

Optimizing a Total Materials Life Cycle

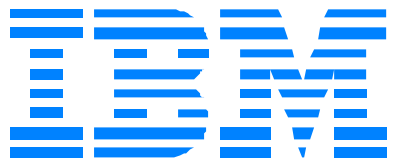
**IBM Strategy for Product End-of-Life
Management**

IBM Environmental Symposium

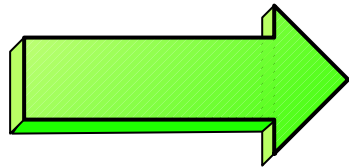
Tokyo, Oct. 18th, 2000

June Andersen, Ph.D.



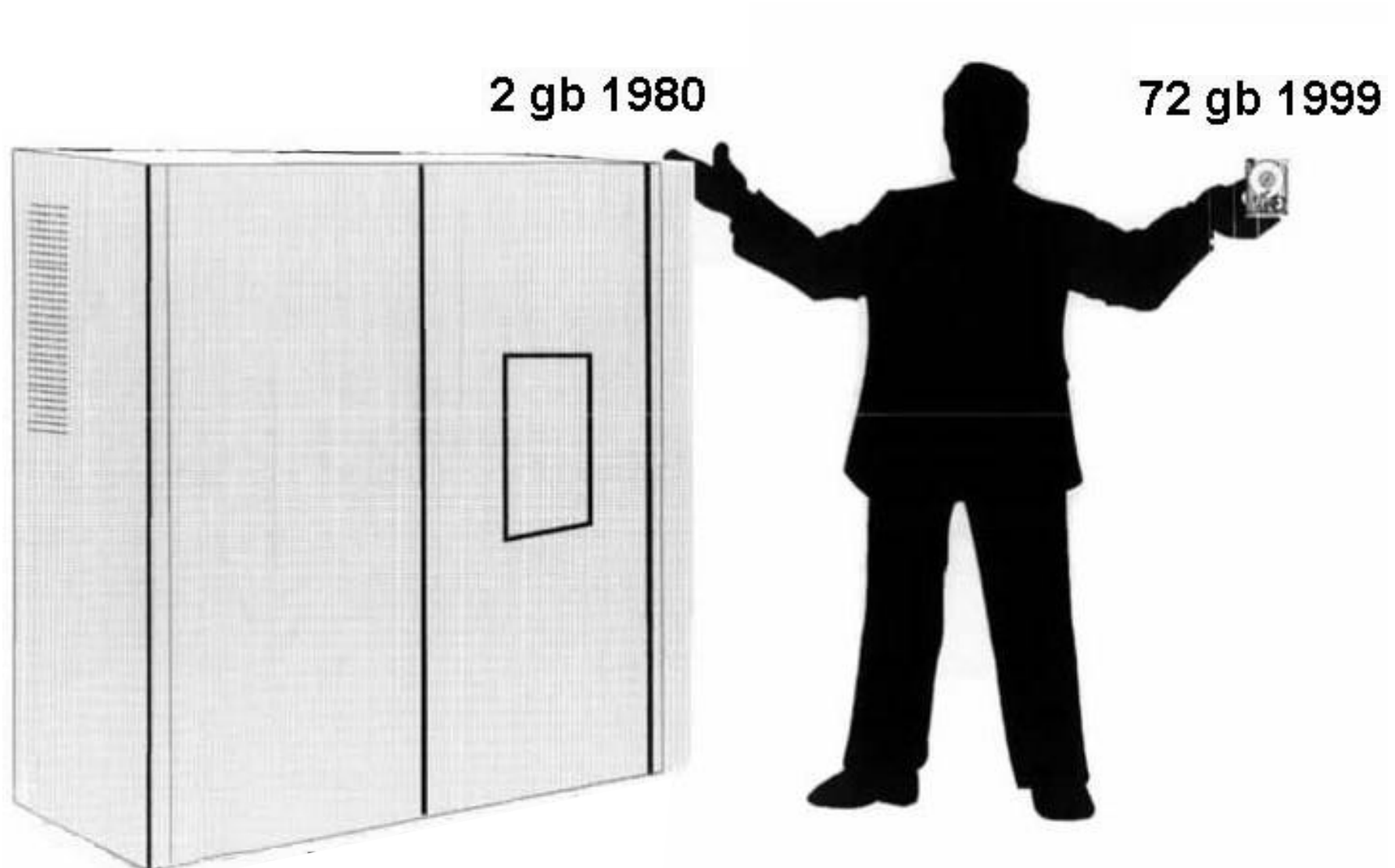


Product End-of-Life Management Strategy



- Reduce
- Reuse
- Recycle

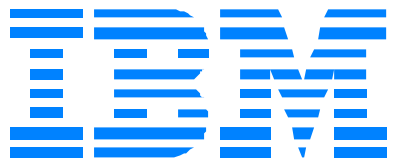
Dematerialization: IBM Storage Systems



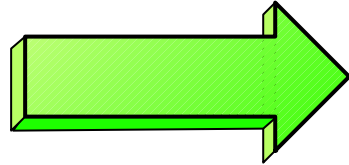
Desktop PC Materials Use Reduction



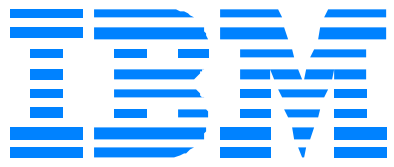
	PC 300GL with monitor as shown	NetVista X40
Weight (kg)	29	15
Height (mm)	587	414
Width (mm)	445	413
Depth (mm)	423	261



Product End-of-Life Management Strategy



- Reduce
- Reuse
- Recycle

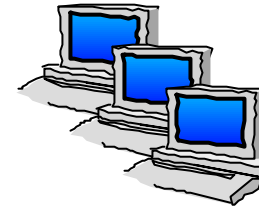


Product End-of-Life Management Strategy

- Provide environmentally sound, cost effective product disposal options for our customers worldwide

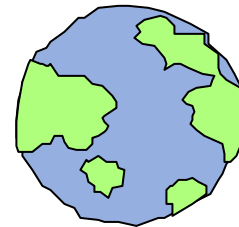
GOAL

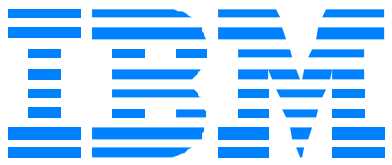
"All products"



"All customers"

