

Automotive Smart Antenna Market by Frequency (High, Very High, & Ultra High), Type (Shark-Fin & Fixed Mast), Component (Transceivers, ECU), Vehicle Type (Passenger Cars, LCV, & HCV), EV (BEV, FCEV, & PHEV) and Region - Global Forecast to 2030

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Abstracts

The automotive smart antenna market is estimated to grow from USD 2.5 billion in 2023 to USD 5.2 billion by 2030, at a CAGR of 10.9%.

The demand for connected car features in mid-premium segment vehicles and EVs drives the automotive smart antenna market. In addition, growing investments in the 5G infrastructure by key ISPs for high-speed connectivity, low latency, increased bandwidth, and network slicing create a conducive environment for the widespread adoption of smart antennas in vehicles.

"The ultra-high frequency automotive smart antennas would be the fastest-growing market."

The ultra-high frequency segment is experiencing significant growth in the automotive smart antenna market due to its higher data transfer rates offered by UHF antennas within the range of 4000 MHz to 6000 MHz. This capability is crucial for meeting the increasing demand for high-speed vehicle connectivity, supporting applications such as advanced driver-assistance systems (ADAS) and sophisticated infotainment systems. The adoption of 5G technology in the automotive industry is another major contributor to the popularity of UHF antennas. The new generation cellular network brings faster and more reliable communication, facilitating seamless connectivity between vehicles, infrastructure, and the cloud. This is particularly important for connected and autonomous vehicles that rely on low-latency and high-bandwidth communication for optimal performance. Products such as WB-1A from Antenna Systems and Towers,

MA1559.A.001 and MA931.A.LBICGH.008 from Taoglas, 5-8 dBi 4G/5G External Magnetic High Gain Cell Antenna from Proxicast are some of the examples of ultra-high-frequency antennas which are offered in premium vehicles.

Various high-end vehicles, including luxury cars, electric vehicles, and those equipped with advanced connectivity features, are likely to incorporate UHF antennas. Manufacturers at the forefront of technological advancements are integrating these antennas to meet consumer demands for sophisticated vehicle communication systems. The increasing sales of connected and autonomous vehicles contribute to the growth of the smart antenna market, including those with ultra-high frequency capabilities. As consumer expectations for advanced vehicle features rise, manufacturers are incorporating more sophisticated communication systems to stay competitive. Luxury and high-end brands like Mercedes-Benz, Audi, and BMW increasingly incorporate UHF antennas for ADAS features like blind-spot monitoring and lane departure warning.

The automotive industry is witnessing a notable shift toward connected vehicles, emphasizing the importance of robust communication systems. With connectivity becoming a key selling point for vehicles, the demand for antennas capable of supporting high-frequency communication, such as UHF antennas, is expected to grow. "Light commercial vehicles are the second largest automotive smart antenna market."

LCVs are commonly used in these fleets for last-mile delivery and small-scale transportation. The demand for advanced connectivity solutions, including smart antennas, in LCVs can be driven by the need for real-time tracking, communication, and data exchange to optimize logistics operations. These antennas facilitate real-time vehicle monitoring, providing fleet operators with valuable insights into location, fuel efficiency, and driver behavior. Integrating smart antennas with telematics solutions allows LCVs to exchange critical data with fleet management platforms, enhancing operational efficiency. This data exchange enables businesses to optimize routes, improve fuel consumption, proactively schedule maintenance, and ensure compliance with regulatory requirements.

Moreover, with growing last-mile delivery services that require seamless communication between vehicles, central management systems, and delivery personnel, LCVs with smart antennas become a better choice. The result is a more connected and efficient logistics ecosystem where LCVs play a pivotal role in the evolving landscape of smart and data-driven transportation solutions. Companies like Geotab (UK), Verizon Connect (US), and Masternaut (France) provide advanced telematics solutions for LCVs. Companies like Amazon (US) and FedEx (US) rely on real-time vehicle tracking for their

vast delivery vans and trucks. They utilize GPS data to optimize routes, monitor driver behavior, and ensure timely deliveries.

North America has the largest market share for LCVs. This region has a robust and expansive logistics & transportation industry, with a high reliance on commercial fleets for the efficient movement of goods. The convergence of advanced telematics and robust data exchange capabilities drives the increasing adoption of automotive smart antennas in the LCV segment.

"North America is the second largest market for smart antennas."

North America is the largest manufacturer of light commercial vehicles, and the US is the region's largest market for automotive smart antennas. Also, the US is home to the three major companies named Ford Motors, General Motors, and Fiat Chrysler, along with established European and Asian OEMs such as Toyota (Japan), Nissan (Japan), Honda (Japan), Hyundai/Kia (South Korea), BMW Group (Germany), and Volkswagen Group (Germany). All the OEMs are known for their passenger cars with advanced comfort and safety technologies. These manufacturers are meeting the increasing demand for automobiles by continuously increasing output, promoting the use of automotive smart antennas in automobiles for all vehicle types.

