



**HEPHAESTUS**

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## **HORIZON EUROPE PROJECT**

Transforming steelmaking wastes, such as EAF and AOD dust and slags into valuable resources

[hephaestus-horizon.eu](https://hephaestus-horizon.eu)



**Funded by  
the European Union**

# WHAT IS HEPHAESTUS?

Cutting-edge Horizon Europe Innovation Action project focused on transforming steelmaking residues, such as EAF dust and slag, into valuable resources, reducing landfill waste, and closing the loop in metallurgical processes.



## Steelmaking produces waste

- In Europe, every year around 57 million tons of steel are manufactured via Electric Arc Furnace (EAF)
- EU generates 1.2 million tons of EAF dust each year
- EAF dust is hazardous
- Steelmaking dust is a valuable source of raw materials

## This waste is a valuable resource

- EAF dust contains up to 40% of Fe and up to 40% of Zn
- Currently used Waelz process for Zn recovery leaves behind a high load of waste
- HEPHAESTUS technology recovers ferroalloy and Zn and creates almost no waste



## HEPHAESTUS solution for waste issue

- Technical solution of HEPHAESTUS combines innovative and established processes. As a result, Zn alloy, mineral wool and methanol are produced
- HEPHAESTUS also aims at processing other wastes from mining, extractive and metallurgical industries

# HEPHAESTUS TECHNOLOGY

HEPHAESTUS technology combines a CleanTech furnace with the EZINEX process, fiberization unit, catalytic conversion of CO<sub>2</sub> and hydrometallurgical AAC process to treat multiple steelmaking wastes, and recover iron alloy and zinc product, while producing mineral wool and methanol.



**Slags and tailings**



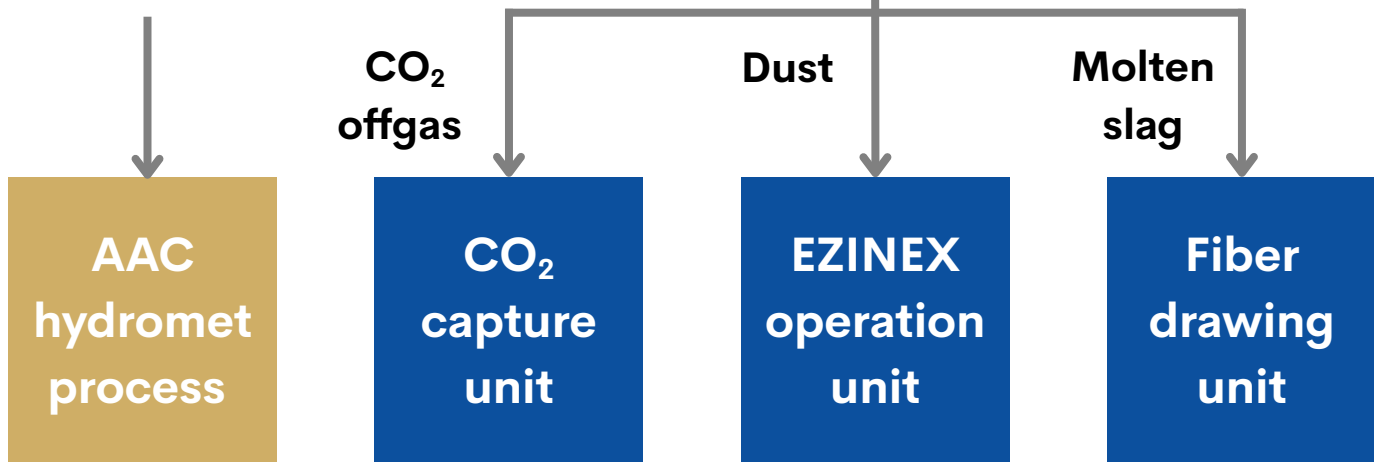
**EAF and AOD dust**



**CleanTech furnace**



**Metal alloy**



**Zn-rich product,  
Fe-rich residue**



**Methanol  
product**



**99,99%  
pure Zn**



**Mineral  
wool**





# CONSORTIUM

10 partners out of 3 countries



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