

Global Electric Vehicle Battery Thermal Management Systems Market Size Study, by Propulsion (BEV, PHEV, FCEV), by Offering (BTMS with Battery, Without Battery), by Technology (Active, Passive, Hybrid), by Battery Type, by Battery Capacity, by Vehicle Type, and Regional Forecasts 2022-2032

https://marketpublishers.com/r/G71BAAD815D1EN.html

Date: February 2025

Pages: 285

Price: US\$ 4,950.00 (Single User License)

ID: G71BAAD815D1EN

Abstracts

The Global Electric Vehicle Battery Thermal Management Systems Market is valued at approximately USD 3.23 billion in 2023 and is poised to grow at a robust compound annual growth rate (CAGR) of 14.7% during the forecast period from 2024 to 2032. The rising demand for electric vehicles (EVs) across the globe has heightened the need for efficient battery thermal management systems (BTMS). These systems are critical to ensuring the safety, longevity, and performance of EV batteries, particularly as advancements in EV technology push the boundaries of energy density and charging speed. By integrating active, passive, and hybrid thermal management technologies, BTMS provides effective solutions to mitigate overheating, thermal runaways, and power loss, which are key concerns in EV adoption.

The market is fueled by the accelerating transition to electrified transportation, driven by stringent environmental regulations and incentives promoting zero-emission vehicles. Technological innovations in BTMS, such as liquid cooling systems and phase-change materials, have significantly improved the energy efficiency and reliability of EV batteries. However, the high cost of advanced BTMS technologies and their integration into EV architectures presents a notable challenge. Nevertheless, ongoing R&D efforts and economies of scale are expected to reduce costs over the forecast period, thereby bolstering market growth.



The applications of BTMS extend beyond passenger vehicles to encompass commercial EVs and electric two-wheelers. As electric buses and delivery vans gain traction in urban mobility solutions, the need for scalable, efficient BTMS solutions becomes paramount. Furthermore, advancements in battery capacity and energy storage are expanding the scope of BTMS to support high-performance EVs, fostering innovation in the sector.

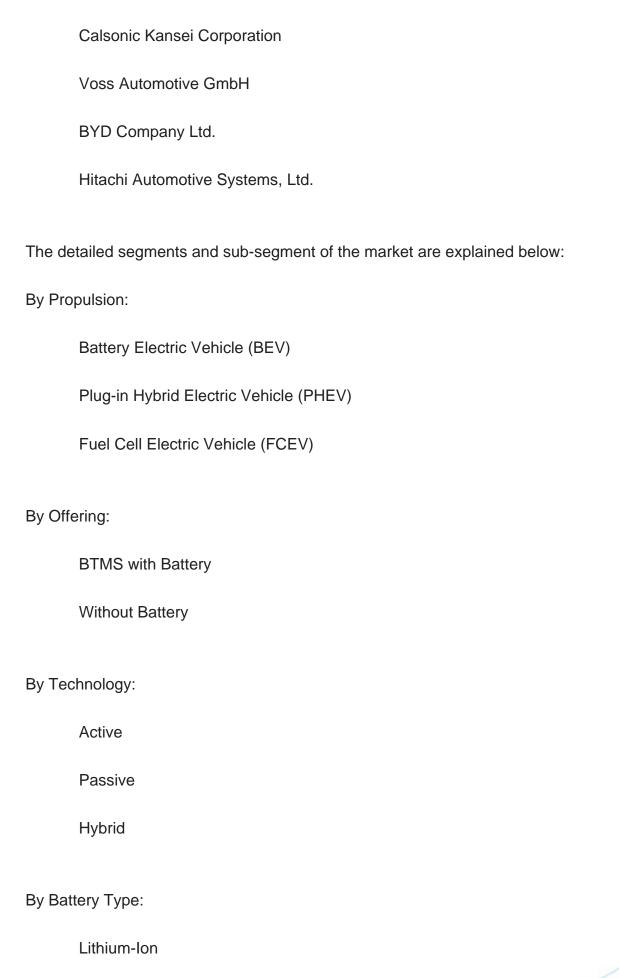
Regionally, North America dominates the market due to its established EV ecosystem, supportive government policies, and a significant presence of key automotive players. Europe follows closely, driven by stringent carbon neutrality targets and expanding EV infrastructure. Meanwhile, the Asia-Pacific region is projected to exhibit the fastest growth during the forecast period, bolstered by government subsidies, rapid urbanization, and the increasing production of EVs in countries like China, Japan, and South Korea.

Major market players included in this report are:

LG Chem
Valeo
Gentherm Inc.
Mahle GmbH
Denso Corporation
Hanon Systems
Dana Incorporated
Continental AG
Samsung SDI
Robert Bosch GmbH

Panasonic Corporation







	Solid-State	
	Others	
By Battery Capacity:		
	Below 50 kWh	
	50-100 kWh	
	Above 100 kWh	
By Vehicle Type:		
	Passenger Vehicles	
	Commercial Vehicles	
	Two-Wheelers	
By Region:		
North America:		
	U.S.	
	Canada	
Europe:		
	UK	
	Germany	



	France	
	Spain	
	Italy	
	Rest of Europe	
Asia-Pacific:		
	China	
	India	
	Japan	
	Australia	
	South Korea	
	Rest of Asia-Pacific	
Latin America:		
	Brazil	
	Mexico	
Middle East & Africa:		
	Saudi Arabia	
	South Africa	
	Rest of Middle East & Africa	



Years considered for the study are as follows:

Historical Year: 2022

Base Year: 2023

Forecast Period: 2024 to 2032

Key Takeaways:

Market estimates & forecast for 10 years from 2022 to 2032.

Annualized revenues and regional-level analysis for each market segment.

Detailed analysis of geographical landscape with country-level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approaches.

Analysis of competitive structure of the market.

Demand-side and supply-side analysis of the market.



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Plug-in Hybrid Electric Vehicle (PHEV)

Fuel Cell Electric Vehicle (FCEV)

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BTMS with Battery

Without Battery

1.3.3. By Technology

Active

Passive

Hybrid

1.3.4. By Battery Type

Lithium-Ion

Solid-State

Others

1.3.5. By Battery Capacity

Below 50 kWh

50-100 KWH

Above 100 kWh

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Passenger Vehicles

Commercial Vehicles

Two-Wheelers

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