

# Melt Shop Feasibility Studies

The first step to improving the melting operation is to have a plan based on science and experience, ensuring that the project implementation will be successful and that things will work as planned. Quad specializes in the analysis and modeling of process and equipment, from a single equipment item to an entire plant. Simulation programs are used to evaluate and optimize layouts, process flow and equipment.

## Engineering studies are customized to meet your specific goals:

- *Long term facility improvement plans*
- *Equipment selection & specifications based on process selection & capacity calculations*
- *Layout development, Infrastructure specification & installation requirements*
- *Determine capital budget costs and project schedule for board approval*
- *Identify & Quantify the impact of equipment and process solutions*
- *How to upgrade and modernize equipment at a fraction of the cost of replacement*



# Melt Shop Feasibility Studies

## Some examples of specialized feasibility studies include:

- Optimization of scrap handling operations:
  - Concept development
    - automatic weight scales
    - optimal truck routing
    - enclosed scrap storage area
    - noise isolation
  - Cost savings estimation
  - Civil, utilities and engineering work
  - Justification for expenditure
- Equipment optimization for:
  - Alloy handling systems
  - Scrap charging into furnace
  - Casting



- Productivity increase of Electric Arc Furnace with:
  - Air-tight vessel design
  - High slag level with appropriate chemistry
  - Adequate supplementation of electric energy with energy of oxy-fuel burners
- Performance evaluation of EAF cooling water systems
- Process parameters optimization of emission control systems:
  - Calculation of gas quantity and temperature profile
  - Size and locations of exhaust canopy, manifolds, hoods and ducts