

Automotive All Wheel Drive Market Assessment, By System Type [Manual, Automatic], By Component [Power Transfer Unit, Differential Propeller Shaft, Transfer Case, Others], By Vehicle Type [Passenger, Commercial, Others], By Propulsion [Internal Combustion Engine, Battery Electric Vehicle, Others], By Region, Opportunities and Forecast, 2016-2030F

Market Report | 2024-04-19 | 137 pages | Market Xcel - Markets and Data

AVAILABLE LICENSES:

- Single User License \$4500.00
- Multi-User/Corporate Licence \$5700.00
- Custom Research License \$8200.00

Report description:

Global automotive all-wheel drive market size was valued at USD 34.25 billion in 2022 and is expected to reach USD 59.91 billion in 2030, with a CAGR of 7.24% for the forecast period between 2023 and 2030. The concept of all-wheel drive is predominantly favored by SUV and off-road vehicle enthusiasts. AWD ensures uniform power distribution to all four tires, enhancing vehicle control, optimizing power utilization, and providing ample torque. Presently, modern smart AWD systems offer end-users a range of driving options, including front-wheel drive, all-wheel drive, and rear-wheel drive.

The advent of electric vehicles has revolutionized the market by introducing dual-motor power delivery. Unlike internal combustion engines, battery and hybrid vehicles incorporate two motors, one for the front and one for the rear tires. Moreover, the emergence of intelligent AWD systems is set to enhance system intelligence and driver-centric features. These advanced systems leverage artificial intelligence and smart sensors to assess road conditions, intelligently allocating power accordingly for an enhanced driving experience. Therefore, the integration of smart technologies such as AI and big data is poised to make vehicles smarter and more responsive. Adaptive cruise control is another application of AWD systems, ensuring adequate power distribution to maintain vehicle speed and prevent excessive acceleration.

Enhanced Power Optimization and Better Traction Control Drives Market Growth

Consumer preferences strongly favor all-wheel drive for their daily commutes. AWD enhances road safety and traction control, enriching the overall driving experience. The improved traction significantly simplifies driving on challenging road conditions. AWD contributes to the vehicle's safety by distributing power to all wheels. For instance, in case of wheel slippage, the power

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

transferred to the wheels stabilizes the vehicle, greatly reducing the risk of a wheel losing grip. Moreover, it fosters better road contact, enhancing cornering capabilities and averting loss of control.

The ability to manage power distribution in multi-motor (AWD) powertrains supports hybrid and electric vehicles (EVs) and is poised to become integral in EV engineering. AWD guarantees that power is distributed to as many wheels as feasible in demanding circumstances, such as snowy, sandy, icy, or slushy conditions.

In August 2023, Nissan's ARIYA, the company's inaugural all-electric crossover, clinched the J.D. Power 2023 APEAL Award. The vehicle earned recognition for a comprehensive range of features, including ProPILOT Assist 2.01 and advanced driver assistance technology. Notably, the e-4ORCE all-wheel drive system employs twin electric motors to enhance driver confidence and convenience. The system is engineered to operate effectively on diverse road surfaces, continually optimizing power distribution.

AWD Dual Motors for EVs & Increased Demand for Premium SUVs to Fuel Market Growth

The surge in electric vehicle sales is reshaping the automotive industry, and along with replacing traditional engines with robust battery motors, all-wheel drive (AWD) systems have undergone a transformation. Dual motor AWD systems, specifically tailored for electric vehicle drive systems, are now in the spotlight. These systems incorporate artificial intelligence, allowing dynamic power distribution based on road conditions, driving experiences, and speeds. The growing adoption of electric vehicles has propelled the interest in dual motor AWD systems. Efficient inverters situated between the battery and motor play a key role in delivering high power to the motors. Furthermore, the SUV segment has experienced a significant uptick in sales and demand as consumers seek vehicles that offer superior control and traction across various terrains. SUV manufacturers typically favor all-wheel or four-wheel drive systems capable of handling larger vehicle chassis and managing power and torque distribution accordingly.

