Zero emission hydrogen technology for SEA-KIT USV

SEA-KIT

PROJECT OVERVIEW

The marinization and installation of a printed circuit board (PCB) hydrogen fuel cell into a Uncrewed Surface Vessel (USV) to demonstrate zero emission maritime operations.

ZERO Zero emission maritime operations

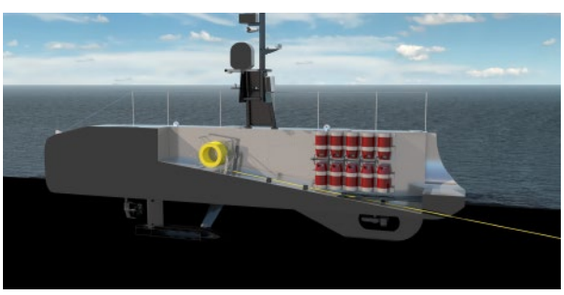
OBJECTIVE

To showcase a successful diesel to hydrogen conversion of SEA-KIT's proven USV design and demonstrate a route to fulfilling the UK's Clean Maritime Plan Strategy commitment of reducing greenhouse gas emissions from shipping by at least 50% by 2050.

-50% Reducing greenhouse gas emissions from shipping by at least 50% by 2050

SCOPE

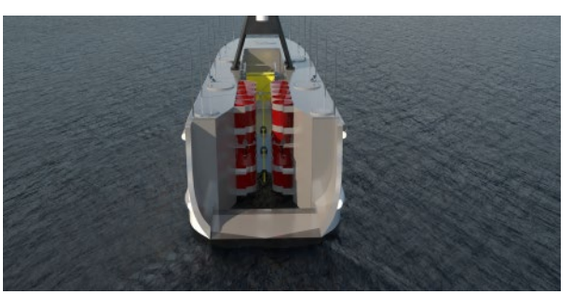
SEA-KIT USVs have a dual diesel-electric hybrid drive, with propulsion from an electric motor powered by battery banks that are charged by diesel generators. This project will replace one diesel generator with new hydrogen fuel cell technology from Bramble Energy and demonstrate an offshore operation with zero carbon emissions.



PROJECT PARTNER

Bramble Energy will design and manufacture a marinized, customised version of its printed circuit board fuel cell (PCBFC). The use of PCBs makes the technology more suited to rugged, marine environments.

BRAMBLE ENERGY



RESULTS

- The application of a hydrogen fuel source to a USV will be a world first, putting the UK firmly in the lead on zero emissions uncrewed technology for sustainable maritime growth.
- USVs are already being deployed around the world for a wide range of commercial tasks. This collaborative project aims to enable the emergence of hydrogen fuel systems as a viable option for the fast-growing USV sector.

This project is part of the Clean Maritime Demonstration Competition, funded by the Department for Transport and delivered in partnership with Innovate UK.

Department for Transport

UKRI Innovate UK