

Cavotec MoorMaster™



MoorMaster™

CHANGING THE WAY YOU MOOR



7th Intermodal Asia 2016 Australia

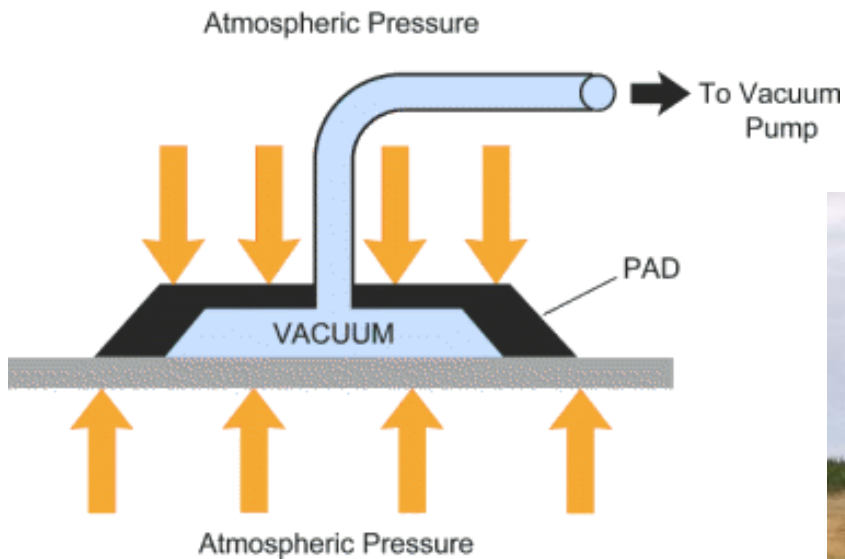
Presented by:
Glynn Jones
Cavotec Australia

Strong **VACUUM COUPLE** between ship and shore with large vacuum pads



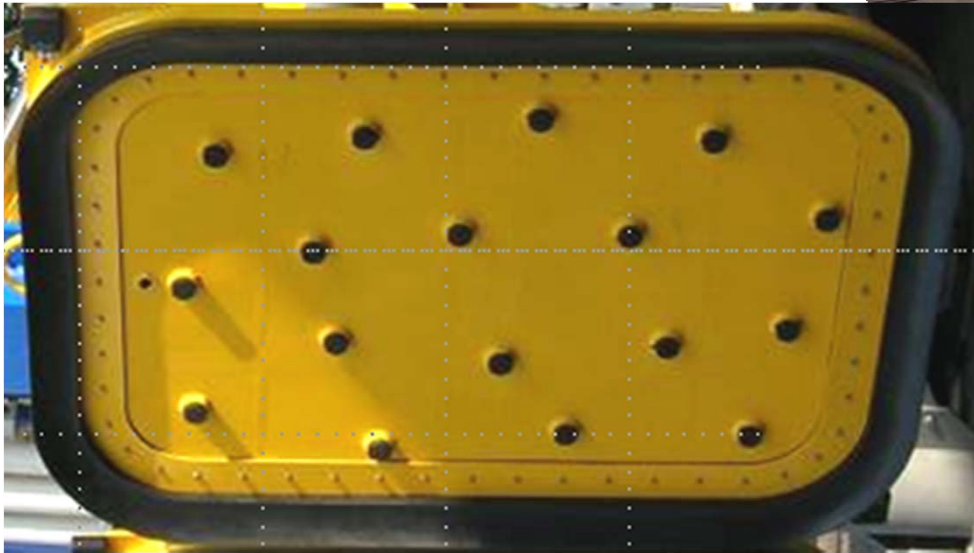
Cavotec MoorMaster™ - Basics

- Used in the safety conscious lifting industry for many years
- Proven safe and reliable technology



