



## ANTARCTICA

### TURNING WASTE HEAT INTO COOLING FOR ONBOARD ENERGY EFFICIENCY

The ANTARCTICA project aims to improve vessels' energy efficiency using solutions to convert waste heat into either positive or negative cooling, so as to partially replace existing coolers.

This project will consist of adapting an existing solution called 'Eqooler' specifically for the maritime sector. This was originally developed by the company Equium to recover waste heat and use it for cooling as a means of improving the efficiency of generator sets.

The existing version of Eqooler was designed to output water cooled to a minimum of -21°C. Future versions will be able to reach -40°C. This solution could benefit LNG production systems and LPG transporters.

Eqooler uses a specific thermoacoustic process to convert the heat to cooling. This does not require any moving parts or consume any electricity: acoustic energy performs the conversion.

The ANTARCTICA project aims to improve onboard energy efficiency, reduce CO2 emissions and also lower operating costs for cooling and refrigeration.

As part of the project, a prototype will be built and tested on a test bench, then installed onboard a ship.

#### Partners

##### Companies

Equium, Saint-Herblain [Project Developer]  
Les Chantiers de l'Atlantique, Saint Nazaire

##### Research center

École Nationale Supérieure Maritime  
(ENSM), Nantes

#### Funder

Conseil régional des Pays de La Loire

#### Labelisation

28/06/2019

#### Overall budget

1 200 k€