#### **Toward Sustainability**

#### IRCSM

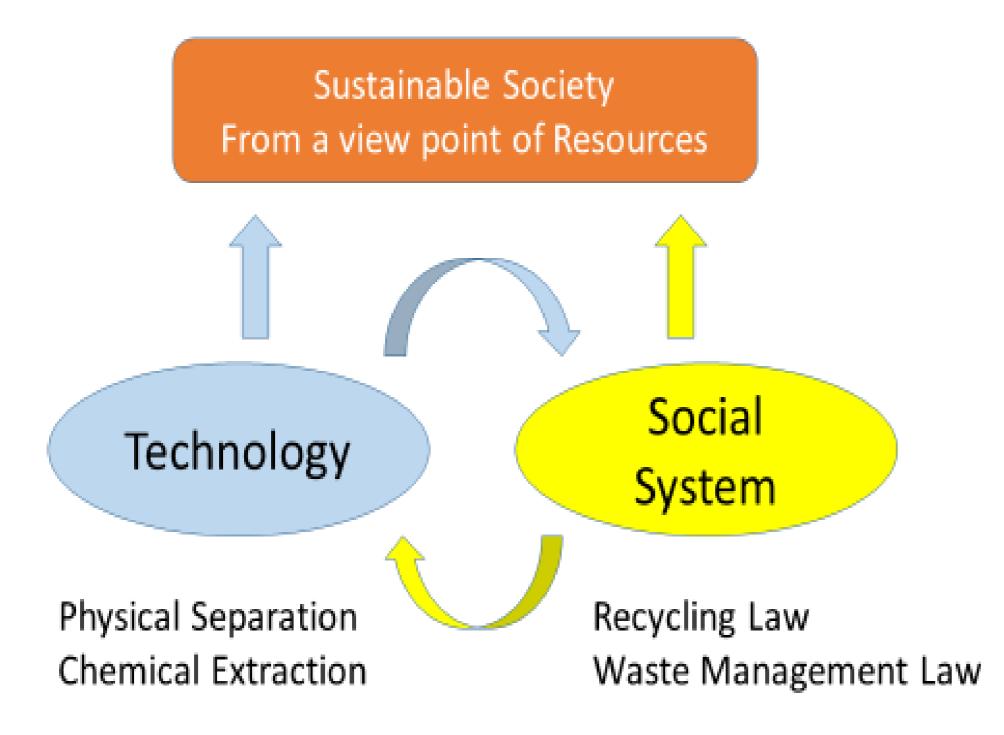
# NAKAMURA LAB.

# -Establishment of Sustainable Society from Coupling Technology and Social system-

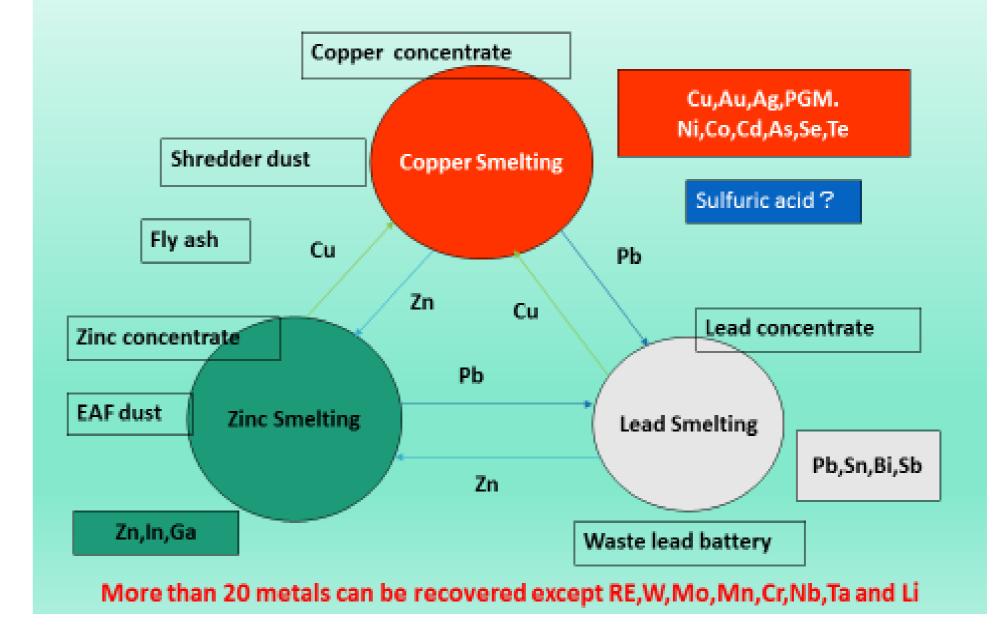
International Research Centre for Sustainable Materials **Endowed Research Unit for Non-ferrous Metal Resource Recovery Engineering** Metallurgy and Recycling System for Metal Resource Circulation