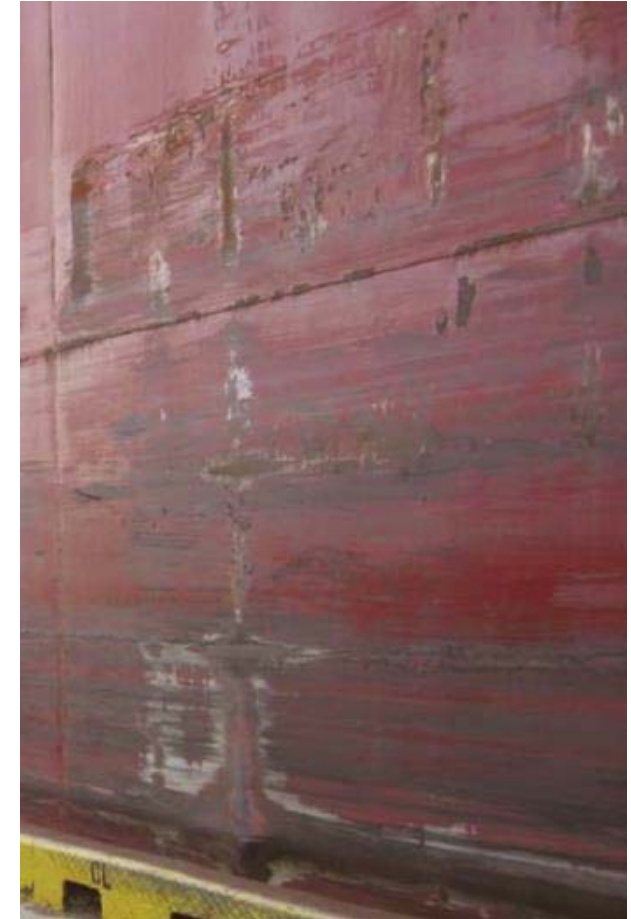
Cavotec MoorMaster™ - Basics

- Steel construction
- Neoprene rubber seal
- Effective sealing area = 2.55m²
- Suction force = 20 tonnes
- 26mm lip to seal around obstructions
- Tested by DNV



