

## ARC Furnace Expertise in Electric Steelmaking and Metal smelting

### 1. ARC<sup>®</sup> Service - Conversion cost

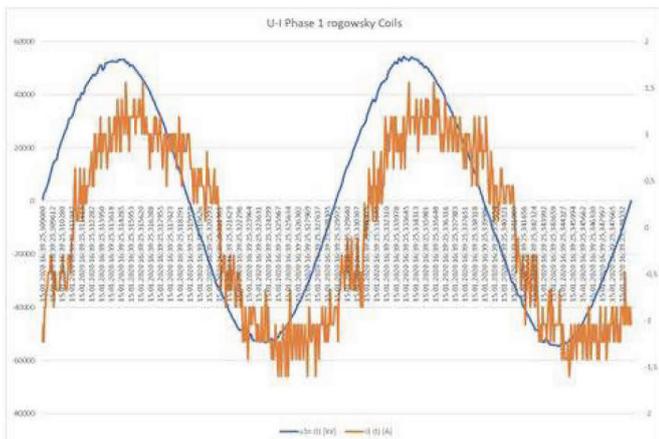
Our team use modeling and simulation to improve the process parameters in order to optimize the conversion costs. That includes the optimization of slag, the arc and the vibration of the secondary mechanical system (electrode columns, arms and masts).

### 2. ARC<sup>®</sup> Service - Productivity

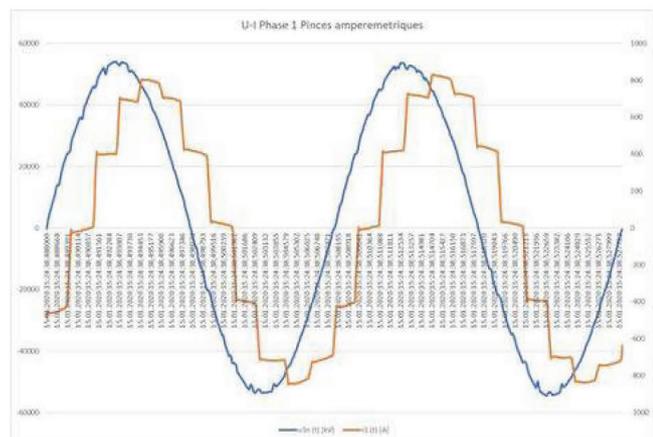
Our renowned team has the best world-class experts in arc furnace technology and processes and has a world longest track record of improving productivity in more than 600 Arc Furnaces around the world.

### 3. ARC<sup>®</sup> Service - Training

- Benchmarking of your arc furnace
- Tool kit to improve productivity in arc furnace
- Total energy modelling and factors that influence energy consumption
- How to improve refining in ladle metallurgical furnace
- Electrical principles in arc furnace
- Chemical energy use and abuse
- Mode of graphite electrode consumption



Current harmonics analysis using Ragowski Coils to measure the current



Current measurements using mu-metal current clamps



## 4. ARC<sup>®</sup> Service - Design and revamping of arc furnace

- a- Electrical design and equipment (transformer, SVC, ...)
- b- Conceptual optimal design (water cooled elements, ...)

## 5. ARC<sup>®</sup> Service - Monitoring Service

ALTech Arc Monitoring Service operates by monitoring the process parameters, through installation of dedicated equipment and software that collects data (process and other) and in real-time analyses the data with a sophisticated data mining algorithm.

Our experts and technical team will help you to optimize your metal throughput and insure the best financial return.

## 6. ARC<sup>®</sup> Service - Process Optimization

Our team has process engineering experts that use extensive experience and metallurgical principles to assist in process optimization.

This includes slag design, product chemistry, castability and clean steel design.

## 7. ARC<sup>®</sup> Service - Digital Arc Furnace Analyzer (Artificial Intelligence - Big Data Analytics Enabled)

Designed by AST-Technology Switzerland ([www.ast-technology.com](http://www.ast-technology.com))  is the state of the art and world's most advanced, dedicated Arc Furnace Monitoring instrument. It is enabled for a very high measurement rate, (18 000 Hz) and it is able to be connected securely to external database and PLC, in addition it can be remotely controlled through WiFi  so there is no need to enter transformer room, and it can be connected safely while the furnace is arcing, i/e. power on mode



## 8. ARC<sup>®</sup> Service - Artificial Intelligence - Big Data Analytics Solution

AST Technology, engineering company of ALTech Group, designed and provides AI-BDA Solution, acronym of Artificial Intelligence - Big Data Analytics, a customized service, designed to enhance the capability of the enterprises to understand and to control the increasing complexity of the industrial processes, optimizing their overall business performance.

AI-BDA brings fast results with no capital expenditure, with high returns, through:

- Consultancy service
- Analytics software
- Coaching



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