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

**Concept of Coupling Technology and Social system**

![Image of Concept of Coupling Technology and Social system]

- **Sustainable Society**
  - From a view point of Resources

- **Technology**
  - Physical Separation
  - Chemical Extraction

- **Social System**
  - Recycling Law
  - Waste Management Law

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**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 (Chemical Thermodynamics)
- ✔ Waste treatments and energy recovery based on the non-ferrous metal smelting
- ✔ Comparison of recycling system between EU and Japan
- ✔ Novel recycling system based on harmonizing whole supply chains

**Smart 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**
- **Perfect recovery of valuable metals and stabilization Of harmful substances in non-ferrous smelters**

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**Issues of material circulation from a supply chain and each industrial sectors**

- **Materials productions**
- **Parts Manufacturing**
- **Collaboration with final products manufacturing**
- **Final products Manufacturing**
- **Developing new Products & Uttenerated of exchange rate**
- **National problems: High energy cost & Decrease of population**
- **Environmental problems**
- **Trading companies**
- **Consumers**
- **Keep a high mood for waste treatments**
- **Some companies are working at different stages**

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[http://www.metals-recycling.iis.u-tokyo.ac.jp/takashinakamura.html](http://www.metals-recycling.iis.u-tokyo.ac.jp/takashinakamura.html)