



Look at the Growth of Automotive Smart Tire Market | Bis Research Analysis

The next-generation automotive industry is in the process of constant evolution, with various technological developments taking place in the industry that have enhanced features in vehicles to make the driving experience better. The dynamic evolution of the automobile industry is attributed primarily to the changing consumer preferences, growing focus on driver safety, environmental concerns, and stringent government regulations, which are focusing on mitigation of crashes to enhance driver safety. In the past years, automobiles have undergone rapid technological advancements in terms of vehicle performance, passenger safety, communication capabilities, and driving comfort. These improvements have led to a surge in the number of on-road vehicles, thus raising the need for the safer movement of vehicles. These goals of automakers are profoundly supported by several federal authorities such as the National Highway Traffic Safety Administration (NHTSA), the European Commission (EC), and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

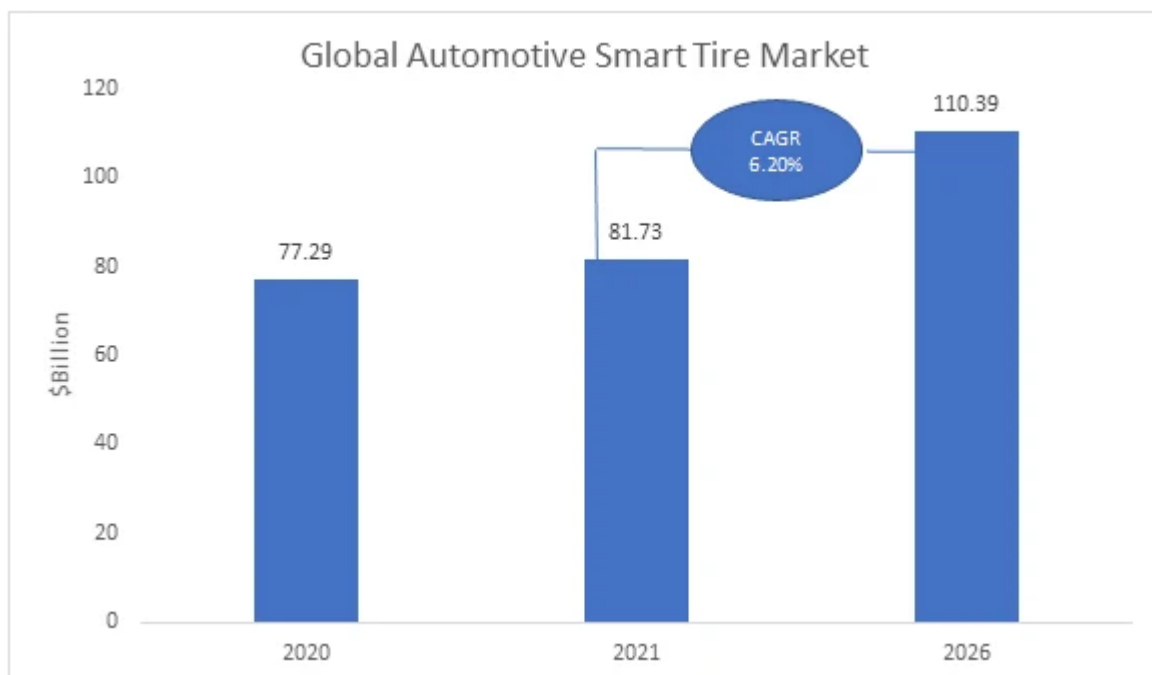
The rise of connected vehicles and autonomous driving has accelerated the evolution of technology present in all manner of auto parts. The tires have become the latest focus for automotive OEMs, as they have to advance themselves in comparison to the new gadgetry that is now available on both autonomous and conventional vehicles. An inevitable evolution is smart tires that have sensors embedded in the inner liner of the tire, which provide users with more abundant data than what today's tire pressure monitoring system (TPMS) can offer. These sensors can signal when to change a tire and report details about rough and dangerous tire conditions.

There are several use cases of smart tire technology with great future development potential. One such potential is vehicle platooning, where vehicles are equipped with state-of-the-art driving support systems. With one closely following the other, vehicles form a platoon, which is kept together by smart technology, and relies on sensory data input and vehicle-to-vehicle communication. With advanced processing of vehicle data, tire manufacturers are able to evaluate in real-time the braking potential of the vehicles and optimize the convoy composition to maximize fuel economy while driving safely.

