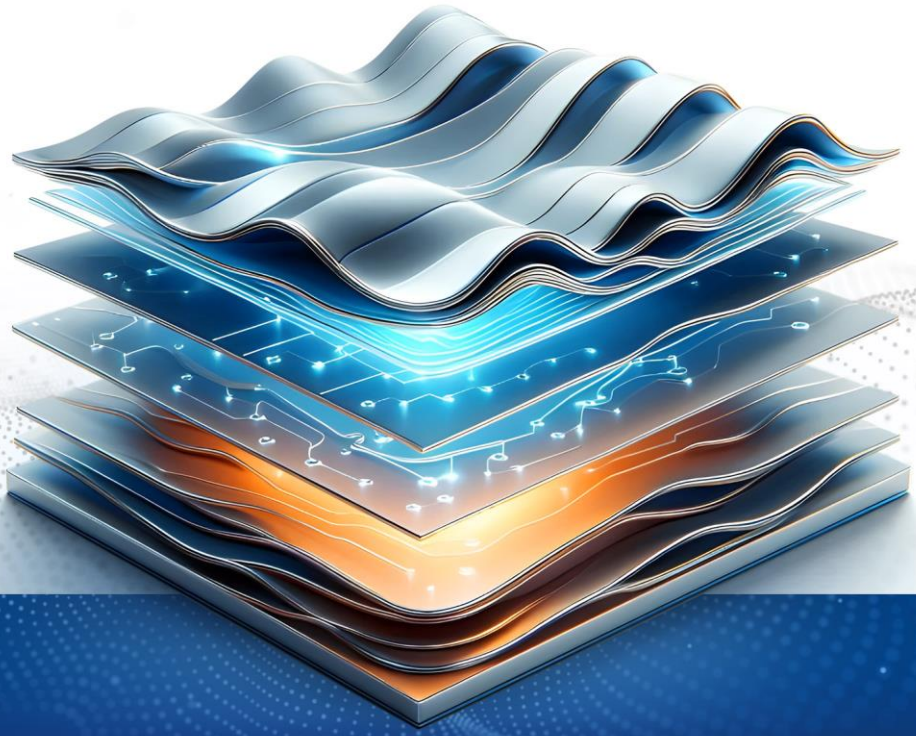
THERMINATOR

ELECTRO-THERMAL ENERGY CONVERTER USING NOVEL COMBINED THERMOACOUSTIC AND ELECTROCALORIC SYSTEM

Press release

Launch of EU Project:

THERMINATOR



Funded by the European Union

This project has received funding from the European Union's Horizon Europe programme under grant agreement No 10119283.

Harnessing waste heat for a greener future

Excess heat from energy and transport systems is a major untapped resource in the EU. It contributes to significant energy loss and greenhouse gas emissions, which are critical barriers to achieving net zero targets by 2050. Efficiently converting this waste heat into electricity would improve energy efficiency and reduce environmental impact from sectors like heating, cooling, renewables and electric vehicles.

In this context, the THERMINATOR [*Electro-thermal energy converter using novel combined thermoacoustic and electrocaloric system*] project, funded by the European Union under Horizon Europe program, aims to develop a new energy conversion technology in the form of an efficient low-profile energy conversion "skin". This technology will integrate thermoacoustic and electrocaloric systems to reduce energy loss and improve energy efficiency across various sectors.

By bringing together a consortium of Europe's top researchers and Tech innovators such as GAC (France), ElectroSciences Ltd (UK), Brunel University London (UK), Karlsruhe Institute of Technology (Germany), University of Ljubljana (Slovenia), ENDEF Engineering SL (Spain), Ingenieria Especializada Obra Civil e Industrial SA (Spain), and CSEM (Switzerland), the project promises to revolutionize the management and conversion of thermal energy, contributing to the transition towards a more sustainable and low-carbon economy. Each organization contributes unique skills in areas such as material science, industrial manufacturing, and energy system integration. This partnership has been carefully designed to ensure that every stage of development, from design to large-scale production, benefits from world-class knowledge and innovative thinking.

Over the next 36 months, THERMINATOR will focus on developing a cutting-edge energy conversion 'skin' to address heat recovery and resource optimization. This innovative layer is aimed at reducing energy loss and greenhouse gas emissions, by converting excess heat into electricity and operating at high frequency to achieve high power density (100W/cm2). It will also enhance thermal efficiency: suitable for use in buildings, pipes, solar cells and vehicles. It will integrate advanced technologies for sustainable and high-performance energy solutions.

By lowering carbon emissions, the THERMINATOR outcomes will contribute to the EU's Green Deal and climate neutrality goals. By delivering a technology that combines performance, scalability, and sustainability, the project is set to create a lasting impact on Europe's industrial and environmental landscape.

For more information, please contact the Project Coordinator: Svetlana KLESSOVA, GAC Group (sklessova@group-gac.com).

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