Global EV BMS Market Predicted to Achieve Significant Growth, Reaching $6.32 Billion, with a CAGR of 14% from 2023-2030

DALLAS, TEXAS, USA, June 18, 2024 /EINPresswire.com/ -- Key contents of the Global EV Battery Management System Market report include:-

Market size & Forecast segmented by Geography, EV Type, Battery Pack Size and BMS Type.
Technology trends, Impact of regulations, and Constraints.
Average B2B Price by Geography and Pricing forecast.
Competitive landscape and market share of leading vendors.
OEM Stance On EVs And Impact On The BMS Market.
Future of wireless BMS.

As industries worldwide continue to see steady growth in EV sales mainly driven by stringent emission regulations and EV subsidies, the global market for EV BMS is set to experience substantial growth. According to the latest market study by Mobility Foresights, the "Global EV BMS 2023-2030" is expected to grow from $2.02 Billion in 2022 to $6.32 Billion by 2030, at a compound annual growth rate (CAGR) of 14%.

Market Overview:-
The global demand for EV BMS is expected to experience significant growth in the coming years, driven by the increasing demand for EVs, especially BEV, and also due to the Stringent emission regulations and EV subsidies which are accelerating the shift towards EV across the globe.

Electric vehicles have started to compete with ICE vehicles in China without the help of subsidies and this trend will continue as running costs are lower for BEVs. Battery packs are increasing in vehicles as battery prices decrease and value of BMS per vehicle will increase, though 2022 saw an increase in Li-ion battery price

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Key Growth Drivers:-
Increasing adoption of electric vehicles:- Almost 14 million new electric cars were registered globally in 2023, the growing demand for electric vehicles, driven by concerns over

environmental pollution and the need for sustainable transportation solutions, is a primary driver for the EV BMS market.

800V platforms:- 800V platforms operate at higher voltages compared to the more common 400V systems. This higher voltage necessitates the BMS to be designed to handle and manage the increased voltage levels safely and effectively, including aspects such as voltage monitoring, cell balancing, and insulation requirements.

Stringent emission norms: Many regions have implemented strict emission standards for vehicles like in Europe, which has accelerated the shift towards electric vehicles as a cleaner alternative to conventional internal combustion engine vehicles. This transition directly increases the demand for EV BMS.

Emergence of new battery technologies: The development of new battery technologies, such as solid-state batteries or alternative chemistries, requires compatible and specialized BMS solutions to manage their unique characteristics and requirements.

Market Challenges:-
Infrastructure Limitations: The widespread adoption of EVs is hindered in various regions mainly due to the lack of charging infrastructure. This makes it difficult for people to own and use EVs in the majority part of the world, thereby limiting the demand for EV BMS

Regulatory Compliance and Safety Concerns:- Working with higher voltages (800V) introduces increased safety risks, such as electric shocks, arcing, and potential fire hazards. It's a bit challenging to properly insulate, and protect mechanisms, and adherence to strict safety standards becomes crucial for BMS manufacturers.

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Key Criteria For EV BMS Vendor Selection By OEMs:

Share And Level Of Vehicle Electrification Across Portfolio:-
A higher level of vehicle electrification across an OEM`s portfolio provides the OEM and supplier, "scale", which is just not there in the EV market right now. OEMs choose suppliers with sufficient production capacity who can meet that volume at a lower price

OEM-Supplier Origin:-
For OEMs, who cannot manufacture EV BMS in-house, prefer to source from suppliers of the same origin. Ex-Xpeng – CATL, VW group- NXP Semiconductors

Price And Proximity To Manufacturing Plant:-
The Chinese market is extremely cost-sensitive and due to the comparatively low sticker price of

vehicle, the market demands components to be locally assembled to avail higher incentives. Delphi, Vitesco, and BorgWarner have already expanded their production locally

Sourcing Complete Bundled Solution:-
There is an active trend to source the battery and BMS from the same supplier to get the best output possible from the battery for the vehicle.

Regional Insights:-
The Asia-Pacific region, led by China, remains the largest market for EV BMS, driven by high electric vehicle sales in China as they are gaining traction and competing with internal combustion engine (ICE) vehicles without subsidies. This trend is expected to persist as the lower running costs of battery electric vehicles (BEVs) make them increasingly attractive to consumers.

On the other hand, stringent emission regulations and EV subsidies are accelerating the shift towards EVs in Europe. This presents a significant opportunity for BMS manufacturers targeting the European market.

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Future Outlook:-
Despite the high cost, the market is poised for growth, mainly due to the high demand for BEVs. China and Europe will be the markets with the largest growth from 2024-2034 followed by the USA. The market growth will occur due to the growth of BEV and HEV in the Global EV BMS Market.

Suppliers have developed and are trying out wireless BMS which will shift the entire landscape very quickly if necessary parameters are met. GM utilizes wireless BMS from Analog Devices and Visteon

Key Benefits for Stakeholders:-
Quantitative Market Analysis: This report delivers a quantitative analysis of market segments, current trends, estimations, and dynamics from 2024 to 2030 for the Global EV BMS market, highlighting significant opportunities.

Driver and Restraint Insights: Detailed insights into key factors driving the market growth, alongside major restraints, help stakeholders understand the impact of various market dynamics.

Detailed Market Segmentation: An in-depth analysis of market segmentation aids stakeholders in identifying the most lucrative niches.

