

# Promoting Product Recycling

We are advancing collection and recycling of end-of-life ICT products from a global perspective to help create a recycling-minded society.

## Basic Approach

### Recycling Activities that Conform to the Concept of Producer Responsibility

In accordance with the concept of Extended Producer Responsibility (EPR\*), under which the producer's responsibility for its products is not limited to the product design and manufacturing stages but extends to the disposal and recycling stages as well, the Fujitsu Group carries out recycling programs that comply with the waste disposal and recycling laws and regulations of the various countries in which it operates. We also try to do as much collection, reuse and recycling as we can even in countries where recycling is not obligatory, in line with the concept of Individual Producer Responsibility (IPR), which sees each producer as responsible for its own products.

IPR is a major challenge for the Fujitsu Group in expanding its business globally, but we believe that responding to this challenge and that of EPR in collaboration with industry associations and governments will enable us to help create a recycling-minded society in which the requirements and demands of all stakeholders are met.

\* EPR: Extended Producer Responsibility. The view that the manufacturer's responsibility lies not only in product design and manufacture but also extends to the disposal and recycling phases. This concept was made explicit in Japan's Fundamental Law for Establishing a Sound Material-Cycle Society enacted in June 2000.

## Promotion on a Global Scale

The Fujitsu Group recycles products in EMEA and the Americas (the United States, Canada, and Brazil) and Asia (Singapore, the Philippines, Australia, Hong Kong, Taiwan, and South Korea).

### Overseas Activities Example

EMEA: Fujitsu Technology Solutions (Holding) B.V. (FTS)

Through its partner companies, Fujitsu Technology Solutions (Holding) B.V. (FTS) recycles waste ICT products for corporate and individual customers in 27 countries in the EU, as well as in Norway and Switzerland. In addition, since 1988 at Paderborn, the Group's own recycling center in Germany, we have been contributing to the reuse of waste resources by disassembling products by hand so we can precisely classify and then appropriately recycle the materials. In 2010 we processed 5,037 tons of waste ICT products and achieved a resource reuse rate of 96.3%.

To disseminate these activities widely, at CeBIT 2010, the world's largest ICT related trade show held in Germany, we both presented our recycling efforts and demonstrated PC



Visitor experiencing PC disassembly in the FTS environmental booth.

disassembling at our booth and were honored by a visit from Germany's environment minister.

Moreover, since 2008 Fujitsu Technology Solution's South Africa office has been collaborating with local waste-management companies to collect and recycle from corporate and individual customers all products of any brand, including monitors, printers, mobile phones, desktop PCs, notebook PCs, calculators, TVs, and DVD equipment. This is the first time an ICT company has provided such a service in South Africa.



Large recycling bin installed at a public site in South Africa

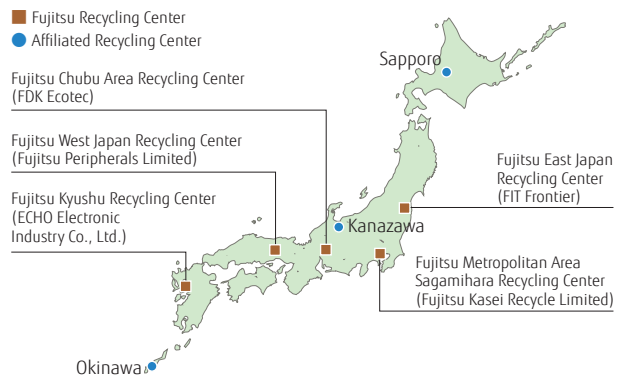
Also at other overseas sites we have linked up with local recycling partner companies and promoted the recycling of ICT products.

- Singapore: Fujitsu PC Asia Pacific Pte. Ltd. (FPCA) (Starting in 2007)
- Brazil: Fujitsu do Brazil Ltda. (FBR) (Starting in 2010)
- Australia: Fujitsu Australia Ltd. (FAL) (Starting in 2006)
- South Korea: Fujitsu Korea Ltd. (FKL) (Starting in 2003)

## Promotion in Japan

As an enterprise with official designation for wide-area industrial waste disposal in Japan, Fujitsu engages in various kinds of contracts for accepting industrial waste for appropriate processing. We have established Fujitsu recycling centers throughout Japan to create a nationwide recycling system. This system provides for rigorous traceability and security, and achieves a high resource reuse rate. By providing this safe and secure service, we are fully discharging our Extended Producer Responsibility (EPR).

### Fujitsu Recycling Centers Throughout Japan



### Achievements in Collecting and Recycling End-of-Life ICT Products

Although the volume of materials collected is declining due to progress in miniaturization and reduced product weights, we processed 6,406 tons of recycled ICT products from corporate customers in FY 2010, and achieved a resource reuse rate of 90.6%. Also, we have now collected a total of 74,231 end-of-life PCs from individual customers.

### Promoting Recycling

Experienced workers carefully disassemble collected products by hand and separate the materials into categories such as steel, copper, aluminum, precious metals, glass and 20 different types of plastic. They also strive to raise their manual disassembly standards through the use of animated disassembly manuals. Materials recognition equipment has been introduced for plastics that are difficult to discriminate, so as to allow the complete segregation of different types of plastic. In addition to minimizing the quantity of waste materials in this way, we are continually trying to turn them back into resources that can be reused to make products.

Also, to keep our customers informed of these initiatives, we distribute ballpoint pens and folders made from recycled plastic at exhibitions and other events, as well as demonstrating PCs being manually disassembled.



Plastic material identification equipment



Ballpoint pens and folders made from recycled plastic

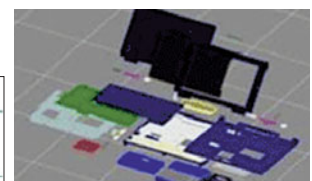
### Providing Product Recycling Information

In order to properly dispose of end-of-life ICT products, since FY 2004 Fujitsu has been operating a digital management system for its product disassembly manual.

Through this system, Fujitsu recycling centers can download from our in-Group website as animated disassembly manuals all the information they need to recycle products. In addition to providing a downloadable products disassembly manual, the system provides instructions on how to deal with items containing restricted chemical substances and plastic materials, and with products that contain customer data.



Electronic Disassembly Manual Management System



Animated disassembly manuals

### Developing a Traceability System

We developed an integrated recycling information management system and since FY 2007 have adopted it at the Fujitsu recycling centers. This system prevents theft and illegal dumping by attaching barcodes to customers' ICT products and managing data on the history of the recycling process from acceptance at the recycling center through disassembly and destruction of the hard disks on a per-customer basis.

### Targets and Achievements in Stage VI of the Environmental Protection Program

The target was to sustain 90% resource reuse rate\* of business ICT equipment globally at Fujitsu recycling centers, and in FY 2010 the achievement was 93.3% (90.6% within Japan and 96.3% overseas).

\* Resource reuse rate: The ratio of the amount (by weight) of recycled parts and resources to the amount of end-of-life business ICT products processed.

### Fujitsu Integrated Recycling Process