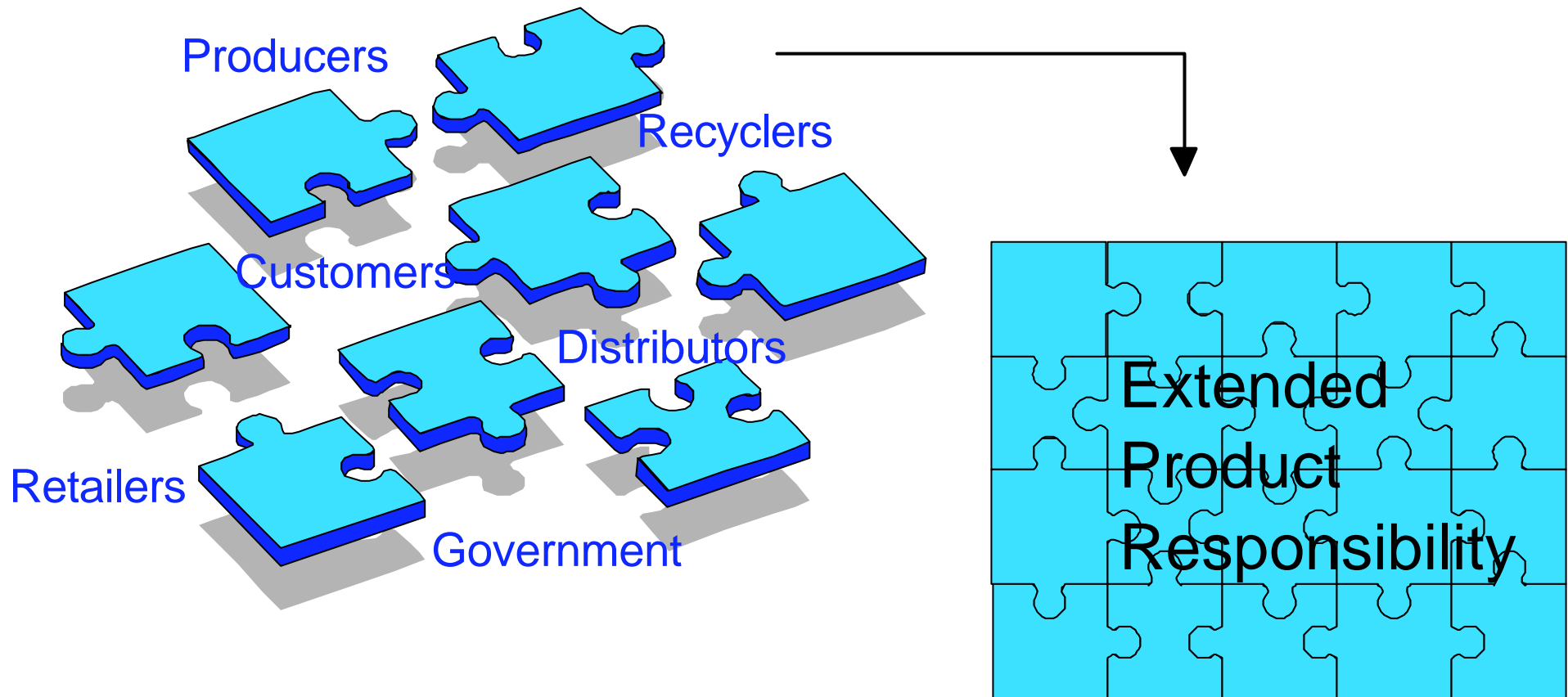
"All places"

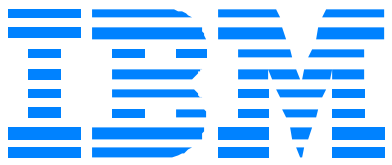




Shared Responsibility

Shared Responsibility is needed to develop efficient and cost effective systems

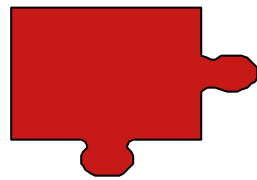




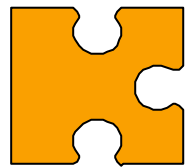
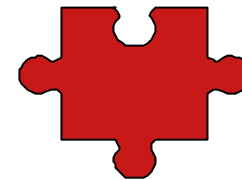
Diversity in the Solutions



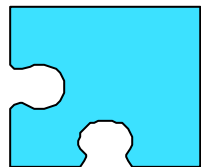
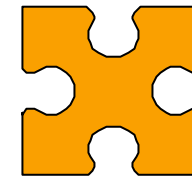
Solutions will vary by geography based on differences in these key factors



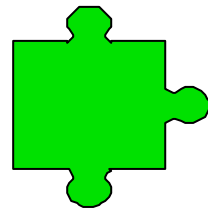
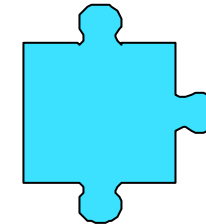
Recycling
Infrastructures



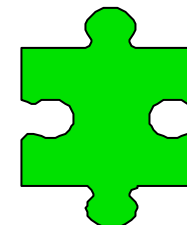
Collection Programs

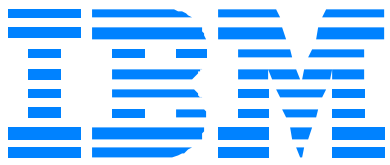


Regulations

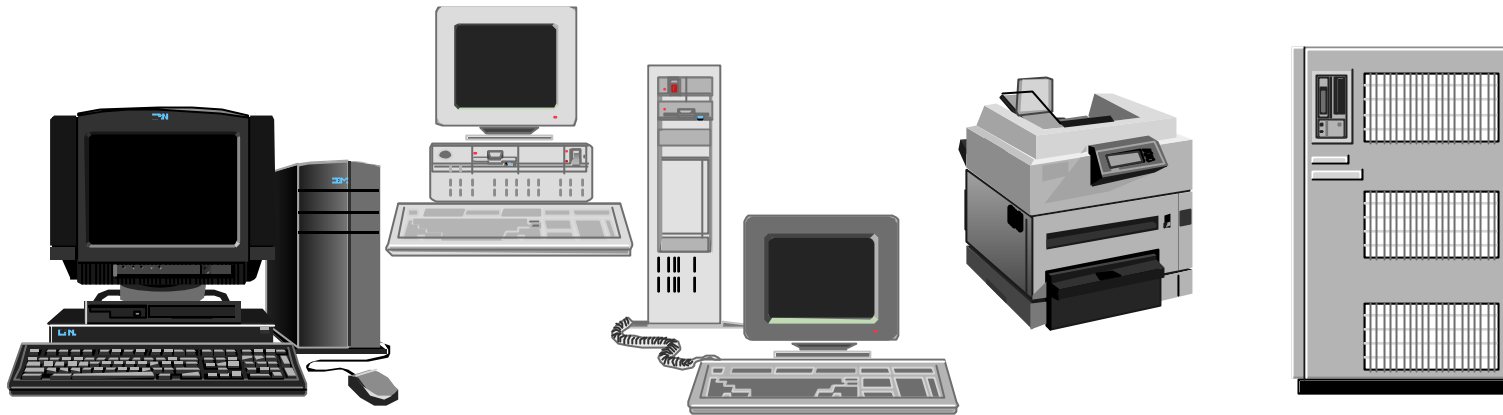


Customer Demand

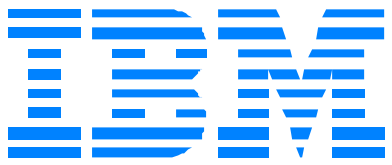




Commercial Takeback Offerings



- Systems for commercial equipment largely in place
 - Manufacturer takeback programs
 - Third-party equipment recyclers
- IBM has commercial takeback offerings in 14 countries
 - Europe, U.S., Japan, South Africa
 - Accommodation offerings available in other countries



Consumer Offerings

- Consumer markets are greatest challenge
 - Low Value (Typically exceeds 10 years old)
 - ▶ No Parts Value
 - ▶ Materials value of PC < 3\$
 - Dispersed among millions of households
 - Collection and transportation are keys
- Consumer Takeback Offerings Announced or Pending in 12 Countries
 - ▶ Announced (U.K, Germany, Korea, Netherlands, Taiwan, Norway, Switzerland, Singapore)
 - ▶ Pending (Japan, Sweden, Italy, Belgium)





Global Asset Recovery Services

GARS Logistics Operations is a network of 24 operational locations plus country distribution operations and 2 vendors (in US) .

