



Motion Detecting Unit (MDU)

case study

LNG tanker

LNG Carrier Operations Vessel Motion and LNG Boil-Off

- On LNG carriers, boil-off gas generation is not only a thermal process – vessel motion also plays a critical role.
- Pitch and roll increase sloshing inside cargo tanks, accelerating boil-off gas generation and directly affecting:
- Cargo delivery efficiency
- Fuel consumption
- Operational costs



Turning Motion Data into Operational Insight

- MDU measures vessel motion in real time, including pitch, roll, and motion intensity
- Linking motion data with trim and route optimization enables LNG operators to:
- Reduce sloshing inside LNG cargo tanks
- Lower boil-off gas generation
- Improve fuel efficiency
- Maximize delivered cargo



Operational Value

- Real-time motion monitoring for LNG carriers
- Improved decision-making during rough sea conditions
- Reduced cargo losses caused by excessive vessel motion
- Better fuel efficiency and vessel performance