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IIT-D's sustainable tech to tackle e-waste

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New Delhi: Researchers at IIT Delhi have developed a process to convert e-waste into useful materials. Stating that e-waste can also be considered an “urban mine” for metal recovery and energy production, Professor KK Pant and his research team from the chemical engineering department have developed a sustainable technology to tackle the e-waste menace.

The team has successfully installed a 10kg/h (kilogram per hour) pyrolysis plant for e-waste recycling at IIT Delhi.

The institute stated that India was the third-largest producer of e-waste and had generated 3.23 MMT e-waste in 2019. “E-waste contains several toxic materials like lead, cadmium, chromium, brominated flame retardants and polychlorinated biphenyls. Unregulated accumulation, landfilling, or inappropriate recycling processes pose a severe threat to human health and the environment.”

“The developed technology will cater to the needs of Smart Cities, Swachh Bharat Abhiyan and Atmanirbhar Bharat initiatives of the Indian government via waste to wealth generation in decentralised units,” said Pant.

The institute claimed that “this process gives a recovery of nearly 93% copper, 100% nickel, 100% zinc, 100% lead and 50% gold and silver each. It is a green process in which no toxic chemicals are released into the environment.”

For this project, the team was awarded the SRISTI-GYTI appreciation for 2020.