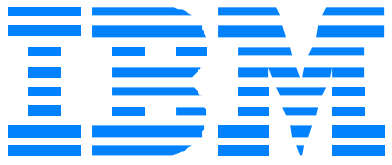
GARS Mission

- **Manage the disposition of returned surplus computer and hardware inventory**
 - IBM and OEM product
 - remanufacturing
 - demanufacturing
- **Optimize asset recovery through**
 - Service parts cost reduction
 - Secondary channel sales
 - Product dispositioning

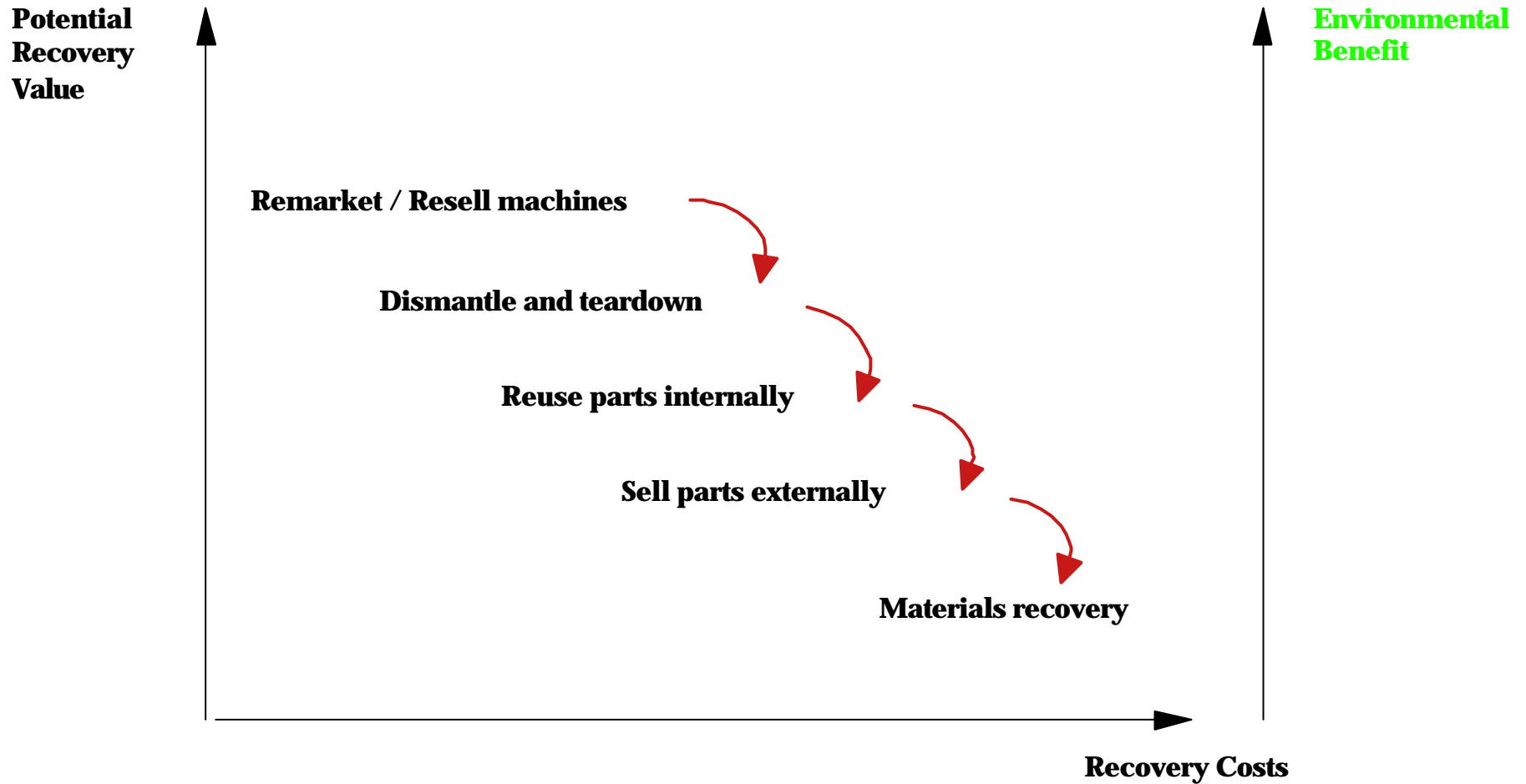


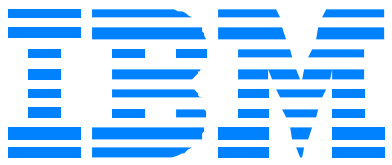
GARS Location Overview



