



Global Promotion of Sales of Recycled Copiers Based on the “Comet Circle”

● Concept

The Ricoh Group, based on the concept of the “Comet Circle,” “Priority on Inner Loop Recycling,”* is committed to recycling of materials with less environmental impact and high economic efficiency. Ricoh, with recognition that the flow from collection to the recycling of materials is one business unit, is making efforts to improve profitability in the recycling business on a global scale. Improvement of profitability will make continuous activities to reduce environmental impact possible. Since fiscal 2002, Ricoh has set concrete yearly goals for sales of recycled products.

* See page 11.

● Targets for Fiscal 2004

- ◎ Improve the quantity of reusable parts used by a factor of at least 20 (compared to fiscal 2000, in Japan)
- ◎ Improve the collection rate of used products and toner cartridges by at least 10% in terms of the number of units collected (the Ricoh Group as a whole, compared to fiscal 2000 figures)
- ◎ Increase the number of resource-recirculating-type products marketed by a factor of at least 20 (in Japan, compared to fiscal 2000 figures)
- ◎ Improve the resource recovery rate for used products and toner cartridges.

Products

Japan: 98%, Europe: 85%,
The Americas: 95%,
Asia-Pacific: Over 85%

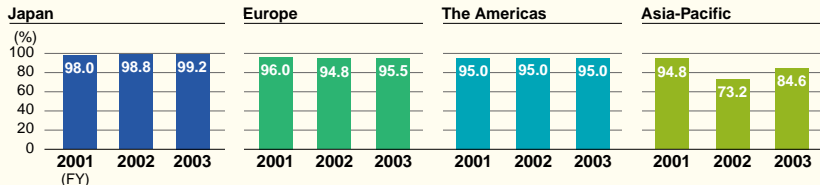
Toner cartridges

Japan: 98%, Europe: 85%,
The Americas: 100%,
Asia-Pacific: 85%

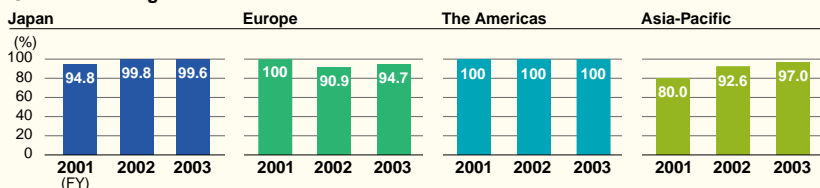
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Resource Recovery Rate

① Copiers

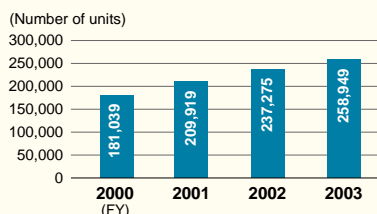


② Toner Cartridges

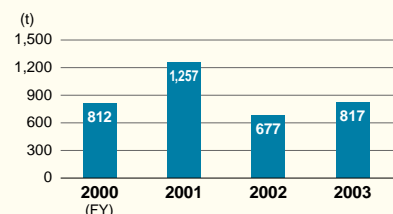


Collection Results

③ Number of Copiers Collected



④ Amount of Toner Cartridges Collected*



* Up to fiscal 2001, the amount of collected toner cartridges included the weight of the remaining toner inside the cartridges. In fiscal 2002, however, the calculation method was improved so that only the weight of the toner cartridges is included.

Segment Environmental Accounting of the Product Recycling Business (Japan)

Costs		Effects			
Items	Costs	Economic benefits		Effect on environmental conservation	
		Items	Benefits		
Product recycling cost	716 million yen	Sales	2,237 million yen	Amount of resource recovery: 29,228 t	Amount of final disposal: 23.4 t
Collection/resource recovery cost	2,929 million yen				
Total cost	3,645 million yen	Social effect	2,338 million yen	Up 2,806 t from that in the previous year	Down 40 t from that in the previous year

* Social effect refers to the cost of waste disposal that customers no longer have to pay.

