



# THERMAL MANAGEMENT SUMMIT 2024

THERMAL MANAGEMENT OF LITHIUM-ION BATTERIES,  
TRACTION MOTORS AND POWER ELECTRONICS

40+  
EV  
Manufacturer

30+  
Thermal Solutions  
Provider

20+  
Battery  
Manufacturers

25+  
Speakers

 **THE LALIT ASHOK, BANGALORE**

**24 SEPTEMBER 2024** 


## An extensive forum to focus on Materials, technologies, OEM strategies, player analysis and market forecasts

### 2nd Edition | 24th September 2024 | Bangalore, India

After the resounding success of EVTMS 2023, we are thrilled to announce the 2nd Edition of the EV Thermal Management Summit, a pivotal gathering that explores the forefront of innovation in electric vehicle (EV) thermal management. This year, we are extending the summit to a two-day extravaganza, building on the success of the first edition and creating an even more immersive and enriching experience.

EV Thermal Management Summit 2024 is a direct reflection of where India's EV thermal management industry is right now and is geared to give attendees practical insight and extensive coverage from leading OEMs, Tier-1, and Tier-2/3 vendors on the most important topics in the space right now, focusing on all the different domains that are contributing to thermal management.

#### I. Event Highlights

- 1. Comprehensive Insights:** Delve into a comprehensive exploration of the latest trends, breakthroughs, and challenges in the realm of EV thermal management. Our expert speakers and thought leaders will provide in-depth insights into the cutting-edge technologies shaping the future of electric mobility.
  - 2. Industry Collaboration:** Connect with a diverse and influential audience of industry leaders, professionals, engineers, and researchers. Foster collaboration, share ideas, and engage in meaningful discussions that can drive the industry forward.
  - 3. Extended Networking Opportunities:** Expand your professional network by participating in our extensive networking sessions. Forge new connections, exchange knowledge, and establish partnerships that can fuel your success in the rapidly evolving landscape of electric vehicles.
  - 4. Showcasing Innovation:** Explore a dynamic showcase featuring the latest innovations, products, and services in EV thermal management. Leading companies at the forefront of the industry will demonstrate cutting-edge technologies that promise to revolutionize the way we approach thermal management in electric vehicles.
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## II. Key Topics

- 01 Li-ion battery cooling: air, liquid, refrigerant and immersion
- 02 Thermal interface materials
- 03 Heat spreaders and cooling plates
- 04 Thermal runaway importance, detection and prevention
- 05 Fire safety: regulations and solutions
- 06 Electric motor thermal management
- 07 Power electronics thermal management

