Contribution ID: **253** Type: **Poster Presentation**

Inline intermix detection by laser spectroscopy, increasing the metallurgical output in continuous casting strand.

Tuesday 7 October 2025 19:11 (1 minute)

To cast liquid steel into solid semifinished products, current steel industry predominantly relies on continuous casting process. Although 90% of the liquid steel can be cast into quality products, producers are still facing challenges to effectively determine transition zone in the casting strand. This normally happens at the beginning and end of a casting sequence as well as while transitioning between different alloys within the same sequence. Since inline monitoring is not possible, the length of this transition zone is often estimated based on experience. To avoid intermixes, large safety zones on both sides is being cutted which is either scrapped or seats in the stockyard to be sold as a downgraded product.

Laser-induced breakdown spectroscopy (LIBS) enables continuous, real-time measurement of the strand's chemical composition. This technology can precisely define the transition zone, minimizing the amount of scrapped or downgraded material. As a result, overall competitiveness of the process can be increased by boosting productivity and saving energy and resources.

Primary author: AHSAN, amit (SECOPTA analytics GmbH)

Presenter: AHSAN, amit (SECOPTA analytics GmbH)

Session Classification: Poster Session

Track Classification: Steelmaking - Continuous casting, near-net shape casting and ingot casting