● Review of Fiscal 2003

The number of used products and toner cartridges collected and the resource recovery rate are increasing steadily. (see graphs ① to ④) Ricoh will promote highly efficient collection and resource recovery. Although the number of resource-recirculating-type products being marketed increased by a large margin, it has not reached the goal. Therefore, sales will be further promoted.

● Future Activities

In an effort to improve profitability in the recycling business, Ricoh will promote an improvement of the collection rate, the quality of collection, and the recovery process of used products. The company will also make efforts to improve recyclable design levels and offer recycled products of low environmental impact and cost.

Expansion of the Number of Recycled Copier Models Available

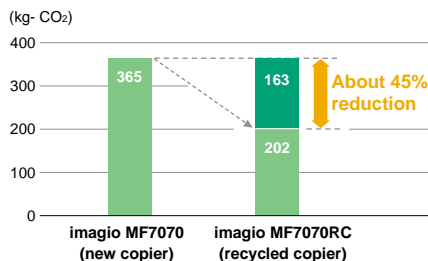
<Ricoh/Japan>

Since December 2001 when Ricoh marketed the imagio MF6550RC recycled digital copiers, it has expanded the number of models available. It completed the lineup of recycled machines by marketing the imagio MF3570RC/4570RC in fiscal 2002 and imagio MF5570RC/7070RC in fiscal 2003. These machines with copying productivity ranging from 35 pages/min. to 70 pages/min. can satisfy various customer requirements. Because recycled machines contain more than 87% (mass ratio) reused parts, it can be calculated that about 1,800 tons of resources have been saved.



Imagio MF7070RC, a recycled digital copier

⑤ LCA Comparison Between a New Machine and Recycled Copier (CO₂ Emissions)



* A comparison is made by calculating the annual environmental impact of new and recycled copier over a five-year-period and ten-year period, respectively.

* Figures for CO₂ emissions while being in operation at customer sites were not included in the calculation of the data.

Improvement of the Quality of Material Recycling

<Ricoh Group/Japan>

Recycling centers in Japan have already achieved a 99% resource recovery rate. However, in order to reduce both environmental impact and costs, it is necessary to promote higher-quality recycling. In fiscal 2003, more than 92% (mass ratio) of collected parts were recycled for raw materials by thoroughly disassembling collected machines and sorting out unusable materials such as plastic and metal parts. Some recycled plastics are used for Ricoh products manufactured in Japan and China.

Production of Toner Cartridges Containing Reused Parts

<Ricoh/Japan>

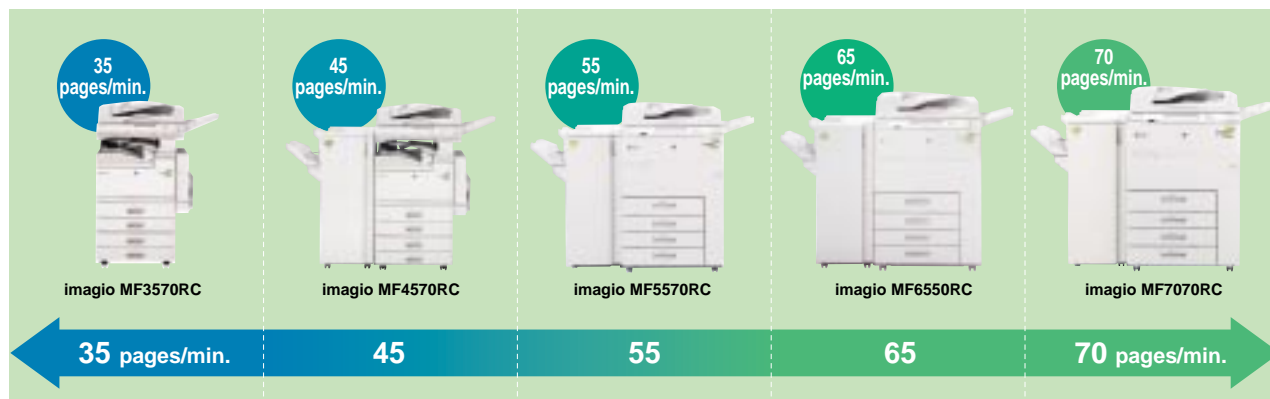
Ricoh started full-scale recycling of toner cartridges in 1998, and has been committed to improving collection, recovery, and recycling rates. In fiscal 2003, the collection rate* of used toner cartridges exceeded 70% and the total number of toner cartridges containing reused parts shipped exceeded one million. The total amount of reused parts used in those cartridges was about 721 tons, which was equivalent to about 55% of the total amount of parts used in one million cartridges. Toner cartridges containing reused parts are also manufactured in Europe and the Americas.

