



## **"Zero-carbon Industrial heat production by ammonia water absorption heat transformer"**

ZIMBA project aims to develop a next-generation heat pump system based on an Absorption Heat Transformer (AHT) using ammonia/water refrigerant, designed for industrial use at 110°C and scalable to 130°C. The system aims to reduce industrial energy consumption and carbon emissions by efficiently recovering waste heat. To advance sustainable industrial heating, ZIMBA will:

- ▶ Develop a compact, energy-efficient AHT system powered by waste heat with minimal electricity
- ▶ Design and integrate a performance-enhancing ejector to boost stability and output at high ambient temperatures
- ▶ Reduce environmental impact by using fewer critical materials (mainly stainless steel and limited copper)
- ▶ Lower greenhouse gas emissions with ammonia, a natural refrigerant with no global warming or ozone impact
- ▶ Enable market uptake through technical optimisation, business model development, and scalability to 130°C

# CONTACTS



Coordinator

**Hai Trieu Phan**

CEA (France)

*Haitrieu.PHAN@cea.fr*

Project & Dissemination Manager

**Cristina Dinca**

AMIRES s.r.o. (Czech Republic)

*dinca@amires.eu*



**ZIMBA-PROJECT.EU**



Call:

**HORIZON-CL5-  
2023-D3-02-04**

Type of action:

**Research and Innovation  
Actions (RIA)**

Start Date:

**01/12/2024**

Duration:

**48 months**

EU Funding:

**€1.9M**

## PARTNERS



**POLITECNICO  
MILANO 1863**

**clauger**



**OST**  
Eastern Switzerland  
University of Applied Sciences



**AMIRÈS**

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101146932.



**Funded by  
the European Union**