

Power Storage and Electric Drive Technologies that Help Counter Global Warming



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WHILE energy conservation achieved through the electrification of motive power and the application of advanced control systems is essential to the creation of a low-carbon society that is environmentally conscious, complementing this with the capacity to store energy in batteries opens up possibilities for new ways of adding value. Hitachi is establishing a position for itself in those battery-related fields needed to make this a reality and this will allow it to make a major contribution to society based on its advanced technologies and extensive business resources.

In the field of high-performance lithium-ion batteries specifically, this extends from electrode materials to manufacturing processes; the battery cells that act as the core electrical storage elements; control technologies for using these safely and efficiently; the implementation of system integration and other technologies that combine large numbers of batteries with inverters, motors, and other components to provide efficient electric drive; and technologies for electricity grid interconnection which are currently under development. Hitachi's ultimate goal is not to focus on batteries in isolation but to establish for itself an organization that is fit to be called a power solutions business.

This issue provides an overview of these technologies and describes what Hitachi is doing

at each stage of the long value chain from battery materials to power solutions. In addition to operating independently of each other, it is also important that the businesses at each of these stages seek out synergies with the stages above and below. With this in mind, our hope is that readers will read all of the articles in this issue, although the individual articles are written in such a way that you can also read only those that interest you. We hope that by reading the appropriate sections you can obtain a deeper understanding.

Hitachi, Ltd. established a dedicated battery systems subsidiary on April 1, 2010. The Battery Systems Company works with the operational and other relevant Hitachi departments that are involved in the battery business to supply products, systems, and services that meet the needs of customers and society in the public, industry, and consumer sectors with the aim of "strengthening business operations from battery devices to power solutions and building a new business through coordination of the Hitachi Group." We look forward to hearing your feedback and earning your support.