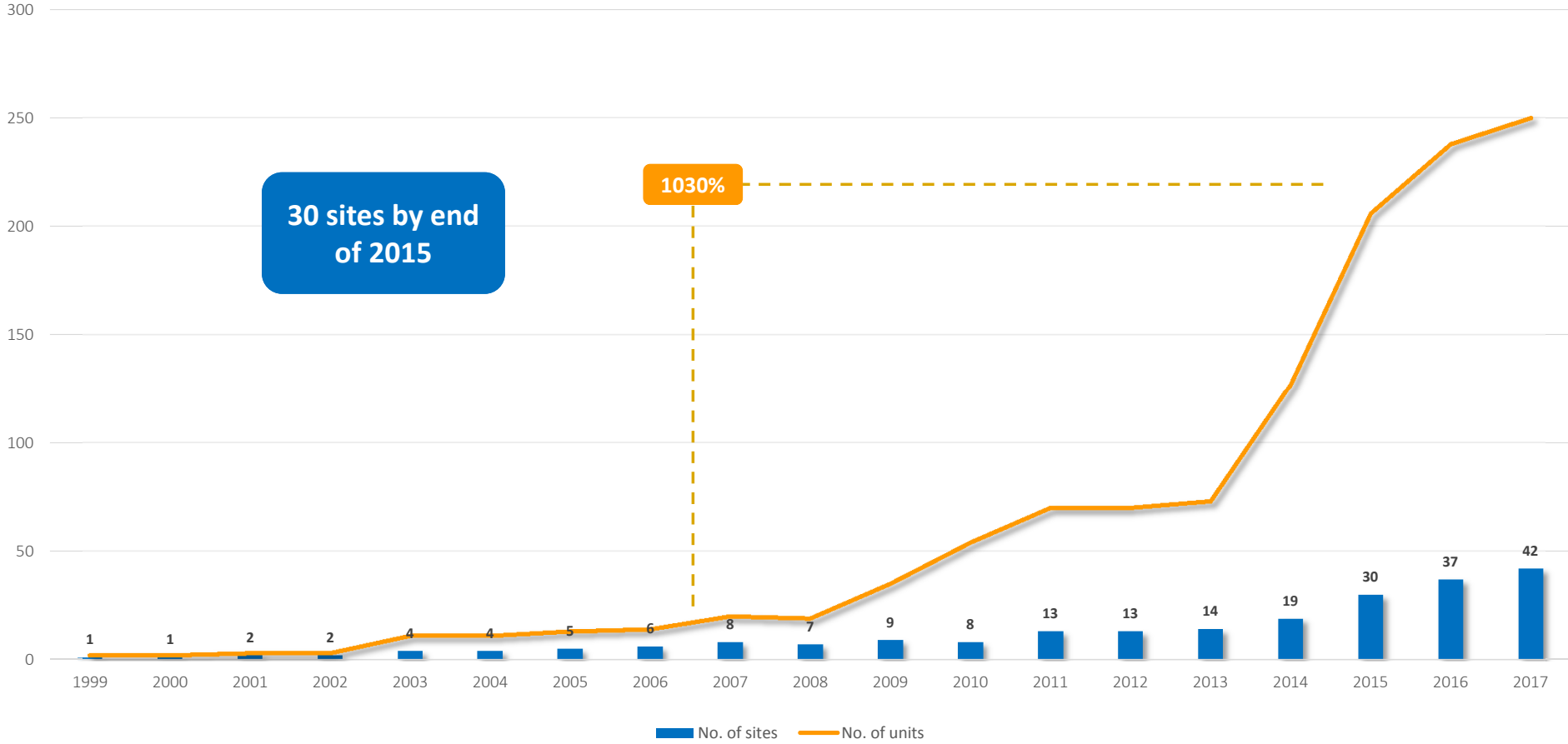
Cavotec MoorMaster™ - Basics

- Surface must be relatively flat
- Seal will adapt to minor obstructions
- Vacuum accumulator
- 10-20 minutes of attachment on poor surface in case of power failure



