

Small CNY company blazes trail in recycling

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By Elizabeth Doran

Staff writer

A Syracuse company has developed a process to recycle computer circuit boards that it hopes will revolutionize the way we dispose of obsolete electronics.

Jim Moltion, a retired General Electric Co. engineer who runs Northeast Surplus & Materials LLC, has spent the past three years designing a system that recovers reusable parts and valuable metals from discarded circuit boards.

Moltion is hoping his invention, called an Alpha Dpop 2001, also will boost his business and lead to the creation of up to 20 new jobs at his small company headquartered on Shonnard Street. He employs three people part time.

"This system is basically a low-tech solution to a high-tech problem," said Moltion.

Moltion is somewhat secretive about his process until he's secured his patent, but the basic premise works like this: Circuit boards are placed face-down on a conveyor belt. Every 20 seconds, using heat and mechanics, the parts are "depopulated" or removed from the board. There are two parts to the system: One removes the circuit board components and the other removes the metals and other resins and plastics.

"All the parts of the circuit boards are then reusable," he said.

Moltion started his company in the mid-'90s, in part to conduct research and development on what's needed to improve the recycling industry.

He received help for the project from New York State Energy Research and Development Authority, which in 2000 gave him a \$231,998 grant to help pay for the equipment and testing. The total project cost about \$460,000.

NYSERDA is involved because it wants to help in the development of projects that reduce waste and pollution, particularly one like this that helps eliminate the vast amount of electronics waste.

"We recognize there's a need for recycling of electronics scrap materials, and we're always looking for energy-efficient ways to process it," said Tom Fiesinger, NYSERDA project manager. "His method saves energy and solves an environmental problem at the same time."

Moltion said other recyclers depopulate circuit boards using hot plates and hair dryers, but that process costs more, is labor intensive and can expose workers to toxic fumes.

The alternative to recycling circuit boards is dumping them into landfills or burning them, Moltion said. Many companies springing up in the past five years are known as "packers," Moltion said, which stuff old computers and monitors into ocean containers, which are shipped to China and Pakistan and set afire.

"Something needs to be done," Moltion said. "Right now 30 percent of the population have computers that are at least three years old, meaning 100 million computers will be replaced this year."

Moltion needs more money, probably another \$1 million to \$3 million, to start production on his Dpops. He's looking for angel investors, and is talking to several from California and Canada. He plans to start depopulating circuit boards this week, but to bring it to a larger scale he needs money.

The company plans to begin production of the machines within the next three months one way or another, Moltion said. "I'm stockpiling boards, and I'm ready to start operations," he said.

The biggest obstacle is that once the parts are removed, they have to be hand-sorted. That's where some of the new jobs come in, Moltion said. He also is working on developing something to help automate some of that sorting. The system removes about 300,000 parts per week.

At first, Moltion said, he'd like to sell two or three of the Dpops - at \$100,000 each - every month to distributors all over the world.

The most valuable part of the boards are the silicon chips, which can be resold for between five cents and \$60 per chip, depending on how obsolete they are.

Often, old computers and monitors languish in storage in office buildings because people don't properly discard them, Moltion said.

Northeast charges a fee to recycle, which Moltion said deters some from using his service. He charges \$7.50 a monitor and 23 cents a pound for other electronics materials.

"A lot of times people don't want to pay, but if they're concerned about the environment they can be assured their old computers and monitors aren't going to be dumped or burned," he said.

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