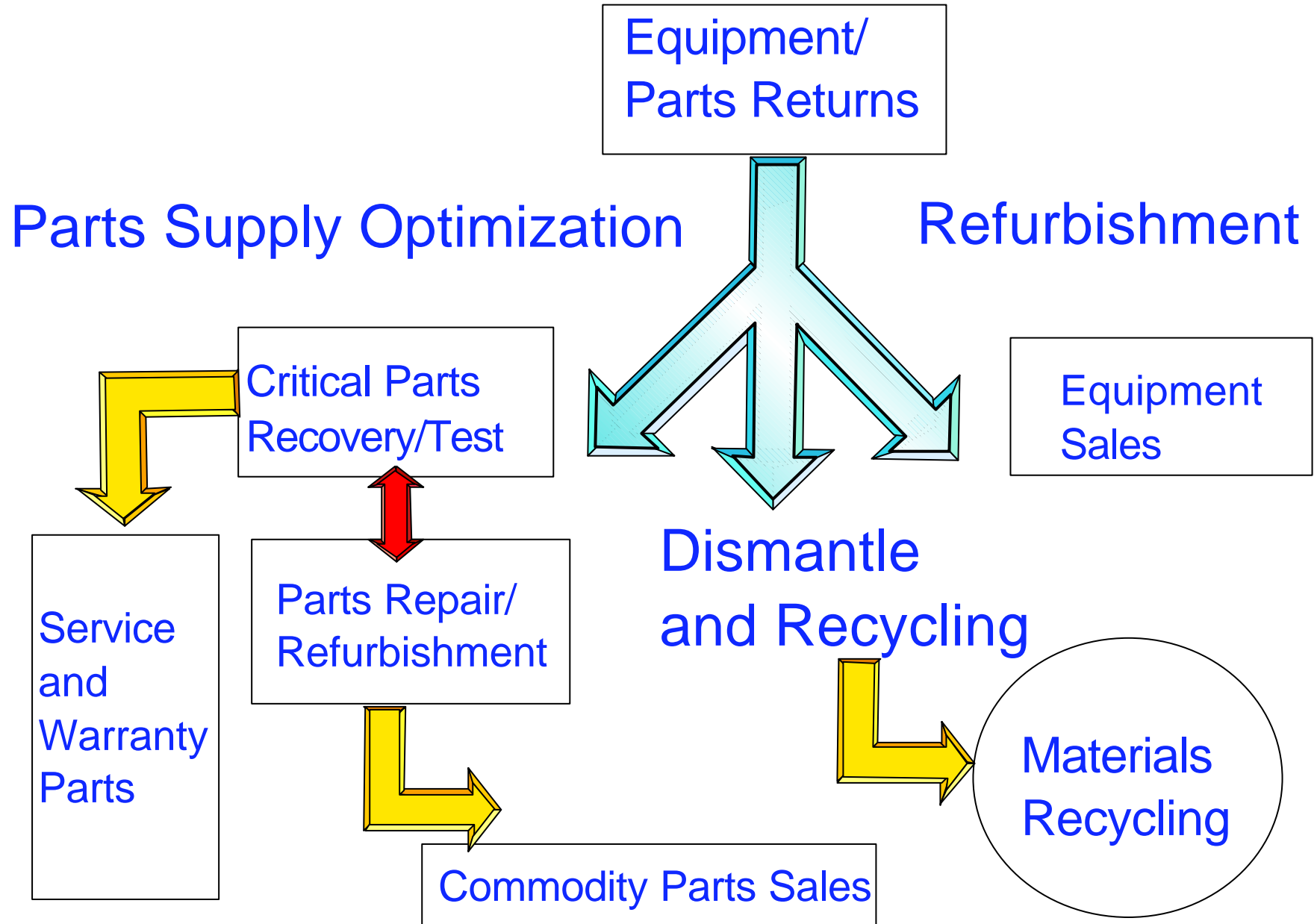


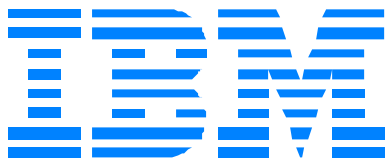
Product Disposition Hierarchy





Parts/Equipment Return Process

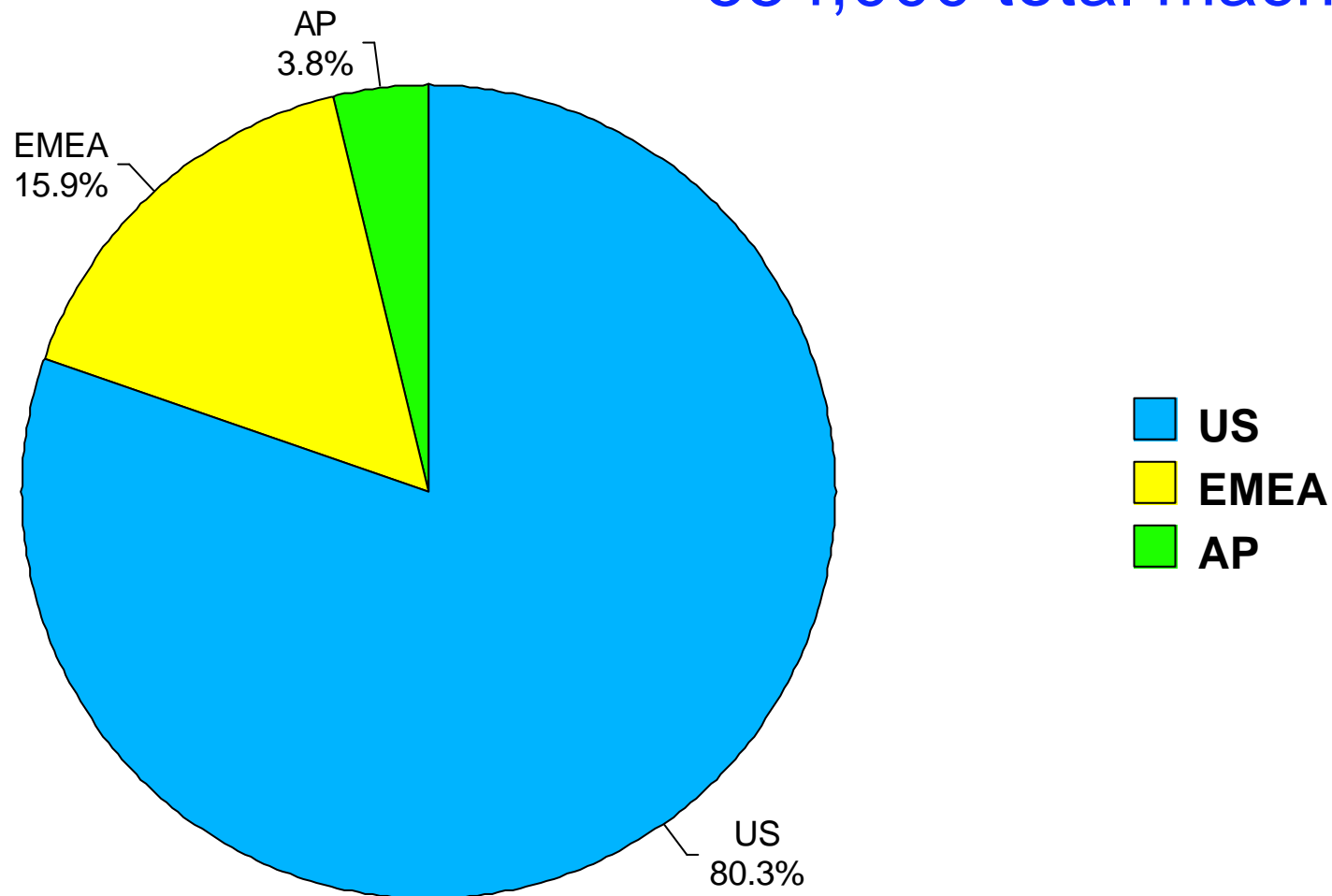


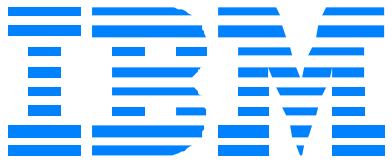


Worldwide Remanufacturing

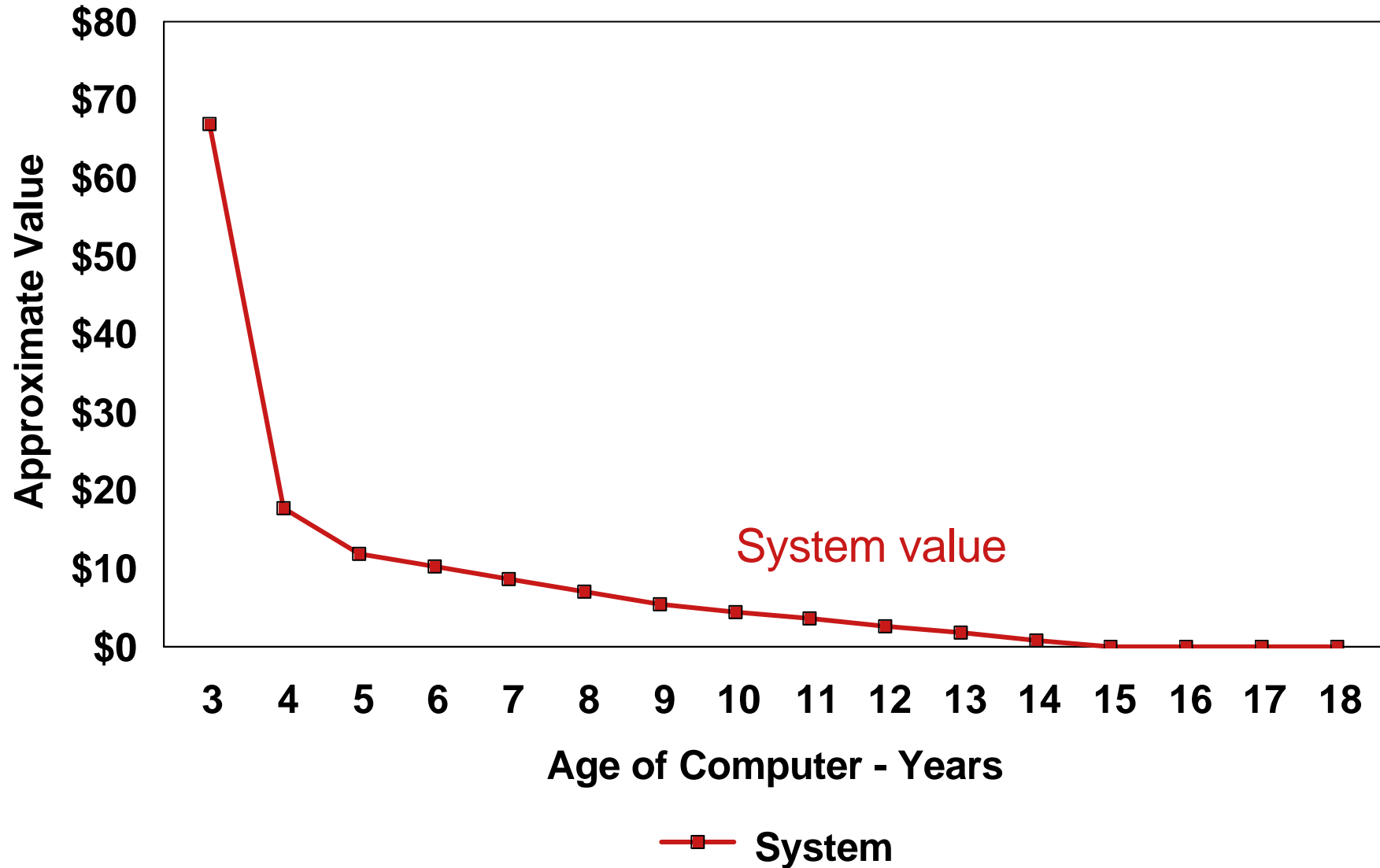
1999 volumes

554,000 total machines





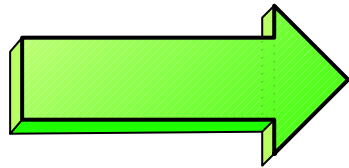
Personal Computer Recovery Value Versus Machine Age