In July 2022, Nissan launched its X-Trail e-Power series with hybrid power train and a dual motor all-wheel drive setup. The new Nissan e-force technology comprises two electric motors, one for each axis. With the engine, the SUV can go from 0 to 60 mph in 7 seconds and has 10,000 times more traction and reaction time than a mechanical all-wheel drive system.

Governments Promote Advanced Vehicle Safety and Fuel Efficiency Through All-Wheel Drive (AWD) Systems

Governments worldwide are increasingly emphasizing enhanced vehicle safety and control, with a particular focus on promoting all-wheel drive (AWD) systems due to their ability to improve fuel efficiency. They prioritize stringent safety regulations, comprehensive crash testing, and control testing across diverse terrains. AWD systems effectively meet these requirements, leading many companies to adopt these systems for their forthcoming vehicle projects. Government-led energy transition initiatives are propelling the production of electric (EV) and hybrid vehicles, driving extensive research and development in the field of electrical transmissions. The integration of intelligent AWD systems with artificial intelligence and road recognition technology is delivering greater convenience to end users. Advanced Driver Assistance Systems (ADAS) enable autonomous control, and their integration with AWD platforms through intelligent automotive sensors enhancing vehicle safety by analyzing speed, road conditions, and engine performance to make informed decisions. Premium vehicle ranges often feature AWD systems along with ADAS to elevate passenger safety and optimize vehicle performance.

Increased Adoption of All-Wheel Drive (AWD) in Passenger Cars and SUVs

In terms of vehicle categories, the passenger car segment is expected to dominate the market primarily due to increased consumption, technological advancements, and improved handling. Additionally, the integration of autonomous driving assistance features and sensor technology has enhanced the driving experience. Moreover, the strong preference among end-users for new and powerful SUVs and crossovers has significantly contributed to the global all-wheel drive market.

Furthermore, technologically aware consumers are increasingly prioritizing better fuel efficiency and reduced emissions. Lastly, the rising popularity of hybrid and electric vehicles has a profound impact on every aspect of the automotive industry, and the inclusion of AWD systems in these EVs and hybrid cars is enhancing the value of the global AWD market.

In September 2023, Honda introduced the "Neo-rugged" Prologue, featuring a dual-motor AWD system designed for extended adventures. This electric SUV combines EV technology with sporty on-road dynamics to attract SUV enthusiasts worldwide.

Internal Combustion Engines Reign Supreme in Vehicle Propulsion Preference

In terms of the type of propulsion, internal combustion engines are the preferred choice over other propulsion methods. Both diesel and gasoline engines utilize internal combustion technology, providing superior acceleration and torque for vehicles.

Several factors drive the growth of this segment, including widespread consumption, the limited presence of electric and hybrid

vehicles in the automotive industry, and the strong compatibility of all-wheel drive (AWD) systems with internal combustion engines.

Market trends underscore the high demand for high-performance vehicles like SUVs and crossovers. Gasoline engines dominate this segment due to a larger availability of SUVs and crossovers with this engine configuration, outpacing electric and hybrid alternatives. AWD systems enhance traction for internal combustion engines while ensuring stability control. Additionally, the Battery Electric Vehicle (BEV) and Hybrid Plug-in Electric Vehicle (HPEV) segments are experiencing substantial growth, driven by the rapid global adoption of electric vehicles.

