

TDB-DST supports M/s Alchemy Recyclers Private Limited, Gujarat, for the development of an Integrated Plant for the Recovery of Precious Metals from E-waste, Jewellers Waste and Automobile Catalyst Waste

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The Technology Development Board today signed the second agreement under the initiative "Technology intervention towards 'Garbage Free Cities'". TDB signed an agreement with M/s Alchemy Recyclers Private Limited, Gujarat, for the development of an Integrated Plant for the Recovery of Precious Metals from E-waste, Jewellers Waste, and Automobile Catalyst Waste'. The board has agreed to provide a support of 1.14 Crores out of the total project cost of 1.90 crores.

The Technology intervention call is aimed at encouraging proposals that will not only eliminate waste from Indian cities but also utilize technological interventions to generate wealth from waste. Taking inspiration from the Prime Minister's vision, the Swachh Bharat Mission: Urban 2.0 aimed to make all our cities free from garbage and emphasizes on cleanliness, the Technology Development Board (a statutory body of the DST, Government of India) invited applications from Indian companies having innovative indigenous technologies at the commercialization stage in the waste management domain.



Speaking on the occasion, **Shri Rajesh Kumar Pathak, Secretary, TDB**, said, "The Technology Development Board's "Technology intervention towards "Garbage Free Cities" call for proposals received an overwhelming response from Indian companies across the country. The enthusiasm and interest shown by these companies demonstrate their commitment towards creating a cleaner and more sustainable future. The

board received a wide range of innovative and indigenous technologies at the commercialization stage in the waste management domain. These technologies have the potential to revolutionize the way we handle waste and contribute towards achieving the vision of a garbage-free India."



The company has developed an integrated plant for the recovery of precious metals from e-waste, jewellery waste, and car catalyst waste using their innovative methodology for processing. When e-waste, jewellery waste, and car catalyst waste are mixed in a unique ratio or combination, the recovery ratio goes up significantly. Also, certain impurities act as flux, aiding in the recovery process. They have proposed the recovery of precious metals like Gold, Silver, Palladium, Platinum, and Rhodium from the combination of these three wastes, at an installed Capacity of 750 TPA.

This innovative methodology not only enhances the recovery ratio of precious metals but also offers a sustainable solution for waste management. By efficiently extracting valuable metals from these three types of waste, it reduces the environmental impact associated with traditional mining practices. Moreover, the utilization of impurities as a flux not only improves the recovery process but also minimizes the need for additional chemicals, making it a cost-effective and environmentally friendly approach.

Electronic waste trade is primarily managed through informal channels, causing environmental hazards, government taxes and resource depletion. Projects aim to mitigate this issue and promote circular economy models for efficient and cost-effective waste collection. The proposed processing capacity is 750 TPA, accounting for 0.0187% of the Indian market. Global e-waste volumes are expected to increase, highlighting the project's potential for viability both locally and globally.

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