

## **E-SCRAPPER E-Scrap Recovery System**

### **Introduction**

**Global Challenge:** E-waste is a rapidly growing issue, with millions of tons discarded annually, containing valuable recoverable materials.

**Current Limitations:** Traditional recycling methods are inefficient, environmentally damaging, and fail to capture the full value of e-waste.

### **Innovative Solution**

**E-SCRAPPER E-Scrap Recovery System:** A revolutionary approach to e-waste recycling integrating advanced technologies with a self-sustaining power supply.

### **Key Technologies**

- 1. AI-Enhanced Sorting:** Improves accuracy and efficiency in material separation.
- 2. Advanced Chemical Extraction:** Environmentally-friendly recovery of rare and precious metals.
- 3. Hydrometallurgical Techniques:** Efficient aqueous metal recovery.
- 4. Electrochemical Recovery:** Energy-efficient metal deposition at high purity.
- 5. Thermal Depolymerization:** Breaks down plastics to support metal recovery and generate energy.

### ***Self-Sustaining Power Supply***

***Thin Film Photovoltaics:*** Flexible solar cells for continuous energy.

***Piezoelectric Technology:*** Converts mechanical stress into electrical energy.

***Kinetic Energy Harvesting:*** Captures energy from system movements.

***Electric Motor:*** Powers operations with minimal external energy reliance.

### **Impact & Sustainability**

**Environmental:** Reduces reliance on traditional, energy-intensive recycling methods.

**Economic:** Maximizes recovery of high-value materials and reduces operational costs.

**Technological:** Positions the system at the forefront of e-waste recycling innovation.

**Social Responsibility:** Contributes to a circular economy through sustainable practices.

### **Conclusion**

***E-SCRAPPER E-Scrap Recovery System offers a comprehensive, innovative solution for e-waste management, addressing global challenges while promoting environmental and economic sustainability.***

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