Asia-Pacific to Lead the Market with Expanded Automotive Manufacturing Units

Asia Pacific commands a substantial portion of the global all-wheel drive market. Automotive industry leaders view Asia-Pacific as a promising market for producing all-wheel drive systems, primarily because the region leads in terms of both car production and sales when compared to other parts of the world. Consequently, an increasing number of automotive research and production facilities have been established in the region. Emerging economies like India and China have improved the business environment for major automotive companies. Additionally, original equipment manufacturers (OEMs) in these countries are progressively equipping their high-performance vehicles with AWD systems. Moreover, the growing adoption of electric and hybrid vehicles is contributing to the overall value of the global all-wheel drive market. For instance, the Indian government has launched various initiatives such as "E-Amrit" and "Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME)" to promote the electric vehicle revolution. These initiatives are expanding the AWD systems market in India by introducing new segments. In January 2023, Maruti Suzuki India introduced the Fronx and Jimny models, targeting both modern SUV enthusiasts and traditional off-road enthusiasts. Both vehicles feature advanced traction control systems, with Jimny incorporating Suzuki's ALLGRIP PRO technology. This technology enhances off-road capabilities, catering to the driver's desire for adventure and offering the strength needed to overcome obstacles. The four-wheel drive system with a reduction gear ensures that it meets the performance demands of professionals, enabling immediate responses and maneuverability on challenging terrains.

Impact of COVID-19

The COVID-19 pandemic has imposed constraints on the operations of research and development facilities, hindering the expansion of integration technology. Beyond the realm of research, the scarcity of raw materials required to produce transmission tools was also delayed during the pandemic, leading to price fluctuations that disrupted the supply chain. Furthermore, logistical restrictions prevented the transportation of new vehicles, and the economic fallout affecting a sizable portion of the end user base diminished the demand for passenger vehicles. Startups focusing on Advanced Driver Assistance Systems (ADAS) and All-Wheel Drive (AWD) systems were adversely affected, as the distribution networks were not functioning effectively during the pandemic. The long-term and short-term effects are expected to be mitigated through government assistance, subsidies, and advancements in technology.

Impact of Russia-Ukraine War

The conflict between Russia and Ukraine has introduced another element of disruption to the market in the Eastern European and Russian regions. This clash has an impact on the prices of gasoline and gas but has also led to interruptions in the transportation of raw materials from remote areas of Ukraine and Russia. Additional materials such as copper, cobalt, and palladium, which are essential for vehicle component production, are also exported to the automotive industry. The obstacles and disruptions in transportation have resulted in delays in the delivery of passenger cars. Furthermore, war has adverse effects on research and development facilities, constraining vehicle development. It's worth noting that the original equipment manufacturer (OEM) risks, including reduced production and inactive marketing campaigns, have constrained market growth during the conflict.

Key Players Landscape and Outlook

The global automotive all-wheel drive market is predominantly influenced by a group of major players, including BorgWarner Inc., Toyota Motor Corporation, Eaton Corporation PLC, Continental AG, Haldex Group, JTEKT Corporation, Dana Incorporated, Nissan Motor Co. Ltd, and Magna International Inc. These companies are strategically expanding their operations by introducing innovative technologies to gain a competitive advantage over their peers.

Key market leaders are concentrating on enhancing the flexibility of their transmission systems for the adoption of advanced technologies and power delivery. These companies offer various levels of all-wheel drive systems tailored to different vehicle

types and price ranges. For instance, Maruti Suzuki provides three distinct types of allgrip (4WD) systems: AllGrip Auto, AllGrip Select, and AllGrip Pro. The advanced systems typically allow users to select power delivery and switch between 2WD and 4WD modes. Moreover, major players are engaging in collaboration, acquisitions, and partnerships to extend their supply chains and distribution channels.

In March 2022, BorgWarner Inc. entered into a supply agreement with Hyundai, under which BorgWarner Inc. will provide an integrated drive module (iDM) for Hyundai's upcoming A-segment electric vehicle production.

In November 2021, American Axle & Manufacturing Inc. announced its involvement in the manufacturing and assembly of 3-in-1 electric drive technology for REE Automotive Ltd. These electric drive units will be developed at American Axle & Manufacturing Inc.'s Advanced Technology and Development Center in Detroit, with full-scale production scheduled for 2024.

In April 2021, the subsidiary of Dana Incorporated declared its support for an expanded range of all-wheel drive vehicle programs offered by the Ford Motor Company. This support comes from Dana's advanced manufacturing facility located in the Chinese city of Chongqing. To meet the Ford Motor Company's requirements, Dana Incorporated initiated the production of award-winning axles, known as Spicer AdvanTeK Ultra, equipped with the Spicer SmartConnect disconnecting AWD system, which will be used in Ford's Escape, Lincoln Nautilus, and Lincoln Corsair models.

