Contribution ID: **377** Type: **Oral**

Recent achievements of Industrial Symbiosis in the steel sector based on the Symbio-Steel project

Tuesday 7 October 2025 11:10 (20 minutes)

Industrial Symbiosis concerns the use by one company or sector of underutilized resources from another one, resulting in reducing dependence on critical materials, mitigating supply risks, replacing virgin materials, and, consequently, reducing CO2 emissions, and transforming existing resources in the value chain into a usable form. Implementing the Industrial Symbiosis concept provides new synergies with other industries by optimizing resource exploitation, maximizing by-products reuse, minimizing waste, recovering heat where possible, and enhancing overall efficiency, according to the principles of Circular Economy.
The work developed in the ongoing European project entitled "Fostering Industrial Symbiosis solutions for the steel sector by results monitoring and dissemination from national and EU funded projects coupled to definition of cross-sectorial synergy scenarios"(Symbio-Steel –G.A. No. 101156509), which is co-funded by the Research Fund for Coal and Steel (RFCS), exploits and spreads the most promising research results in recent and ongoing projects on Industrial Symbiosis. This will pave the way for a wider uptake of Industrial Symbiosis solutions in steel industry, supporting new synergies with other industrial sectors. In particular, the project aims at assessing Industrial Symbiosis in the context of the ongoing transition of the steel industry towards the next generation C- or CO2- lean production processes. This objective is being achieved by monitoring and assessing the impact of initiatives in the steel sector that are related to Industrial Symbiosis, to assess the effectiveness of such concepts in the steel industry and in other energy-intensive industries. The foreseen development of guidelines will result in improving Industrial Symbiosis activities to achieve an effective industrial rollout of sector coupling technologies.

Primary authors: Dr MORILLON, Agnieszka (FEhS Institut fűr Baustoff Forschung); Ms PETRUCCIANI, Alice (Scuola Superiore Sant'Anna); WANG, Chuan (Metallurgy department, Swerim AB); Dr SERGI, Claudia (RINA Centro sviluppo Materiali); Dr MIRABILE, Daphne (RINA Centro sviluppo Materiali); ALGERMISSEN, David (FEhS - Institut für Baustoff-Forschung e.V.); Mrs SNAET, Delphine (European Steel Technology Platform); Dr NYLUND, Erland (Swerim AB); YU, Han (Swerim AB); RIEGER, Johannes (K1-MET GmbH); KIEUSH, Lina; BRANCA, Teresa Annunziata (Scuola Superiore Sant'Anna - TeCIP Institute - ICT-COISP); Mrs JARNERUD ÖRELL, Tova (Swerim AB); Prof. COLLA, Valentina (Scuola Superiore Sant'Anna)

Presenter: Prof. COLLA, Valentina (Scuola Superiore Sant'Anna)

Session Classification: Circular Economy & Industrial Symbiosis

Track Classification: Environmental and energy aspects in iron and steelmaking