

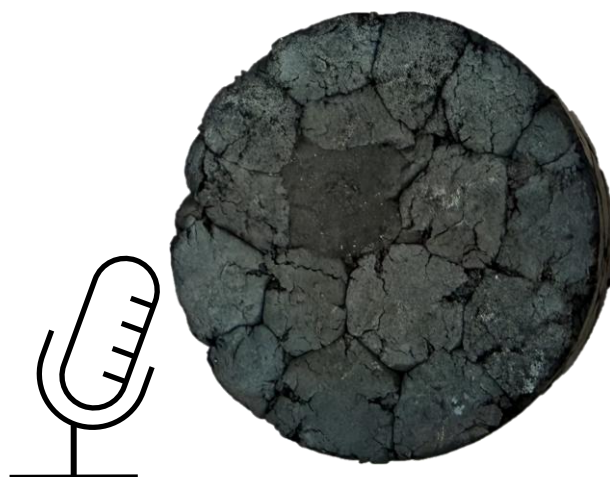


HBI C-Flex

The HBI C-Flex project has the goal to determine the reoxidation behaviour and stability of direct reduced and hot briquetted iron (HBI) with variable iron and carbon content to promote safe handling and transport for future decarbonisation of the steelmaking process.

The project in a nutshell

HBI C-Flex is a 3.5-year project funded by the European Union's Research Fund for Coal and Steel research programme. It demonstrates the direct reduction of iron ore using various qualities (including lower-grade ores typically not used for direct reduction) followed by hot briquetting. The consortium consists of 10 partners and includes steel producers, RTOs, technology providers, and universities from Austria, Germany, Belgium, France and the Netherlands, each of which has specific knowledge, skills and equipment to achieve the project objectives. A Supportive Advisory Board, consisting of 13 globally operating companies along the supply chain and led by the International Iron Metallurgy Association, assists with their knowledge and expertise regarding HBI production and handling.

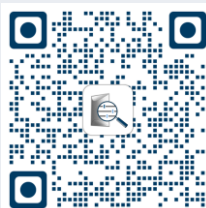


Sneak peak

[HBI C-Flex at European conferences](#)

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Grant agreement ID: 101112479



Start date: July 1st, 2023



Duration: 42 months



Budget: 2.4 Mio. €



Coordinated by: K1-MET, Austria



Contact: info@hbi-c-flex.com



HBI C-Flex at European conferences

ESTEP Spring Dissemination Event 2025 in Krakow (Poland)



Fig. 1.: Presentation by M. Leitner (K1-MET)

Melanie Leitner from K1-MET and our leader of Work Package 6: Dissemination and Communication, presented the HBI C-Flex project at the ESTEP Spring Dissemination Event on June 5th, 2025, in Krakow, Poland.

Her presentation featured an overview of the project, with a special focus on early experimental results and the expected outcome. The event offered an excellent opportunity to share progress with the European steel research community and to promote cooperation among various projects.

European Steel Technology and Application Days - ESTAD in Verona (Italy)

On October 7th, 2025, our colleague Sergej Nesterov from the Technical University of Leoben presented the HBI C-Flex project at the ESTAD Conference in Italy with a poster on the reoxidation behaviour of Hot Briquetted Iron (HBI).

As the use of Direct Reduced Iron (DRI) and HBI increases, understanding how these materials react under different storage and transport conditions becomes crucial.

In collaboration with ArcelorMittal Maizières Research, CRM, TU Bergakademie Freiberg, and Technical University of Leoben, the study investigates how temperature and humidity influence HBI reoxidation using different climatic conditions as higher temperature, humid and saturated atmosphere. You can find the full poster on our website: [click here](#)



Fig. 2.: S. Nesterov at the poster presentation

NEWSLETTER

No.5 | December 2025

Welcome to the 5th edition of our newsletter!

The last six months have been productive and eventful for the entire project. The team held two online project meetings, and our coordinator Lukas participated annual meeting of the Technical Group Steel 1 (TGA1). Furthermore, our work was featured in an oral presentation at the ESTEP Spring Dissemination Event in Krakow (Poland) and a poster presentation at the European Steel Technology and Application Day in Verona (Italy). A key milestone was our successful Review Meeting, which now allows us to share our public deliverables with the wider community.

Meanwhile, our LinkedIn campaign "Partners of HBI C-Flex" continues to grow. After highlighting our project partners, we are now introducing the members of our Supportive Advisory Board, sharing their roles, expertise, and contributions to the project.

Meetings

1st review meeting in June 2025

On June 25th, 2025, we successfully held our 1st Project Review Meeting. We presented the current activities and results of our project. Our Project Officer and our External Expert gave us their valuable feedback. We will continue our work and want to thank all project partners for their precious contributions.



Fig. 3.: The HBI C-Flex team during the review meeting in June



Fig. 4.: Presentation by L. Schmidt (K1-MET) at the TGA1 meeting

TGA1 meeting in October

At this year's annual meeting of the Technical Group Steel 1 (TGA1) on September 25th, 2025, our project coordinator Lukas Schmidt presented the progress and lessons learnt from the HBI C-Flex project. Our project colleagues Jan van der Stel and Eric Hess joined the session as Technical Group members and contributed to the discussions.

Public deliverables

Following the successful completion of our first reporting period, we are pleased to announce that the first set of public deliverables from the HBI C-Flex project is now available on our website. These documents provide detailed insights into key technical developments, market perspectives, and our overall project approach. The deliverables available for all interested are:

- D3.1: Producing HBI with different apparent densities as well as evaluation of the compaction process,
- D3.2: Determination of a mathematical correlation between briquetting parameters/ material properties and apparent density as well as the mechanical strength of the produced HBI (cold/ hot state),
- D6.2: Market analysis and stakeholder consultation,
- D6.4: Communication and Dissemination Plan,
- D6.5: Comprehensive overview of the project



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