

E-Corner Market Forecasts to 2030 – Global Analysis By Component (In-Wheel Electric Drive Module, E-Corner Steering Module, Brake-by-Wire Systems, Active Suspension Systems, Electronic Control Units and Sensor Systems), Vehicle Type (Passenger Vehicles, Commercial Vehicles and Industrial Vehicles), Operational Capabilities, Technology, End User and By Geography

<https://marketpublishers.com/r/E0D9AE241A32EN.html>

Date: February 2025

Pages: 150

Price: US\$ 4,150.00 (Single User License)

ID: E0D9AE241A32EN

Abstracts

According to Statistics MRC, the Global E-Corner Market is accounted for \$2.4 billion in 2024 and is expected to reach \$4.1 billion by 2030 growing at a CAGR of 9.5% during the forecast period. An e-Corner system is an advanced, modular technology designed to control vehicle motion and dynamics. It is a detachable unit connected to specialized vehicle platforms via bolted connections and power connectors. The system's functions are managed through an integrated electrical control system that communicates with the vehicle's central control unit.

Market Dynamics:

Driver:

Demand for autonomous and flexible mobility

E-corner systems enhance vehicle maneuverability and enable advanced driving modes like crab driving and zero-turn rotations, which are essential for autonomous vehicles. Their integration with modular electric vehicle platforms aligns with the growing trend of

platformization in EVs. These features cater to urban mobility needs, making e-corner systems a critical component in the development of next-generation autonomous and electric vehicles.

Restraint:

High costs

High costs associated with e-corner systems significantly restrain market growth. These systems require advanced technologies like X-by-Wire for steering, braking, and propulsion, which increase manufacturing complexity and expenses. Additionally, maintenance and repair costs are elevated due to the limited availability of skilled engineers familiar with this technology. These financial barriers limit adoption, particularly in cost-sensitive markets, despite the potential benefits of e-corner systems in improving vehicle performance and efficiency.

Opportunity:

Development of smart cities

The development of smart cities offers a significant growth opportunity for the e-Corner market. E-corner systems enable innovative urban mobility solutions by enhancing vehicle agility and reducing space requirements for parking and navigation. These capabilities align with smart city goals of optimizing infrastructure use and reducing traffic congestion. Governments worldwide are investing in smart city projects, creating a favorable environment for the adoption of advanced vehicle technologies like e-corner systems to support sustainable urban transportation.

Threat:

Resistance from traditional automakers

Established manufacturers may hesitate to adopt e-corner systems due to the need for significant redesigns of existing vehicle platforms. The high costs of transitioning to modular EV architectures and integrating advanced technologies further deter adoption. Additionally, skepticism about the reliability and scalability of e-corner modules in mass-market applications creates reluctance among traditional automakers, slowing market penetration.

Covid-19 Impact:

The COVID-19 pandemic disrupted the e-Corner market due to supply chain interruptions and reduced production activities. However, as economies recovered, demand rebounded with increasing investments in electric vehicles and autonomous mobility solutions. The pandemic accelerated interest in sustainable transportation options, positioning e-corner systems as a vital technology for future mobility. Despite initial setbacks, the market is poised for growth as manufacturers focus on innovation to meet evolving consumer preferences post-pandemic.

The in-wheel electric drive module segment is expected to be the largest during the forecast period

The in-wheel electric drive module segment is expected to account for the largest market share during the forecast period due to its ability to integrate propulsion, braking, and steering functions within a compact design. This module enhances vehicle efficiency by reducing weight and freeing up interior space. Its compatibility with modular EV platforms makes it a preferred choice for automakers focusing on next-generation electric and autonomous vehicles. Additionally, increasing adoption across passenger cars and commercial vehicles ensures this segment maintains its leadership.

The industrial segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the industrial segment is predicted to witness the highest growth rate due to rising demand for specialized vehicles equipped with e-corner systems in logistics, construction, and agriculture sectors. These systems improve maneuverability in confined spaces, enhancing operational efficiency in industrial applications. The growing emphasis on automation and electrification across industries further fuels adoption. Manufacturers are increasingly targeting this segment with tailored solutions, driving its rapid expansion.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to its strong automotive manufacturing base in countries like China, Japan, and South Korea. The region's growing adoption of electric vehicles equipped with advanced technologies like e-corner systems drives demand further. Government initiatives promoting EV adoption and investments in smart city projects also contribute significantly to market growth, ensuring Asia Pacific's leadership position.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR due to increasing demand for SUVs and pickup trucks featuring advanced quad-motor configurations integrated with e-corner systems. The region's focus on technological innovation in EVs, supported by favorable government policies promoting green mobility, accelerates growth. Key players like Tesla and General Motors are driving advancements in this technology, solidifying North America's position as a high-growth region for e-corner systems.

Key players in the market

Some of the key players in E-Corner Market include ZF Friedrichshafen, Elaphe Propulsion Technologies, Schaeffler Group, Siemens, Protean Electric, Continental AG, REE, BYD, Tesla, DeepDrive, Elaphe LTD, Beijing Aerospace Times Optical-Electronic Technology, China Aerospace Leading Science & Technology, China Aerospace Science and Industry Corporation and China Electronics Technology Group Corporation.

Key Developments:

In January 2023, ZF Friedrichshafen launched comprehensive cubiX vehicle motion control platform as their first software-only product for volume production, enabling holistic chassis control and smart assistance systems.

January 2023, ZF Friedrichshafen introduced new engineering solutions for Formula 1, Formula E, WRC, and DTM, offering complete engineering services from product development to special applications.

Components Covered:

In-Wheel Electric Drive Module

E-Corner Steering Module

Brake-by-Wire Systems

Active Suspension Systems

Electronic Control Units

Sensor Systems

Vehicle Types Covered:

Passenger Vehicles

Commercial Vehicles

Industrial Vehicles

Operational Capabilities Covered:

Multi-Directional Movement

Zero-Turn Radius

Pivot Turn

Individual Wheel Control

Dynamic Stability Control

Park Assist Mode

Torque Vectoring

Technologies Covered:

Advanced Driver Assistance Systems (ADAS)

Vehicle Control Integration

Power Management Systems

End Users Covered:

Commercial

Industrial

Public Services

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030

- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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