



# Development of a generic underwater noise prediction model for offshore activities

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## Description:

Underwater noise from offshore operations has always been an environmental issue of considerable concern. High noise levels are generated and threat marine mammals. Several activities (e.g. piling, drilling, maintenance & decommissioning) are responsible for underwater noise emission around offshore platforms and wind farms. In spite of an increased research effort, the significance of different noise sources caused by different installation techniques for foundation piles and decommissioning of offshore platforms has not yet been assessed reliably. In recent years, offshore companies are looking for potential engineering solutions to mitigate the noise emitted during pile driving. Therefore, there is a critical need for comprehensive, generic description of these anthropogenic noise source, including frequency-dependent propagation characteristics in water domain and the seabed.

## Goal:

The primary goal of this PhD study is to develop a generic underwater noise prediction model for offshore activities. Meanwhile, several noise mitigation systems for offshore piling have been provided based on different working principles. This research will focus on the numerical modelling of noise sources and acoustic propagation for the various construction activities mentioned above. Semi-analytical models for the prediction of noise radiated by various installation methods, decommissioning and for the prediction of noise reduction by application of noise mitigation systems will be developed.

## Sponsors:



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