

Contributing to the resolution of lithium-ion battery (LiB) issues, from initial development to final reuse

Materiality1 Action Target1 Action Target2

Action Plan 3 Provide solutions that contribute to manufacture of safe and inexpensive LiBs that drive electrification and development of next-generation LiBs

Action Plan 6 Developing and providing solutions to increase corporate value for customers in the value chain, including lithium-ion battery reuse, recycling, and manufacturing, starting with commercial EV fleet management companies

Keywords

Pre-engineering

Contaminant inspection

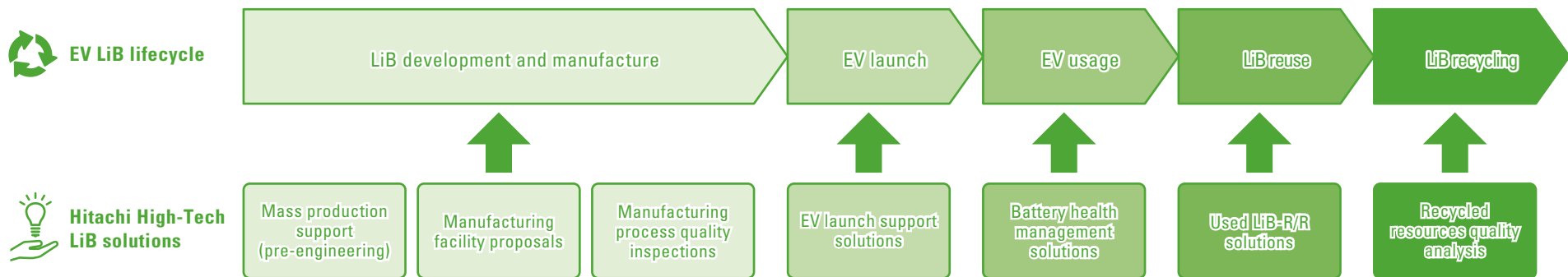
LiB lifecycle management solutions

Developing solution supporting the accelerating shift to EVs

To counter global warming, the automobile industry is accelerating the shift from gasoline and diesel to electric vehicles (EV). We propose LiB*¹ manufacturing facilities essential for EVs, and provide development and production support to manufacturers of next-generation batteries (advanced LiB*², all-solid-state batteries*³, etc.). We also provide inspection solutions to ensure battery manufacturers produce safe LiBs. Furthermore, we aim to develop solutions that cover the entire LiB lifecycle, from decisions regarding EV launches, optimal EV operation and maintenance, and extending LiB lifespans, to their reuse and recycling.

Pre-engineering activities supporting the development and manufacture of next-generation batteries

LiBs used in EVs at present are expected to account for more than 60% of the mobility battery market by 2030. At the same time, the development of next-generation batteries with reduced environmental impact and higher performance is also accelerating, and research and development is progressing around the world aimed at practical application and mass production. Hitachi High-Tech dispatches engineers to manufacturers that have recently entered the next-generation battery manufacturing industry, and our expanded manufacturer support, from the development of prototype lines to the development of equipment for mass production, facilitates the realization of prototype and pilot production. We will continue to support advanced battery development and accelerate efforts to quickly realize a decarbonized society.



*¹ Lithium-ion batteries (LiB): Considered to be relatively environmentally friendly, as they do not use lead, cadmium, or other harmful substances. Recycling technologies are also advancing, making it possible to extract resources from used batteries.

*² Advanced LiB: Next-generation secondary batteries based on existing LiBs that offer improved performance.

*³ All-solid-state batteries (all-solid-state lithium-ion secondary batteries): Batteries with solid rather than liquid electrolytes, which improves safety and reduces the risk of fire. As they are also capable of rapid charging, they are expected to be used in electric and other vehicles.