



thyssenkrupp AT.PRO tec advances innovative hydrogen injection technology

thyssenkrupp AT.PRO tec, a subsidiary of thyssenkrupp Materials Services, in collaboration with consortium partners, has secured a €1.8 million research grant from the European Union's Research Fund for Coal and Steel (RFCS). This grant contributes to a €3.5 million project to develop an innovative process for direct hydrogen injection into blast furnaces.

The project builds upon the established Sequence Impulse Process (SIP) technology, developed by thyssenkrupp AT.PRO tec and already proven in large blast furnaces. The aim is to prove modelling and CFD simulations by Helium injection how hydrogen could be effectively pulse-injected into the blast furnace shaft, thereby improving steel production methods and contributing to the industry's decarbonization efforts. Potentially, up to 20% of CO₂ emissions could be reduced while utilizing existing infrastructure.

thyssenkrupp AT.PRO tec will design and provide the key technology, while consortium partner thyssenkrupp Steel Europe will conduct laboratory tests on a model structure. The consortium includes other European partners: Primetals Technologies Ltd. will handle furnace integration design and economic evaluation. VDEh-Betriebsforschungsinstitut (BFI) will serve as project coordinator, conducting analysis and modeling alongside the metallurgical competence center K1-MET. voestalpine will host the trial process with Helium injection at their Linz works, Austria.

Acknowledgements:



Funded by the
European Union

Funded by the European Union under the grant No. 101157157. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

About thyssenkrupp Materials Services

thyssenkrupp Materials Services is one of the world's leading mill-independent materials distribution and service providers, with around 380 locations in more than 30 countries, mainly in the core markets of Europe and North America. In fiscal year 2023/24 the company generated sales of €12.1 billion and earnings of €204 million with around 16,000 employees. The broad range of services offered by the materials experts enables customers to focus even more on their individual core businesses. With its "Materials as a Service" strategy, the company combines the distribution of materials and raw materials with data-driven supply chain management products and services. Digital solutions ensure efficient, resilient and resource-conscious supply chains for customers, thus providing the basis for sustainable operations. Materials Services is committed to becoming climate-neutral by 2030.

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