

Automotive Wiring Harness Market by Application (Engine, Chassis, Cabin, Body & Lighting, HVAC, Battery, Dashboard/Cabin, Seat, Sunroof, Door), ICE & EV Transmission Type, Data Rate, Component Material & Region - Global Forecast to 2030

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Report description:

The global automotive wiring harness market is projected to grow from USD 48.7 billion in 2023 to USD 59.5 billion by 2030, at a CAGR of 2.9% during the forecast period. The global demand for automobiles continues to rise, as does the need for automotive wiring harnesses. The global market for EVs has also increased in recent years as countries have set their EV targets. EVs have complex electrical systems compared to traditional ICE vehicles. They require specialized wiring harnesses to accommodate components such as battery packs, electric motors, and advanced charging systems, which require high voltage wiring harnesses. The growing demand for EVs and ADAS features would boost the technological advancements in the wiring harness.

"Due to increased demand for speed, efficiency in data transmission and electrical connections, optical fiber segment is estimated to be the fastest growing market."

The growing demand for high-speed data transmission from vehicle manufacturers drives the market for optical fiber cables in vehicles. Optical fibers are known for their reliability and safety and are much lighter and thinner than traditional copper wiring. Optic fiber wires can also help reduce weight, thereby improving fuel efficiency. Modern vehicles are also becoming more sophisticated and equipped with advanced electronic systems to enhance safety, convenience, and connectivity. These systems include ADAS, which relies on various sensors and cameras, and infotainment systems, which provide entertainment, navigation, and communication features. The demand for such advanced electronic systems necessitates a robust and high-speed data transmission infrastructure, which optical fibers can provide.

Fiber optic cables offer significant bandwidth for signal transmission, surpassing copper cables of similar diameter. Traditional wire harnesses tend to become heavier when handling high-speed, large-capacity communication due to the need for thicker wires. On

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the other hand, optical fibers, crafted from lightweight materials such as glass and plastic, offer a solution that achieves high-speed, large-capacity communication and reduced weight. Moreover, optical signals demonstrate remarkable noise resistance compared to electrical signals. This innovation results in more efficient and lightweight communication systems. Sumitomo Electric Industries, Ltd. is expediting the development of an optical harness designed for the automotive industry. Anticipated to be available for commercial use in 2026, this innovative product is set to significantly advance the world of connected vehicles and the growing trends encapsulated by CASE (Connected, Autonomous, Shared, and Electric mobility). "Wires segment in automotive wiring harness market is estimated to be the largest market during the forecast period." Wires are indispensable components within automotive wiring harnesses, facilitating power flow and data throughout the vehicle. Automotive wiring harnesses consist of various bundled wires, and each wire is responsible for carrying electrical signals and energy used in the smooth functioning of various automobile subsystems, such as starting the engine, lights, meters, navigation systems, and power windows and doors. A wire has a fixed amount of resistance per foot. This means the longer the wire, the larger the resistance. If the resistance of the wire is too high, much of the power that flows down the wire will be wasted. There is a loss of energy as heat builds up in the wire. Vehicles are becoming increasingly complex, with more and more electronic components. This requires more wires to connect all the components and systems. Due to the need to connect the battery pack, motor controller, and other electronic components, EVs have more wires than traditional gasoline-powered vehicles. Automotive manufacturers are constantly looking for ways to reduce the weight of their vehicles, and wires are a significant component of vehicles. As a result, there is a growing demand for lightweight and durable wires that can withstand the harsh conditions of the automotive environment.

Asia Pacific is projected to be the fastest-growing regional market.

For the market analysis, the Asia Pacific region includes China, India, Japan, Thailand, South Korea, and the Rest of Asia Pacific. China is considered the manufacturing hub for the automotive industry. According to the MarketsandMarkets, China and India produce 26-29 million economy passenger cars yearly. With an increase in the production of vehicles, the demand for automotive wiring harnesses is expected to increase. India is projected to be the fastest-growing market. The steady rise in disposable incomes among Indian consumers has increased demand for various consumer goods, including automobiles. Mandatory safety feature mandates, including Automatic Emergency Braking (AEB), Lane Departure Warning (LDW), and Speed Assistance Systems (SAS), in the Asia Pacific region are driving the demand for advanced automotive wiring harnesses. These regulations, along with requirements for additional safety features like Daytime Running Lights (DRLs) and Electronic Stability Control (ESC), significantly impact the market, emphasizing the need for sophisticated wiring solutions to support enhanced vehicle safety and performance. The Asia Pacific region has experienced increased demand for luxury vehicles in the past few years. The luxury/premium segment vehicles have advanced body electronic functions that require additional automotive wiring harnesses for proper functioning. In the Asia-Pacific region, electric vehicles (EVs) have gained substantial traction, primarily led by China, which recorded 6.1 million EV sales in 2022, with notable adoption in South Korea and Japan. This transition towards EVs, driven by the resolve to address these challenges, is poised to impact the automotive wiring harness market significantly. EVs demand intricate and specialized wiring solutions to facilitate their advanced electric systems and functionalities.

In-depth interviews were conducted with CEOs, marketing directors, other innovation and strategy directors, and executives from various key organizations operating in this market.

- By Company Type: Automotive wiring harness OEM 80% and End-user organization 20%
- By Designation: C Level 30%, Directors- 50%, and Others 20%
- By Region: Asia Pacific 60%, Europe 20%, North America 20%

The key players in the automotive wiring harness market are Yazaki Corporation (Japan), Sumitomo Electric Industries (Japan), Aptiv PLC (Ireland), Furukawa Electric (Japan), and Leoni AG (Germany). Major companies' key strategies to maintain their position in the global automotive wiring harness market are strong global networking, mergers and acquisitions, partnerships, and technological advancement.

Research Coverage

The study segments the automotive wiring harness market. It forecasts the market size based on application (engine harness, chassis wiring harness, body & lighting harness, HVAC harness, dashboard/ cabin harness, battery harness, seat harness, sunroof harness, traction harness and door harness)], component (connectors, terminals, wires, and others), material type (metallic and

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optical fiber), transmission type (electrical wiring and data transmission), data transmission harness market by data transfer rate (<150 Mbps and 150 Mbps to 1 Gbps), High voltage by application (battery and battery management system, motor management system) and region (Asia Pacific, North America, Europe, and the Rest of the World [RoW]).

The study also includes an in-depth competitive analysis of the major automotive wiring harness manufacturers, their company profiles, key observations related to product and business offerings, recent developments, and key market strategies.

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 wiring harness market and the sub-segments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market's 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 vehicle production and demand for advanced features, vehicle production of conventional vs. premium vehicles, rise in advanced features in vehicles, growing penetration of electric vehicles), restraints (Limited data transfer rate), opportunities (Growing trend of autonomous and semiautonomous vehicles, increasing demand for lightweight and fuel-efficient vehicles, increase in the use of high voltage wiring harness and optical fiber cable, increase in the use of wiring harness), and challenges (fluctuating copper costs due to increasing demand, challenges in wire preparation, staging and crimping) influencing the growth of the automotive wiring harness market.
- Product Development/Innovation: Detailed insights on upcoming technologies and new product & service launches in the automotive wiring harness 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 wiring harness market.
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Yazaki Corporation (Japan), Sumitomo Electric Industries (Japan), Aptiv PLC (Ireland), Furukawa Electric (Japan), and Leoni AG (Germany) among others in automotive wiring harness market.

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