* Collection rate = current number of collected cartridges/current sales



Toner cartridge containing reused parts

Recycled Copier Lines of Ricoh



Continuous copying/copying productivity (cpm/ppm)

Nationwide Recycling System

<Ricoh Group/Japan>

A nationwide infrastructure is needed to efficiently collect, recover, and recycle Ricoh products used throughout the country. Ricoh has begun collaborating with green centers (collection centers), and recovery and recycling centers to establish a nationwide network that will facilitate more economically efficient and high-quality recovery and recycling of used products, toner cartridges and parts.

Improvement of Packaging

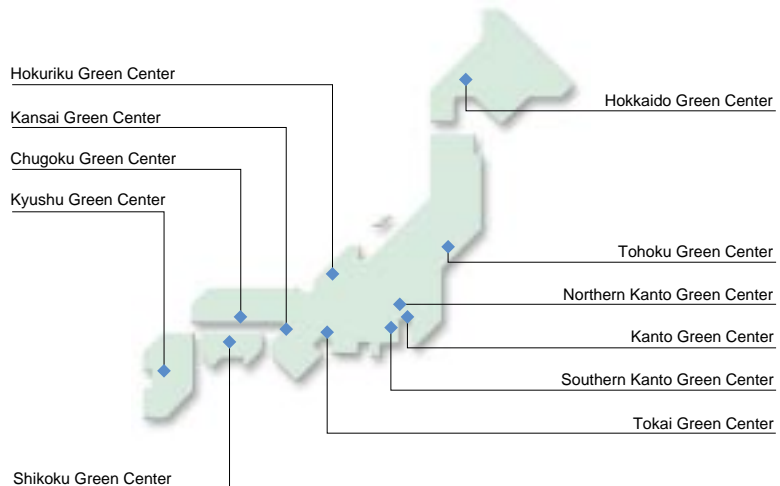
<Ricoh Group/Japan>

To reduce environmental impact from the viewpoint of distribution, Ricoh is committed to reducing packaging materials. The reusable resource-recirculating eco-packaging developed in 2000 has been revised in design and used for various models. In fiscal 2003, Ricoh developed racks for large-sized products with a capacitor for a quick startup. At present, more than 50% of the products for domestic use manufactured at the Gotemba Plant, which is a major copier manufacturing plant, were shipped in resource-recirculating eco-packaging. Furthermore, as an approach to realize product shipment without packaging, Ricoh is promoting a system, Internal Kitting System, to attach optional devices to products and make their adjustments in the production plant, and then ship the machines directly to customers. This system has various advantages including a reduction in packaging materials and a reduction in energy consumption by shortening the transportation process.

