+357 96 030922
info@marketpublishers.com

Power Electronics Software Market by Design Software, Simulation Software, Analysis Software, Control Software, Rapid Control Prototyping, Embedded System Prototyping, Model-based Design, Automotive and Renewable Energy - Global Forecast to 2030

https://marketpublishers.com/r/P9608061F068EN.html
Date: February 2025
Pages: 253
Price: US$ 4,950.00 (Single User License)
ID: P9608061F068EN

Abstracts

The power electronics software market is expected to grow from USD 3.33 billion in 2025 to USD 5.25 billion in 2030, at a CAGR of 9.5% during the forecast period. The major drivers contributing to the market growth are increasing demand for industrial automation and robotics, the growing shift towards electric vehicles, and the increasing adoption of renewable energy sources across diverse industries such as industrial, automotive, and consumer electronics.

Rapid control prototyping technology is expected to grow at the second-highest CAGR during the forecast period

Rapid control prototyping (RCP) technology is expected to grow at the second-highest CAGR in the power electronics software market over the forecast period as it accelerates product development and enhances system design efficiency. Rapid control prototyping allows engineers to experiment quickly and validate control algorithms on real hardware without having to do lots of hand coding. This technology provides significant advantages by reducing the development cycle. The technology also helps to accelerate innovation within applications like EVs, renewable energy systems, and industrial automation, which have tremendous growth potential. The growth in the use of power electronic systems requires technologically advanced solutions such as RCP to be energy efficient. The RCP technology simulates and tests complex designs in real-

+357 96 030922
info@marketpublishers.com

world conditions for optimal performance and reliability before actual implementation. Moreover, with the increasing application of technologies like wide-bandgap semiconductors (SiC and GaN) and smart grid systems, accurate control mechanisms are required, RCP is one of the technologies used in designing these control mechanisms. Furthermore, flexibility, cost-effectiveness, and seamless integration with other software tools are some of the factors responsible for the growth of RCP technology in the power electronics software market during the forecast period.

The automotive segment is expected to grow at the highest CAGR during the forecast period

The automotive segment is expected to record the highest CAGR in the power electronics software market during the forecast period. This is mainly because of the increasing adoption of electric vehicles (EVs) and hybrid electric vehicles (HEVs). As the trend toward sustainability and carbon neutrality goes up rapidly, manufacturers continue investing more resources into electrification technologies, which rely on power electronics for more efficient energy conversion, battery management, and motor control. Power electronics software is critical for designing and simulating these systems. The manufacturers use power electronics software to optimize performance, minimize energy losses, and enhance thermal management. Another factor propelling the growth of the advanced simulation and design software market in the automotive segment is the increasing demand for wide-bandgap semiconductors such as silicon carbide (SiC) and gallium nitride (GaN). Additionally, advanced driver-assistance systems (ADAS), connected car technologies, and autonomous driving systems have increased complexity in automotive electronics, thus requiring sophisticated software solutions for reliability and adherence to strict safety standards. Furthermore, the automotive segment accounts for a considerable share of the power electronics software market owing to significant growth in the production of electric vehicles in countries such as the US and China.

North America is expected to witness the second-highest CAGR during the forecast period

North America is expected to witness the second-highest CAGR in the power electronics software market during the forecast period, owing to the growing adoption of electric vehicles, renewable energy systems, and advancements in industrial automation. The North American region is experiencing significant investments in clean energy initiatives, smart grids, and next-generation power infrastructure, leading to a higher demand for advanced power electronics software solutions. Increasingly,

+357 96 030922
info@marketpublishers.com

electrification in the automotive industry, with companies like Tesla, General Motors, and Ford speeding up the production of electric vehicles, requires more complex software to optimize powertrains, manage batteries, and achieve energy efficiency. Growing data centers, 5G infrastructure, and aerospace & defense applications boost the demand for power electronics software in the region. Moreover, strong government incentives and investments in wide-bandgap semiconductors, including SiC and GaN, propel growth for the power electronics software market in the region.

Breakdown of Primaries

The study contains insights from various industry experts, ranging from component suppliers to Tier 1 companies and OEMs. The break-up of the profile of primary participants in the power electronics software market:

By Company Type: Tier 1 – 25%, Tier 2 – 35%, Tier 3 – 40%

By Designation Type: C Level – 40%, Director Level – 30%, Others – 30%

By Region Type: North America – 40%, Europe – 25%, Asia Pacific – 20%, Rest of the World – 15%

The major players in the power electronics software market with a significant global presence include The MathWorks, Inc. (US), Keysight Technologies (US), Cadence Design Systems, Inc. (US), Synopsys, Inc. (US), and Altair Engineering Inc. (US).

Research Coverage

The report segments the power electronics software market and forecasts its size by type, technology, application, and region. It also comprehensively reviews drivers, restraints, opportunities, and challenges influencing market growth and covers qualitative and quantitative aspects of the market.

Reasons to buy the report:

The report will help market leaders and new entrants with information on the closest approximate revenues for the overall power electronics software market and related segments. It will also help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market

+357 96 030922
info@marketpublishers.com

strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of key drivers (Increasing adoption of renewable energy sources, growing shift towards electric vehicles, and advancements in semiconductor technologies), restraints (High initial cost of power electronics software and complexity and threat of data leakage), opportunities (Increasing growth of industrial automation and robotics, global expansion of smart homes and buildings), and challenges (Issues in integration and compatibility, lack of skilled professionals)

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new solution and service launches in the power electronics software market

Market Development: Comprehensive information about lucrative markets – the report analyses the power electronics software market across varied regions

Market Diversification: Exhaustive information about new solutions and services, untapped geographies, recent developments, and investments in the power electronics software market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and solution and service offerings of leading players, including The MathWorks, Inc. (US), Keysight Technologies (US), Cadence Design Systems, Inc. (US), Synopsys, Inc. (US), and Altair Engineering Inc. (US)

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Power Electronics Software Market by Design Software, Simulation Software, Analysis Software, Control Software, Rapid Control Prototyping, Embedded System Prototyping, Model-based Design, Automotive and Renewable Energy - Global Forecast to 2030

Product link: https://marketpublishers.com/r/P9608061F068EN.html

Price: US$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/P9608061F068EN.html