## III. Key Practical Points Of The Conference

Upcoming and emerging technologies for Thermal Management

Market opportunities for thermal products and services

HVAC and climate control solutions

Thermal design and modeling solutions

Optimizing thermal management for e-cars

High-efficiency climate control systems with a heat and cold storage unit for EV

Future fluids for EVs' cooling systems

R D in Thermal Management related spaces

Future trends in high performance materials for Thermal Management modules

How to reduce fuel consumption and CO2 emissions

Fluid management novelties for effective powertrain thermal performance

Next generation, alternative, environmentally benign refrigerants

# EV Thermal Management Summit Agenda

09:00 – 09:45	<b>REGISTRATION, REFRESHMENTS AND NETWORKING</b>
09:45 – 10:00	<b>CONFERENCE INAUGURATION AND OPENING SPEECH BY CHAIRPERSON</b>
10:00 – 10:20	<b>KEYNOTE PRESENTATION</b> Presentation by Chief Guest
10:20 – 11:00	<b>PANEL DISCUSSION</b> Regulatory Landscape and Standards for EV Thermal Management in India <ul style="list-style-type: none"><li>• Existing and evolving regulations related to thermal management in electric vehicles in India and their implications for manufacturers.</li><li>• Overview of current regulations impacting EV thermal management.</li><li>• Future regulatory trends and their implications for manufacturers.</li><li>• Standardization efforts and industry collaboration.</li></ul>
11:00 – 11:20	<b>KEYNOTE PRESENTATION</b>
11:20 – 11:40	<b>TEA BREAK WITH NETWORKING</b>
11:40 – 12:00	<b>KEYNOTE PRESENTATION</b>
12:00 – 01:00	<b>PANEL DISCUSSION</b> "Innovations in Thermal Management Materials and Manufacturing" <ul style="list-style-type: none"><li>• Advances in materials enhancing thermal conductivity and durability.</li><li>• Manufacturing processes for efficient thermal management components.</li><li>• Cost-effective solutions for mass production in the Indian market.</li></ul>
01:00 – 02:00	<b>LUNCH BREAK WITH NETWORKING</b>
02:00 – 02:20	<b>KEYNOTE PRESENTATION</b>
02:20 – 02:40	<b>KEYNOTE PRESENTATION</b>
02:40 – 03:40	<b>PANEL DISCUSSION</b> "Battery Cooling Solutions for Indian EVs" <ul style="list-style-type: none"><li>• Comparing liquid cooling and air cooling approaches for Indian EV batteries.</li><li>• Challenges and innovations in battery cooling technologies.</li><li>• Practical considerations for efficient battery thermal management.</li></ul>
03:40 – 04:00	<b>TEA BREAK WITH NETWORKING</b>
04:00 – 05:00	<b>PANEL DISCUSSION</b> "Commercial EVs and Thermal Management Challenges" <ul style="list-style-type: none"><li>• Addressing specific thermal challenges in electric buses and trucks.</li><li>• Cooling strategies for heavy-duty commercial EVs.</li><li>• Balancing thermal needs with payload and range requirements.</li></ul>
05:00 – 05:15	<b>CLOSING REMARKS</b>



## IV. Who Should Attend?

This conference will gather together CEOs, CTOs, CIOs, COOs, SVPs, VPs, Directors, Global Heads, Heads, Managers, Team Leaders, Specialists, Strategists, Planners and Officers of the following divisions


<ul style="list-style-type: none"><li>● <b>Parts &amp; Components Supplier</b></li><li>● <b>Design, Testing &amp; Consulting</b></li><li>● <b>Aerospace Operations &amp; Services</b></li><li>● <b>Academia</b></li><li>● <b>Specialty Vehicle</b></li><li>● <b>Heavy Duty Incl. Heavy truck,</b></li><li>● <b>Industrial &amp; Military Government</b></li></ul>	<ul style="list-style-type: none"><li>● <b>OEMs</b></li><li>● <b>Systems Integrator</b></li><li>● <b>Tier</b></li><li>● <b>Passenger cars</b></li><li>● <b>Engineering Management</b></li><li>● <b>Product &amp; System Design &amp; Development</b></li><li>● <b>Testing, Validation &amp; Certification</b></li></ul>
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## V. BENEFITS FOR OUR ATTENDEES

- By attending our conference you will get an access to a new solutions for your business development
- Conduct face-to-face business meetings with decision makers to initiate new business projects
- You will have an opportunity to discuss about industry challenges and keynote speaker presentations during speed networking breaks, coffee breaks, business lunches, and cocktail reception
- Make a business contact with a top leader experts and solution providers to solve most of business challenges
- You will get full access to all event's presentations and conference materials

## VI. Why Attend

The 2nd Edition of the EV Thermal Management Summit promises to be a pivotal event for anyone involved or interested in the electric mobility sector. Whether you are an industry veteran, an entrepreneur, or an enthusiast, this summit offers a unique opportunity to:

- Stay ahead of industry trends and advancements.
  - Participate in discussions shaping the future of EV thermal management.
  - Connect with key players and influencers in the electric mobility space.
  - Explore innovative solutions and technologies that are driving the industry forward.
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## VII. Thermal Solutions at EVTMS

Electrical vehicle (EV) thermal management is a critical aspect to ensure the efficient operation, performance, and safety of electric vehicles. Here are various solutions commonly employed in the field of electrical vehicle thermal management:

### Active Battery Thermal Management

- Liquid Cooling Systems: Circulation of a cooling fluid through the battery pack to maintain optimal operating temperatures.
- Air Cooling Systems: Using fans or other air-cooling methods to dissipate heat from the battery.

