















# **Supplying Batteries and Electronic Devices Which Contribute to Society Across Multiple Platforms**

FDK Group promotes activities to bring satisfaction to customers and position FDK as a trusted energy management manufacturer by continuously developing and supplying batteries and electronic devices, which use proprietary technology to meet market needs, while FDK flexibly responds to environmental changes.

#### FDK Group Initiatives

FDK Group continues to provide batteries and electronic devices that use environmentally-friendly materials by complying with environmental laws and regulations to further heighten value as a company cultivating

the future. As one part of business, we work to develop products able to provide new added value brought about by using differentiated technology accumulated from our experience up until now.

## "Offering Safety" and "Fulfilling Our Responsibility to the Environment" with Unique Differentiated Technology

FDK is a unique corporate group globally that combines and possesses technologies for batteries and electronic devices

For example, differentiated technology that utilizes this uniqueness has succeeded in making FDK Battery System technology, a technology that integrates the advantages of both batteries and electronic devices.

FDK strives in product development with care to always provide products suited to the global environment in demand by customers as well as the market.

FDK is also actively demonstrating these ingenuities at various exhibitions to generate greater affinity with FDK products.

#### Main Development Products in FY2016 Press Releases

Ferrite material "6H60T" realizing top level low core loss

Contributes to a reduction in the power consumption of power supplies for industrial equipment such as semiconductor manufacturing equipment!



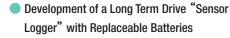
 FDK Developed a Multilayer Power Inductor Realizing Low Loss High DC Bias in the Industry's Smallest 1005 Size

Contributes to a reduction in power consumption, miniaturization, and weight savings of mobile devices such as smartphones and wearable devices!



\*Core loss: Energy lost as heat in magnetic cores of power transformers

\*DC bias: Variable characteristic value when current is applied. The DC bias generally reduces as the geometry gets smaller (lower current)



Collects information about people, things, and the surrounding environment via the Internet to grasp the current state of operations and movement



This contributes to the safety and security of people

from protecting those who require nursing care to the management of operational environments on construction sites!









#### Large Capacity "MEGA TWICELL" Ni-MH Battery Developed by FDK!

Demonstrates superiority in power storage of renewable energy, countermeasures to electrical power outages when disaster strikes, and emergency power applications!

The MEGA TWICELL can be used

safely for a long period of time thanks to the adoption of water-soluble electrolytes and flame retardant resin!

This environmentally-friendly storage battery offers superior recyclability achieved through the use of Ni-MH batteries with high recyclability and a structure not fixed by welding!

#### FUJITSU "Premium High-Power Long Life" Alkaline Battery Offers Even Better Performance!

These alkaline batteries further improve leak prevention performance to be used safely in important devices. The performance after long-term storage has also been improved to achieve the optimal storage battery for those critical moments, "Premium" adopts an antibacterial label for safe use in medical devices, toys, and other valuable electronics!



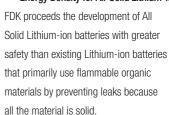
of devices





MEGA TWICEL

#### Development of Cathode Material with High Energy Density for All-Solid Lithium-Ion Batteries!





This contributes to the miniaturization of devices such as the Internet of Things (IoT) as well as wearable and mobile devices!

#### FDK has Developed and Introduced Sample Shipments of the World's Smallest Class DC-DC Power Module!



The DC-DC power module contributes to miniaturization and a reduction in power consumption of industrial devices by realizing performance of a 1/4th Brick size 400W output class in a 1/8th brick size!





## Actions Toward a Continuous Supply of Products (BCP to BCM)

FDK Group has formulated and continually enhances BCP.

[1st Step (September to December 2015)]

Selected model business sites and formulated the BCP by consulting with the FUJITSU Research Institute

[2nd Step (January to July 2016)]

Expanded the formulation of BCP to all of our business sites based on the results at our model business sites.

[3rd Step (July 2016 onward)]

Started BCM at all business sites based on BCP and periodically put in place the necessary measures, evaluate progress and conduct ongoing reviews. Also promoting expansion to FDK Group business sites overseas.

Execute BCM to maintain a stable product supply to customers without interruption by recovering quickly in the event of various risks.

\*BCP: Business Continuity Plan \*BCM: Business Continuity Management

# **Group-wide BCM Promotion Framework** Deliberates and approves basic policies, overall plans, and measures Risk Management Department. General Affairs & Personnel Divisi Company-wide Dept **Business Sites**

#### Actions for the Future

The FDK Technology R&D Division supervises research and development activities at the FDK Group to advance the development of new products and technologies that anticipate the market environment and technical trends to come. This division also is quickening the speed of technical development by furthering efficiency for the introduction of leading-edge technology by linking to organizations such as universities and research institutions overseas and in the FUJITSU Group.

FDK GROUP CSR REPORT 2017 FDK GROUP CSR REPORT 2017