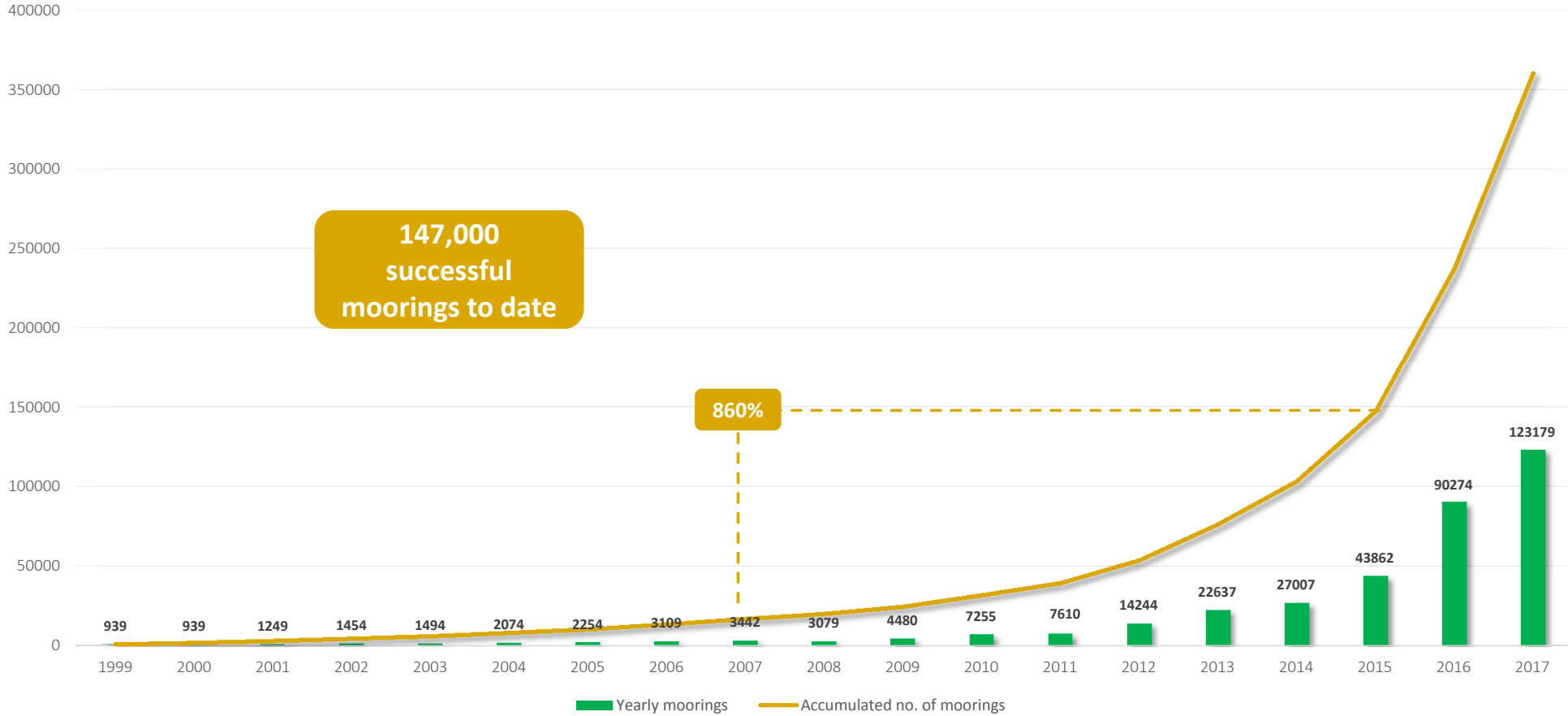
MoorMaster™ units & sites

MoorMaster™ units & sites – Existing & Future



MoorMaster™ mooring operations

Mooring operations – Since 1999



Cavotec MoorMaster™ - MAIN BENEFITS PORT SIDE

EFFICIENCY & OPERATION

- Cargo and crew transfer can start earlier
- Increased cargo throughput
- Improved utilisation of **tug fleet**: tugs leave ships much earlier and return just prior to departure
- **Cargo operation** less dependent on weather conditions
- Vessel creep during port stay eliminated
- Aid for development of STS **Automation**
- Restricted **waterways** not disturbed
- Improved utilisation of **terminal length** if berthing distances reduced
- Improved service for shippers

TIME

- Faster **vessel turnaround** enables larger number of ship calls
- Faster connection to **shore power**, where available

COST SAVINGS

- **Mooring gangs** not required
- Less wear and tear on fenders as **fender shear almost eliminated**
- Vessels longer than berths can be moored with overhang, enabling substantial savings on **quay** extensions or **dolphin** investments
- In some cases, MoorMaster™ may eliminate the need for **breakwater** construction

ENVIRONMENT

- Reduced use of the vessel's propulsion system and of tugs and line boats diminishes **fuel consumption & emissions**

SAFETY

- **Personnel** safety improved
- Personal **injuries** during mooring reduced to a minimum
- Potential reduction in **insurance** premiums
- Mooring load status constantly **monitored** and event logs can be reviewed

Example of MoorMaster™ Automated Mooring and Alternative Maritime Power Connection Integration

NORLED, Norway

- World's first fully electric ferry
- Moored and shore power connected in **60 seconds at the push of a button!!**
- First **Cavotec** Alternative Maritime Power (AMP) system installed in 1984



Norled Movie



Cavotec MoorMaster™ – RoRo installations

MELBOURNE & DEVONPORT, AUSTRALIA (2003)



- 4x MM400A¹⁰ (4x40 tonnes) in each port
- 1 daily mooring of 118m “SeaRoad Tamar” & 149m “SeaRoad Mersey”



MoorMaster™ automated mooring technology first saw service in Australia at the port of Melbourne, on a dedicated berth used by two Ro-Ro vessels; the Searoad Tamar, (149 metres, 13,697 tonnes displacement), and the Searoad Mersey, (118 metres, 7,928 tonnes displacement). The MoorMaster™ system consists of four MM400A¹⁰ units, each rated at 40 tonnes. The units are positioned in pairs, forward and aft of the amidships line and they are activated from the bridge wing, extending to attach to the ship's hull.