The US holds a significant number of vehicles manufactured in North America. Furthermore, vehicle sales in the US increased from 14.4 million in 2022 to 16.1 million in 2023. The sales of premium vehicles (E, F, and SUV – E) segment cars have increased by ~12.1%, from 1.6 million sold in 2022 to 1.8 million in 2023. Also, the sales of D-segment vehicles have increased in the US by ~4%, which was 4.1 million units in 2022 to 1.5 million in 2023. These premium vehicles offer features like enhanced lane departure warning and blind spot monitoring, cellular V2X system, telematics systems, dynamic route optimization, in-car Wi-Fi and internet access, and over-the-air software updates for sedan and premium vehicles. Hence, the increase in vehicle sales of D, E, and F segment vehicles in the US has contributed to the overall growth of smart antenna market.

The automotive sector in Canada is a significant contributor to the country's economy and creates employment for more than half a million people. The government has signed a free trade agreement with its neighbors to strengthen the local automotive sector, increasing vehicle sales in Canada and stimulating the demand for automotive smart antennas. According to MarketsandMarkets analysis, Canada's vehicle sales were ~1.5 million in 2022, which increased to ~1.7 million in 2023. The premium vehicle sales (E, F, and SUV -E) were ~0.2 million in 2022, which increased to ~0.21 million in

2023. Hence, these factors have increased the adoption of smart antennas for premium vehicles in Canada. Also, the Mexican automotive sector has benefited from NAFTA, which has encouraged the production of automobiles. Mexico has trade agreements with 40 countries, which provide duty-free access to automobile manufacturers to export their vehicles to these countries. Several automobile manufacturers, such as Honda, Nissan, and Mazda, have established facilities in the country offering premium vehicles in Mexico, boosting the sales of automotive smart antennae. Hence, these factors have made North America the second fastest-growing region in the automotive smart antenna market.

The break-up of the profile of primary participants in the automotive smart antenna market:

By Companies: Tier 1 - 20%, Manufacturers - 80%

By Designation: Directors- 20%, C-Level Executives - 60%, Manager level - 20%

By Region: North America - 10%, APAC - 50% and Europe – 30%

Global players dominate the automotive smart antenna market and comprise several regional players. The key players in the automotive paints market are Continental AG (Germany), Denso Corporation (Japan), TE Connectivity (Switzerland), Forvia (France), and Ficosa Internacional SA (Spain).

Research Coverage:

The automotive smart antenna market is segmented by Vehicle Type (Passenger Car, Light Commercial Vehicle, and Heavy Commercial Vehicle), by Frequency (High, Very High, and Ultra High), by Type (Shark-Fin Antenna and Fixed Mast Antenna), by Component Type (Transceiver, Electronic Control Unit (ECU), and Others (Connector, Wire Harness, and Digital Bus)), by Sales Channel (OEMs and Aftermarket), by Electric Vehicle (EV) Type (Battery Electric Vehicle, Plug-in Hybrid Vehicle, and Fuel-cell Electric Vehicle) and by Region (Asia Pacific, Europe, North America, and Rest of the World (RoW)).

The report's scope covers detailed information regarding the major factors influencing the growth of the automotive smart antenna market. A detailed analysis of the key industry players has provided insights into their business overview, products, key strategies, contracts, partnerships, agreements, new product launches, mergers and

acquisitions, recession impact, and recent automotive smart antenna market developments.

Key Benefits of Buying the Report:

The report will help the market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall automotive smart antenna market and the sub-segments. This report will help stakeholders understand the competitive landscape and gain insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Growing cellular applications for connected vehicles, Rising demand for safety features in vehicles, Growing use of Electrical/Electronic (E/E) architecture, Increasing EV sales), restraints (Lack of communication infrastructure in emerging economies), opportunities (New revenue opportunity in autonomous vehicle ecosystem, Significant revenue contribution from premium vehicle sales, Increased in-car entertainment options, New revenue stream by key players using data monetization), and challenges (Increase in cybercrimes for vehicles equipped with connected car features, Interference with metal object reducing reception frequency quality) influencing the growth of the automotive smart antenna market.

Product Development/Innovation: Detailed insights on upcoming technologies and new products launched in the automotive smart antenna market.

Market Development: Comprehensive market information – the report analyses the authentication and brand protection market across varied regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the automotive smart antenna market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Continental AG (Germany), Denso Corporation (Japan), TE Connectivity (Switzerland), Forvia

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