Contribution ID: **9** Type: **Oral Presentation**

Ways to study fluid flow in the mould –The application of Simulation Technology and Supplementary Tools for SEN Design Characterization and its Development

Thursday 12 March 2026 16:05 (25 minutes)

Simulation-based analysis of flow phenomena in continuous casting moulds is a mature and well-established practice. Commonly applied approaches include Computational Fluid Dynamics (CFD) and physical modelling techniques, such as water modelling and, more recently, liquid metal experiments. These methods enable detailed evaluation of submerged entry nozzles (SEN) performance and support their optimization under varying process conditions. In addition, they play a critical role in the development of new refractory products. Final validation of simulation outcomes through in-situ measurements at the caster remains essential. This presentation reviews the simulation and experimental tools employed by RHI Magnesita and illustrates their application with selected case studies.

Author: HACKL, Gernot (RHI Magnesita GmbH)

Co-authors: FELLNER, Wolfgang (RHI Magnesita GmbH); Dr TANG, Yong (RHI Magnesita)

Presenter: HACKL, Gernot (RHI Magnesita GmbH)

Session Classification: FLUID FLOW IN SEN AND MOLD: SIMULATION AND MEASUREMENTS

Track Classification: Fluid flow in SEN and Mold: Simulation and measurements