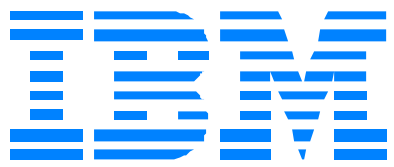




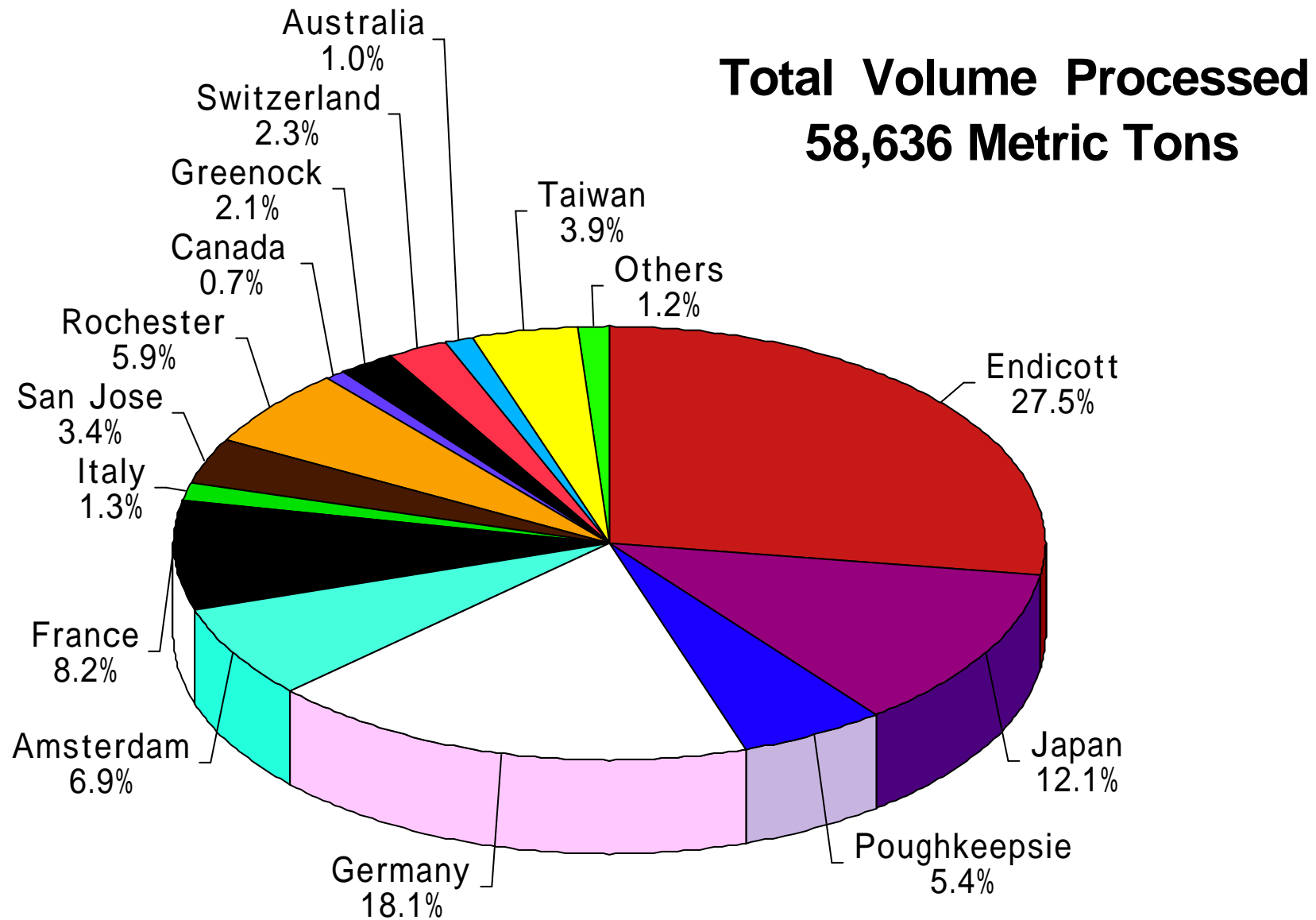
Product End-of-Life Management Strategy

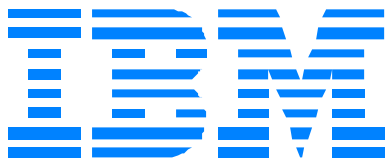
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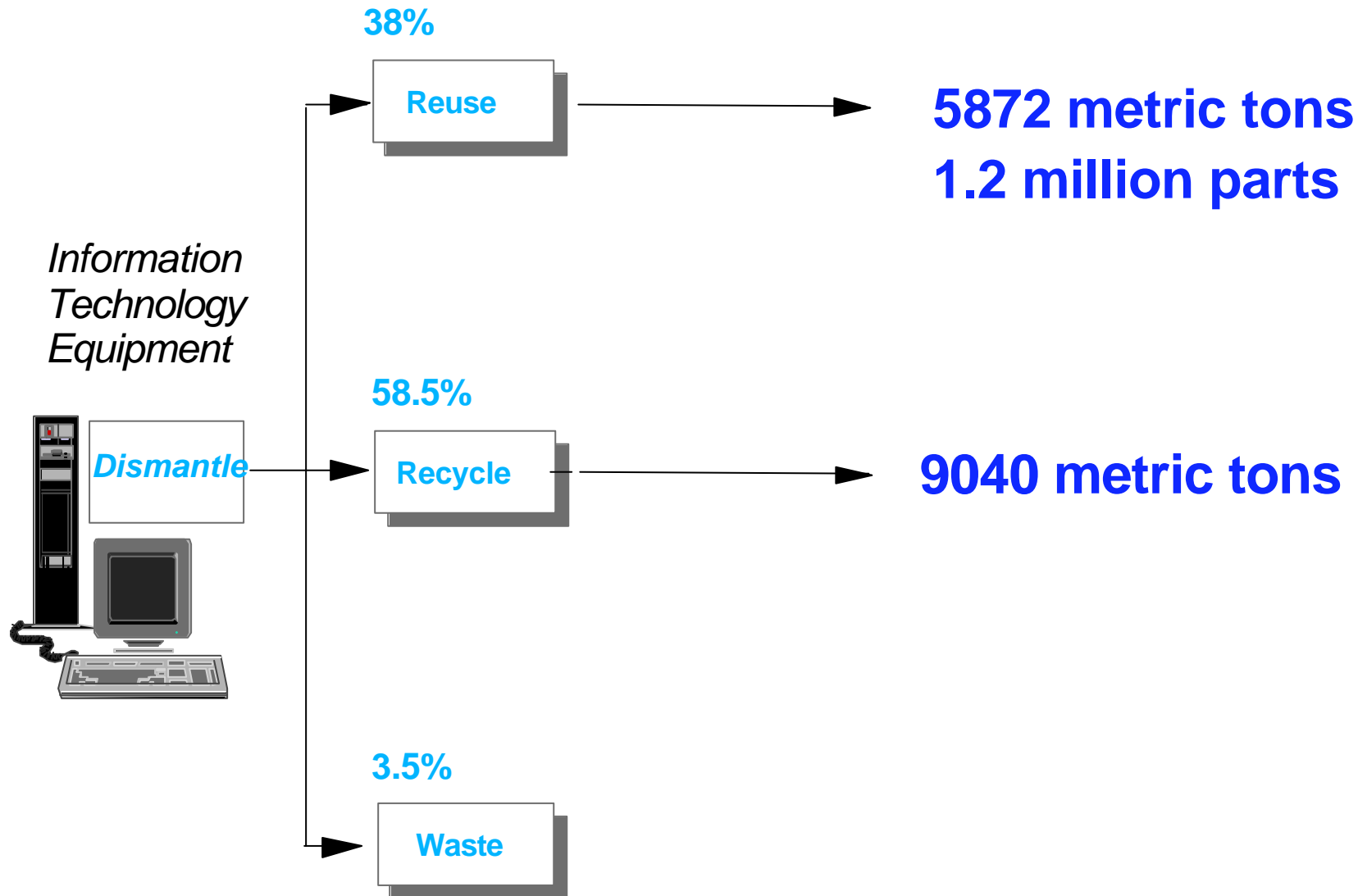