To accommodate displacement caused by local tide variations and draft change, this system employs the patented ‘stepping’ method. The application also offers the considerable advantage of being able to shift vessels along the berth.

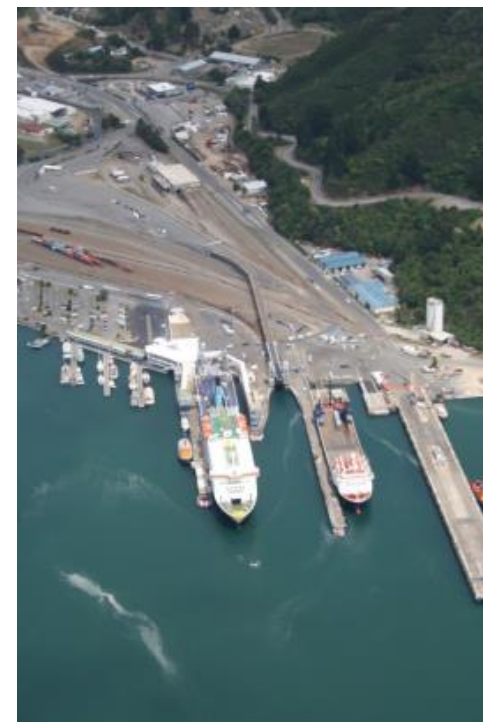
The system has been in daily operation since 2003.

Cavotec MoorMaster™ – RoRo installations

PICTON BY TOLL, NEW ZEALAND



MoorMaster™ system in operation since 2005.
Enabled Toll Shipping to avoid lengthening pier by 35m.



Cavotec MoorMaster™ – Bulk installations

UTAH POINT BY PHPA, PORT HEDLAND



PPA Movie

Cavotec MoorMaster™ – Bulk installations

UTAH POINT BY PHPA, PORT HEDLAND



REDUCED MAINTENANCE COST
FOR FENDER REPAIR



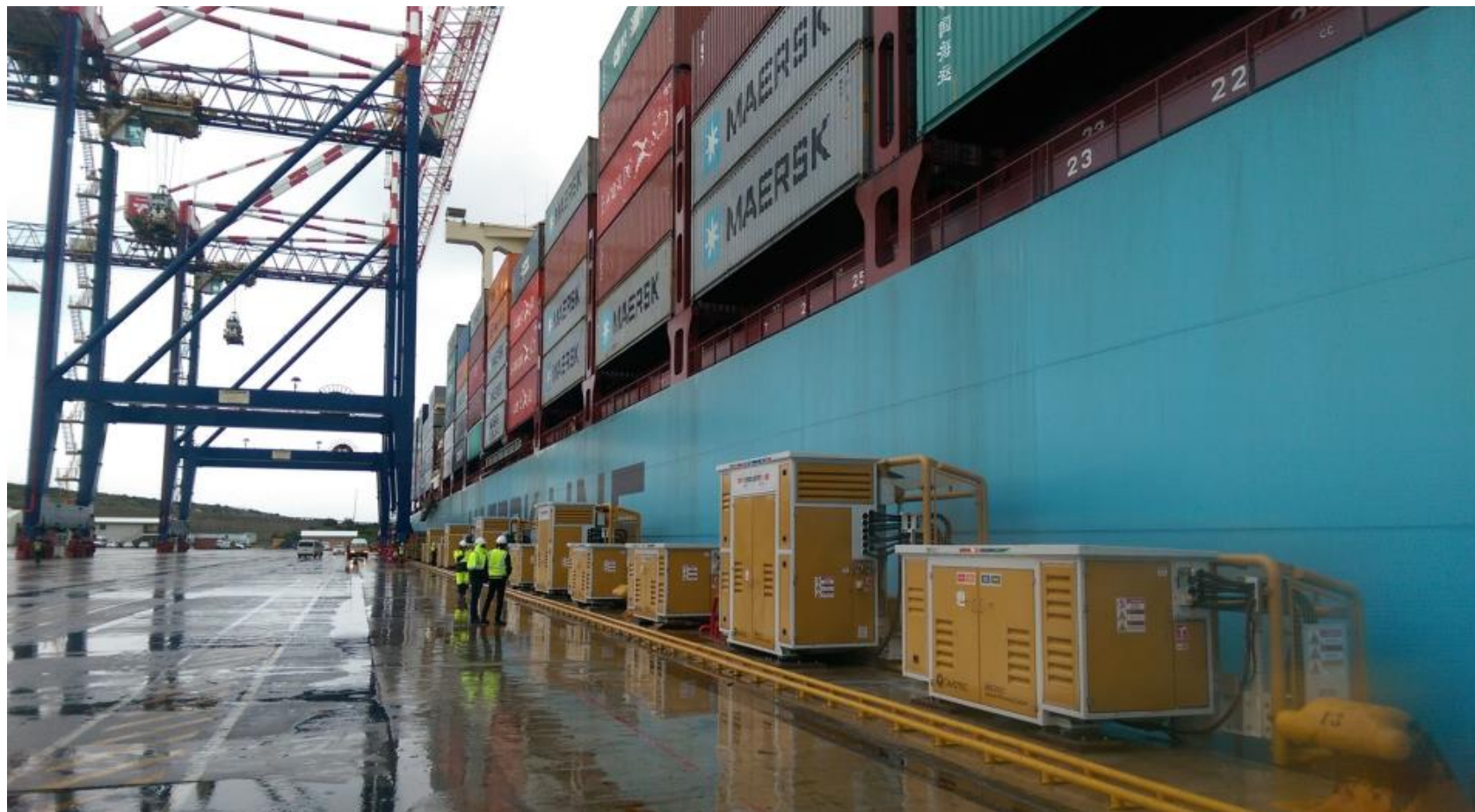
Cavotec MoorMaster™ – Container installations