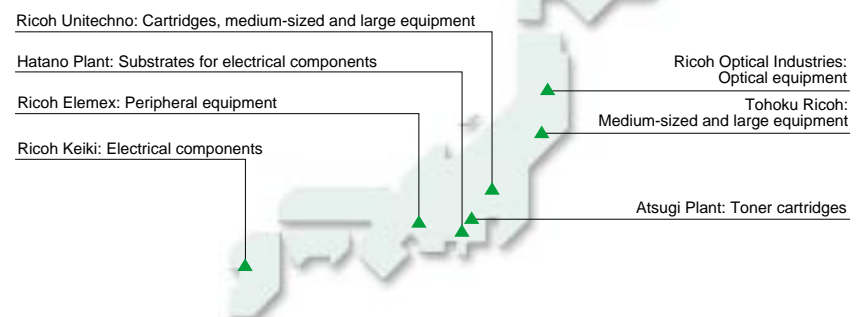


Resource-recirculating eco-packaging (right)

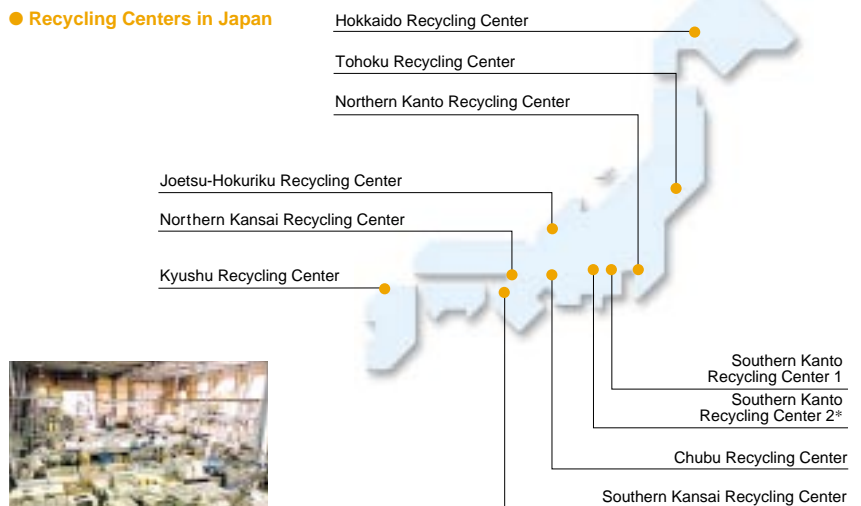
◆ Major Green Centers (Collection Centers) in Japan



