

Roma

With an increasingly shortage of energy and high quality raw materials in the world today, a major part of our research projects are focused on environmental issues. One of the new projects within this area is ROMA (Resource Optimization and recovery in the MAterial Industry).

ROMA



ROMA is a KMB-project (Knowledge-building projects with user involvement) and hence mainly funded by the Norwegian Research Council. However, important contributions also come from a joint Norwegian industry consortium producing aluminium, ferroalloys and titaniumoxide slag. In addition to the funding, they are heavily involved in the planning and execution of the various research tasks. The industrial partners are Hydro, Elkem and Sørval from the aluminium side, Alstom as a supplier, Elkem, Eramet, Fesil, Finn fjord, Tinfos and RDMn, producing ferroalloys, and Tinfos TI producing TiO_2 and cast iron.

The common denominator for these industries are the usage of small sized materials, called “fines”, reduction of energy consumption, recovery of energy and

reduction of CO_2 . The sub-projects are hence focusing on:

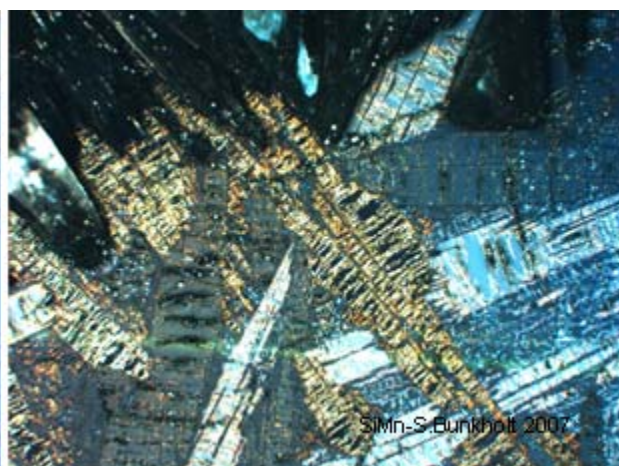
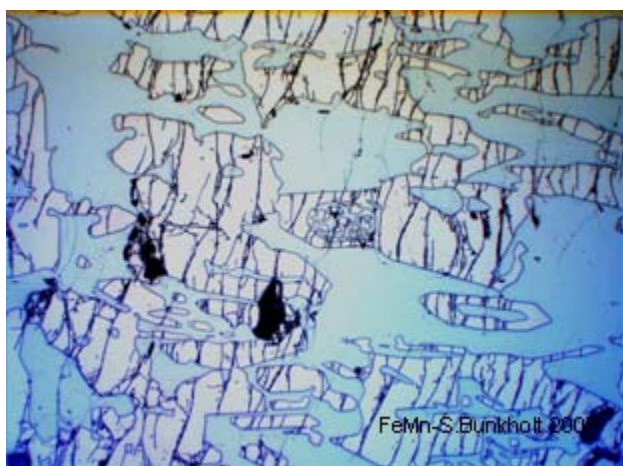
- Cleaning and usage of secondary alumina.
- Usage of biocarbon materials in anodes.
- Usage of fines in submerged arc furnaces producing ferromanganese alloys.
- Cleaning of ilmenite fines.
- Recovery of energy from dirty flue gas.
- Energy recovery from low temperature flue gas.

Another important part of the project is the Junior Program under Prof. Trygve Foosnæs. This program is focused on improving the recruitment to the material industry, and giving the candidates the knowledge required to work in this industry. The students participating in this program will have a close cooperation with industry within a mentor program, be able to get to know this industry through excursions as well as being informed as young scientists through course work and visits to inspirational institutions.

Facts about ROMA - Resource Optimization and recovery in the MAterial Industry:

- Joint NTNU/SINTEF project funded by NFR and Norwegian industry.
- Educate 7 PhD students (5 within the Department of Materials Science and Engineering).
- Duration is mid 2007 to 2013.
- Total budget is about 58 mill. NOK.
- Partly sponsored equipment is DTA-TGA and Laser-flash thermal conductivity apparatus and a test rig for Energy Recovery.

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Photos: Sindre Bunkholt