

# REcovering Metals and Mineral FRAction from steelmaking residues

## Fact Sheet

### Project Information

**ReMFra**

Grant agreement ID: 101058362

**DOI**

10.3030/101058362

**Start date**

1 December 2022

**End date**

31 May 2026

**Funded under**

Digital, Industry and Space

**Total cost**

€ 6 959 757,50

**EU contribution**

€ 4 764 218,75

**Coordinated by**

DALMINE SPA

 Italy

## Objective

Each year the EU steel sector generates several million tons of metal and mineral containing residues that are currently largely under-exploited and are often sent to landfills with an enormous waste of resources that could replace virgin materials. ReMFra main objective is the development and validation of highly efficient pyrometallurgic melting and reduction demonstration plant at relevant industrial scale for recovering metals and minerals contained in a wide range of steelmaking residues.

The ReMFra process will allow to valorise steelmaking residues, such as filter dust, scale, sludge and slags, to obtain pig iron, iron rich oxides, a highly concentrated zinc oxide and an inert slag. ReMFra comprises two main parts to be developed, improved and tested at industrial scale: Plasma Reactor and RecoDust. The first will be dedicated to recover the coarse residues (scale, sludge, slag), while the second will focus on fine-grained dusts. The project will allow the improvement of iron yield

using recovered pig iron instead of new pig iron and replacing the iron ore with the iron rich oxide. The recovery of concentrated ZnO and inert slag as by-products will provide a significant source of income and will contribute to the overall carbon neutrality. To reach the full circularity, the process foresees the use, as reducing agent, of secondary carbon sources (i.e. waste plastics). Energy recovery solutions will also be integrated in the metal recovery process starting from enabling the use of molten pig iron.

ReMFra consortium comprises: 5 steelmaking companies, 4 RTOs as technology providers with large experience in steel sector, 1 university and the European Steel Technology Platform. To conclude, ReMFra is expected not only to enable technological advances in the demonstrators involved but will also contribute to the development of new standards, training programmes, adaptation and certification of industrial processes thus facilitating the replication of the project.

## Fields of science

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > **[transition metals](#)**

[engineering and technology](#) > [environmental engineering](#) > [waste management](#) > **[waste treatment processes](#)**

## Programme(s)

[HORIZON.2.4 - Digital, Industry and Space](#)

MAIN PROGRAMME

[HORIZON.2.4.1 - Manufacturing Technologies](#)

[HORIZON.2.4.8 - Circular Industries](#)

## Topic(s)

[HORIZON-CL4-2021-TWIN-TRANSITION-01-19 - Improvement of the yield of the iron and steel making \(Clean Steel Partnership\) \(IA\)](#)

## Call for proposal

[HORIZON-CL4-2021-TWIN-TRANSITION-01](#)

[See other projects for this call](#)

## Funding Scheme

[HORIZON-AG - HORIZON Action Grant Budget-Based](#)

# Coordinator



## DALMINE SPA

Net EU contribution

€ 1 752 875,00

Address

**Piazza Caduti 6 Luglio 1944 N1**

**24044 Dalmine Bergamo**

Italy

Region

**Nord-Ovest > Lombardia > Bergamo**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

Non-EU contribution

€ 1 168 583,75

## Participants (10)

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## TENOVA SPA

Italy

Net EU contribution

€ 604 823,00

Address

**Via Monte Rosa 93**

**20149 Milano**

Region

**Nord-Ovest > Lombardia > Milano**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#)

Participation in EU R&I programmes [↗](#)

Non-EU contribution

€ 403 215,75

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## RINA CONSULTING - CENTRO SVILUPPO MATERIALI SPA

 Italy

Net EU contribution

€ 258 112,00

Address

Via Di Castel Romano 100

00128 Roma 

Region

Centro (IT) > Lazio > Roma

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation [↗](#) Website [↗](#)

Participation in EU R&I programmes [↗](#)

Non-EU contribution

€ 172 075,50

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## ESTEP PLATEFORME TECHNOLOGIQUE EUROPEENNE DE L'ACIER

 Belgium

Net EU contribution

€ 74 975,00

Address

Avenue De Cortenbergh 172

1000 Bruxelles 

Region

Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad

Activity type

Research Organisations

Links

## LINKS

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

Non-EU contribution

**€ 0,00**

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### **K1-MET GMBH**

 Austria

Net EU contribution

**€ 695 857,00**

Address

**Stahlstrasse 14**  
**4020 Linz** 

Region

**Westösterreich > Oberösterreich > Linz-Wels**

Activity type

**Research Organisations**

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

Non-EU contribution

**€ 0,50**

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### **VOESTALPINE STAHL GMBH**

 Austria

Net EU contribution

**€ 113 391,75**

Address

**Voestalpine Strasse 3**  
**4020 Linz** 

Region

**Westösterreich > Oberösterreich > Linz-Wels**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

Non-EU contribution

€ 75 594,50

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## MONTANUNIVERSITAET LEOBEN

Austria

Net EU contribution

€ 399 961,00

Address

**Franz Josef Strasse 18**  
**8700 Leoben**

Region

**Südösterreich > Steiermark > Östliche Obersteiermark**

Activity type

**Higher or Secondary Education Establishments**

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

Non-EU contribution

€ 0,25

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## INSTITUT FUR BAUSTOFF-FORSCHUNG EV

Germany

Net EU contribution

€ 300 122,00

Address

**Bliersheimer Strasse 62**  
**47229 Duisburg**

Region

**Nordrhein-Westfalen > Düsseldorf > Duisburg, Kreisfreie Stadt**

Activity type

**Research Organisations**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

Non-EU contribution

**€ 0,50**

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## THYSSENKRUPP STEEL EUROPE AG

 Germany

Net EU contribution

**€ 254 952,00**

Address

**Kaiser Wilhelm Strasse 100**

**47166 Duisburg** 

Region

**Nordrhein-Westfalen > Düsseldorf > Duisburg, Kreisfreie Stadt**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

Non-EU contribution

**€ 169 968,00**

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## TATA STEEL NEDERLAND TECHNOLOGY BV

 Netherlands

Net EU contribution

**€ 135 750,00**

Address

**Wenckebachstraat 1**

**1951 JZ Velsen Noord** 

Region

**West-Nederland > Noord-Holland > IJmond**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

Non-EU contribution

**€ 90 500,00**

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## **BARNA STEEL SA**

 Spain

Net EU contribution

**€ 173 400,00**

Address

**Poligono Industrial San Vicente S/n**  
**08875 Castellbisbal** 

Region

**Este > Cataluña > Barcelona**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

Non-EU contribution

**€ 115 600,00**

**EC signature date:** 25 May 2022

**Last update:** 2 August 2022

**Record number:** 238887

**Permalink:** <https://cordis.europa.eu/project/id/101058362>

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