gain traction.

Airless Tires Gain Traction with Electric and Autonomous Vehicle Trend

During financial year 2023, India's automotive sector reached a significant milestone, with annual electric vehicle (EV) sales exceeding one million units for the first time. However, for tire industry, EVs present a challenge of increased tire wear emissions due to their heavy batteries, potentially accelerating wear by up to 50%. The automotive industry in India is actively adopting smart tires, offered by leading manufacturers. These tires can communicate with drivers, detect air loss, and issue timely alerts. They are equipped with sensors to measure various parameters such as air pressure, tread

depth, temperature, friction, and corrosion. Some models feature IoT-enabled super-intelligent capabilities, gaining recognition worldwide.

For instance, through a mobile app, JK Tyres utilizes Treel sensors, providing valuable data on tire pressure, temperature, car insurance reminders, and average fuel consumption, significantly improving vehicle monitoring. Continental Tyres introduces ContiSense tires with conductive rubber, facilitating communication of tread depth and temperature with a car's receiver. With the expanding EV market, airless tires may emerge as a practical and maintenance-friendly alternative to conventional tires, potentially finding broader adoption in the industry.

Increasing Sales of Electric Scooters and Bikes are Fueling a Growing Demand for Airless Tires

In financial year 2022, India witnessed a robust sales figure of 0.62 million electric scooters and bikes, reflecting a growing trend in electric two-wheelers and compact electric bicycles. These vehicles, designed primarily for city commuting, come with limited load-bearing capacities, making them an ideal fit for airless tires. Airless tires are favored for their low maintenance requirements, a crucial feature for urban-oriented electric two-wheelers.

Additionally, these electric bikes predominantly feature smaller tire sizes, enabling faster manufacturing, including 3D printing. The quick production turnaround sets them apart from medium and light vehicle tires. As a result, the Indian electric bike market presents a promising opportunity for airless tires, aligning with the growing demand for hassle-free and sustainable mobility solutions in the country.

Impact of COVID-19

During the COVID-19 pandemic, India faced significant challenges introducing airless tires due to global supply chain disruptions, manufacturing delays, and reduced consumer spending on non-essential automotive accessories. The industry experienced lockdowns and plant shutdowns but remained resilient due to robust replacement demand and infrastructure development. Exports accounted for nearly 25% of domestic tire production in the financial year 2021. The pandemic highlighted the importance of safety and reliability in India's logistics sector. The rapid growth of e-commerce and last-mile delivery services holds significant promise for airless tires due to their durability and sustainability. As the tire industry grows and invests in R&D, it may pave the way for adopting airless tires in India.

Impact of Russia-Ukraine War

The Russia-Ukraine conflict disrupted the global tire market, causing supply chain issues and manufacturing delays in India. This affected airless tire production and distribution. Global geopolitical tensions and economic sanctions further impact India's trade relations and investor confidence. Rising crude oil prices posted significant challenges for aviation, paint, tire manufacturing, and oil marketing sectors. However, introducing tire star ratings and curbing subpar imports boosted Indian tire manufacturers, allowing them to invest more in research and development, facilitating the transition of airless tires from lab to practical road applications.

Key Players Landscape and Outlook

India airless tire market is thriving, driven by increasing demand from the electric and autonomous vehicle sectors, including electric bikes and two-wheelers. Sustainability efforts and star rating initiatives are fostering the development of efficient and eco-friendly tires. Airless tires, known for their exceptional durability and low maintenance, eliminate puncture and blowout risks, ensuring uninterrupted and secure operations.

India's growing focus on self-reliance has intensified in response to vulnerabilities in the global supply chain. As part of this strategy and to safeguard domestic industries from inexpensive Chinese imports, India has implemented a five-year anti-dumping duty of USD 613 per ton on flat base steel wheels. Strategic partnerships are emerging to adapt to changing dynamics. Marangoni S.p.A. and Ceat Limited have teamed up to provide tire retreading solutions in India, combining Ceat's tire casings with Marangoni's retreading technology. Manufacturers are introducing innovative business models. For example, Apollo Tyres launched its Avolve service model, tailored for Indian commercial fleet operators, setting the stage for developing and launching India's airless tire market.

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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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