

Electric Racing Car Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (Open Seaters, Top Fuel Dragsters, Rally Cars, Prototype Race Cars, Others), By Battery Capacity (50 kWh), By Transmission Type (Manual, Automatic), By Region & Competition, 2021-2031F

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Abstracts

The Global Electric Racing Car Market is projected to expand from USD 45.25 Billion in 2025 to USD 69.48 Billion by 2031, reflecting a compound annual growth rate of 7.41%. This market consists of specialized high-performance vehicles engineered with electric motors and battery systems for professional competitive motorsports. The industry's expansion is primarily driven by regulatory mandates aiming for carbon neutrality and the strategic need for automotive firms to adapt innovations from racing circuits to consumer vehicles. Furthermore, the dedication of global manufacturers to sustainability goals stimulates investment in electric racing initiatives as a means to validate technology and enhance brand value.

However, the market faces a substantial obstacle in the form of existing battery technology, specifically regarding energy density and weight, which constrains vehicle range and dynamic performance. Data from the Fédération Internationale de l'Automobile indicates that the cumulative global television audience for electric racing championships hit 561 million in 2025, marking a 14% rise from the previous season. Although this increase in viewership underscores growing commercial worth, technical limitations related to energy storage continue to challenge the viability of electric propulsion within long-distance endurance racing formats.

Market Driver

Strategic research and development, alongside technology transfer to consumer vehicles, serves as a primary market catalyst, with global automotive manufacturers utilizing racing environments to hasten innovations in battery efficiency, thermal management, and software. Leading OEMs engage in these high-performance series to stress-test proprietary electric powertrains under severe conditions, subsequently applying these engineering breakthroughs to mass-market road cars. This synergy between the track and the road not only confirms component reliability but also validates the significant development costs of electrification strategies. According to a 'What will change in season 12?' report by e-formula.news in October 2025, manufacturers are assigned a capped R&D budget of ?25 million across two seasons, a policy designed to secure continued investment in advanced propulsion while preserving competitive fairness.

The growth of elite electric racing series further drives market expansion by building a loyal global viewership and securing valuable corporate sponsorships. As these championships introduce faster vehicles and new urban circuits, they effectively engage younger, environmentally conscious audiences, thereby enhancing the commercial feasibility of electric motorsports. This widening appeal is supported by strong engagement data that boosts sponsorship and media rights value. According to an October 2025 press release from FIA Formula E titled 'Formula E accelerates global growth in Season 11', the series saw its global fanbase grow to 422 million, a 13% year-on-year rise. Supporting this growth, BlackBook Motorsport reported in 2025 that the championship generated ?189.6 million in revenue during the previous financial year, highlighting the substantial economic structure forming around professional electric racing.

Market Challenge

The principal obstacle hindering the Global Electric Racing Car Market is the limitation of current battery technology concerning energy density and excessive mass. This technical barrier establishes a difficult trade-off wherein extending range necessitates heavier battery packs, which subsequently impairs acceleration, handling dynamics, and aerodynamic efficiency. Since high-performance racing requires agility and sustained speed, the inability to store adequate energy without a significant weight penalty precludes electric platforms from competing effectively in the profitable endurance racing sector. Consequently, the market is largely confined to short-duration sprint formats, reducing its commercial attractiveness to broadcasters and organizers who prefer traditional long-distance events.

The severity of this constraint is evident in the technical specifications of the industry's premier series. According to the Fédération Internationale de l'Automobile, the battery system homologated for the Gen3 Evo racing car in 2024 required a weight of 284 kilograms to provide a total energy capacity of 47 kilowatt-hours. This ratio illustrates that the energy storage system constitutes a disproportionate share of the vehicle's mass relative to internal combustion alternatives. As a result, these hardware restrictions impede the creation of commercially feasible long-distance electric series, thereby stalling the market's growth into the wider motorsport ecosystem.

