Induction Furnace

CO2e emission reduction
& energy savings

Why Inuatek?

- We have done this before - with success!

- We are experts in extracting value from data, through calculations, correlations etc.

- We have deep roots in OT, with a perspective from both data science and automation

- We are part of the INIT group providing us with a large automation specialist pool

- We are secure remote access specialists, so maintenance and setup is done remotely

Obtain Significant Energy Savings Using your Existing Sensor Data

In the global casting industry, energy costs account for 15% of all costs for ferrous alloys, and the melting process alone accounts for almost 80% of those costs. Just 10% improved energy efficiency (less energy consumed for the same output) would result in an immediate 1.5% increase in profits, not to mention the significant decrease in harmful greenhouse gas emissions. Our experience demonstrates that for each melted ton of iron, CO_2e emissions from 65 kWh of saved energy usage can be avoided.

Inuatek has created a solution tailored for induction furnaces that helps achieve such savings through machine learning and through nudging tools for operators.

Does that sound too good to be true? Indeed, it is true, and it even utilizes data that is often already present at the factory.

How it works:

1. An IoT gateway is installed at the factory network and connected to the controls or sensors
2. Data is sent to the Inuatek Data Collection Cloud DCC, where the utilization is calculated based on temperature, weight, material, energy consumption, and the characteristics of the oven. For sensitive production the DCC can alternatively be installed on-premises.
3. Based on this, the optimal operational procedures are defined for the current melting processes and are visualized in instructive dashboards used in the operators' daily work.
4. Real time accumulated comparisons of the individual foundry lines for optimization and progress tracking can be used by the production manager.
   Optional possibilities (external dependencies):
5. Benchmark performance against furnace vendor data
6. Correlation with energy spot pricing for optimizing production planning
7. Adaptation to energy balancing of transmission system operators
8. Automated data aggregation for energy and CO2e reporting to authorities or partners.
9. Correlation with OEE data to better identify areas for energy consumption reduction.

How to get started:

1. We arrange a free initial online consultation to evaluate your situation and determine how to achieve the greatest results with the least amount of work.
2. We provide an online demonstration of the system's appearance in a comparable project or setting.
3. We agree on a pilot project in which we establish an end-to-end connection with a few chosen sensor endpoints.
4. We lay out a roadmap with checkpoints leading to a common objective with a set of staged initiatives

Measurable Benefits:

- Immediate cost savings on energy
- Higher contribution margins for increased profitability
- Active contribution to greenhouse emission reductions
- Better employee utilization and staff planning
- More motivated staff through engagement in their work processes on the optimization
- Optimized supply chain coordination
- Better down-time resilience and service management
- Reduced production time

INUATEK

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