The activities of the Institute for Process Metallurgy and Metal Recycling essentially consist of applied research and teaching in the fields of recycling, vacuum, electric arc and hydrometallurgy.

**Research Areas**

**Pyro-Recycling-Processes**
- recovery of valuable metals from scrap, dusts, sludges and zero waste strategies
- rotary kiln vaporisation
- injection and hollow electrode technology
- IRRC with 0.5 MW TBRC, 1MW electro-furnace

**Vacuum- and Inert-Gas-Metallurgy**
- lab- and demo-scale VIM's and EB, pilot-scale (P) ESR and VAR
- master alloy manufacturing
- purification by vacuum distillation
- vacuum degassing

**Melt Treatment and Purification**
- fractional crystallization of alloy melts
- injection of reactive gases in molten metals
- selective oxidation by slag treatment
- metal filtration
- salt slag refining using centrifugal technique

**Hydrometallurgy and Electrolysis**
- aqueous and molten salt electrolysis
- fixed bed and reversal-current cells
- heap, agitation and pressure leaching
- synthesis of nano particles by ultrasonic spray pyrolysis

IME is represented in the following projects

P4 “Melt Cleanliness”  P4C “Inclusion Agglomeration and Floatation”  P5 “Aluminium Recycling”

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