Motivation:
- Determination of the influence of pyrolysis- and combustion gases on dross formation using organic coating aluminium scrap
- Development of a mechanism model for the de-coating process focusing on gaseous reaction products according to the gas evolution
- Assessment of the gas - liquid interactions

Composition of Used Beverage Cans (UBC):
- Can lid: 5182 alloy, can body: 3104 alloy
- Organic layer based on epoxy resin
- Organic coating thickness in the range of 8-12 μm

Thermal treatment (Pyrolysis, Thermolysis)
- Trials in a lab-scale pyrolysis reactor
- Thermal treatment of small UBC pieces (4x3x3 [cm])
- Parameters of influence (time, temperature, heating rate, oxygen)
- Characterization of the pyrolysed products: evolved gas and solid carbon residue

Interaction pyrolysis gases - aluminum melt
- Injection of synthetic gas mixture (carrier gas: Ar) in Al melt
- Composition of gas mixture is defined by previous characterisation of pyrolysed gas

Outlook:
- Experimental validation in technical scale by treating industrial UBC bale (inert and enriched oxygen atmosphere)
- Determination of oxidative effect of gaseous pyrolysis products on dross formation