Market Trends

The rise of autonomous electric racing championships marks a transformative market shift, relocating the competitive focus from human piloting to software engineering and artificial intelligence. This trend cultivates a novel ecosystem where technology firms and research institutions employ high-performance electric platforms to verify autonomous algorithms under intense dynamic circumstances. Eliminating the driver permits vehicle designs to favor computational efficiency and sensor integration over human ergonomics, carving out a specific niche for non-automotive technology stakeholders. As noted in 'A2RL autonomous racecars take to the track in Abu Dhabi' by The Robot Report in November 2025, the league's second season showcased the upgraded EAV-25 platform, which demonstrated the ability to achieve top speeds of 295 kilometers per hour.

The creation of junior and regional electric racing leagues fulfills a critical market requirement for an accessible talent pathway connecting electric karting to elite professional series. These championships reduce financial barriers for aspiring drivers by employing centralized logistics models and standardized, cost-efficient vehicles. By functioning as support series for major events, they offer crucial track time and exposure, securing a sustainable pipeline of drivers skilled in energy management strategies and electric powertrain characteristics. According to a December 2024 press release titled '2025 NXT Gen Cup calendar revealed with continued DTM cooperation', the NXT Gen Cup confirmed a twelve-race schedule for its third season, providing a comprehensive arrive-and-drive entry package for 60,000 euros.

Key Market Players

Porsche AG

Ferrari N.V.

Mercedes-AMG Petronas Motorsport

Audi AG

Jaguar Land Rover

BMW AG

McLaren Racing

Nissan Motor Corporation

Rimac Automobili

Tesla Inc.

Report Scope

In this report, the Global Electric Racing Car Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Electric Racing Car Market, By Type

Open Seaters

Top Fuel Dragsters

Rally Cars

Prototype Race Cars

Others

Electric Racing Car Market, By Battery Capacity

50 kWh

Electric Racing Car Market, By Transmission Type

Manual

Automatic

Electric Racing Car Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Electric Racing Car Market.

Available Customizations:

Global Electric Racing Car Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

4. VOICE OF CUSTOMER

5. GLOBAL ELECTRIC RACING CAR MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Type (Open Seaters, Top Fuel Dragsters, Rally Cars, Prototype Race Cars, Others)
 - 5.2.2. By Battery Capacity (50 kWh)
 - 5.2.3. By Transmission Type (Manual, Automatic)

- 5.2.4. By Region
- 5.2.5. By Company (2025)
- 5.3. Market Map

6. NORTH AMERICA ELECTRIC RACING CAR MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Type
 - 6.2.2. By Battery Capacity
 - 6.2.3. By Transmission Type
 - 6.2.4. By Country
- 6.3. North America: Country Analysis
 - 6.3.1. United States Electric Racing Car Market Outlook
 - 6.3.1.1. Market Size & Forecast
 - 6.3.1.1.1. By Value
 - 6.3.1.2. Market Share & Forecast
 - 6.3.1.2.1. By Type
 - 6.3.1.2.2. By Battery Capacity
 - 6.3.1.2.3. By Transmission Type
 - 6.3.2. Canada Electric Racing Car Market Outlook
 - 6.3.2.1. Market Size & Forecast
 - 6.3.2.1.1. By Value
 - 6.3.2.2. Market Share & Forecast
 - 6.3.2.2.1. By Type
 - 6.3.2.2.2. By Battery Capacity
 - 6.3.2.2.3. By Transmission Type
 - 6.3.3. Mexico Electric Racing Car Market Outlook
 - 6.3.3.1. Market Size & Forecast
 - 6.3.3.1.1. By Value
 - 6.3.3.2. Market Share & Forecast
 - 6.3.3.2.1. By Type
 - 6.3.3.2.2. By Battery Capacity
 - 6.3.3.2.3. By Transmission Type