The [global automotive smart tire market](#) is expected to reach \$110.39 billion by 2026, with a CAGR of 6.20% from 2021 to 2026. The rapid advancements in the development and

commercialization of connected and autonomous vehicles have led to the evolution of technology to develop several automotive components. As the trend to develop these next-generation vehicles is being realized in the industry, the reliance on traditional tires is expected to be replaced by the adoption of smart sensor-enabled tires.

Over the last 100 years, tires have evolved drastically and have made advances in parallel with the development of automobiles. In 1888, Benz created the first gasoline car that featured unique metal tires having a rubber layer and filled with air, leading to the development of pneumatic tires. Widespread use of the pneumatic tire began in 1895, and it was featured in an automobile race from Paris to Bordeaux. In 1979, run-flat tires were developed, which were designed to enable the vehicle to be continuously driven at high speeds without needing a replacement with a new tire when punctured. Even with damages such as scratches or holes caused due to obstacles or tire abrasion while driving, these tires were capable of maintaining a constant driving speed, which secured the driver from numerous accidents that could arise in emergencies.



The growth in the demand for smart tires can be attributed to the assistance being provided to the fleet managers to prevent costly and time-consuming tire failures by deploying a display mounted on the self-contained fuel station that transmits and receives data from vehicle tires in the distribution fleet. Moreover, the smart tires are overcoming several challenges in vehicle platooning, such as the huge maintenance and operating costs of the fleets, the issue of tire failures in autonomous trucks and platoons, and the cost and delay associated with these failures. The global market for smart tires is witnessing a huge potential in the commercial vehicle sector due to its numerous benefits regarding tire maintenance that has opened new

ventures for autonomous truck manufacturers. All these factors in the passenger vehicle and commercial vehicle industry have led to the emergence of smart tires in the automotive industry.

Intelligent Tires to Generate the Highest Demand in Global Automotive Smart Tire Market:

Intelligent tires generate the highest revenue in the smart tire market, and the connected tire segment is anticipated to witness the highest growth rate during the forecast period 2021-2026. This is mainly due to the increase in the production of connected vehicles and the rise in the development of 5G for automotive.

Business Drivers:

Increasing Concerns Regarding Environment and Vehicle Safety - Smart tires incorporate sensors and controls that enable the tire to adapt to different road conditions and keep a check on various tire parameters monitoring the health of the tire. One of the primary reasons for accidents related to tires accounts for the tread depth of the tire being below the minimum level of standardization. The tire manufacturers are ensuring driver and passenger safety by digitalizing tire monitoring to promote road safety among consumers. The emergence of advanced technologies, such as artificial intelligence (AI), the internet of things (IoT), and 5G communication, is enabling faster communication between the tire and the vehicle to monitor tire and road conditions. The major concerns of drivers include maintaining the safety of their tires, utilization of sensor technology for adaptation to different conditions, eliminating the need for a seasonal tire change, a slower rate of tire wearing, and self-repairing in case of punctures. As most drivers are unaware of their tire conditions, companies are spearheading toward developing solutions to mitigate such challenges for safer driving, resulting in a higher demand for smart tires by consumers. For instance, the company Nokian Tyres offers a solution called SnapScan, which alerts the driver of the tire condition and its impact on road safety.

Key Questions Answered by This Report:

- What are the underlying structures resulting in the emerging trends within the global automotive smart tire market?
- How is the global automotive smart tire market impacted by the introduction of autonomous and connected vehicles?
- How are automotive OEMs, tire manufacturers, and other players entering the market?
- How are emerging technologies such as artificial intelligence (AI), 5G communication, and the internet of things (IoT) driving the growth of the global automotive smart tire market?

- Which are the major patents filled in the global automotive smart tire market?
- How is the role of government regarding environmental issues and safety changing the landscape of the automotive smart tire industry?
- Which smart tire technology is expected to lead the global automotive smart tire market by 2026?
- What was the market value of the leading segments and sub-segments of the Asia-Pacific market in 2020, and how is the market estimated to grow during the forecast period 2021-2026?
- How is the smart tire industry expected to evolve during the forecast period 2021-2026?
- What are the key developmental strategies implemented by the key players to sustain in the competitive market?
- What has been the impact of COVID-19 on the global automotive smart tire market?

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