



eCo²SMelt

Problem:

Stainless steel production and use are steadily growing all over the world. New products are continuously under development for new needs. Nevertheless raw material cost booming is a real constraint to its full development, and metal recovery from internal by-products or wastes has become an interesting and quite cheap way to follow.

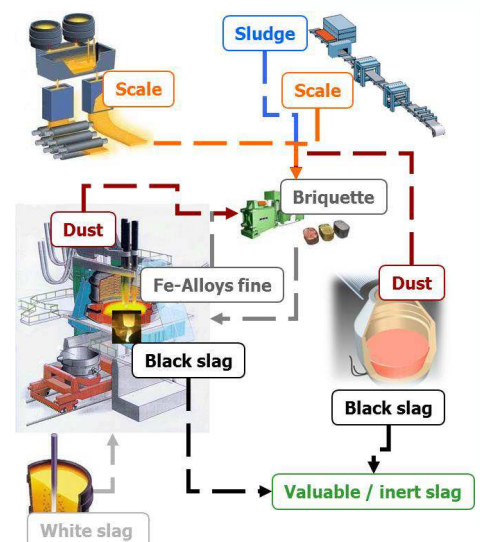
Solution:

eCo²SMelt is the CSM's proposal for a real economical & ecological stainless steel production. It is based on a well experimented mix of new processes, slightly modified plants and new control Process tools:

- **reCSMelt**, the EAF scrap melting process carried out in reductive atmosphere
- **AODyn**, the advanced tool for dynamically managing of decarburisation conversion in AOD
- **ecoLiF**, the final alloying and temperature adjustment in an inert atmosphere LF
- **recomet**, the complete recovery of valuable metals such as iron, chromium, nickel, molybdenum, from dust, fine, scale, slag, sludge etc..

After a deep on site survey, a cash-flow driven feasibility study is supplied, in order to let Customers their own scale up timing.

Process optimisation and on-site assistance are included in the package for a guaranteed implementation, result evaluation and a rapid return of investment.



Full eCo²SMelt material recovery flow diagram

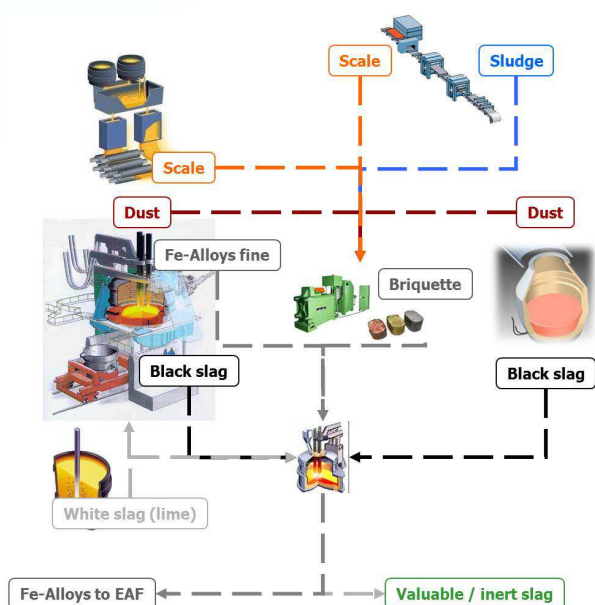
Benefits:

- Roadmap of internal waste and by-products full recycling
- Reduction of raw materials purchase costs
- Optimisation of plant productivity and yield
- Flexible operations
- Reduction of environmental impact

Typical problem approached

In *eCo²SMelt* are identified as new metal bearing raw materials:

- Fe-alloy fines
- Dusts from EAF and AOD
- Scale from continuous casting process and hot rolling mills
- Sludge from pickling
- Black slag from EAF and AOD



Intermediate eCo²SMelt recovery materials flow diagram



eCo²SMelt takes advantage of other existing modules, such as *i-CSMelt*[®] and *AODyn*, in order to reduce process costs at the first steps of the its implementation.