

## European Electric Steelmaking Conference (EEC) 2021

– in Cooperation with Marienhuetten Graz

Title of Presentation:

### **Precise Temperature Control with Artificial Intelligence**

Marienhuetten Graz significantly improves their temperature control by using AI

#### **Abstract:**

Herbert Fohringer - CEO, Marienhuetten Graz  
Dr. Thomas Griessacher - Steel Plant Manager, Marienhuetten Graz  
Dr. Falk-Florian Henrich - Founder and CEO, Smart Steel Technologies  
Dr. Otmar Jannasch - VP Metallurgy, Smart Steel Technologies  
Tim Wessels - Machine Learning Engineer, Smart Steel Technologies  
Marcus Bahn - Machine Learning Engineer, Smart Steel Technologies

Marienhuetten Graz is the only Austrian manufacturer of reinforcement bars. They operate a highly specialized steel mill to produce high-quality rods and rebars at their shop in Graz. The steel plant operates a state-of-the-art AC EAF, which uses modern injection technology to achieve a competitive tap-to-tap time. After being refined in a ladle furnace to achieve the best quality and temperature for casting, the steel is fed into a 2-strand billet caster.

The steel temperature in a melt shop has to follow precise setpoints, especially at the entry and exit of the ladle at each aggregate, and during the casting process. Smart Steel Technologies developed a dedicated software based on Artificial Intelligence providing temperature estimates and recommendations with high precision and low latency. Using techniques from classical machine learning all the way to cutting-edge neural network algorithms, the software helps stabilize the entire process chain and thereby allows energy savings by decreasing the overall temperature level. The software is fully integrated, runs 24/7, and is entirely adapted to the data generated at Marienhuetten Graz.

#### **Join our Session:**

15<sup>th</sup> September, 2021 at 12.40 pm CEST