



Contribution ID: 475

Type: **Keynote Presentation**

BOF Technology in the 21st century - Lives declared dead - or survival of the fittest!

Thursday 9 October 2025 13:20 (20 minutes)

The transformation toward sustainable green production is focusing on hydrogen technologies and recycling of scrap.

The constraints of resources availability are known (green H₂/electricity, high grade DRI, scrap volume and quality).

Therefore, the BOF process technology will remain for the next 25 years the prominent technology benefitting from a couple of process advantages to overcome future challenges:

- Economic aspects on increasing P levels will define applied process solutions with optimized slag control.
- Synthetic hot metal will require adapted process control.
- Maximised scrap rates are in contradiction to tramp element control.

Integration of digitization approaches and applying AI/ML for process optimization will provide further performance gains.

Solutions and perspectives will be presented to keep the BOF technology fit for the future.

Primary author: Dr KEMPEN, Jens (SMS group)

Presenter: Dr KEMPEN, Jens (SMS group)

Session Classification: Primary process and preparation of the materials

Track Classification: Steelmaking - Oxygen steelmaking