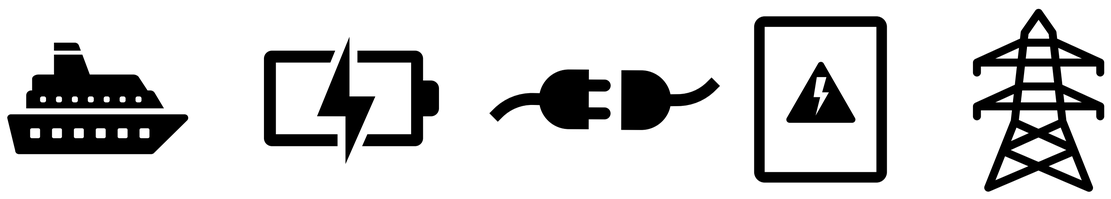
The Electric Seaway

Collins, Keri; Ussher, Simon; Bordbar, Amir; Roszkowski, Marcin; Wilson, Anthony

The Electric Seaway

Keri Collins [1]
Amir Bordbar [1], Marcin Roszkowski [1], Tony Wilson [2], Sarah Fear [2], Simon Ussher [2]
[1] School of Engineering, Computing and Mathematics, University of Plymouth, UK
[2] School of Geography, Earth and Environmental Sciences, University of Plymouth, UK

The Electric Seaway is a collaboration between industry and academia to deliver critical marine charging infrastructure. Ten sites along the south coast of England are targeted for integration into an electrical charging infrastructure supporting the region's ever-growing fleet of electric maritime vessels.



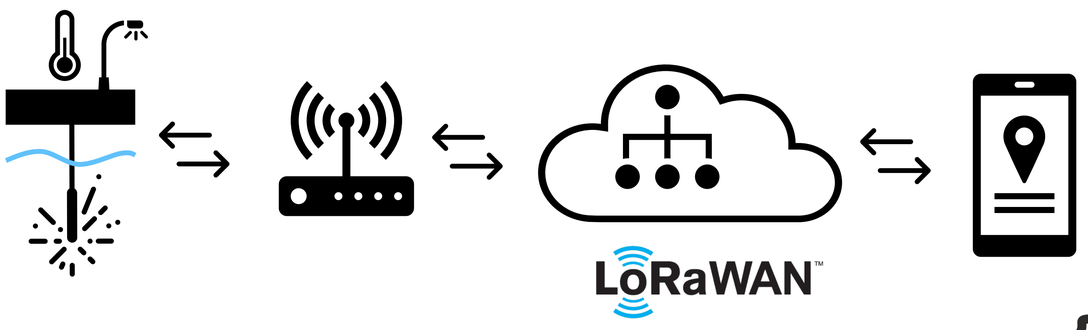
This network will offer a blueprint for future networks and will offer a standardised approach to e-charging. It will help to overcome the major barrier of limited grid capacity, levelling up infrastructure provision.

The project has two primary work strands:

1) **Installation of the charger network, led by industry partners**
2) **Collection of environmental data and development of environmental intelligence, led by UoP**

Environmental Monitoring

UoP is leading the environmental data collection. Air quality (PM, CO2, NO2) and custom in-water potential difference sensors will allow the chargers' effects to be fully understood and will provide baseline data for environmental monitoring across the southern coastline of England.

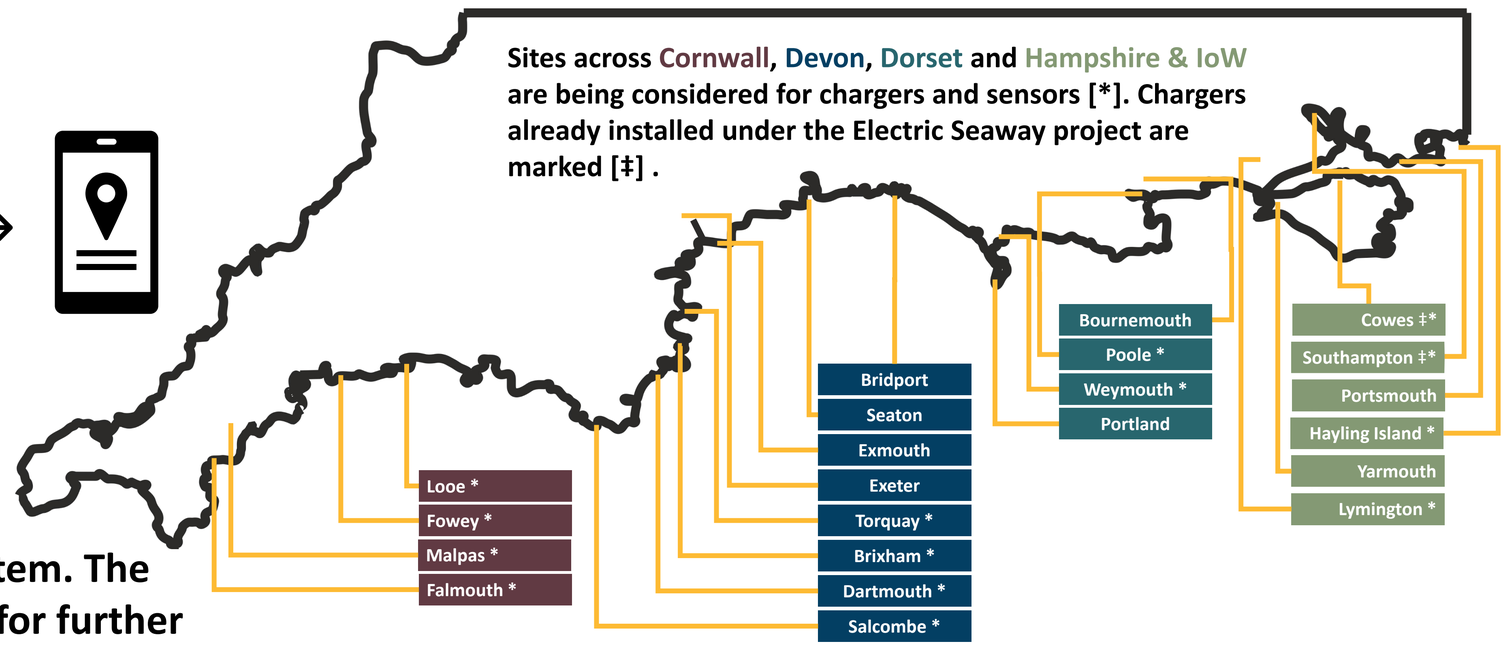


The network of sensors send data to dedicated LoRaWAN gateways via radio waves. LoRaWAN is an ultra low-power, long-range communication system. The gateways send data to the Things Network servers for further analysis.

The installation of the sensor network represents a first action in the creation of a long-term data set for environmental monitoring. Future stake-holder engagement activities will guide decision regarding data archiving and sharing.

Charging Infrastructure

At the half-way point of the wider project, two chargers have been installed: Ocean Village, Southampton and Cowes, IoW. A further 10 sites are in progress or are at the build-quotation stage.



Concept of the charger and sensor gateway in situ

Find out more

For more information, please contact the project team:
PI: simon.ussher@plymouth.ac.uk
COI: keri.collins@plymouth.ac.uk

The Electric Seaway is part of the Clean Maritime Demonstration Competition Round 3 (CMDC3), which was announced in September 2022, funded by the Department for Transport and delivered in partnership with Innovate UK.

UNIVERSITY OF PLYMOUTH
AQUA superPower
UK HMA
South Hams District Council
ZEN
BCP Council