

AT A GLANCE

TITLE:
AIR INDUCED FRICTION
REDUCING SHIP COATING

CONSORTIUM:
10 partners

COORDINATOR:
Fraunhofer CML, Germany

DURATION:
01 May 2018 – 30 April 2021

TOTAL COST:
€5,901,541.25

EU CONTRIBUTION:
€5,299,097.38

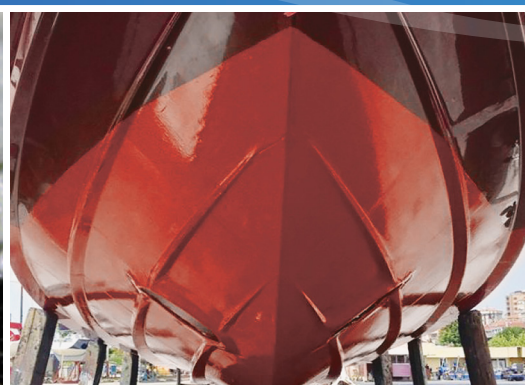


The AIRCOAT project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 764553.



AIRCOAT PARTNERS

- 1 FRAUNHOFER CML (Germany)
- 2 KARLSRUHE INSTITUTE OF TECHNOLOGY (Germany)
- 3 HAMBURGISCHE SCHIFFBAU-VERSUCHSANSTALT GMBH (Germany)
- 4 HOCHSCHULE BREMEN B-I-C (Germany)
- 5 AVERY DENNISON MATERIALS BELGIUM (Belgium)
- 6 PPG COATINGS EUROPE BV (The Netherlands)
- 7 DANAOS SHIPPING COMPANY LIMITED (Cyprus)
- 8 AQUABIOTECH LIMITED (Malta)
- 9 FINNISH METEOROLOGICAL INSTITUTE (Finland)
- 10 REVOLVE WATER (Belgium)



AIRCOAT

The AIRCOAT project promotes a ground-breaking passive air lubrication technology with a high potential to revolutionise the ship-coating sector by reducing energy consumption and ship emissions.

The Air Induced friction Reducing ship COATING (AIRCOAT) project aims to develop a passive air lubrication technology inspired by the *Salvinia* effect. The naturally occurring *Salvinia* effect allows the *Salvinia* floating fern to breathe under water by keeping a permanent layer of air. Inspired by this phenomenon, the AIRCOAT project intends to implement this effect on a self-adhesive foil system. It is therefore a prime example of a biomimetic application where technology learns from nature.

Applying the AIRCOAT technology to ship-hull surfaces will produce a thin permanent air layer when submerged in water. This will reduce the overall frictional resistance while acting as a physical barrier between water and the hull surface. In addition to reducing energy consumption, the air barrier will inhibit the attachment of marine organisms (biofouling).

- Biomimetics
- Passive Air Lubrication
- Ship Coating
- *Salvinia* Effect

Objectives of AIRCOAT

- Reducing biofouling
- Reducing frictional resistance
- Reducing emission of pollutants
- Designing application and production procedures
- Improving public awareness of AIRCOAT technology



AT A GLANCE

TYPE:

Research SME

LOCATION:

Mosta, MALTA G. C.

CAPABILITIES:

R&D / Consultancy / Engineering

EXPERTISE:

Aquaculture / Marine Research
Blue Growth / Aquatic Environment



Who we Are

AquaBioTech Group is an international aquaculture and fisheries consulting company strategically located in the Mediterranean, on the island of Malta. It operates globally, with clients and projects in over fifty-five countries. Staff are recruited from across the globe, enabling communication with clients in thirteen languages.

AquaBioTech Group undertakes a variety of aquaculture, fisheries, marine surveying, aquatic environmental, financial, and technical projects, performed with its selected, worldwide partners.



Our role in the AIRCOAT project

AquaBioTech Group's tasks within the AIRCOAT project include:

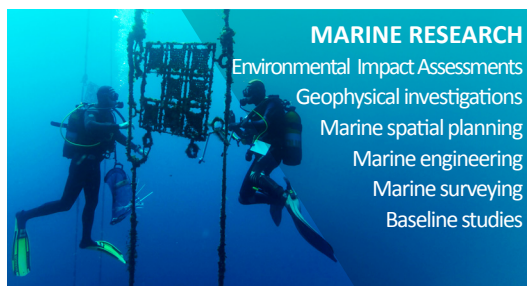
- Lead biofouling and corrosion research
- Test the first large scale prototype on a research vessel
- Assess the technology transferability to the aquaculture sector
- Assess the antifouling efficacy of the coating under field conditions and in the laboratory
- Organize an external workshop for stakeholders
- Develop the maintenance technology

Our Research Activities



AQUACULTURE R&D

Fish & shellfish hatchery technology
Health & disease prevention
Nutraceutical development
new species development
Aquatic nutrition research
Production techniques



MARINE RESEARCH

Environmental Impact Assessments
Geophysical investigations
Marine spatial planning
Marine engineering
Marine surveying
Baseline studies



WATER TECHNOLOGIES R&D

Recirculation Aquaculture Systems
Aquaponics / hydroponics
Wastewater treatment
Energy efficiency
Sustainability
Innovation

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