### Efficient Motor Cooling

- Liquid-Cooled Motors: Integration of liquid cooling systems for electric motors to enhance performance and prevent overheating.
- Heat Exchangers: Devices to transfer heat away from critical components, such as motors and power electronics.

### Thermal Insulation and Encapsulation:

- Use of insulation materials to protect the battery and electronic components from external temperature fluctuations.
- Encapsulation of sensitive parts to maintain a stable internal temperature.

### Climate Control Systems:

- Cabin Heating Systems: Efficient electric heating systems to warm the vehicle interior during cold weather without significant impact on range.
- Cabin Cooling Systems: Air conditioning systems designed for electric vehicles to manage cabin temperatures.

### Adaptive Thermal Control Software:

- Development of intelligent software that adjusts thermal parameters based on real-time data, driving conditions, and energy demands.
- Predictive analytics for proactive thermal management and system optimization.

### Thermal Interface Materials:

- Use of advanced materials with high thermal conductivity to improve heat transfer efficiency between components.
- Thermal pastes, pads, and phase-change materials for effective heat dissipation.

### Energy Recovery Systems:

- Utilization of waste heat from the electrical components for cabin heating or to improve overall system efficiency.
- Regenerative thermal management systems to recover and reuse heat energy.

### **Fast Charging Thermal Solutions:**

- Thermal management strategies to address heat generation during fast-charging sessions.
- Integration of cooling systems in charging infrastructure to maintain optimal charging temperatures.

### **Smart Sensors and Control Systems:**

- Integration of temperature sensors and control systems for real-time monitoring and adjustment.
- AI-driven thermal control algorithms for adaptive and predictive thermal management.

### **Material Science Innovations:**

- Use of advanced materials with high thermal conductivity and low weight for components such as heat sinks and radiators.
- Development of lightweight and thermally efficient materials for battery packs.

### **Charging Infrastructure Integration:**

- Collaboration between EV manufacturers and charging infrastructure providers to optimize thermal conditions during charging.
- Thermal solutions to manage heat buildup in charging stations.

### **Regenerative Braking Thermal Management:**

- Strategies to manage heat generated during regenerative braking to prevent system overheating.
- Integration of thermal systems to dissipate excess heat efficiently.

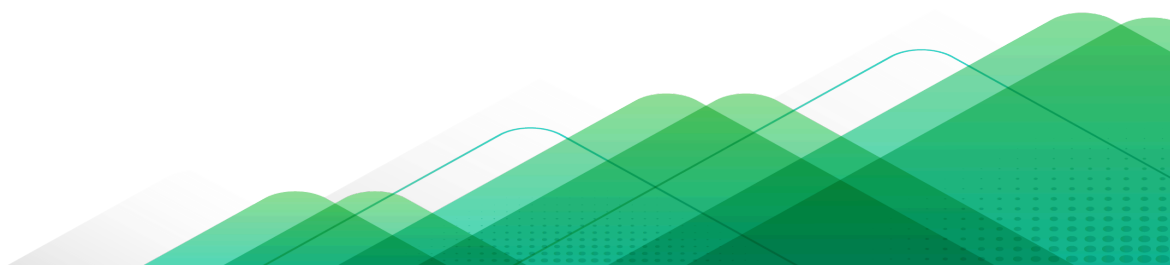
### **Predictive Maintenance Systems:**

- Implementation of systems that predict and address potential thermal issues before they impact performance.
- Remote monitoring for proactive maintenance based on thermal conditions.

### **Emergency Thermal Management Protocols:**

- Development of fail-safe mechanisms to handle extreme thermal conditions and prevent critical failures.
- Integration of emergency cooling systems for extreme conditions.

