

**DOWA ECO-SYSTEM Increases Processing of Lithium-Ion Batteries and Enables Both Safe Treating and Efficient Metal Recycling**

DOWA ECO-SYSTEM CO., LTD. (14-1 Sotokanda 4-Chome, Chiyoda-ku, Tokyo; Capital: ¥1,000 million; President: Minoru Tobita), a subsidiary of DOWA HOLDINGS CO., LTD. (same location; Capital: ¥36,400 million; President: Akira Sekiguchi), will commence the operation of recycling lines for lithium-ion batteries after detoxification in Odate City, Akita Pref. in January 2019 to safely treat lithium-ion batteries, efficiently recycle metals, and increase processing.

The spread of lithium-ion batteries is advancing for electric appliances, automobiles such as HV/EV, and houses. On the other hand, because there is a risk of electric shock and fire when disposing of and dismantling lithium-ion batteries, and because the value of recovered smelting raw materials depends on the volatility of metal prices, the building of a safe treating and efficient recycling system is desired.

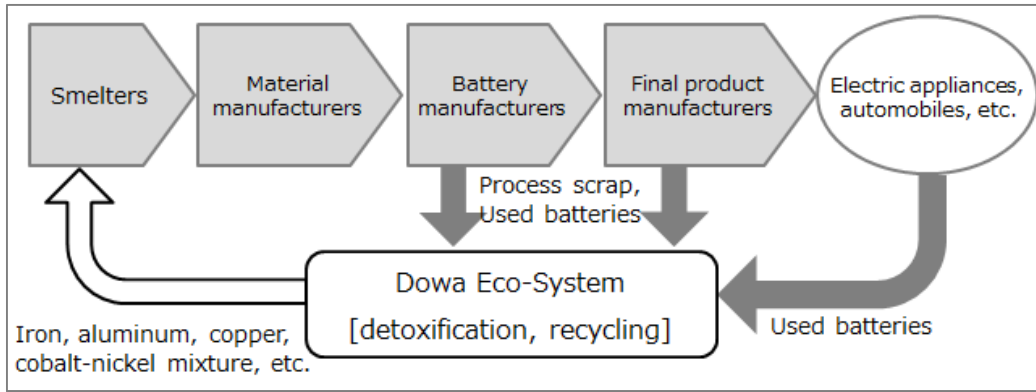
DOWA ECO-SYSTEM CO., LTD. has participated in the collaborative collection scheme of lithium-ion batteries launched by Japan Automobile Manufacturers Association, Inc. since October 2018. ECO-SYSTEM AKITA CO., LTD. and ECO-SYSTEM SANYO CO., LTD. in the DOWA Group have been registered as battery recycling facilities.

Currently, the DOWA Group detoxifies lithium-ion batteries with heat treatment in multiple large incinerators owned by the group, sorts them into iron and other mixed metals, and the mixed metals at MELTEC Ltd., which is also a member of the DOWA Group, to be recycled into artificial aggregates for construction materials and raw materials for smelting.

The recycling lines that will commence operation this time have a processing capacity of around 100 tons per month. Batteries after detoxification by heat treatment are separated into iron, aluminum, copper, a cobalt-nickel mixture, and other material. Accordingly, DOWA ECO-SYSTEM CO., LTD. can recycle lithium-ion batteries into each smelting raw material more efficiently than at present. This enables both the safe treating and efficient recycling of lithium-ion batteries, and DOWA ECO-SYSTEM CO., LTD. will increase the processing of lithium-ion batteries.

Moving forward, in response to the increased demand for the disposal and recycling of lithium-ion batteries, DOWA ECO-SYSTEM CO., LTD. will consider expanding the capacity of the recycling lines and adding value.

The DOWA Group continuously enhances environment and recycling services such as the appropriate treating and recycling of waste to contribute to preserving the global environment.



The flow of manufacturing, processing, and metal recycling lithium-ion batteries