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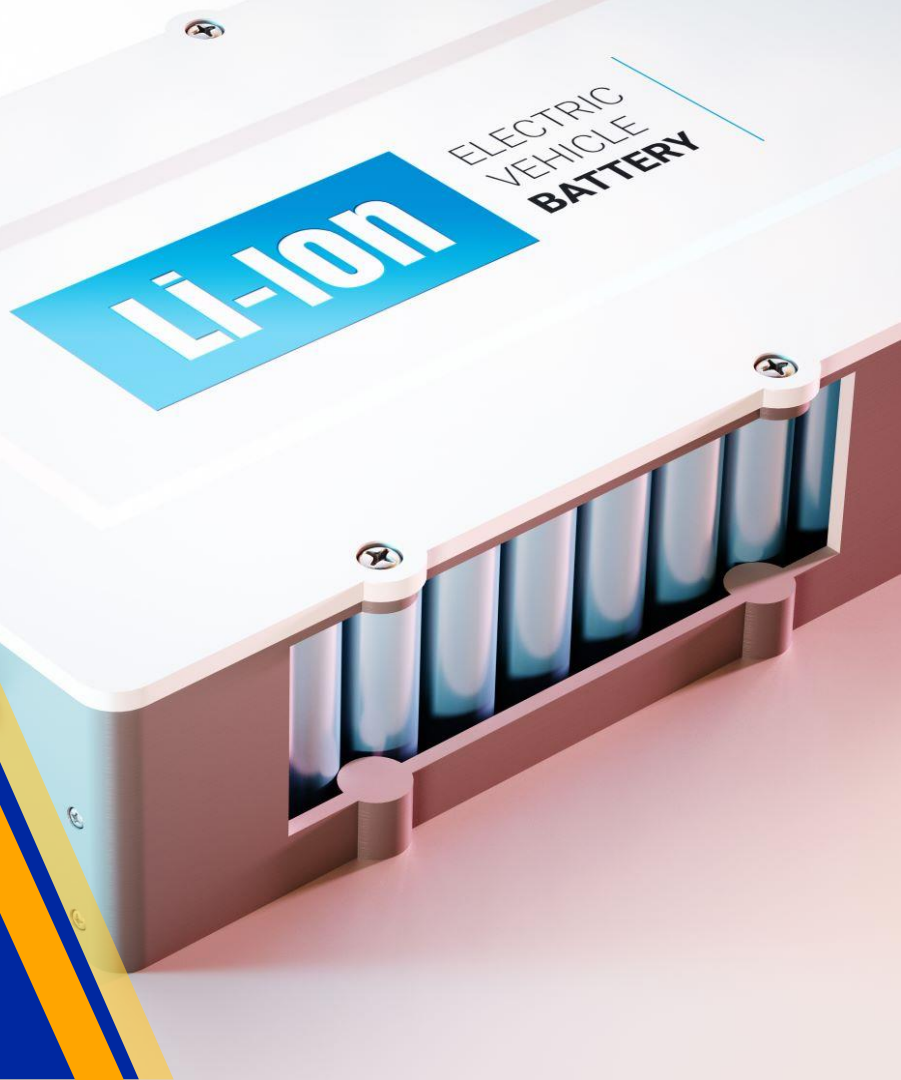
INDIAN ELECTRIC VEHICLE INDUSTRY

Over 150 GWh of li-ion battery cell capacity committed to be operational by 2030

MARCH 2025



Highlights

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Multiple challenges exist on the road to establishing a cell manufacturing ecosystem, primary ones being technology complexity, high capital intensity and raw material availability

There is no significant development of battery recycling infrastructure yet

Electric vehicle (EV) penetration across automotive segments is expected to increase exponentially over the next five years, spurred by Government support, enhanced awareness and increasing product launches. Given that battery is the most critical and costly component of an EV, accounting for 35-40% of the cost, battery cell manufacturing has garnered a lot of attention in recent times.

Globally, China dominates the Li-ion battery ecosystem both in terms of raw material processing and manufacturing capacities. Li-ion battery pack prices have declined over the years, with ~20% YoY decline in CY2024, with the significant increase in supply partly leading to the decline in battery pack prices. The global Li-ion battery supply is expected to outpace demand over the medium term.

India currently remains dependent on imports to meet its Li-ion battery cell requirements, with domestic capabilities limited to battery pack assembly. The demand for Li-ion battery cells for EVs in India is expected to reach 11-13 GWh by end of FY2025 and 60-65 GWh by FY2030. Apart from EVs, Li-ion batteries are also likely to attract demand from stationary applications.

Several entities have committed significant investments in the Li-ion battery cell segment in India. Over 150 GWh of Li-ion battery cell capacities are to become operational by 2030, with investments exceeding Rs. 75,000 crore for committed capacities. Some of the localisation is through technology transfers/alliances with overseas battery cell players.

Indian Li-ion battery cell projects fall in the high-risk category. They are exposed to risks arising from time and cost overruns. Further, significant dependence on imports for sourcing raw materials exposes them to geopolitical and region-specific risks for raw materials, and forex fluctuations. There is also offtake risk, till the battery's reliability/performance is proven.

Agenda

01

Global EV Battery Supply Chain

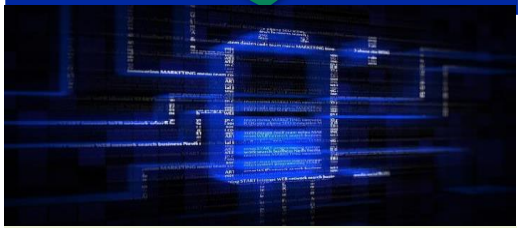
02

Global Demand-Supply Scenario

03

Indian Li-ion Battery Industry

04



Policy Support

05

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Thank You!