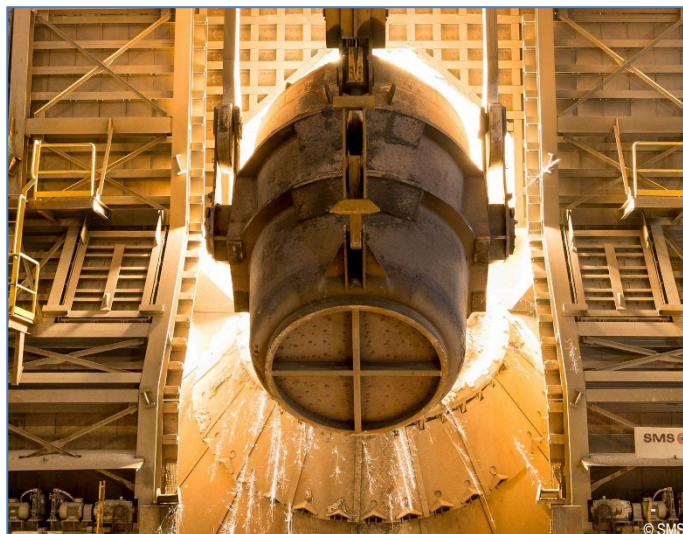


6th international Seminar

Oxygen Steelmaking

The converter today and tomorrow

28 - 30 September 2026
Düsseldorf, Germany



TARGET GROUP

Two thirds of the world's crude steel production runs through the converter. The converter will also take its place in future CO₂-neutral steel production in combination with direct reduction and the OBF. In addition to this new future role, the current challenges and trends of the converter will of course also be content of this seminar: scrap qualities, tramp elements, modelling and CFD as well as refractory technology. The programme will be rounded off with the most important fundamentals such as thermodynamics, reaction kinetics and heat and mass balance.

CHAIRMEN

Jochen Schlüter

ORGANISATION / REGISTRATION

Steel Institute VDEh
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REGISTRATION FEE

EUR 1090.00* Seminar fee, VAT-free plus
EUR 195.00 conference/catering flat rate incl. 19 % VAT

EUR 1290.00 Seminar fee, VAT-free plus
EUR 195.00 conference/catering flat rate incl. 19 % VAT

* special rate for employees from member plants and personal members of the Steel Institute VDEh / university staff

=> for becoming a personal VDEh member click [HERE](#)

+++ VDEh young talent promotion: young engineers (≤ 30 years, personal VDEh member or employees of member companies) also receive the 50% discount +++

Catering includes 3 lunches, 2 dinners, cold drinks, coffee, tea, cakes.

Seminar cancellation is free of charge up to 2 weeks before the start of the seminar. After that, 25% of the seminar fee is payable.

CONTENT

- History, developments and types and of oxygen converters
- Tramp elements
- Hot-metal pretreatment
- Chemical reactions kinetics:
Refining reactions and slag forming in the BOF process
- Mass balance and heat balance
- Steel scrap for the converter
- Converter process modelling
- Refractory materials for BOF
- Comparison of different converter operation practices:
US – Europe – China – Japan
- Process of CO₂ neutral steelmaking
- The role of the converter in CO₂ neutral steelmaking
- Computational Fluid Dynamics in the converter
- New developments of modern oxygen converters
- Practical approaches: Converter modes of different companies

VENUE

Steel Institute VDEh / Stahl-Zentrum
Sohnstraße 65
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HOTELS NEARBY

NH Düsseldorf City Nord
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PROGRAMME

Monday, 28 Sept 2026

- 9.00 a.m. **Introduction to the seminar**
Peter Schmieding
- 9.45 a.m. **History, design and types of converters**
Jochen Schlüter
Design of Bessemer-, Thomas-, LD- and OBM-converters
- 11.00 a.m. coffee break
- 11.30 a.m. **Tramp elements**
Wolfgang Bleck
Importance and impacts of Phosphor, Nitrogen, Copper etc
- 1.00 p.m. lunch
- 1.45 p.m. **Hot-metal pretreatment**
Jochen Schlüter
Reactions and processes for the removal of silicon, phosphorus and sulphur / HMD / DDD / Injection technology
- 3.15 p.m. coffee break
- 3.45 p.m. **Steel scrap for the converter**
Marco Knepper
Scrap types for the converter / Scrap qualities / Scrap handling
- 4.45 p.m. **Chemical reaction kinetics I: Refining reactions**
Helmut Lachmund
Oxidation of C, Si, Mn, P, S, Fe and their interactions / Achievable contents in the crude steel / Gas reactions (CO, CO₂, H₂, N₂)
- 6.00 p.m. end of 1st day
=> afterwards: common dinner

Tuesday, 29 Sept 2026

- 9.00 a.m. **Chemical reaction kinetics II: Slag forming**
Helmut Lachmund
Reactions / Properties
- 10:00 a.m. coffee break
- 10.30 a.m. **The process of CO₂-neutral steelmaking**
Jochen Schlüter
Hydrogen-based direct reduction / EAF / OBF-converter

- 11:30 a.m. **Future demands in hydrogen-based CO₂-neutral steelmaking and the role of the converter**
Helmut Lachmund / Jochen Schlüter
- 12.15 p.m. lunch
- 1.00 p.m. **Mass balance and heat balance**
Jens Kempken
Heat of reactions in refining and slagging / Kinetics of scrap melting / Kinetics of DRI melting / Post combustion
- 2.30 p.m. **Practical approaches of BOF process control**
▪ BOF process control at ArcelorMittal Duisburg
▪ BOF process control at Dillinger
(including coffee break at 3 p.m.)
- 4.00 p.m. **Global comparison of converter operation practices: US – Europe – Japan – China**
Jens Kempken
=> open discussion
- 5.00 p.m. **Refractory materials for BOF**
Jochen Schlüter
Interaction metallurgy, slags and refractory materials / Wear mechanism / Failures
- 6:00 p.m. end of 2nd day => afterwards common dinner

Wednesday, 30 Sept 2026

- 9.00 a.m. **Computational fluid dynamics in the converter**
Hans-Jürgen Odenthal
Transport equations / Physical (water modelling) and numerical simulation (CFD) / Specific flow phenomena
- 10.30 a.m. coffee break
- 11.00 a.m. **Converter process modelling**
Bernd Kleimt
Dynamic models for online monitoring and control of oxygen refining processes / Examples for BOF, AOD, VOD
- 12.00 a.m. lunch
- 12.45 p.m. **New developments of oxygen converters**
Gerald Wimmer
- 2.00 p.m. **End of seminar**

SPEAKERS Prof. Dr.-Ing. Wolfgang Bleck, RWTH Aachen University ■ Prof. Dr.-Ing. Rüdiger Deike, University Duisburg-Essen ■ Dr.-Ing. Jens Kempken, SMS group GmbH, Düsseldorf ■ Dr. Marco Knepper, Hüttenwerke Krupp Mannesmann, Duisburg ■ Dr.-Ing. Helmut Lachmund, Dillingen ■ Prof. Dr.-Ing. Hans-Jürgen Odenthal / Norbert Vogl, SMS group, Düsseldorf ■ Dr. Bernd Kleimt, VDEh-Betriebsforschungsinstitut, Düsseldorf ■ Dipl.-Ing. Jochen Schlüter, Dortmund ■ Peter Schmieding, Steel Institute VDEh, Düsseldorf ■ Dr.-Ing. Gerald Wimmer, Primetals Technologies Austria, Linz