▲ Recovery Centers in Japan and Products Handled



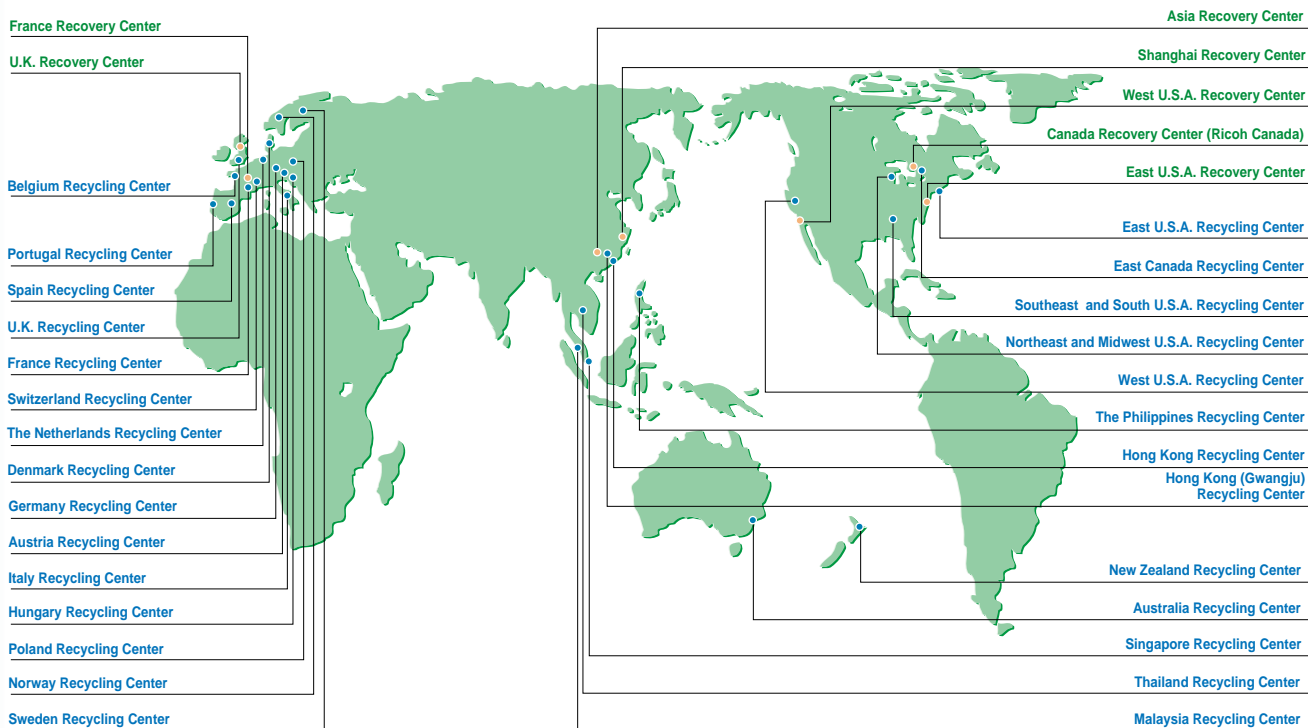
● Recycling Centers in Japan



Kyushu Recycling Center

* Only supplies

Recovery and Recycling Centers around the World



* Ricoh Group recycling centers are working with reliable business partners for further development.

Improvement of Efficiency of Recycling with Recycling Information System

<Ricoh Corporation/U.S.A.>

In order to improve the efficiency of collection, recovery, and recycling, Ricoh Corporation, the Americas Regional Sales Headquarters, has established a database to collectively control all branches, distribution centers, carriers, and recycling companies. In this system, a slip or tag is automatically issued when a customer's request for collection is entered on a PC within Ricoh Corporation. This system improves the efficiency of distribution and recycling of collected products and reduces costs.

Improvement of Efficiency of Recovery/Recycling Process

<Lanier Italia S.p.A./Italy>

Lanier Italia S.p.A., a sales company, integrated a collection center, a recovery center, and a sorting center all on one site. This reduced the environmental impact related to transportation between centers to zero and improved work efficiency. More than 90% of the parts that are not reused are recycled.



