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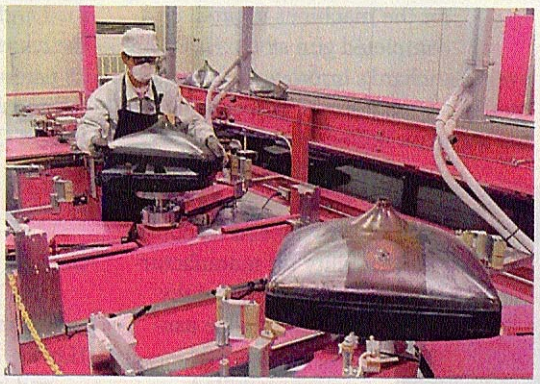
METEC's Financially Sustainable Recycling

DID you ever run a video backwards? As the movie runs in reverse, the characters and action of the story can be quite amusing, as people walk backwards, jump feet first out of swimming pools, uncrash their cars, and continually defeat the natural laws that govern our planet. If you watched a tape of a modern manufacturing operation running backwards, it might show a finished, complex product turning back into raw and industrial materials. Wouldn't it be amazing if someone came up with an *unmanufacturing* process that could turn old products into manufactured and processed materials?

Matsushita Electric Industrial Co., Ltd., better known in America as Panasonic, has recently opened a new state-of-the-art recycling plant in Hyogo, Japan. The goal of the Matsushita Eco Technology Center (METEC) is to use modern industrial manufacturing technologies to completely recycle one million "end-of-life" electric home appliances each year.

As of the writing of this column, METEC is still ramping up its reverse manufacturing processes, and it can now recycle more than 500,000 units per year.

In many ways, this plant is a work in progress because it conducts R&D (research and development) to create a zero-emissions recycling facility, improve recycling technology, and increase the use of recycled materials. Today, most of the products that enter the plant require initial disassembly by hand, a very labor-intensive operation. When METEC reaches full recycling productivity, in three to five years, the facility should become a profitable operation.



Workers disassemble television picture tubes.

Feedback from research at METEC will also be used to help Panasonic design new products with their eventual recycling in mind. Panasonic wants to champion new technologies that increase the use of recycled materials in new products. The company also wants to use the METEC facility to learn how to build new products that are easy to disassemble and recycle after their useful life.

The motivation that led to the development of this facility came from a new Japanese Home Appliance Recycling Law that went into effect on April 1, 2001. This law requires retailers to collect old air conditioners, televisions, refrigerators, and washing machines and deliver them to an appropriate recycling center.

The end-of-life products will return to Panasonic if that company manufactures the replacement item sold by the retailer, or if it was the original manufacturer of a product not being replaced. The law establishes, by weight, how much of a product must be recycled and the government charges for dumping materials that can't be recycled. The govern-

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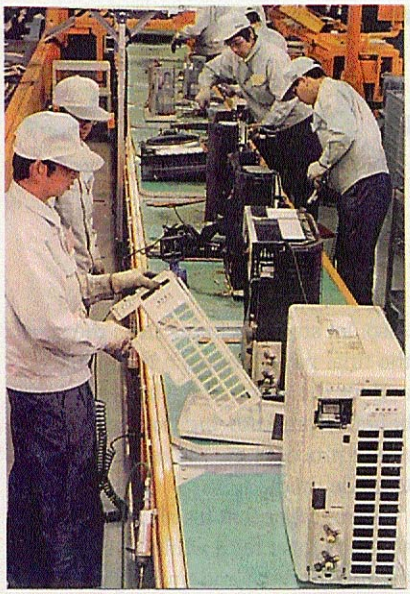

Photos courtesy of Matsushita Electric Industrial Co., Ltd.

Air conditioners are taken apart piece by piece.

ment wants to force manufacturers to develop financially sustainable recycling facilities to protect Japan's environment from additional tons of the end-of-life manufactured goods that currently pollute landfills. The Home Appliance Recycling Law actually adds product recycling to the cost of manufacturing new products.

The ecological future of our planet depends on all nations of the world adopting environmentally friendly systems that prevent pollution of our air, land, oceans, lakes, and streams. Obviously, a profitable recycling program for end-of-life manufactured products represents a major step in the right direction.

You can learn more about METEC on the internet at http://matsushita.co.jp/environment/2001e/er01e_33.pdf. To display this PDF file, you will need Adobe Acrobat Reader on your computer. Acrobat Reader is available as a free download at http://www.adobe.com/support/downloads/main.html.

Recalling the Facts

1. Describe the significant features of Japan's new home appliance recycling law.

2. Does the analogy of a movie running backwards apply to operations at the METEC recycling plant? Why?