The Future of Mooring

Vikesh Dhanpat

CAVOTEC
We connect the future.

We know our industry faces high expectations and challenges

Slowing climate change

Reducing harmful emissions

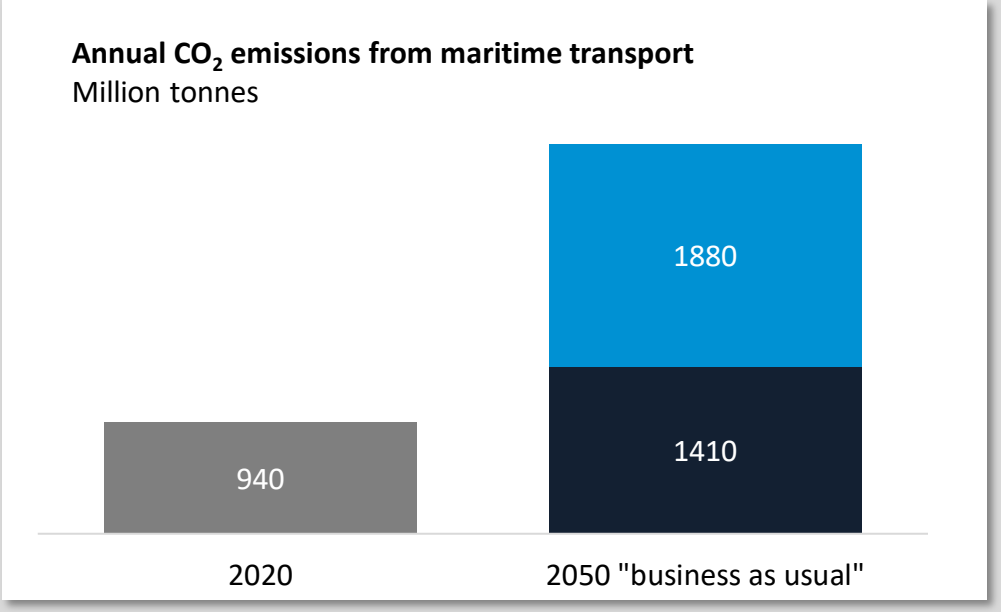
Alleviating port congestion

Keeping our people safe

Slowing climate change

Shipping industry is mobilizing to cut carbon footprint by 2050

The maritime industry contributes 2-3% of green house gases and the share is growing



Many ambitious pilot projects and 2050 ambitions by the year

World's largest container shipper Maersk aims to be CO2 neutral by 2050

Maersk signs shipbuilding contract for world's first container vessel fueled by carbon neutral methanol

Stena Line to launch two battery-powered ships by 2030

Meet the world's first electric autonomous container ship

Cochin Shipyard update on construction and supply of Autonomous Electric Ferry for ASKO Maritime

Sources: NASA, European Commission, 3rd IMO GHG study

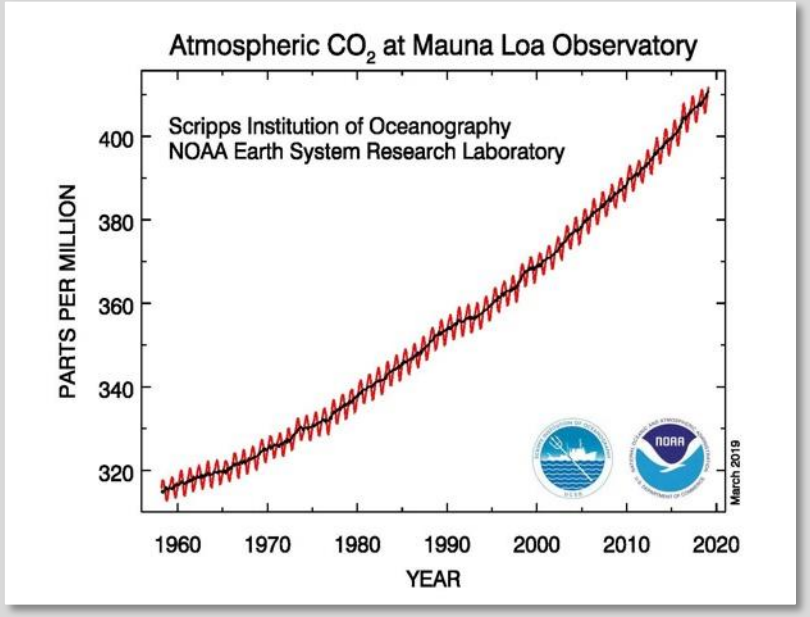
CAVOTEC
We connect the future.