Table of Contents:

1. Research Methodology
2. Project Scope & Definitions
3. Impact of COVID-19 on Global Automotive All Wheel Drive Market
4. Impact of Russia-Ukraine War
5. Executive Summary
6. Voice of Customer
 - 6.1. Product and Market Intelligence
 - 6.2. Factors Considered in Purchase Decision
 - 6.2.1. Drive Configuration
 - 6.2.2. Traction Control
 - 6.2.3. Terrain Management
 - 6.2.4. Torque Distribution
 - 6.2.5. Traction Enhancement
 - 6.2.6. Fuel Efficiency
7. Global Automotive All Wheel Drive Market Outlook, 2016-2030
 - 7.1. Market Size & Forecast
 - 7.1.1. By Value
 - 7.1.2. By Volume
 - 7.2. By System
 - 7.2.1. Manual
 - 7.2.2. Automatic
 - 7.3. By Component
 - 7.3.1. Power Transfer Unit
 - 7.3.2. Differential Propeller Shaft
 - 7.3.3. Transfer Case
 - 7.3.4. Others
 - 7.4. By Vehicle Type
 - 7.4.1. Passenger Vehicle
 - 7.4.2. Commercial Vehicle
 - 7.4.3. Others
 - 7.5. By Propulsion

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 7.5.1.□Internal Combustion Engine
- 7.5.2.□Battery Electric Vehicle
- 7.5.3.□Others
- 7.6.□By Region
- 7.6.1.□North America
- 7.6.2.□Europe
- 7.6.3.□South America
- 7.6.4.□Asia-Pacific
- 7.6.5.□Middle East and Africa
- 7.7.□By Company Market Share (%), 2022
- 8.□Global Automotive All Wheel Drive Systems Market Outlook, By Region, 2016-2030F
- 8.1.□North America*
- 8.1.1.□Market Size & Forecast
- 8.1.1.1.□By Value
- 8.1.1.2.□By Volume
- 8.1.2.□By System
- 8.1.2.1.□Manual
- 8.1.2.2.□Automatic
- 8.1.3.□By Component
- 8.1.3.1.□Power Transfer Unit
- 8.1.3.2.□Differential Propeller Shaft
- 8.1.3.3.□Transfer Case
- 8.1.4.□By Vehicle Type
- 8.1.4.1.□Passenger Vehicle
- 8.1.4.2.□Commercial Vehicle
- 8.1.4.3.□Others
- 8.1.5.□By Propulsion
- 8.1.5.1.□Internal Combustion Engine
- 8.1.5.2.□Battery Electric Vehicle
- 8.1.5.3.□Others
- 8.1.6.□United States*
- 8.1.6.1.□Market Size & Forecast
- 8.1.6.1.1.□By Value
- 8.1.6.1.2.□By Volume
- 8.1.6.2.□By System
- 8.1.6.2.1.□Manual
- 8.1.6.2.2.□Automatic
- 8.1.6.3.□By Component
- 8.1.6.3.1.□Power Transfer Unit
- 8.1.6.3.2.□Differential Propeller Shaft
- 8.1.6.3.3.□Transfer Case
- 8.1.6.4.□By Vehicle Type
- 8.1.6.4.1.□Passenger Vehicle
- 8.1.6.4.2.□Commercial Vehicle
- 8.1.6.4.3.□Others
- 8.1.6.5.□By Propulsion
- 8.1.6.5.1.□Internal Combustion Engine

