
New NTU centre looking into ways to manage e-waste better

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A new research centre has been set up to develop ways to better manage, recover and recycle electronic waste.

The NTU Singapore-CEA Alliance for Research in Circular Economy (NTU Scarce) will look to find methods to recover materials from common sources of electronic waste, such as lithium-ion batteries, electronic circuit boards and silicon-based solar panels.

Researchers there will also look for ways to remove toxins from plastic parts contained in e-waste, such as those in discarded mobile phones and laptops.

The centre is a collaboration between Nanyang Technological University (NTU) and the French Alternative Energies and Atomic Energy Commission (CEA).

One of the projects that the centre will run is a study led by NTU Professor Madhavi Srinivasan, who is also co-director of the centre.

She and her team have devised a way to extract precious metals from used lithium-ion batteries.

Recycling them is very important, she said, as only 5 to 6 per cent of spent lithium-ion batteries worldwide are recycled.

“By extracting valuable resources from used batteries, our method allows us to convert seemingly useless batteries that might be tossed or incinerated into new, usable batteries,” Prof Srinivasan said, adding that the team will work on improving the machines and metal extraction processes.

The National Environment Agency (NEA) hopes the centre will find innovative ways to reduce the consumption of materi-

als, and turn trash into treasure by recycling and repurposing electronic waste.

The centre, which will be located at NTU, will also support Singapore’s drive to become a zero waste nation, as part of this year’s Year Towards Zero Waste campaign.

In total, the initiative will cost \$20 million, which will be funded by NTU, the CEA and the NEA.

The NEA has pledged to commit \$12.5 million towards it.

The NTU Scarce centre was opened yesterday by Senior Minister of State for the Environment and Water Resources Amy Khor.

“In line with our thrust towards zero waste, NEA will be placing greater focus and resources into waste-to-resource R&D programmes in the years ahead,” Dr Khor said at the ceremony.

She cited the latest NEA numbers, which showed that electronic waste is one of Singapore’s fastest-growing waste streams – about 60,000 tonnes of electronic waste are generated annually.

“It is critical that we manage our e-waste properly so as to avoid contaminating our landfill and water catchments with toxic substances such as lead and mercury,” Dr Khor added.

Also present at the event were Mr Marc Abensour, the French Ambassador to Singapore, and deputy chairman of France’s CEA Laurence Piketty.

NTU president Subra Suresh said: “This joint research centre will grapple with one of the increasingly important issues in recycling, as the world continues to produce more electronic devices and electronic waste.”