

# Assessing the impact of the experimental tidal energy devices on grey seals movements and energy expenditure

Luca Börger, James C.Bull, Rory Wilson, Tom Stringell (NRW)

SEACAMS2, Department of Biosciences, University of Swansea, Singleton Park, Swansea, SA2 8PP

## Rationale



SEACAMS2 use advanced animal-borne data-logging technology to record the movements and behaviours of grey seals in areas of high tidal energy environments such as the Ramsey Sound in Pembrokeshire. These areas have been targeted by renewable energy developers as good areas to harness marine renewable energy (MRE) from the power of the tides. However, these areas are also important areas for breeding populations of grey seals. Seals will be tagged to monitor and reproduce 3D movements, behaviour and energy expenditure, using novel high-tech GPS-enabled 'Daily Diary' bio-logging devices developed by Swansea University.



## Outcomes

- Data collected and derived movement models will provide new understanding of the interactions between marine mammals and tidal turbines.
- This project develops and refines novel instrumentation and methods to monitor mammal behaviour around devices, incl. novel database systems to handle big and complex datasets.
- The data and models will allow to assess the impact of barriers to movement by marine renewables on marine mammals.
- The movement models derived will allow to understand and predict the potential displacement of essential activities of marine mammals by tidal energy installations.