To meet the Paris climate accords ambitious action is needed in the short term, but asset-heavy inertia will slow zero-emission future

The transition to zero-emission vessels will be slow and gradual

- Assets with **20+ years lifetime** in capital intensive industry
- **Zero-emission technology** for ocean-going vessels does not exist yet
- Even if we start now, phasing out the existing fleet will take decades!

Once added, carbon dioxide stays in the atmosphere from 300 to 1,000 years, driving global warming



We need to find more climate efficient solutions that works with existing assets!

Sources: NASA, European Commission, 3rd IMO GHG study

CAVOTEC
We connect the future.


CAVOTEC
WE CONNECT THE FUTURE

Helsinki since 2016: Fast, efficient mooring has already saved thousands of tonnes of CO_2

CAVOTEC
We connect the future.

Helsinki+Tallinn from 2021: Fast, efficient mooring will now save thousands of tonnes of CO_2 more

CAVOTEC
We connect the future.

Reducing harmful emissions

CAVOTEC
We connect the future.

Shipping emissions close to populated communities is a problem…

Heavy fuel oils cause climat change, but they also cause direct harm

SO_x

NO_x

PM

Helsinki since 2016: Fast, efficient mooring equates to thousands of diesel cars

Helsinki+Tallinn from 2021: Fast, efficient mooring equates to thousands of diesel cars

CAVOTEC
We connect the future.