These solutions collectively contribute to the overall efficiency, safety, and longevity of electric vehicles by effectively managing thermal conditions. The specific combination of these solutions depends on factors such as vehicle design, climate, and intended use.



## VIII. Participating companies profile

Several solution companies will be showcasing/presenting their products and innovations at EVTMS. These companies typically specialize in various aspects of thermal management, battery technologies, materials, and components that contribute to the overall efficiency and performance of electric vehicles. Here are types of solution companies that will be participating:

### **Battery Thermal Management:**

- Companies offering advanced battery cooling and thermal management solutions for electric vehicles.

### **Heat Exchangers and Radiators:**

- Companies specializing in heat exchangers and radiators designed for electric vehicle cooling systems.

### **Climate Control Systems:**

- Manufacturers of heating, ventilation, and air conditioning (HVAC) systems tailored for electric vehicles.

### **Electric Compressors and Pumps:**

- Companies providing electric compressors and pumps for air conditioning and cooling systems in EVs.

### **Sensors and Monitoring Solutions:**

- Providers of temperature sensors, thermal monitoring systems, and predictive maintenance solutions.


### **Electric Drivetrain Cooling Solutions:**

- Companies offering thermal management solutions for electric motors, inverters, and power electronics.

### **Materials and Components Innovators:**

- Companies developing advanced materials with improved thermal conductivity for use in EV components.

### **Charging Infrastructure Integration:**

- Companies focusing on thermal solutions for electric vehicle charging infrastructure, especially fast-charging stations.
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### **Energy Recovery Systems:**

- Companies specializing in systems that recover and utilize waste heat from electric vehicles for improved efficiency.

### **Smart Thermal Management Systems:**

- Providers of intelligent thermal management systems with real-time monitoring and control features.

### **Regulatory Compliance and Certification Services:**

- Consulting firms and companies offering services related to regulatory compliance and certification for thermal management solutions.

### **Collaborative Ecosystem Partners:**

- Companies interested in collaboration and integration within the broader EV ecosystem, including OEMs, battery manufacturers, and technology partners.

### **Research and Development Institutions:**

- Academic institutions and research organizations contributing to advancements in EV thermal management.

### **Supply Chain Optimization Companies:**

- Companies offering solutions to optimize the supply chain for thermal management components, ensuring cost-effectiveness and reliability.

### **End-of-Life Consideration Providers:**

- Companies focusing on recycling and sustainable solutions for thermal components at the end of their lifecycle.


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### **End-of-Life Consideration Providers:**

- Companies focusing on recycling and sustainable solutions for thermal components at the end of their lifecycle.

### **AI and Predictive Analytics Providers:**

- Companies offering artificial intelligence (AI) solutions and predictive analytics for proactive thermal management.

### **Emergency Thermal Management Protocols:**

- Companies specializing in fail-safe mechanisms to handle extreme thermal conditions and prevent critical failures.

Engaging with companies across these categories can provide a comprehensive overview of the latest innovations and solutions in the field of electrical vehicle thermal management. Conference organizers should reach out to a diverse range of stakeholders to ensure a well-rounded and informative event.



## IX. Audience profile

The audience for EVTMS is diverse and inclusive, bringing together professionals, experts, and stakeholders from various sectors of the electric vehicle industry. The conference aims to facilitate meaningful discussions, knowledge exchange, and networking opportunities. Here's a suggested list of target audience members for EVTMS:

### Automotive Engineers and Technologists:

- Professionals involved in the design, development, and engineering of electric vehicles.

### Thermal Management Specialists:

- Experts in thermal management systems, including those focused on batteries, electric motors, power electronics, and other critical components.

### Battery Technology Professionals:

- Researchers, engineers, and technologists working on advancements in battery technologies and energy storage.

### Charging Infrastructure Providers:

- Representatives from companies involved in developing electric vehicle charging infrastructure.