Used product recovery line

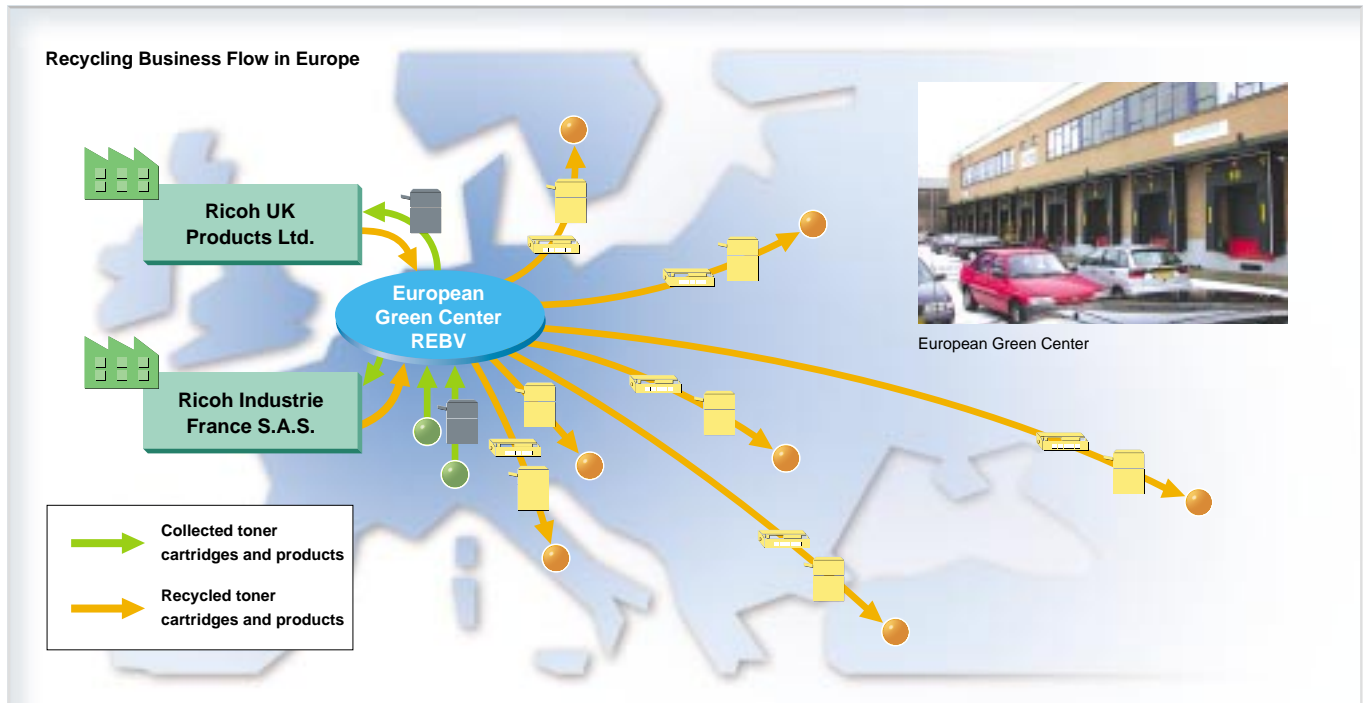
Recondition of Copiers at Sales Company

<Ricoh Thailand Ltd./Thailand>

Ricoh Thailand Ltd., a sales company, made major changes to its recovery line in order to satisfy customers' needs regarding delivery schedules and the quality of reconditioned copiers. Full-scale operations of the reformed line started in September 2003. As a result, in the latter half of fiscal 2003, the number of reconditioned copiers was twice as high as the figure for the first half of the year.



Used product reconditioned line



Expansion of Recycled Products Business and Establishment of Recycling Infrastructure in Europe <Ricoh Europe B.V., etc./Europe and the Middle East>

Ricoh Europe B.V. (REBV), the European Regional Sales Headquarter, is committed to establishing an infrastructure to strategically promote the recycling business. In October 2003, the European Green Center, a centralized center to collect used parts and other products, was established. Collected toner cartridges and products are recycled by Ricoh UK Products Ltd. and Ricoh Industrie France S.A.S. A constant and reliable source of collected products is important for the stable supply of recycled products. This was difficult with conven-

tional management by each country, so the European Green Center was established to collect used products and control inventory collectively. REBV, looking at the supply-

demand balance in the market as a whole, supplies recycled products not only to Europe but also to the Middle East and Africa.

President of Sales Agency in Kuwait and Customer that Purchased Recycled Machines



President of Al Alamiah, a sales agency (left), and the person in charge of sales (right)

The President of Al Alamiah, a sales agent, said, "Kuwait has hot weather, and offices here are closed environments. Therefore, people are very concerned about the ozone, noise, and odor that office equipment emits. Accordingly, we emphasize the superiority of Ricoh's products in terms of those very concerns. I am sure that the market success of Ricoh's products is due to the availability of high-quality products recycled at Ricoh UK Products and sold at a reasonable price."

The Manager of the Purchasing Section of A'Ayan Leasing & Investment Co. (center)

A purchase manager of A'Ayan Leasing Investment, one of Al Alamiah's customers, said, "We bought eight recycled copiers in September 2003. I was uncertain whether the product quality of recycled machines would be satisfactory, but I believed that they would, knowing that they were recycled at Ricoh plants. At first, I was indifferent about how recycling contributes to environmental conservation. However, after hearing several stories, I finally understood that copiers can contribute to environmental conservation. Now I am glad that we bought environment-conscious Ricoh products."



Manufacturing process of recycled machines at Ricoh UK Products Ltd.