ReMFra

Newsletter #5 September 2024

The ReMFra project

The objectives of the ReMFra project is to demonstrate and qualify a system for the recovery and the valorisation of the metal and mineral fractions contained in steel making processing residues, to improve the metal recovery yield, to reach the full circularity and to reduce the environmental impact of the steel sector all over Europe.

Meet our team – TenarisDalmine / Project Coordinator

The project coordinator, Tenaris Dalmine, part of the Tenaris Group, is a leading global producer of seamless steel pipes for the energy, automotive, and mechanical industries. Its main manufacturing facility in Europe is located in Dalmine (Italy), encompassing the entire production process from steel production to pipe finishing, with an annual capacity of approximately 650 kt of seamless steel pipes. Dalmine operates five additional production sites in Italy, ensuring a total annual production capacity of about 800 kt and employing nearly 2,000 people. Dalmine is the coordinator of the project, with a plasma reactor to be installed and tested at the Dalmine facility. The company is also involved in system design, characterization of feed material, products, and by-products, and DEC activities. As a long-term industrial project, our values are rooted in sustainable principles to minimize our environmental footprint while promoting innovation. The integration of the ReMFra process at the plant level will enhance these principles.

ELENA
CARRARA

FABIO
PRAOLINI

SILVIA
TOSATO

ReMFra
Recovering metals and mineral fraction from steelmaking residues

Tenaris

ReMFra

Newsletter #5 September 2024

Safety storage of the hydrogen supply in a gas cylinder storage outside the technical center of the Chair of Thermal Processing Technolog (MUL)

Decarbonisation of the RecoDust process

RecoDust as a pyrometallurgical approach was developed with 100 % natural gas as fuel and reducing agent – an improvement of the sustainability needs a substation of natural gas. In the ReMFra project, we want to do the first step by an admixture of 10 % hydrogen to the fuel. This is a first step, and the first trials were done successfully in June 2024 by the project partners voestalpine Stahl, Montanuniversitaet Leoben (MUL, Chair of Thermal Processing Technology) and K1-MET. Safety handling of the sustainable hydrogen was done with an HAZOP study. Further ongoing research on heat recovery will make the process more sustainable.

Outlook

The next activities are further RecoDust smelting trials with different types of dusty feedstocks from the entire steel production routes. This trials will provide important data for smart sensor development.

More information about the project can be found on the Website and on LinkedIn.

ReMFra
Recovering metals and mineral fraction from steelmaking residues

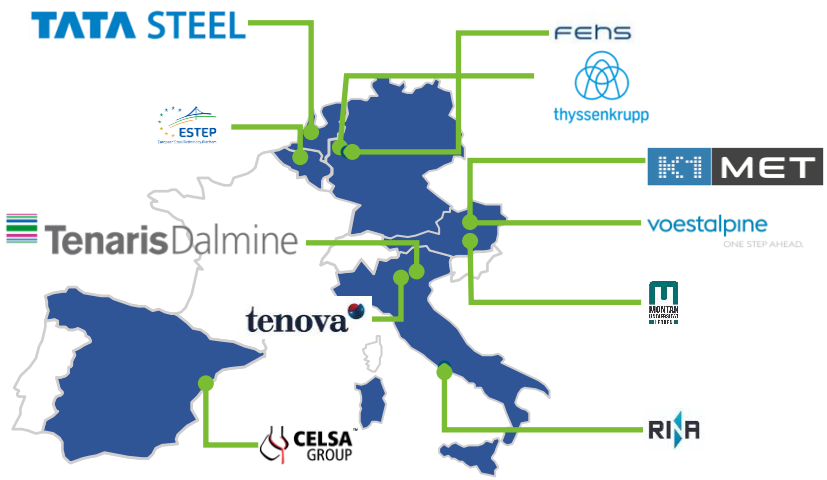
ReMFra

Newsletter #5 September 2024

PROJECT PARTNERS:

Starting with the project coordinator, the consortium is composed as follows:

- ✓ Tenaris Dalmine (Italy, Coordinator)
- ✓ Tenova (Italy)
- ✓ RINA Consulting – Centro Sviluppo Materiali (Italy)
- ✓ European Steel Technology Platform (Belgium)
- ✓ K1-MET (Austria)
- ✓ voestalpine Stahl (Austria)
- ✓ Montanuniversität Leoben, Chair of Thermal Processing Technology (Austria)
- ✓ FEhS Institut fuer Baustoffforschung e.V. (Germany)
- ✓ thyssenkrupp Steel Europe (Germany)
- ✓ Tata Steel Netherland Technology (The Netherlands)
- ✓ Barna Steel (Spain)



FUNDING SCHEME AND CONSORTIUM

✓ Call: Horizon Europe Clean Steel Partnership (HORIZON-CL4-2021-TWIN-TRANSITION-01-19)
Type of action: Innovation Action (IA)
Granting authority: European Health and Digital Executive Agency
✓ The ReMFra project receives funding by the European Union (Grant Agreement no. 101058362).