Geographic Revenue Mapping: Major countries in each region are mapped according to their revenue contribution to the global EV BMS market.

Market Player Positioning: The report facilitates benchmarking and delivers a clear understanding of the current position of the market players involved.

Comprehensive Market Outlook: Includes an analysis of regional and global market trends, key players, market segments, application areas, and strategic market growth approaches.

Reasons to Purchase:
Strategic Decision Support: This report offers valuable data on market forecasts, sector trends, and micro and macro details to support strategic decisions.

Competitive Strategy Development: Insights into market share and positioning of key market players aid in developing competitive strategies and positioning one's own business effectively.

Risk Evaluation: Understanding market drivers, restraints, and dynamics helps in assessing potential risks and developing risk mitigation strategies.

Market Entry and Expansion: Detailed analysis of segmented market growth, geographic trends, and regulatory frameworks assists businesses in planning market entry and expansion strategies.

Optimal Investment Planning: The report guides stakeholders in identifying regions and sectors ripe for investment, helping optimize investment strategies.

Regulatory Impact Analysis: Provides a detailed understanding of the regulatory landscape and upcoming changes, which are crucial for compliance and strategic planning.

The report provides insight into current and future potential applications, which help the stakeholder to collaborate with certain players across industries.

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KEY FINDINGS:-
China and Europe will be the markets with the largest growth from 2024-2034 followed by the USA. The market growth will occur due to the growth of BEV and HEV in the Global EV BMS Market.

Electric vehicles in China are gaining traction and competing with internal combustion engine (ICE) vehicles without subsidies. This trend is expected to persist as the lower running costs of battery electric vehicles (BEVs) make them increasingly attractive to consumers.

Inhouse manufacturing of BMS has increased in 2022, as GAC joints the list with inhouse manufacturing of battery management system which will be key driver for expanding BMS models .

Passenger vehicles will be the largest contributor and they'll include all EV types while commercial vehicles will largely be focused on BEVs as they are shifting to electric, hence PV will be the key driver for BMS market.

Suppliers have developed and are trying out wireless BMS which will shift the entire landscape very quickly if necessary parameters are met. GM utilizes wireless BMS from Analog Devices and Visteon.

Battery packs are increasing in vehicles as battery prices are decreasing and value of BMS per vehicle will increase, though 2022 saw an increase in Li ion battery price. This will have a major impact on the utilization of BMS.

Tesla, BYD, and Hyundai Mobis are some of the major inhouse manufacturers of BMS in the market.

Players have introduced the next-generation automotive-grade Battery Management System (BMS) powered by state-of-the-art AI-enabled battery management software.

BMW will see growth especially with increasing battery packs to supply efficient management for plugged in vehicles as 800 V architecture will see increased growth as well as overall plugged in vehicle market.

Solid-state batteries still have to be implemented in a production vehicle. As Solid-state batteries will have higher energy density and will be safer in usage.

BMS suppliers will have to ensure that charging is conducted in such a way that damage is minimal while they can ease on the safety aspect as the batteries have a superior safety factor compared to the current Lithium-ion batteries in the market.

"EV BMS market will grow as electric vehicle adoption rises, especially in Europe and China. Demand for advanced BMS is driven by 800V architectures, wireless BMS and the need for high performance and safety"
- Karthik Heroor

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EV BMS MARKET TRENDS

Rise In Development of 400V & 800V Architecture:- The electric vehicle (EV) industry is witnessing a significant shift towards higher voltage architectures, with 400V and 800V systems gaining traction. This transition has a profound impact on EV BMS, driving advancements in technology, design, and functionality.

Rise In Average Battery Capacity:- The average battery pack per vehicle will see an increase from 2023 – 2034. This will require intense cooling for improved performance and eliminating fires which will require superior battery management. Balancing high performance with the compact design of EV BMS is pushing for innovative packaging and integrated functionalities.

Cloud-based BMS and over-the-air updates:-Cloud-based BMS solutions enable remote monitoring, data analytics, and over-the-air (OTA) updates for firmware and software upgrades, improving performance, security, and enabling predictive maintenance capabilities.

Modular and scalable BMS architectures: To cater to the diverse battery pack configurations and voltages used in different EV models, BMS manufacturers are developing modular and scalable architectures that can be easily adapted and customized to specific vehicle requirements.

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COMPANY PROFILES
BYD
Tesla
Hyundai Mobis
CATL
Analog Devices
Leclanché
Lithium Balance
BorgWarner
Hella GmbH
Valeo

THIS REPORT WILL ANSWER FOLLOWING QUESTIONS
- EV BMS market size and forecast, By Geography, EV Type, Power Output, and Vehicle Type
- Competitive landscape and market share of Top Players
- Key drivers and restraints shaping the growth of the EV BMS market
- Technology trends and related opportunities for EV BMS Manufacturers and suppliers
- Shift in the semiconductor technology used in EV BMS
- Effects of regulations and policies imposed in various geographies and impact on the growth of the EV BMS market
- Impact on EV BMS due to Technological development across EV Market

- Current and upcoming major EV Powertrain and Platforms, and impact on the EV BMS Market
- Support by Governments (like Subsidies) across the globe and impact on upcoming EV BMS in the market
- The key supply chain dynamics and sourcing strategies adopted by EV BMS manufacturers
- Unmet Needs And Market Opportunity For Suppliers
- The potential entry barriers and risks for new players entering the EV BMS market

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