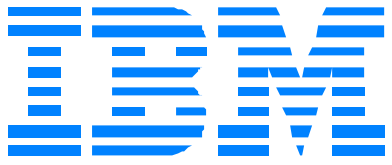
1999 Demanufacturing Volumes by Location / Geography



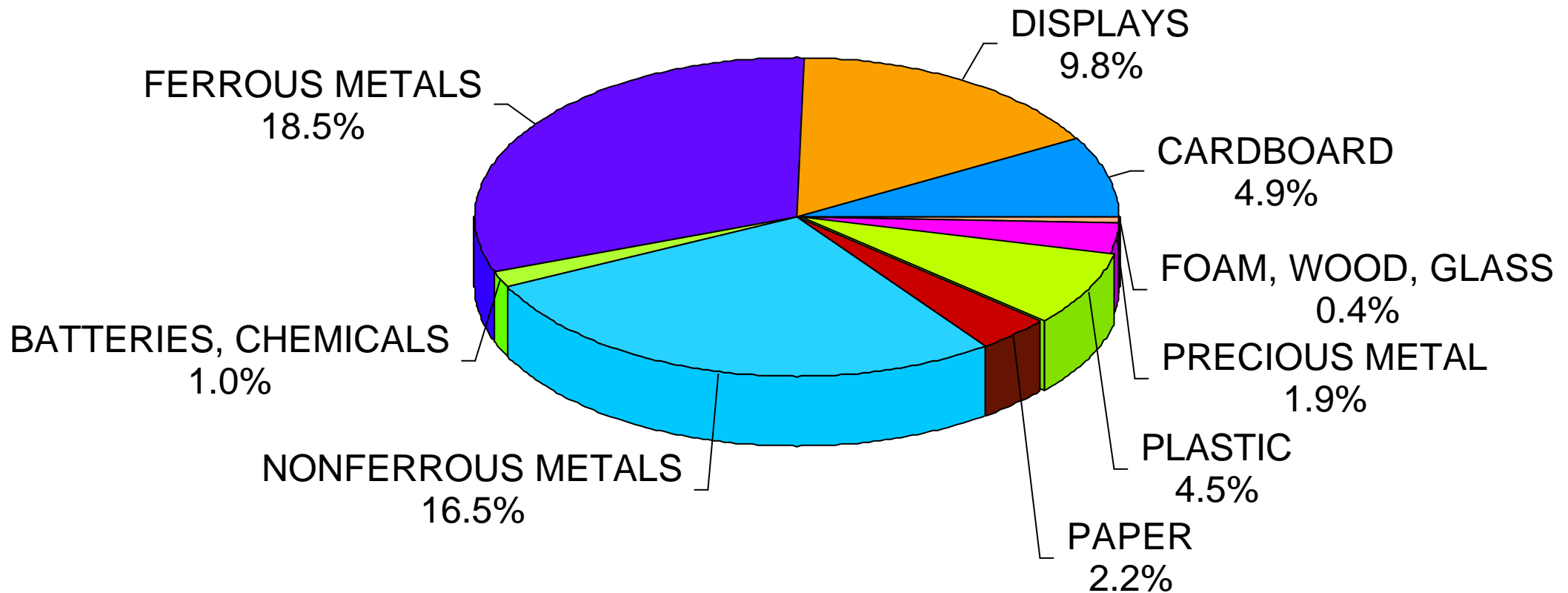


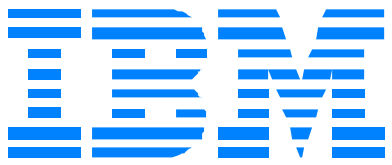
Demanufacturing Process Results (Endicott)



