

ELECTRONIC RECYCLING COMPANY MELTS, SHREDS, COMPACTS AND MULCHES OUR OUT-OF-DATE COMPUTER SYSTEMS TO THE SIZE OF A QUARTER

ITTY, BITTY PIECES

BY PATRICK CASEY
Staff Writer

A computer smashed into a bag of bits the size of guitar picks. Confused?

Probably, yet you wouldn't be for long after witnessing a \$10-million automated operation in Mississauga in full swing, a process helping to eradicate a global crisis of obsolete computers and electronic equipment.

In the United States alone, 45 million computer systems are collecting dust in storage rooms, basements and crawlspaces, with the figure expected to leap to 230 million in just three years.

However, Electronic Product Recovery Services Inc. has taken a bold step forward and constructed a 50,000-square-foot facility that shreds, granulates, compacts and mulches electronic hardware into reusable materials.

Operating since August, the plant can process as much as 24,000 tonnes of goods each year, with 100 per cent of the material recycled.

And that's a critical statistic considering regions across Greater Toronto face difficult disposal issues because of limited landfill capacity.

DISPOSING OF TECHNOLOGY

MISSISSAUGA COMPANY
WANTS YORK REGION'S
BUSINESS

"We just keep feeding it because it always stays hungry," EPR president Bill Porter explained during a tour of the elaborate operation.

The local regions are wild about us because of the program we have set up.

There are hazardous materials in computers that will leach into the ground if they are dumped in landfills. Companies have computers jammed in catacombs because they don't know what to do with them. And it's only going to get worse. Everybody has a desktop model but now they also have laptops and Palm Pilots. The systems are smaller but they have more units inside.

"We are here for the long haul and are looking for more material to recycle," Porter added. "We can't get enough product right now."

With scores of photocopiers piled into one corner of the plant and keyboards, processors and fax machines in another, it's obvious EPR has tapped into a vital niche.

EPR is a subsidiary of Industrial Ecology Corp., with Markham resident Jim Buckler chief financial officer of the parent company. And the Mississauga facility is a third-generation model, patterned after a similar — yet less automated — prototype in England.

With tipping fees of \$150 to \$200 per tonne, material is first compacted and shredded before it is transferred to a second 500-horsepower shredder and a granulator that reduces the product to 3/4-inch size.

A series of magnets and electrical currents separate the metals and plastics before being sent off-site to smelters and steel mills to be manufactured into new material.

FAST FACTS:

- The plant can process as much as 24,000 tonnes of goods each year.
- In the United States alone, 45 million computer systems are collecting dust in storage rooms, basements and crawlspaces.
- In 60 minutes, Electronic Recovery Services can process more than 300 personal computers or three tonnes of mainframe equipment.
- There are hazardous materials in computers that will leach into the ground if dumped in landfills.
- The Mississauga facility is a third-generation model, patterned after a similar — yet less automated — prototype in England.
- EPR does not accept TVs or computer monitors as the glass damages the shredder blades and the units contain hazardous materials.

In 60 minutes, the firm can process more than 300 personal computers or three tonnes of mainframe equipment.

For now, EPR does not accept TVs or computer monitors as the glass damages the shredder blades and the units contain hazardous materials.

"To be quite honest, many of our customers don't give a damn about the recycling aspect. They just don't want the parts returned to the marketplace because of warranty purposes," Porter said, adding another 20 North American facilities are planned.

"We've had discussions with the RCMP, who are recommending they use our service. Customers are trying to get a certification of secured destruction."

According to Porter, EPR has already signed contracts with computer firms such as Compaq Canada, Dell Corp. and IBM Canada to dispose of aging products.

School boards, regions and municipalities have also come on board, while EPR spokesperson Sid Morris said the company has opened discussions with York Region in the hopes of arranging a similar program.

In June, York Regional council agreed to begin leasing its computer systems on a three-year contract, eliminating the need to dispose of out-of-date machines.