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 8.1.6.5.2. □ Battery Electric Vehicle
- 8.1.6.5.3. □ Others
- 8.1.7. □ Canada
- 8.1.8. □ Mexico
- *All segments will be provided for all regions and countries covered
- 8.2. □ Europe
 - 8.2.1. □ Germany
 - 8.2.2. □ France
 - 8.2.3. □ Italy
 - 8.2.4. □ United Kingdom
 - 8.2.5. □ Russia
 - 8.2.6. □ Spain
- 8.3. □ South America
 - 8.3.1. □ Brazil
 - 8.3.2. □ Argentina
- 8.4. □ Asia-Pacific
 - 8.4.1. □ India
 - 8.4.2. □ China
 - 8.4.3. □ Japan
 - 8.4.4. □ Australia
 - 8.4.5. □ South Korea
- 8.5. □ Middle East & Africa
 - 8.5.1. □ Saudi Arabia
 - 8.5.2. □ UAE
 - 8.5.3. □ South Africa
- 9. □ Market Mapping, 2022
 - 9.1. □ By System
 - 9.2. □ By Component
 - 9.3. □ By Vehicle Type
 - 9.4. □ By Propulsion
 - 9.5. □ By Region
- 10. □ Macro Environment and Industry Structure
 - 10.1. □ Supply Demand Analysis
 - 10.2. □ Import Export Analysis - Volume and Value
 - 10.3. □ Supply/Value Chain Analysis
 - 10.4. □ PESTEL Analysis
 - 10.4.1. □ Political Factors
 - 10.4.2. □ Economic System
 - 10.4.3. □ Social Implications
 - 10.4.4. □ Technological Advancements
 - 10.4.5. □ Environmental Impacts
 - 10.4.6. □ Legal Compliances and Regulatory Policies (Statutory Bodies Included)
 - 10.5. □ Porter's Five Forces Analysis
 - 10.6. □ Supplier Power
 - 10.7. □ Buyer Power
 - 10.8. □ Substitution Threat
 - 10.9. □ Threat from New Entrant

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 10.10. □Competitive Rivalry
- 11. □Market Dynamics
 - 11.1. □Growth Drivers
 - 11.2. □Growth Inhibitors (Challenges, Restraints)
- 12. □Key Players Landscape
 - 12.1. □Competition Matrix of Top Five Market Leaders
 - 12.2. □Market Revenue Analysis of Top Five Market Leaders (in %, 2022)
 - 12.3. □Mergers and Acquisitions/Joint Ventures (If Applicable)
 - 12.4. □SWOT Analysis (For Five Market Players)
 - 12.5. □Patent Analysis (If Applicable)
- 13. □Pricing Analysis
- 14. □Case Studies
- 15. □Key Players Outlook
 - 15.1. □Magna International Inc.
 - 15.1.1. □Company Details
 - 15.1.2. □Key Management Personnel
 - 15.1.3. □Products & Services
 - 15.1.4. □Financials (As reported)
 - 15.1.5. □Key Market Focus & Geographical Presence
 - 15.1.6. □Recent Developments
 - 15.2. □ZF Friedrichshafen AG
 - 15.3. □BorgWarner Inc.
 - 15.4. □TEKT Corporation
 - 15.5. □Continental AG
 - 15.6. □American Axle & Manufacturing Inc
 - 15.7. □GKN PLC
 - 15.8. □Nissan Motor
 - 15.9. □Dana Incorporated
 - 15.10. □Honda Motor

*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

- 16. □Strategic Recommendations
- 17. □About Us & Disclaimer

Automotive All Wheel Drive Market Assessment, By System Type [Manual, Automatic], By Component [Power Transfer Unit, Differential Propeller Shaft, Transfer Case, Others], By Vehicle Type [Passenger, Commercial, Others], By Propulsion [Internal Combustion Engine, Battery Electric Vehicle, Others], By Region, Opportunities and Forecast, 2016-2030F

Market Report | 2024-04-19 | 137 pages | Market Xcel - Markets and Data

To place an Order with Scotts International:

- ☐ - Print this form
- ☐ - Complete the relevant blank fields and sign
- ☐ - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4500.00
	Muti-User/Corporate Licence	\$5700.00
	Custom Research License	\$8200.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2025-05-07"/>
		Signature	<input type="text"/>