

Title: Underwater Radiated Noise from Vessels (SATURN)

Time: 24 April 2024

Presenters: Christ de Jong (TNO) & Johan Bosschers (MARIN), on behalf of EU SATURN project

Abstract: There is a growing concern on the impact of underwater radiated noise (URN) from vessels on marine life, but many aspects hinder regulation. This presentation discusses various technical aspects of ship noise by considering its assessment, its main sources being machinery noise and propeller cavitation noise, and some of its mitigation measures.

Duration: a 40-minute presentation followed by a Q&A session

Audience: those interested in underwater radiated noise from vessels in general, those involved in international decision-making community

Goal: inform public on various aspects of shipping noise and vessel URN in order to understand the complexities involved in potential regulations

Webinar outline:

- General introduction on shipping noise and vessel URN
 - How is the concern about URN being addressed (by e.g. the EU and IMO)?
 - [How does shipping affect ocean sound levels?](#)
 - [Commercial Vessel Traffic](#)
 - What are the characteristics of vessel URN?
 - [Ship Noise – Discovery of Sound in the Sea \(dosits.org\)](#)
 - How do we measure vessel URN (standard procedures)?
- Machinery noise
 - What are the main machinery noise sources?
 - What can we do to reduce machinery noise?
 - [Ship quieting technologies](#)
- Propulsor noise
 - What is cavitation and why does it generate sound?
 - Why have ship propellers cavitation?
 - How can you predict and assess propeller cavitation and URN?
 - What can we do to reduce cavitation noise by ship propellers?
- Outlook

DOSITS resources:

[How does shipping affect ocean sound levels? – Discovery of Sound in the Sea](#)

[Commercial Vessel Traffic – Discovery of Sound in the Sea](#)

[Ship Noise – Discovery of Sound in the Sea](#)

[Ship Quieting Technologies – Discovery of Sound in the Sea](#)

[Webinar Archive: Marine Mammals and Vessel Noise – Discovery of Sound in the Sea](#)

[Moderate or eliminate the effects of human activities – Discovery of Sound in the Sea](#)

[How is sound used to mitigate marine mammal/fisheries conflicts? – Discovery of Sound in the Sea](#)

Other resources:

[Underwater Noise from Large Commercial Ships—International Collaboration for Noise Reduction - Southall - Major Reference Works - Wiley Online Library](#)

[Frontiers | The Grand Challenges in Researching Marine Noise Pollution from Vessels: A Horizon Scan for 2017 \(frontiersin.org\)](#)

[Frontiers | The Effects of Ship Noise on Marine Mammals—A Review \(frontiersin.org\)](#)

[Requirements for Reducing Underwater Noise From Ships | IEEE Journals & Magazine | IEEE Xplore](#)