7. EUROPE ELECTRIC RACING CAR MARKET OUTLOOK

- 7.1. Market Size & Forecast

- 7.1.1. By Value
- 7.2. Market Share & Forecast
 - 7.2.1. By Type
 - 7.2.2. By Battery Capacity
 - 7.2.3. By Transmission Type
 - 7.2.4. By Country
- 7.3. Europe: Country Analysis
 - 7.3.1. Germany Electric Racing Car Market Outlook
 - 7.3.1.1. Market Size & Forecast
 - 7.3.1.1.1. By Value
 - 7.3.1.2. Market Share & Forecast
 - 7.3.1.2.1. By Type
 - 7.3.1.2.2. By Battery Capacity
 - 7.3.1.2.3. By Transmission Type
 - 7.3.2. France Electric Racing Car Market Outlook
 - 7.3.2.1. Market Size & Forecast
 - 7.3.2.1.1. By Value
 - 7.3.2.2. Market Share & Forecast
 - 7.3.2.2.1. By Type
 - 7.3.2.2.2. By Battery Capacity
 - 7.3.2.2.3. By Transmission Type
 - 7.3.3. United Kingdom Electric Racing Car Market Outlook
 - 7.3.3.1. Market Size & Forecast
 - 7.3.3.1.1. By Value
 - 7.3.3.2. Market Share & Forecast
 - 7.3.3.2.1. By Type
 - 7.3.3.2.2. By Battery Capacity
 - 7.3.3.2.3. By Transmission Type
 - 7.3.4. Italy Electric Racing Car Market Outlook
 - 7.3.4.1. Market Size & Forecast
 - 7.3.4.1.1. By Value
 - 7.3.4.2. Market Share & Forecast
 - 7.3.4.2.1. By Type
 - 7.3.4.2.2. By Battery Capacity
 - 7.3.4.2.3. By Transmission Type
 - 7.3.5. Spain Electric Racing Car Market Outlook
 - 7.3.5.1. Market Size & Forecast
 - 7.3.5.1.1. By Value
 - 7.3.5.2. Market Share & Forecast

- 7.3.5.2.1. By Type
- 7.3.5.2.2. By Battery Capacity
- 7.3.5.2.3. By Transmission Type

8. ASIA PACIFIC ELECTRIC RACING CAR MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast
 - 8.2.1. By Type
 - 8.2.2. By Battery Capacity
 - 8.2.3. By Transmission Type
 - 8.2.4. By Country
- 8.3. Asia Pacific: Country Analysis
 - 8.3.1. China Electric Racing Car Market Outlook
 - 8.3.1.1. Market Size & Forecast
 - 8.3.1.1.1. By Value
 - 8.3.1.2. Market Share & Forecast
 - 8.3.1.2.1. By Type
 - 8.3.1.2.2. By Battery Capacity
 - 8.3.1.2.3. By Transmission Type
 - 8.3.2. India Electric Racing Car Market Outlook
 - 8.3.2.1. Market Size & Forecast
 - 8.3.2.1.1. By Value
 - 8.3.2.2. Market Share & Forecast
 - 8.3.2.2.1. By Type
 - 8.3.2.2.2. By Battery Capacity
 - 8.3.2.2.3. By Transmission Type
 - 8.3.3. Japan Electric Racing Car Market Outlook
 - 8.3.3.1. Market Size & Forecast
 - 8.3.3.1.1. By Value
 - 8.3.3.2. Market Share & Forecast
 - 8.3.3.2.1. By Type
 - 8.3.3.2.2. By Battery Capacity
 - 8.3.3.2.3. By Transmission Type
 - 8.3.4. South Korea Electric Racing Car Market Outlook
 - 8.3.4.1. Market Size & Forecast
 - 8.3.4.1.1. By Value
 - 8.3.4.2. Market Share & Forecast

- 8.3.4.2.1. By Type
- 8.3.4.2.2. By Battery Capacity
- 8.3.4.2.3. By Transmission Type
- 8.3.5. Australia Electric Racing Car Market Outlook
 - 8.3.5.1. Market Size & Forecast
 - 8.3.5.1.1. By Value
 - 8.3.5.2. Market Share & Forecast
 - 8.3.5.2.1. By Type
 - 8.3.5.2.2. By Battery Capacity
 - 8.3.5.2.3. By Transmission Type