PORT OF SALALAH BY MSC, MAERSK & OTHERS - OMAN



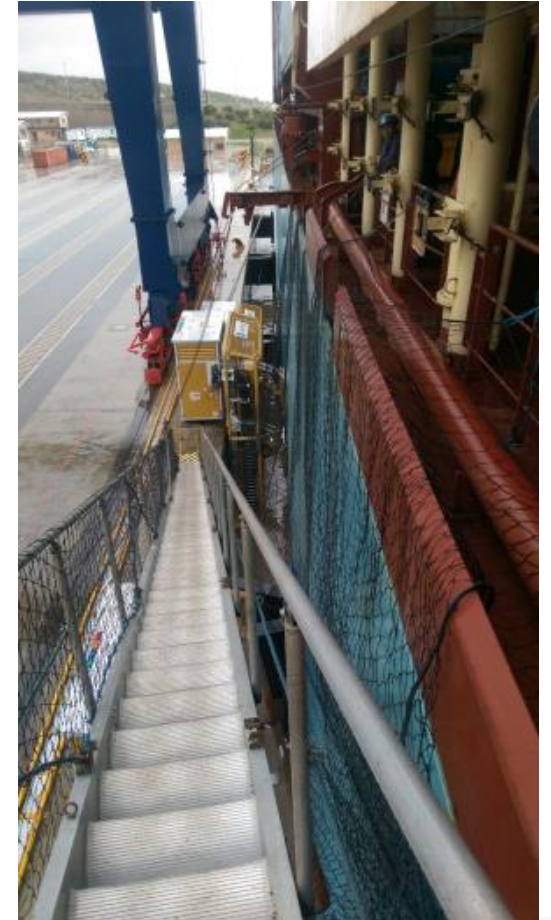
Cavotec MoorMaster™ – Container installations

PORT OF NGQURA BY TRANSNET, SOUTH AFRICA



Cavotec MoorMaster™ – Container installations

PORT OF NGQURA BY TRANSNET, SOUTH AFRICA



PORT OF NGQURA BY TRANSNET, SOUTH AFRICA

Click the link below for video:

www.transportevents.com/presentations/melbourne2016/PortHedland.wmv

www.transportevents.com/presentations/melbourne2016/Norledv2.wmv

THANKS FOR YOUR ATTENTION

Q & A