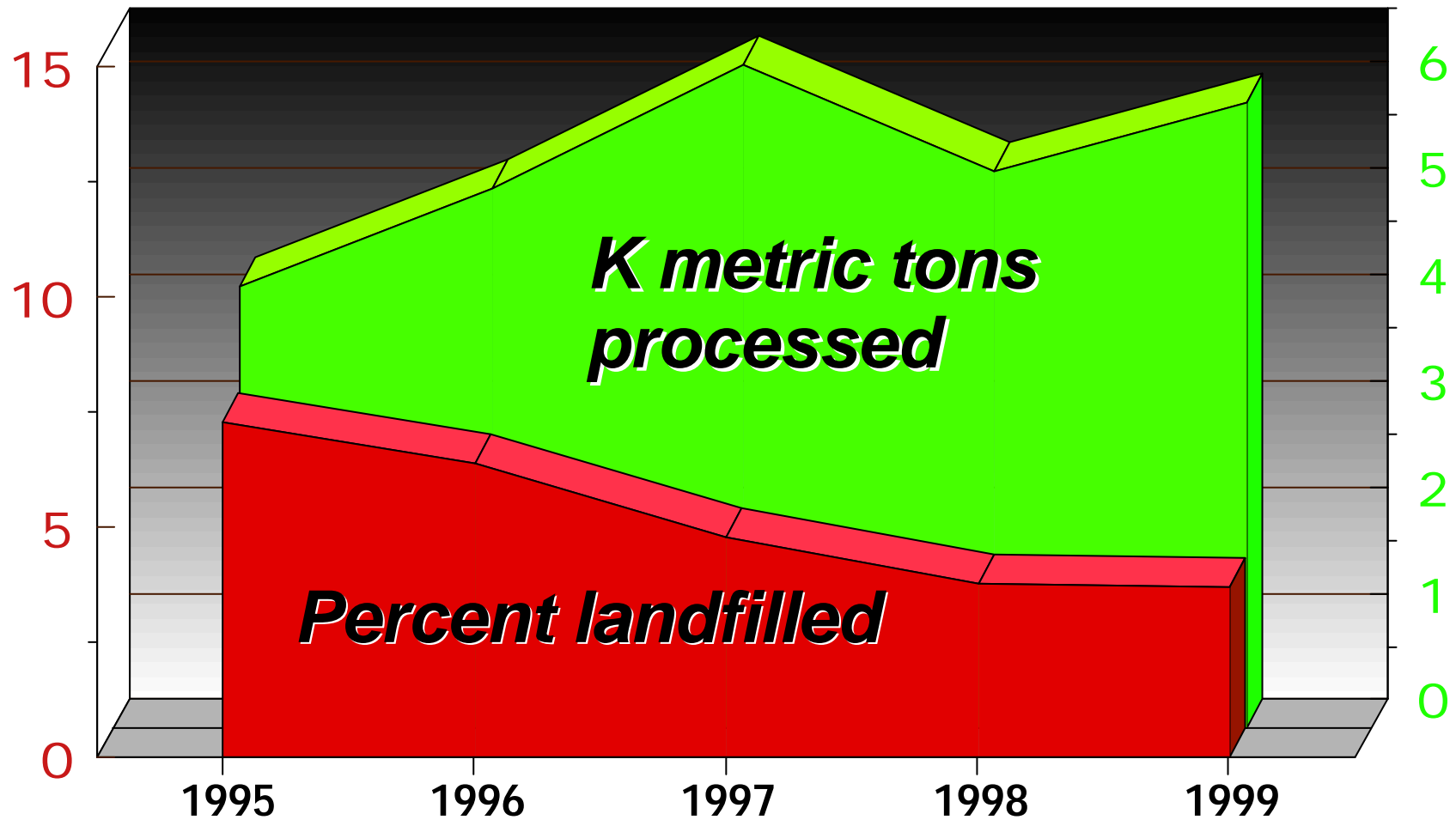


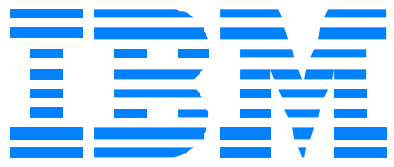
Endicott Demanufacturing Recycle Output





Worldwide Landfill Reduction Trend



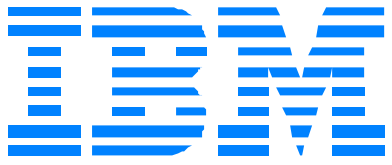


Product End-of-Life Management Strategy

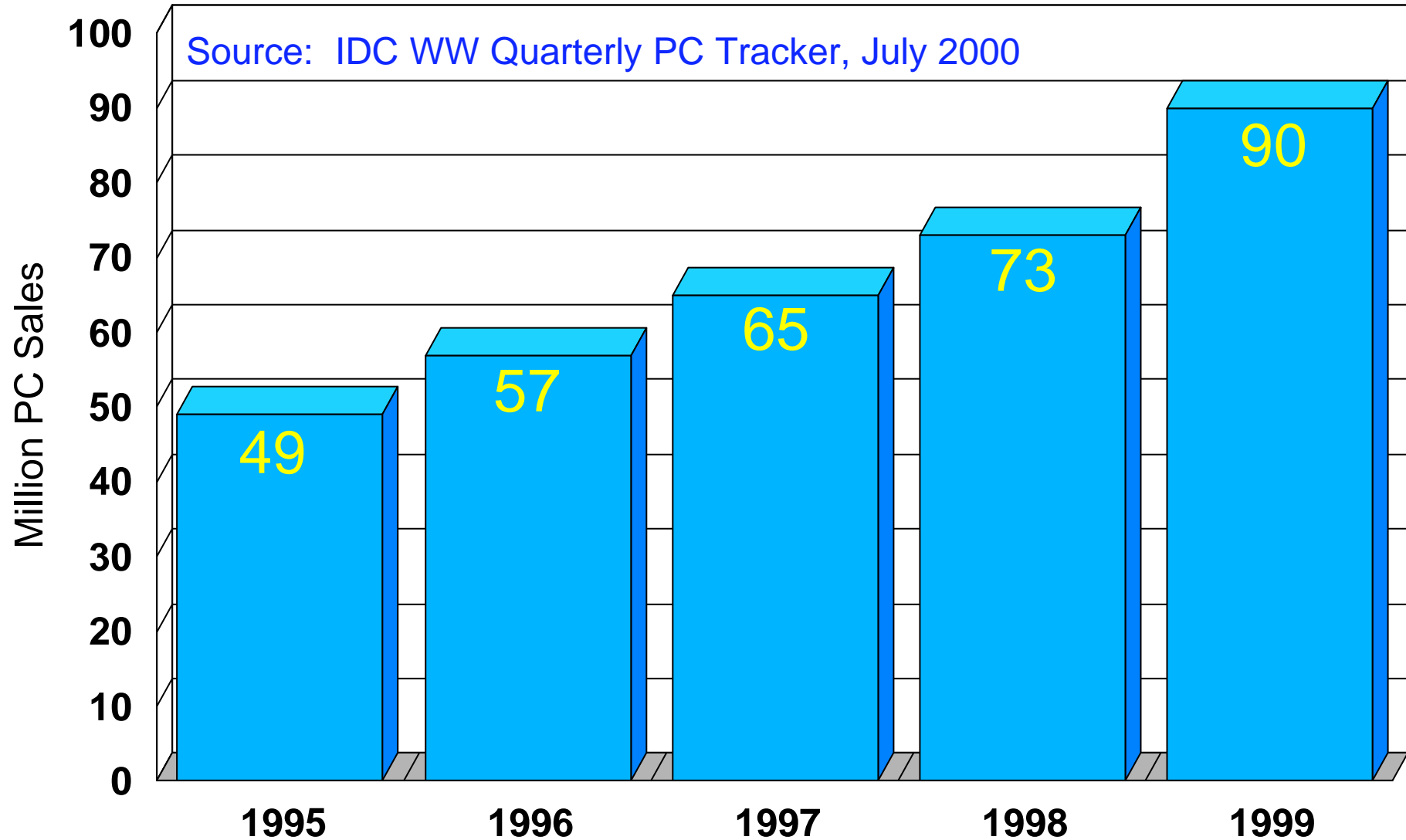
IBM's Product End-of-Life Management Programs Support Reduce, Reuse and Recycle