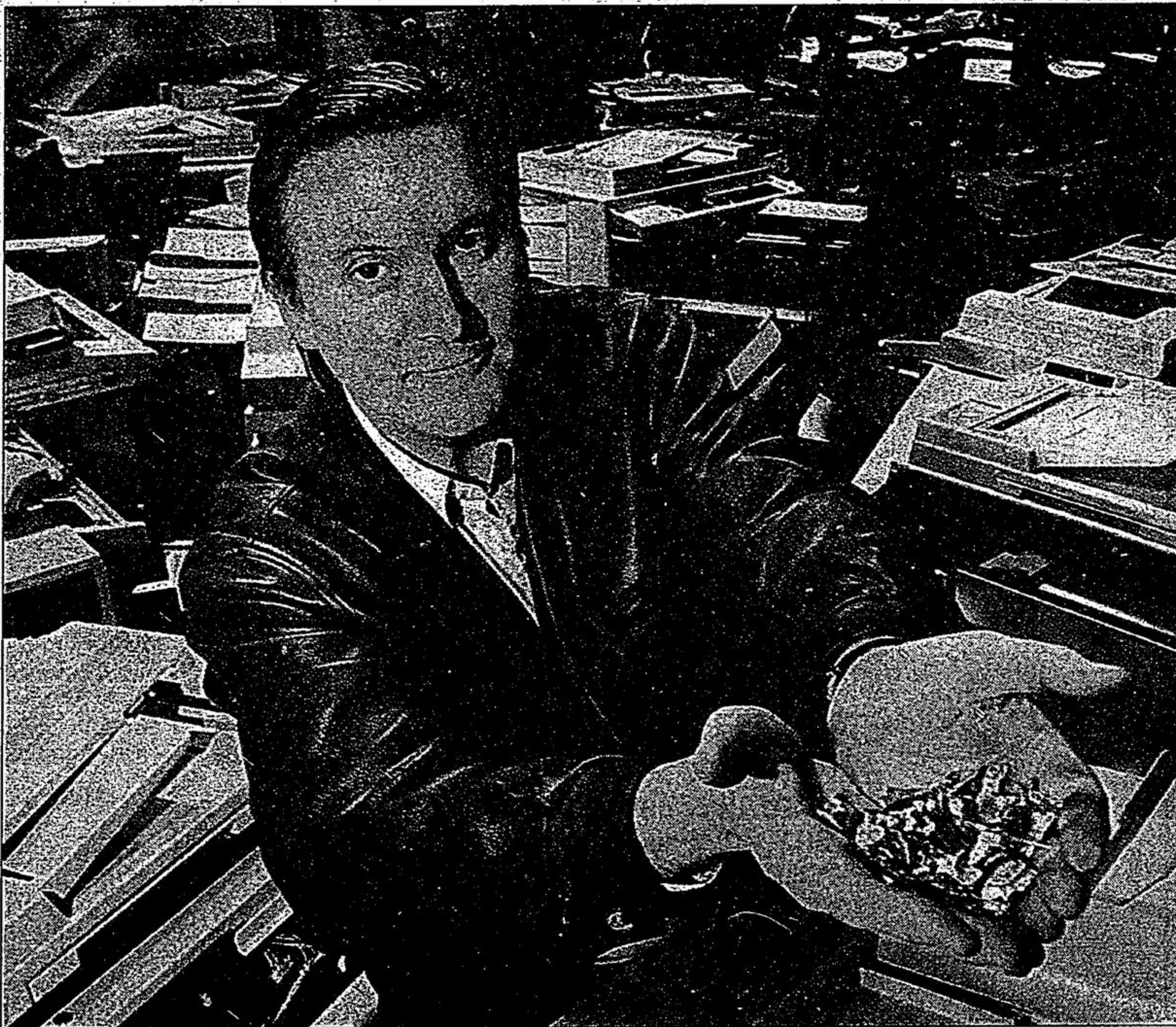
Although older computers are shipped to municipalities and school boards for possible use before they are declared surplus, finance commissioner Sandra Cartwright and regional chairperson Bill Fisch both said the disposal of outdated machinery has become a serious problem.

Compared to smaller operations that simply shred the material with no product separation, the EPR system is advanced.

And Porter said it's a far cry from the single-person operation where technicians strip a computer down a piece at a time.

"There are still guys out there who will pick them apart and separate the circuit boards," he said. "But the value of the material inside is getting less and less since the circuitry is lighter and smaller."

"Manually, you just can't keep up with them anymore. This is the way of the future."



STAFF PHOTO/MIKE BARRETT

Electronic Product Recovery Services president Bill Porter demonstrates how old computers are recycled into 3/4-inch pieces at the Mississauga plant. The company shreds, granulates, compacts and mulches the parts into reusable materials.

STATE-OF-THE-ART PROCESSING TECHNOLOGY

EPR's automated process includes:

Feed preparation. Electronic hardware is received in trucks and placed in a holding area, sorted and dismantled. Large items are separated and processed separately.

Size reduction. Equipment is fed on a conveyor or bin-tipper and emptied into a series of shredders and granulators that reduce material to a maximum size of 3/4-inch. Dust and smaller pieces are collected separately for further processing.

Material separation. Ferrous material is separated magnetically, while non-ferrous materials (aluminum, brass, copper, and plastic) are separated through electrostatic and sand-flo separators. Plastics are further granulated and separated to remove circuit wire and recover copper.

Recycled goods. Material is separated into five clean streams and recycled.

Mild and stainless steel is used by mini-mills for making new steel products and materials.

Aluminum is re-melted (melted, fused and broken down) for new aluminum and alloy metals.

Copper, brass and zinc are re-melted for new copper and alloy metals.

Mixed plastics are used in plastic lumber, noise panels and insulation products or recycled as a source of energy.

Precious metals from small particles such as dusts are smelted and refined off-site to recover trace amounts of gold, silver, platinum and palladium.

SIZE DOESN'T MATTER:

Electronic product recovery can process a wide range of equipment, including:

- Personal computers, including keyboards, mouse;
- Mini-computers and components;
- Mainframe computers and components;
- Printers, scanners, drives and modems;
- Motor control centres;
- Navigation and control equipment;
- Telecommunications equipment (switchgear, switches and relays);
- Instructions and controls (electronic thermostats, recorders, meters);
- Electronic relays and contactors;
- Military hardware (navigation, control, aerospace);
- Telephones (mobile/cellular and hardware);
- Electronic pagers;

- Fax machines;
- Electronic medical equipment (diagnostic and monitoring);
- Photocopiers and printing equipment;
- Electronic calculators;

- Radio and stereo equipment;
- Electronic cash registers;
- Electronic games and video game consoles;
- Digital cameras;
- VCRs;
- Automobile computer modules;
- Software (floppy disks and CDs).

Some equipment is not desired:

- Electric typewriters;
- Electric and manual calculators;
- Televisions and monitors;
- Conventional cameras;
- Large appliances and white goods (stoves, ovens, refrigerators);
- Electric hand tools, power tools and equipment;
- Electric relays and motors.

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