### Supply Chain and Manufacturing Professionals:

- Individuals responsible for the supply chain, manufacturing, and production of components related to thermal management.

### Materials and Components Suppliers:

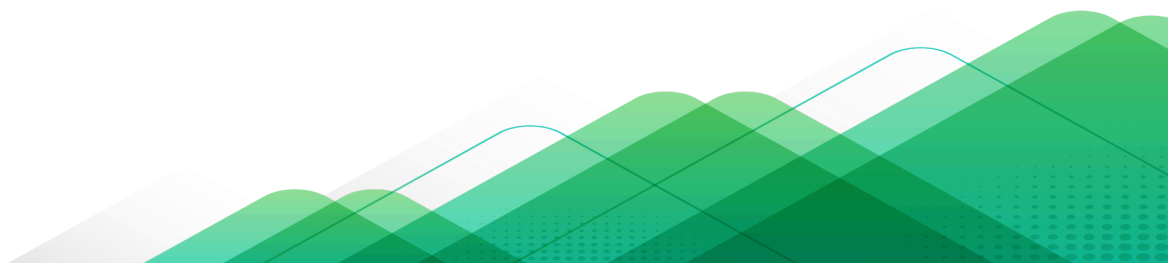
- Companies providing materials, components, and solutions relevant to thermal management in electric vehicles.

### Automotive OEMs (Original Equipment Manufacturers):

- Executives, engineers, and representatives from automotive OEMs working on electric vehicle projects.

### Regulatory Authorities:

- Representatives from regulatory bodies involved in setting standards and guidelines for electric vehicle thermal management.



### **Research and Development Institutions:**

- Academics, researchers, and scientists contributing to advancements in electric vehicle thermal management.

### **Smart Grid and Energy Management Professionals:**

- Individuals involved in smart grid technologies and energy management solutions for electric vehicles.

### **Charging Network Operators:**

- Professionals from companies operating and managing electric vehicle charging networks.

### **Automotive Industry Analysts:**

- Analysts and market researchers providing insights into trends and developments in the electric vehicle industry.

### **Environmental and Sustainability Experts:**

- Professionals focusing on the environmental impact and sustainability aspects of electric vehicles.

### **Fleet Managers and Operators:**

- Managers and operators of electric vehicle fleets, including commercial and public transportation.

### **Automotive and Technology Journalists:**

- Media representatives covering developments in the electric vehicle and thermal management sectors.

### **Consultants and Advisors:**

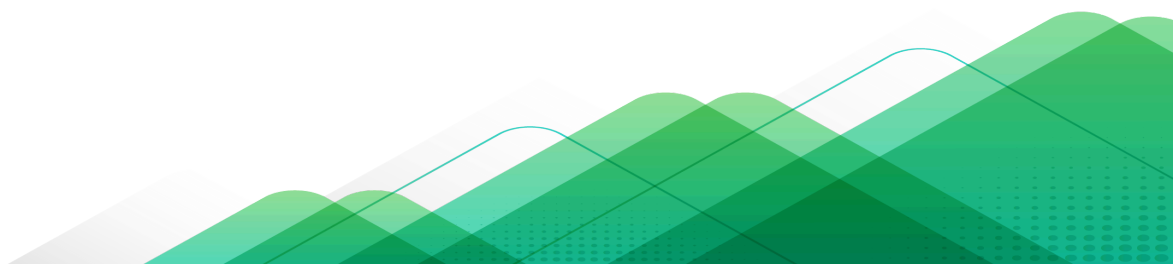
- Professionals offering consulting services and strategic advice related to electric vehicle thermal management.

### **Government Representatives:**

- Officials from government agencies involved in promoting and regulating electric vehicle adoption.

### **Startups and Innovators:**

- Entrepreneurs and innovators developing new solutions and technologies in the electric vehicle thermal management space.



By inviting a diverse audience, the conference aims to foster collaboration, share best practices, and promote a holistic understanding of the challenges and opportunities in the field of electric vehicle thermal management.

# Contact Us



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