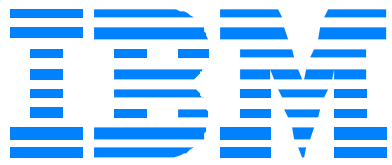


BACK UP



Annual Worldwide PC Sales

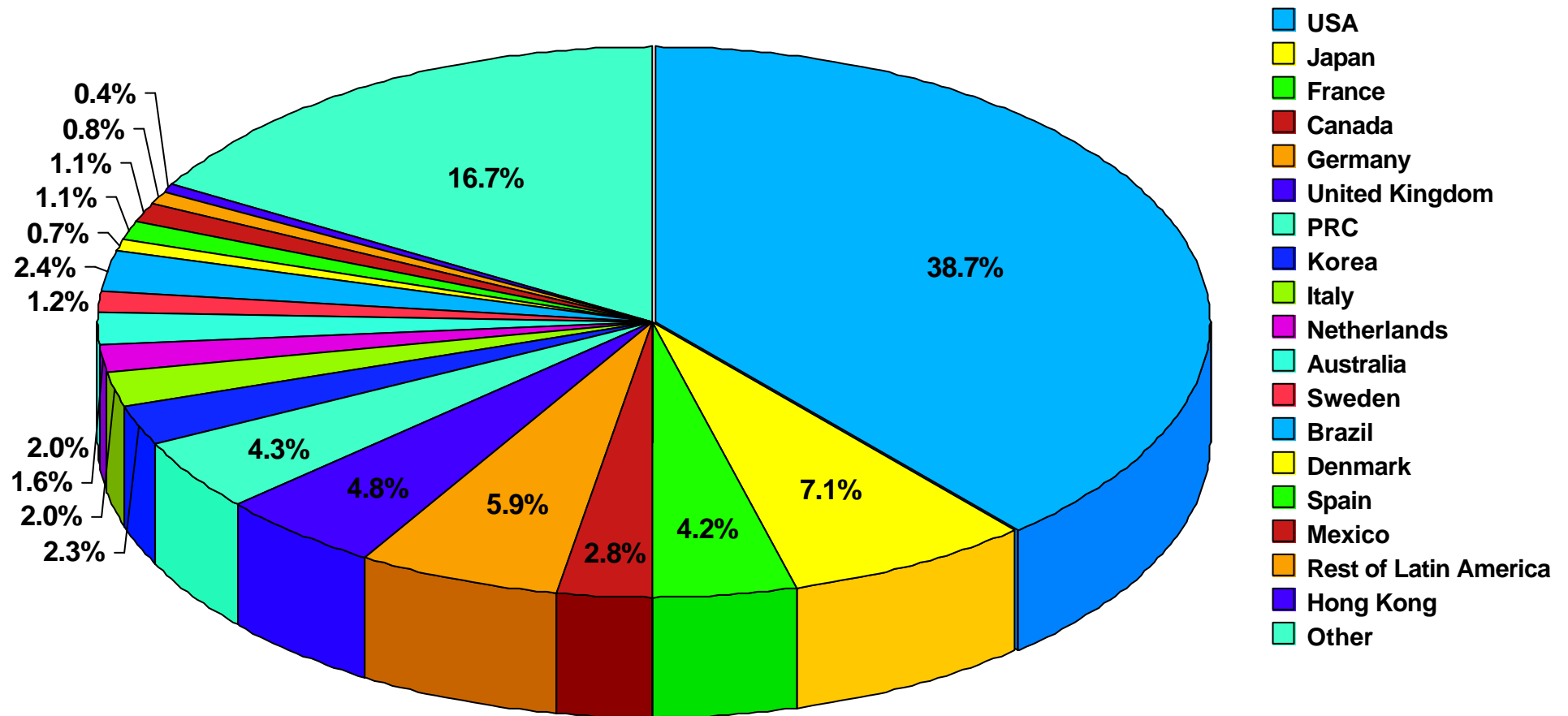




Worldwide Distribution of PCs

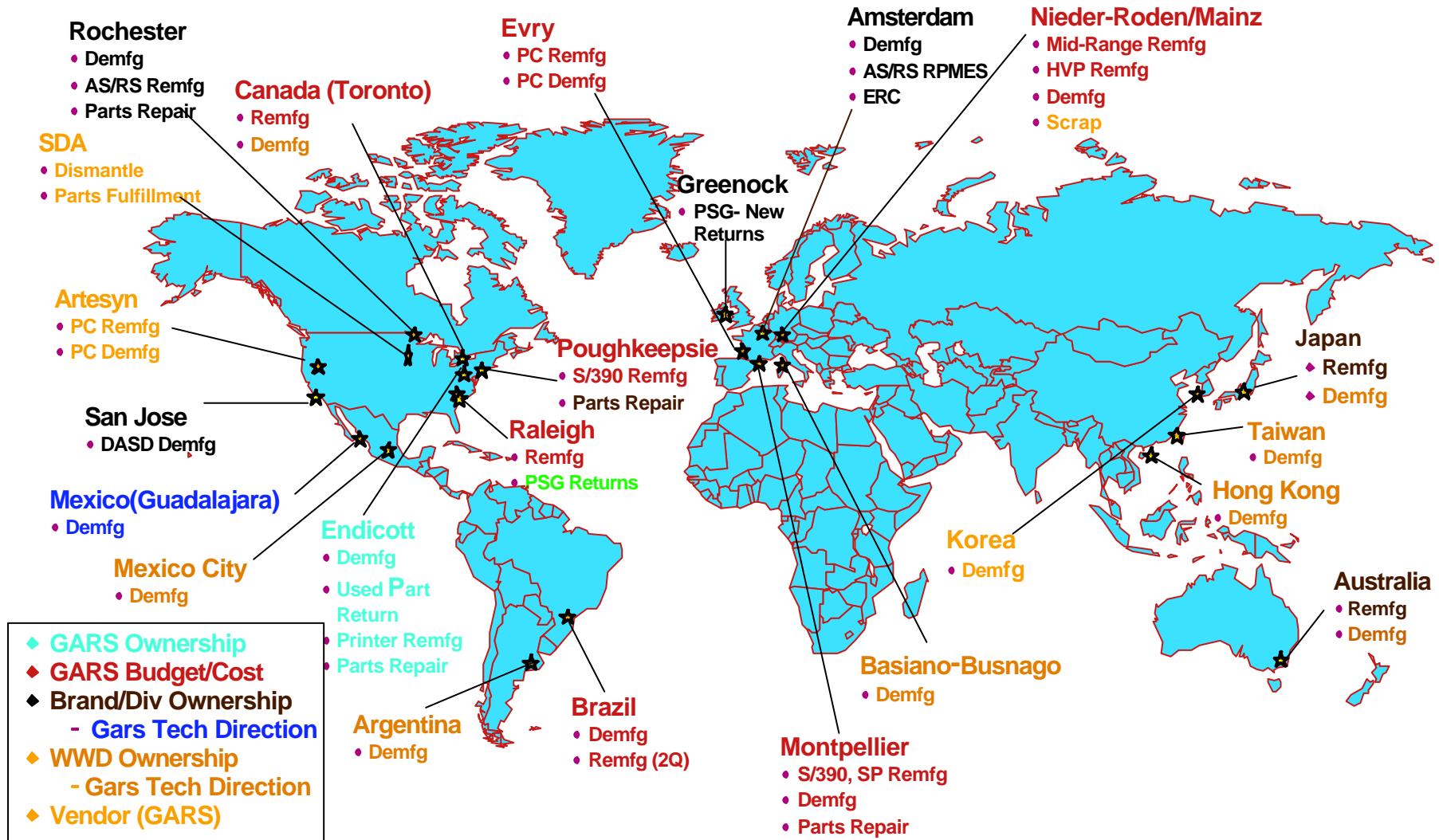
Totals for all brands since 1995

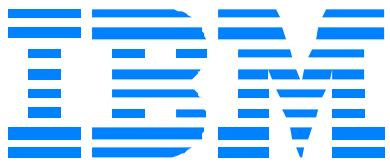
Source: IDC WW Quarterly PC Tracker, July 2000





GARS Location Overview





Parts / Equipment Return Process