# **Coupling Technology and social system for Sustainable Society**

# Concept of Coupling Technology and Social system



Base Metals and Minor Metals recovered from Primary and Secondary Resources in Non-Ferrous Industry



Target: to develop the process technologies and social systems for metal recycling, waste detoxification and energy recovery based on the non-ferrous smelting industries

## **Current Topics**

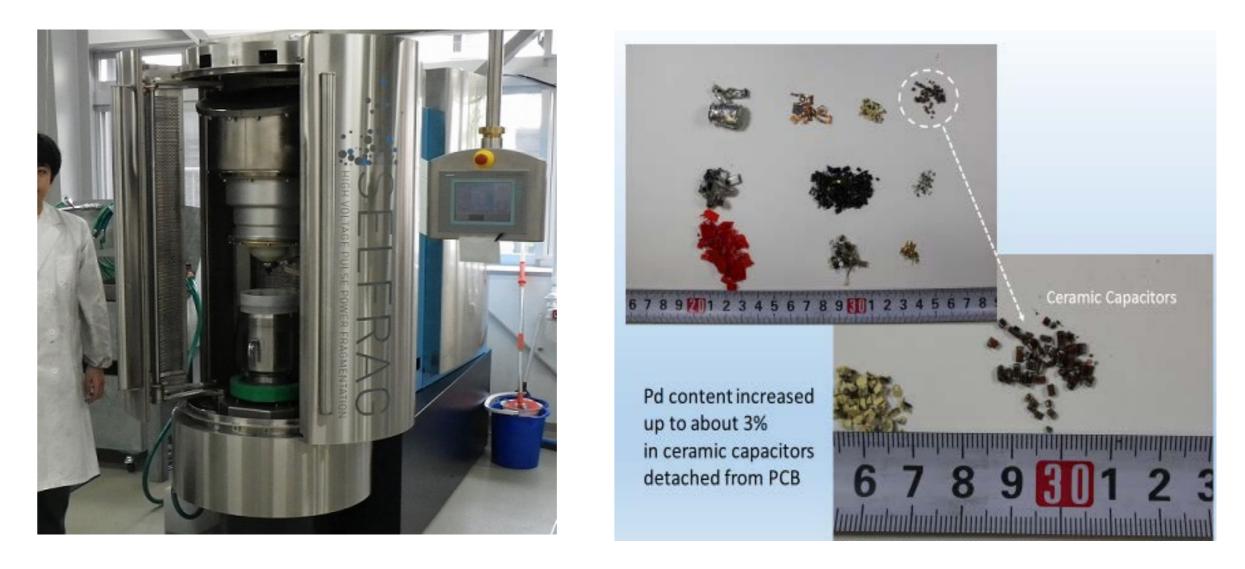
✓ THERMAL AND HYDRO PROCESSING FOR METAL RECYCLING AND WASTE TREATMENT (CHEMIC&L THERMODYN&MICS)

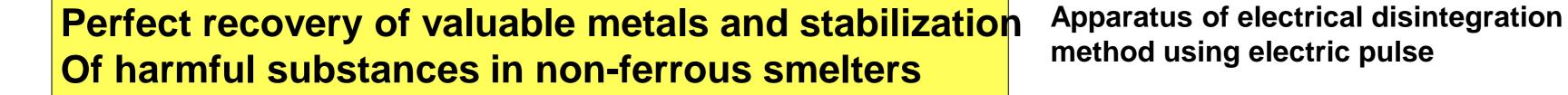
✔ WASTE TREATMENTS AND ENERGY RECOVERY BASED ON THE NON-FERROUS METAL SMELTING ✓ FIELD STOCK RECYCLING OF WASTE PLASTICS CONTAINING BROMINATED FLAME RETARDANTS ✓ DEVELOPMENT OF ELECTRICAL DISINTEGRATION METHOD USING HIGH VOLTAGE ELECTRIC PULSE FOR E-SCRAP

### Environmental friendly Collection system of E-scrap from ELV

**Establishment of Collection points for E-scrap** From ELV with Japan ELV Association

**Pre-treatments of E-scrap with recyclers** to enrich valuable metals like precious metals





#### Various electric parts obtained from ELV E-scrap using electrical disintegration method

#### stitute of Industrial Science