

# **Germany 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, Three Wheelers, Two Wheelers, Others], By Sales Channel [Direct, Channel], By Region [Northern, Eastern, Southern, Central, Western], Opportunities and Forecast, 2022-2030F**

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## **Abstracts**

Germany airless tires market size was valued at USD 12.2 million in 2022, which is expected to reach USD 17.4 million in 2030, with a CAGR of 4.52% for the forecast period between 2023 and 2030. In 2022, Germany achieved the 3rd position globally in tire exports, with a total export value reaching USD 5.9 billion. The significant figure accounted for a substantial 6.4% contribution to the overall export statistics. The tire industry in Germany is undergoing a significant innovation shift with the emergence of airless tires, also known as non-pneumatic or air-free tires. These revolutionary tire designs represent a departure from traditional tires that rely on air pressure for support and shock absorption. Airless tires are ingeniously engineered to function without the need for inflation, ushering in a new era of tire technology in Germany.

Airless tires are a revolutionary innovation in the tire industry, offering a hassle-free driving experience and reducing the risk of punctures and blowouts. They are widely used in various applications, including off-road vehicles, construction machinery, military vehicles, and standard automobiles. Germany, known as Europe's industrial powerhouse, has a substantial tire market, reaching approx. USD 8 billion in 2022. The

rising adoption of electric and autonomous vehicles, sustainability concerns, and carbon emissions have boosted the appeal of durable, low-maintenance tires with extended lifespans. The surge in electric and autonomous vehicles, sustainability concerns, and the dynamic industrial landscape drives this shift in the tire market in Germany.

### Emission Regulations Boost the Market for Tires with Reduced Carbon Footprints

As environmental awareness grows and the demand for eco-friendly tire solutions rises, innovation plays a vital role in addressing tire-related environmental concerns and adopting sustainable alternatives. Airless tires, known for their reduced abrasion and lower emissions, are at the forefront of this shift. Germany, a proactive European Union (EU) member, is actively combatting its carbon footprint and championing climate action. A significant environmental issue linked to tires is the generation of tire dust, particularly brake emissions in the PM10 and PM2.5 categories, stemming from conventional tires comprising around 20% natural rubber, 24% synthetic rubber, and various additives. These tire components gradually decompose in the environment, presenting ecological challenges.

To tackle these concerns, industry leaders like Continental are taking steps to advocate for a universal abrasion standard and transparent labeling for consumer awareness. Continental's latest tire innovation, Conti CityPlus, enhances tire energy efficiency by up to 10%, reducing CO2 emissions from combustion engine vehicles and extending driving ranges for electric cars.

### German Industries Propel the Expansion

Germany's status as the European Union's industrial powerhouse and with its strategic central location, provides unrivaled access to EU member countries. This positioning has fostered a robust fleet of transport and industrial vehicles, creating an ideal environment for transitioning from conventional pneumatic tires to durable airless alternatives. Airless tire technology is particularly well-suited for heavy, low-speed vehicles, enhancing fleet efficiency by reducing maintenance and minimizing downtime.

In addition to industrial automotive applications, airless tires have proven their worth in agriculture machinery. GRI's Green XLR Earth tires underwent successful six-month field tests in Germany in June 2023. Comprising 78.6% sustainable materials and utilizing bio-sourced soybean oil and advanced HD silica, these innovative tires offer improved fuel efficiency and extended tire life. They exhibit reduced abrasion loss,

enhanced durability, lower soil compaction, and decreased rolling resistance, making them attractive to farmers and experts alike, highlighting the growing demand for airless tires in Germany.

### Government Rules on Sustainable Materials Create Path for Airless Tires

Government regulations wield influence over the tire industry in Germany, primarily due to the environmental implications tied to tire manufacturing, usage, and disposal. These processes can potentially release harmful and toxic substances into the environment, necessitating stringent regulatory oversight. As a proactive move, the European Commission has introduced the Euro 7 vehicle emissions standard. The standard aims to address the environmental concerns associated with vehicle emissions by targeting a substantial reduction of up to 27% in particulate emissions until 2035.

Notably, this reduction involves the establishment of a brake-emissions limit set at 7 milligrams per kilometer. Looking ahead, the Euro 7 standard charts a further course for emission reduction, with the brake-emissions limit scheduled to drop to more stringent 3 milligrams per kilometer after 2035. The regulatory initiative signifies a proactive approach toward environmental conservation, highlighting the importance of mitigating the adverse effects of automotive emissions, putting a critical concern in the tire industry's efforts to reduce its environmental footprint.