9. MIDDLE EAST & AFRICA ELECTRIC RACING CAR MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Type
 - 9.2.2. By Battery Capacity
 - 9.2.3. By Transmission Type
 - 9.2.4. By Country
- 9.3. Middle East & Africa: Country Analysis
 - 9.3.1. Saudi Arabia Electric Racing Car Market Outlook
 - 9.3.1.1. Market Size & Forecast
 - 9.3.1.1.1. By Value
 - 9.3.1.2. Market Share & Forecast
 - 9.3.1.2.1. By Type
 - 9.3.1.2.2. By Battery Capacity
 - 9.3.1.2.3. By Transmission Type
 - 9.3.2. UAE Electric Racing Car Market Outlook
 - 9.3.2.1. Market Size & Forecast
 - 9.3.2.1.1. By Value
 - 9.3.2.2. Market Share & Forecast
 - 9.3.2.2.1. By Type
 - 9.3.2.2.2. By Battery Capacity
 - 9.3.2.2.3. By Transmission Type
 - 9.3.3. South Africa Electric Racing Car Market Outlook
 - 9.3.3.1. Market Size & Forecast
 - 9.3.3.1.1. By Value
 - 9.3.3.2. Market Share & Forecast

- 9.3.3.2.1. By Type
- 9.3.3.2.2. By Battery Capacity
- 9.3.3.2.3. By Transmission Type

10. SOUTH AMERICA ELECTRIC RACING CAR MARKET OUTLOOK

- 10.1. Market Size & Forecast
 - 10.1.1. By Value
- 10.2. Market Share & Forecast
 - 10.2.1. By Type
 - 10.2.2. By Battery Capacity
 - 10.2.3. By Transmission Type
 - 10.2.4. By Country
- 10.3. South America: Country Analysis
 - 10.3.1. Brazil Electric Racing Car Market Outlook
 - 10.3.1.1. Market Size & Forecast
 - 10.3.1.1.1. By Value
 - 10.3.1.2. Market Share & Forecast
 - 10.3.1.2.1. By Type
 - 10.3.1.2.2. By Battery Capacity
 - 10.3.1.2.3. By Transmission Type
 - 10.3.2. Colombia Electric Racing Car Market Outlook
 - 10.3.2.1. Market Size & Forecast
 - 10.3.2.1.1. By Value
 - 10.3.2.2. Market Share & Forecast
 - 10.3.2.2.1. By Type
 - 10.3.2.2.2. By Battery Capacity
 - 10.3.2.2.3. By Transmission Type
 - 10.3.3. Argentina Electric Racing Car Market Outlook
 - 10.3.3.1. Market Size & Forecast
 - 10.3.3.1.1. By Value
 - 10.3.3.2. Market Share & Forecast
 - 10.3.3.2.1. By Type
 - 10.3.3.2.2. By Battery Capacity
 - 10.3.3.2.3. By Transmission Type

11. MARKET DYNAMICS

- 11.1. Drivers

11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

12.1. Merger & Acquisition (If Any)

12.2. Product Launches (If Any)

12.3. Recent Developments

13. GLOBAL ELECTRIC RACING CAR MARKET: SWOT ANALYSIS

14. PORTER'S FIVE FORCES ANALYSIS

14.1. Competition in the Industry

14.2. Potential of New Entrants

14.3. Power of Suppliers

14.4. Power of Customers

14.5. Threat of Substitute Products

15. COMPETITIVE LANDSCAPE

15.1. Porsche AG

15.1.1. Business Overview

15.1.2. Products & Services

15.1.3. Recent Developments

15.1.4. Key Personnel

15.1.5. SWOT Analysis

15.2. Ferrari N.V.

15.3. Mercedes-AMG Petronas Motorsport

15.4. Audi AG

15.5. Jaguar Land Rover

15.6. BMW AG

15.7. McLaren Racing

15.8. Nissan Motor Corporation

15.9. Rimac Automobili

15.10. Tesla Inc.

16. STRATEGIC RECOMMENDATIONS

17. ABOUT US & DISCLAIMER

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