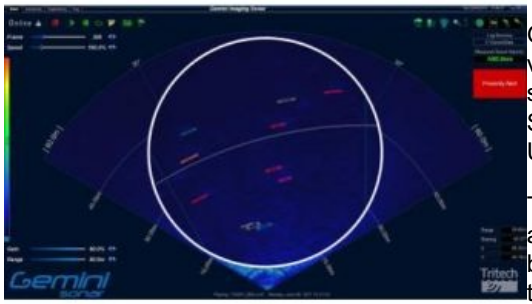
Sonar for Enhanced Mammal Detection



Gemini SeaTec, UK, provides an early warning of the presence of marine mammals in the vicinity of marine current turbine structures. The Gemini SeaTec system has been successfully field-tested on the Marine Current Turbine (MCT) SeaGen installation in Strangford Lough, Northern Ireland, overseen and tested by the Sea Mammal Research Unit (SMRU) Ltd.

The latest version of Gemini SeaTec system includes improved software algorithms for analysing moving marine life targets according to their size, shape and swimming behaviour. Targets are categorised using a traffic light system, indicating the probability that a moving target is a marine mammal.

‘Possible’ (green) targets are the correct size and shape; ‘Potential‘ (amber) denotes upgraded ‘Possible’ targets that also have a path that suggests the object is not moving with tidal drift. ‘Probable’ (red) targets are upgraded from ‘Potential’ when they have a high probability of being a marine mammal. Using this scheme also allows the software to eliminate a large number of false targets such as marine debris moving passively with the tide and fish that are both too small and identified as part of a group.

A visual proximity alarm can be set to alert a human observer to the presence of a target that has a high probability of being a marine mammal. This can aid in precautionary shutdown decisions, where necessary.

Reports can also be generated that reference presumed ‘marine mammals’ and display their path history and classification status at each step. These reports are cross referenced with visual log data for effective post-hoc analysis and can be used for analysing marine mammal behaviour as part of environmental impact assessments.

Gordon Hastie from SMRU Ltd, comments that the development of the Tritech Gemini has allowed the organisation to effectively measure the close range interactions between marine mammals and tidal turbines in a more efficient way than was previously possible.