



Tech Giants such as Google and Tesla have been striving to Incorporate More Digital Technology into Their Cars. This has Pushed Other Companies into a Competitive Stride into Developing Automotive Software and Digital Systems that can Power and Control Innovative Electric Vehicles



Overview

Electric vehicles (EVs) are gradually becoming the most environmentally friendly mode of transportation as the auto industry advances rapidly. Both electrical engineering and software development helps in creating exquisite exteriors and robust cells. Software for designing electric cars is useful for assessing vehicle performance and identifying design flaws in BEVs. Comfort, safety, and value are all increased by embedded software in electric vehicles. Most significantly, software for electric cars aids in overcoming the primary drawbacks of BEVs. Software systems assist with vehicle management as electric automobiles require unique upkeep. Battery management technologies make it possible to maintain the batteries in electric cars, and smart routing solves the range issue. It seems clear that the autonomous and connected future will only be advantageous for electric automobiles.

The development of power electronics for EV motor controllers is essential as long as electric cars continue to rule the automotive scene. Motor controllers have evolved greatly from their simple origins to complex and intelligent control systems. Thus, the development of motor controllers for electric vehicles is a reflection of the remarkable strides made in the field of electric vehicles. The electric revolution is powered by these gadgets, which are guiding us towards a more sustainable and clean future. Moreover, additional breakthroughs can be anticipated in the near future, owing to the ongoing developments in power electronics and software intelligence.

Client Challenges

The client is a manufacturer of automotive components and wanted to enter into the power electronic market for which they needed an analysis on the overall market scenario. Following are the requirements asked by the client:

Key factors affecting the adoption of power electronics

Regulatory requirements and standards on country level

Market size in terms of USD and units considering FY 2020-2031 along with growth rate

Pricing analysis of top products and model preferred by automotive software customers

Company comparative analysis of both leading players and market disruptors

Current and future technological trends

System integrator's details for small countries

DBMR Approach/Research Methodology

Data Bridge Market Research approach involved the usage of both primary and secondary research methodologies to estimate, analyze and validate the data. The market size has been derived considering both top-down and bottom-up approaches. The bottom-up approach includes tracking down the trackable revenue such as, revenue earned by the different companies through its focused products/solutions along with its geographical sales. Moreover, strategic initiatives, pricing, and other factors were also studied. The entire data was collectively analyzed and summarized to get the market numbers on the country and regional level. The same data is validated by using top top-down approach. Top-down approach starts with a broader view in which we examined the focused and parent market on a global level first. This is further followed by breaking it down into segmental and on the regional level.

For this, we conducted a literature survey where we referred to different secondary sources such as the company's annual report & SEC filing, whitepapers, government associations, press releases, journals and others. We also considered data from various paid sources such as Hoovers, Factiva, and others. The entire secondary study has been bifurcated into market assessment, technology assessment and company assessment. Finally, data validation was done through primary research, which involves e-mail interactions, LinkedIn and telephonic interviews with others to finalize the number.

Hence, by following the above-mentioned approach, market insights were provided to the client accordingly.

Outcome and Business Impact

Following are the outcomes founded while analyzing the power electronics and automotive software market:

DBMR solution in electronics and software development, along with in-depth knowledge of automotive industry regulations and procedures has helped the client to create small, economical, and extremely effective solutions. This enabled them to meet safety and security criteria and also helped in accelerating their product development with increased efficiency.

In addition, it also helped the client to create cutting-edge power electronic solutions for electric cars and also gain insights in relation with the competitive advantage in this quickly changing industry. To satisfy the changing demands of EV manufacturers, the company should concentrate on enhancing power density, efficiency, thermal management, and dependability.

DBMR also suggested to form strategic alliances with EV producers, battery suppliers, and other important members of the electric vehicle ecosystem for new commercial prospects. Thus, technology alliances, supply contracts, and joint ventures helped in expanding the market penetration, stimulating innovation, and in generating profitable growth opportunities.

It has been witnessed that the demand for thorough after-sales support will rise as the EV market develops. Therefore, for guaranteed client happiness and loyalty, service centers were also opened in order to offer upkeep, repair, and upgrading services for power electronics components.



Conclusion

Data Bridge Market Research has provided in-depth insights in relation with the power electronics and automotive software to cater each requirement. Adding to this, the report's factual and consolidated information will help the client to evaluate the company's growth in terms of technology, penetration and can also be further utilized for decision making and future planning. Apart from this, the client can even access/capture the business opportunities from the reports' information.