Marine energy and mining resources

SEMMACAPE

STUDYING AND MONITORING MARINE MEGAFAUNA USING AUTOMATIC CHARACTERISATION IN WIND TURBINE PARKS

Analysing the impacts of developing an MRE project generally requires aerial observation of marine megafauna – mammals and seabirds – to characterise the species frequenting these sites as effectively as possible.

The SEMMACAPE project will demonstrate the suitability of software solutions that automatically record marine megafauna by processing and analysing aerial photographs. The importance of such monitoring has been heightened by the need for impact studies that wind farm projects require when applying for environmental permits.

Deep learning has recently transformed the field of computer vision in the form of convolutional networks. Applying these networks to aerial images in in the automatic observation of marine megafauna looks promising but existing algorithms will require to be adapted. In particular, the context in which these animals evolve, namely the sea, is characterised by its highly variable nature, which prejudices the performance of these deep networks.

The SEMMACAPE is seeking to overcome these scientific obstacles and secure a technological breakthrough in the aerial recording of marine megafauna and in applying it to the environmental monitoring of offshore wind farms. The principal gain will be in securing exhaustive observations while, at the same time, minimising the risk of identification errors and reducing the analysis time.

Partners

COM_PROJECTS_CATEGORIE_PARTNER_ENTREPRISES

Wipsea, Rennes

Research centers

Université Bretagne Sud (laboratoire IRISA), Vannes [Project Developer]
Agence française pour la biodiversité (AFB), Brest
France Energies Marines, Plouzané (29) et Marseille

Funder

Ademe

Labelisation

25/01/2019

Overall budget

672 k€