Alleviating port congestion

Automated vacuum mooring can drive increased productivity several ways

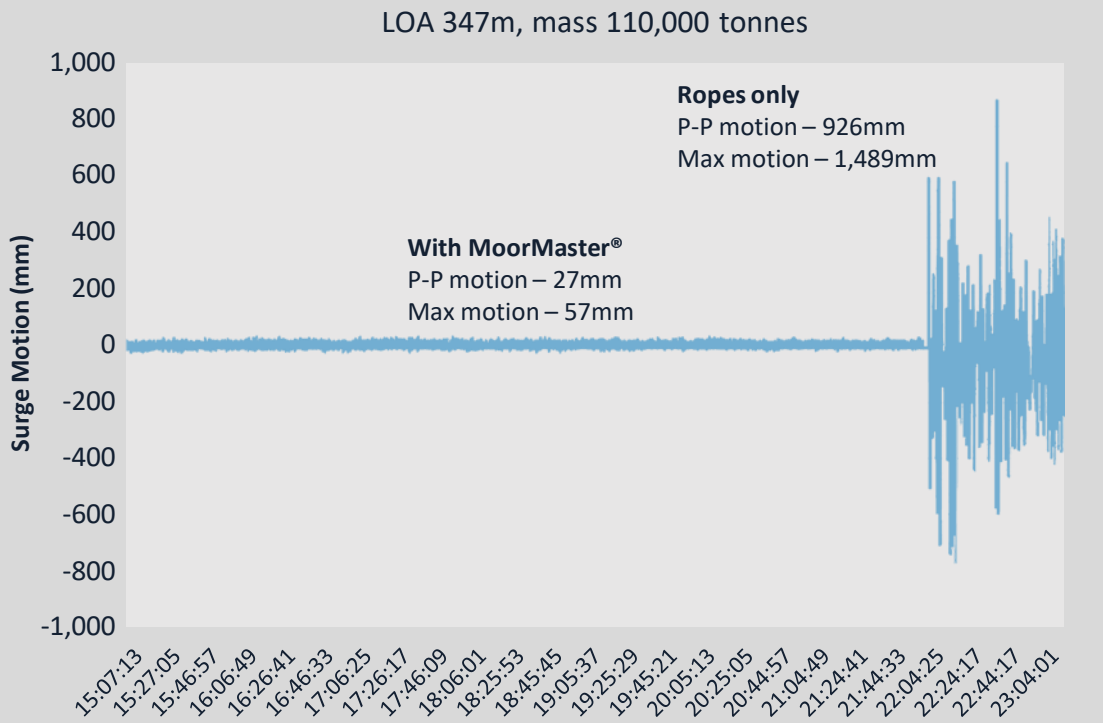
Faster mooring and release

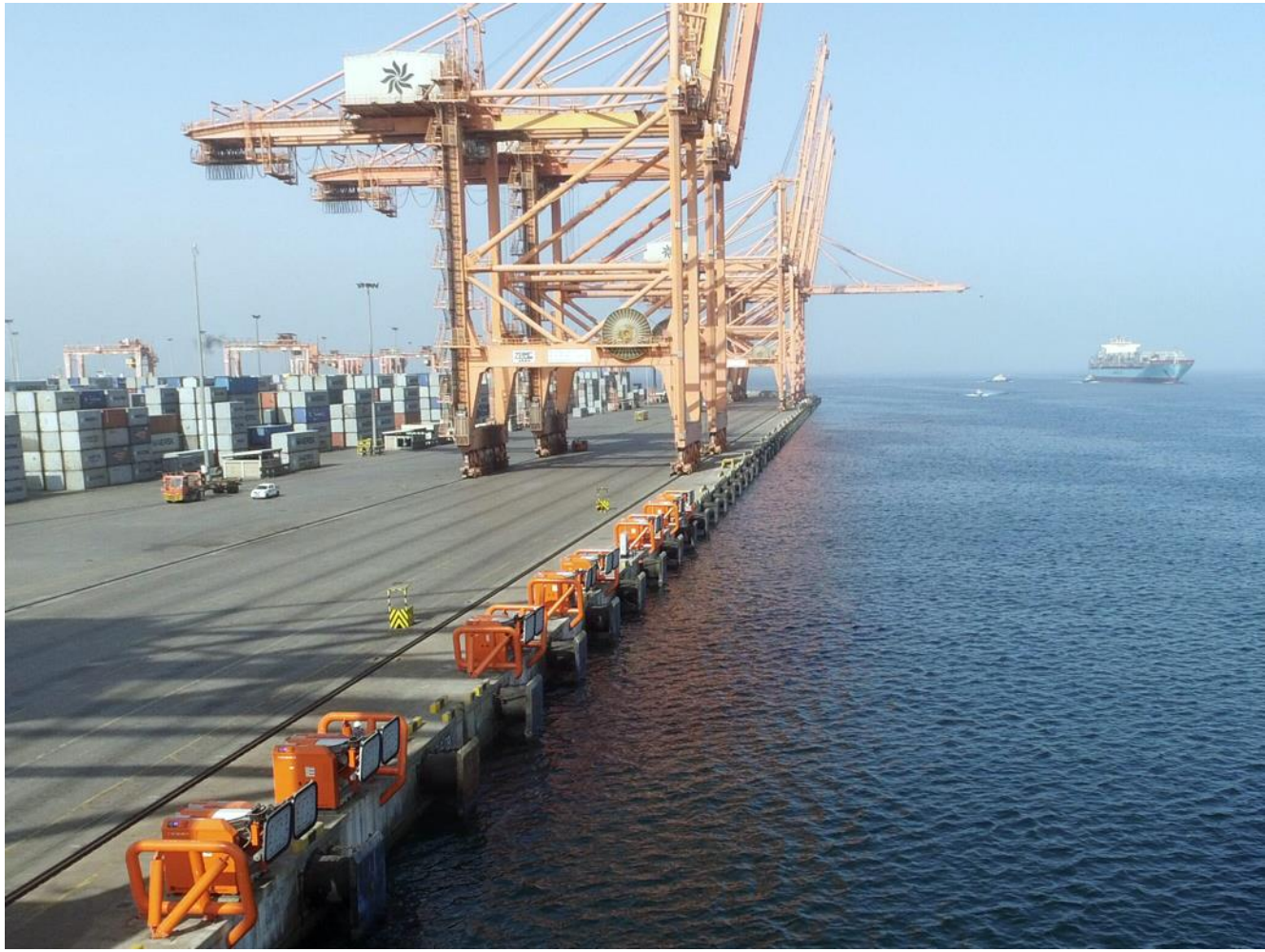
Reduced vessel motion

Berth overhang

MoorMaster® patented Active Control™ can reduce vessel surge motion by up to two orders of magnitude, boosting crane moves per hour

Vessel surge motion with and without MoorMaster®





CAVOTEC
We connect the future.

Searoad Shipping: Vacuum mooring can let larger vessels overhang an existing berth, saving infrastucture

CAVOTEC
We connect the future.

Keeping our people safe

CAVOTEC
We connect the future.


300

Vacuum mooring eliminates risk from snap-backs with remotely controlled vacuum pads and no vessel motion

CAVOTEC
We connect the future.

What’s new

New MoorMaster® NxG is designed for easy integration into existing, operational terminals

Smaller depth
Faster installation
Smarter operations

Cavotec is bringing product-as-a-service to the maritime industry with world's first subscription vacuum mooring

MoorMaster® as a Service

Subscription vacuum mooring

Simple,
Flexible,
Guaranteed.

CAVOTEC
We connect the future.

Every minute matters

Vikesh Dhanpat

Regional Product Manager, MoorMaster®
vikesh.dhanpat@cavotec.com

MoorMaster® NxG

CAVOTEC
We connect the future.