

Motion Detecting Unit (MDU)

case study

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- Since 2008, 1,400 containers are lost yearly
- In late 2021, 3,500 vanished in the Pacific
- Loss is tied to dangerous roll phenomena at sea
- Parametric, synchronous, and resonance roll are key risks
- A solution was built with a global shipping company
- MDU digitizes and analyzes ship movement in real time
- MDU helps predict and identify high-risk scenarios early
- Enabling action to reduce container loss at sea



Objectives

- Reduce annual container loss at sea
- Understand and prevent high-risk roll scenarios
- Identify root causes like parametric and resonance roll
- Enable early warnings for dangerous ship movements
- Improve safety and reliability in global shipping



Solutions

- MDU monitors ship movements live
- Developed with one of the world's largest shipping companies
- Digitizes vessel behavior to detect dangerous patterns
- Provides early warnings of situations that may lead to parametric roll and similar risk events.
- Enables proactive actions to avoid container loss.