

Highly efficient technologies for increased yields in steelmaking processes and reduced environmental impact

Fact Sheet

Project Information

HIYIELD

Grant agreement ID: 101058694

DOI

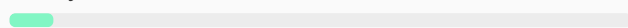
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Start date

1 July 2022

End date

30 June 2025



Funded under

Digital, Industry and Space

Total cost

€ 5 468 090,25

EU contribution

€ 3 583 262,75

Coordinated by

KUNGLIGA TEKNISKA
HOEGSKOLAN

 Sweden

Objective

Steelmaking is a key process for a climate neutral, circular and digitized production. On one hand it enables green technologies in providing the most relevant materials needed to achieve climate neutrality, on the other hand it accounts for 7% of total world CO2 emissions.

Its transition towards a more sustainable and still competitive production requires to increase the use of scrap to minimize the pig iron usage from coal fired blast furnaces with inherent CO2 emissions from reducing the iron ore. Furthermore, scrap can be valorised by use of carbon carriers and containing alloying elements in steel

scrap, e.g. in recycling of Mn steels.

HIYIELD aims to promote circular economy by progressively increasing the scrap uptake in three scenarios that represent the current European steelmaking routes. With the ambition to deliver solutions with relevance to all steelmakers, the consortium includes three producers with different portfolio.

Main objectives are:

- to maximise scrap quality by optimal technologies for removal of impurities and optimal use of alloying elements
- to maximise scrap use by improved scrap identification and classification together with scrap tracking in circular economy
- to maximise product quality with further scrap uptake by charge optimization and ensuring the liquid steel analysis and thus the final steel product quality

HIYIELD contributes to the fight against climate change and to the EU steel industry competitiveness through the application of highly innovative methods and technologies to the steel sector such as:

- Deep Learning based Computer Vision for scrap identification and control
- Digital Scrap Information Card for scrap tracking
- High Speed Sampling and analysis to avoid waiting times for steel analysis.

Fields of science

engineering and technology › environmental engineering › waste management › waste treatment processes › **recycling**

engineering and technology › environmental engineering › energy and fuels › fossil energy › **coal**

natural sciences › computer and information sciences › artificial intelligence › **computer vision**

natural sciences › computer and information sciences › artificial intelligence › machine learning › **deep learning**

social sciences › economics and business › economics › **sustainable economy**

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)

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




KUNGLIGA TEKNISKA HOEGSKOLAN

Net EU contribution

€ 756 024,00

Address

Brinellvagen 8
100 44 Stockholm
 Sweden 

Region

Östra Sverige > Stockholm > Stockholms län

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 0,00

Participants (7)



FERRIERE NORD SPA

 Italy

Net EU contribution

€ 465 225,00

Address

Via Zona Industriale Fraz Rivoli
33010 Osoppo Ud 

Region

Nord-Est > Friuli-Venezia Giulia > Udine

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 466 025,00

 THIRD-PARTY 

COMPAGNIA SIDERURGICA ITALIANA SRL

 Italy

Net EU contribution

€ 93 525,00

Address

Zona Industriale Rivoli
33010 Osoppo 

Region

Nord-Est > Friuli-Venezia Giulia > Udine

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 62 350,00



AEIFOROS METAL PROCESSING AE

 Greece

Net EU contribution

€ 394 440,00

Address

**Thessaloniki Veria Old National Road 12 Klm Ionia
57008 Thessaloniki** 

Region

Θεσσαλονίκη > Κεντρική Μακεδονία > Βόρεια Ελλάδα

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 262 960,00




SAARSTAHL AG

 Germany

Net EU contribution

€ 525 583,00

Address

**Bismarckstrasse 57-59
66333 Volklingen** 

Region

Saarland > Saarland > Regionalverband Saarbrücken

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 350 389,50





THEO STEIL GMBH SCHROTT UND METALLGROSSHANDEL

 Germany

Net EU contribution

€ 791 700,00

Address

Ostkai 6

54293 Trier 

Region

Rheinland-Pfalz > Trier > Trier, Kreisfreie Stadt

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 527 800,00



VOESTALPINE BOHLER EDELSTAHL GMBH &CO KG

 Austria

Net EU contribution

€ 180 787,00

Address

Mariazeller Strasse 25

8605 Kapfenberg 

Region

Südösterreich > Steiermark > Östliche Obersteiermark

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 120 525,50



MINKON GMBH

 Germany

Net EU contribution

€ 375 978,75

Address

Heinrich Hertz Strasse 30-32

40699 Erkrath 

SME 

Yes

Region

Nordrhein-Westfalen > Düsseldorf > Mettmann

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 250 652,50

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