### Airless Tires Gain Traction with Electric and Autonomous Vehicle Trend

Germany's auto industry association VDA anticipates a 50% increase in electric passenger car production this year, exceeding one million units. The surge is attributed to rising international demand and automakers expanding their electric mobility production. However, electric vehicles introduce a less-discussed environmental concern: tire wear emissions due to their heavier batteries, which can accelerate tire wear by up to 50%. Manufacturers like Michelin and Goodyear are addressing this issue by developing tires that emit fewer particles for heavy EVs. However, creating durable tires without relying on natural rubber remains a challenge.

In pursuing sustainable solutions and advancements in airless tire technology, Michelin received accolades at the Tire Technology Expo (Hannover, Germany) in March 2023. Michelin, renowned for its dedication to sustainability, claimed two esteemed awards: Tire Manufacturer of the Year and the Environmental Achievement of the Year - Tire Design award. These honors recognize Michelin's eco-friendly tire innovations that incorporate sustainable materials.

## Airless Tires Gaining Traction in the Bicycle Industry

Germany's thriving bicycle culture makes it an ideal market for innovative tire solutions, particularly airless tires. With more than 75% of Germans owning bicycles, cycling has become an integral part of daily life for many. The country boasts an extensive network of cycling lanes, encouraging citizens to use bikes for their daily commutes to work or school.

This cultural affinity for cycling creates a significant opportunity for airless tire manufacturers to penetrate the biking community. Brands, like Apollo and Vredestein, are seizing this chance by introducing specialized tire solutions designed to meet the unique needs of German cyclists. For example, Vredestein's upcoming tire that debuted at Eurobike 2022 in Frankfurt, the Vredestein Cargo, is tailored for electrically assisted cargo bikes commonly used for urban deliveries. By offering airless tires that are durable, low-maintenance, and suitable for various cycling applications, these manufacturers aim to provide German cyclists with enhanced performance and peace of mind during their rides. The expansion in the biking market showcases the versatility and adaptability of airless tire technology across different modes of transportation.

## Impact of COVID-19

The COVID-19 pandemic significantly impacted the airless tire market in Germany. Disruptions in global supply chains and manufacturing processes and shortages in oil and petrochemical supplies delayed production. The economic slowdown reduced consumer spending on non-essential automotive accessories, affecting the market's growth. Reduced traffic volumes and fewer consumers visiting local tire retail stores further impact the airless tire sector. Despite these challenges, the European Tyre and Rubber Manufacturers' Association reported positive trends, with various segments showing growth compared to 2020. The pandemic highlighted the importance of safety and reliability in logistics, and the surge in e-commerce and last-mile delivery services boosted the demand for airless tires.

## Impact of Russia-Ukraine War

The Russia-Ukraine conflict disrupted the airless tire market, affecting Germany with supply chain issues and manufacturing delays. It caused setbacks in airless tire production and distribution in the German market. Global geopolitical tensions and economic sanctions created uncertainty, impacting investor confidence and trade in

Germany. Companies in the Germany airless tire market are cautious about further investments, recognizing the need to diversify supply chains and reduce reliance on unstable regions, potentially reshaping the market. Rising oil prices affect tire costs as they are oil-based. Major tire manufacturers like Continental AG and Michelin Group ceased operations in Russia due to Ukraine conflict, revealing the conflict's profound influence on Germany's tire industry, highlighting the intricate dynamics of global markets, and factors influencing tire prices and production decisions in Germany.

### Key Players Landscape and Outlook

The rapid growth of Germany airless tire market is primarily driven by increasing demand from the electric and autonomous vehicle sectors, including self-driving cars, delivery robots, and drones. These vehicles require durable tires with minimal maintenance needs, making airless tires the ideal choice as they eliminate the risk of punctures and blowouts, ensuring uninterrupted and secure operations.

The Zeppelin Sustainable Tire Alliance, launched in March 2023, aims to enhance the environmental sustainability of the tire industry by addressing production and recycling. The initiative brings together international companies, including Siemens AG, which contributes to technological innovation in automation and digitalization.

In June 2022, Michelin began the transformation of its Bamberg tire-manufacturing facility in Hallstadt in Bamberg District. The facility, inaugurated almost 50 years ago and ceased operations in 2019, is undergoing a comprehensive reinvention. The 8,000m<sup>2</sup> site will host specialized companies primarily focusing on artificial intelligence, digitalization, and sustainable mobility, encompassing areas such as hydrogen and electro-mobility.

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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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