**SMART INDIA HACKATHON :**

**Problem Statement Title** : Secure Data Wiping for Trustworthy IT Asset Recycling

**Problem Statement Details ( SIH25070 )**

**1. Background:**

India is facing a growing **e-waste crisis**, generating over 1.75 million tonnes annually. A key reason why millions of old laptops and smartphones remain unused or improperly discarded is **fear of data breaches**. Most users hesitate to recycle their devices due to concerns about sensitive personal or organizational data being recovered. Existing data sanitization tools are either too complex, expensive, or lack verifiable proof of erasure. This gap has led to over ₹50,000 crore worth of IT assets being hoarded in homes and offices, hindering circular economy efforts. A **user-friendly, tamper-proof, and auditable data wiping solution** is urgently needed to promote safe disposal and reuse of electronic devices.

**2. Problem Statement:**

Design and prototype a **secure, cross-platform data wiping application** that works on **Windows, Linux, and Android devices**. The tool must:  
- Securely erase all user data, including hidden storage areas like HPA/DCO and SSD sectors.  
- Generate a digitally signed, tamper-proof wipe certificate (in PDF and JSON formats).  
- Feature an intuitive one-click interface suitable for general public use.  
- Offer offline usability (e.g., bootable ISO/USB).  
- Enable third-party verification of wipe status.  
- Be scalable, standards-compliant (aligned with **NIST SP 800-88**), and support trust and transparency in IT asset disposal and recycling workflows.

**3. Impact:**

This solution will build user confidence in device recycling, reduce hoarding of IT assets, promote **safe e-waste management**, and advance India’s **circular economy** initiatives.

**4. Organization:** Ministry of Mines

**5. Department:** Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC)

**6. Category:** Software

**7. Theme :** Miscellaneous