The smart & efficient ferry port

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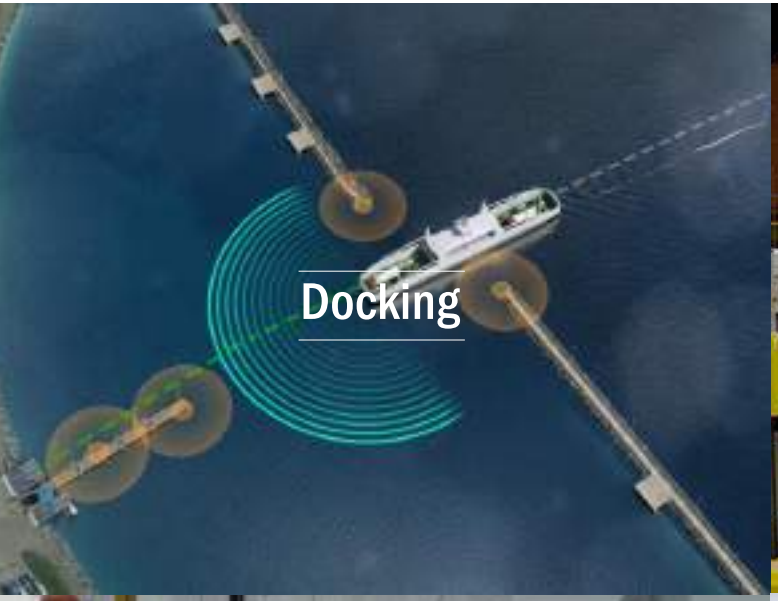
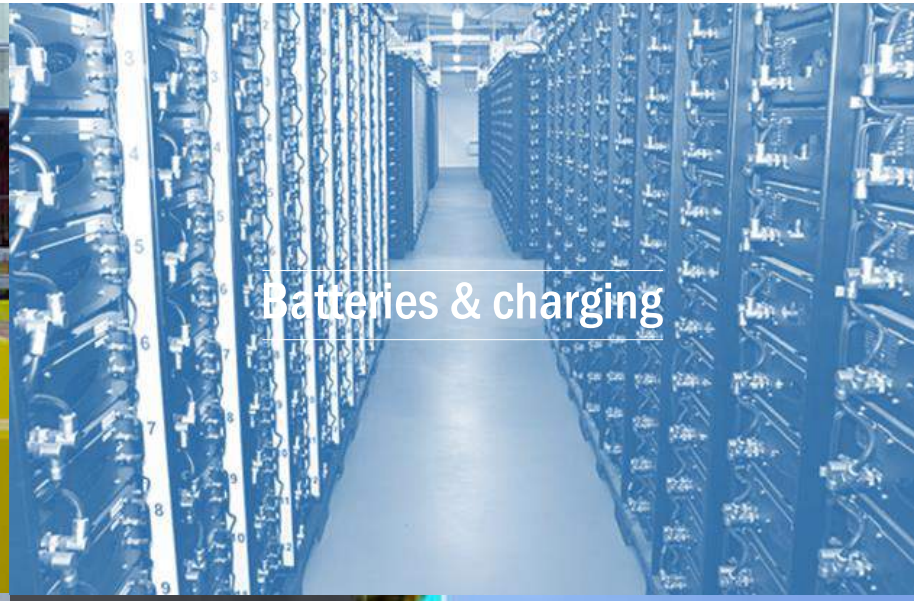
21st March 2018

CAVOTEC
Inspired Engineering

Ports & Maritime

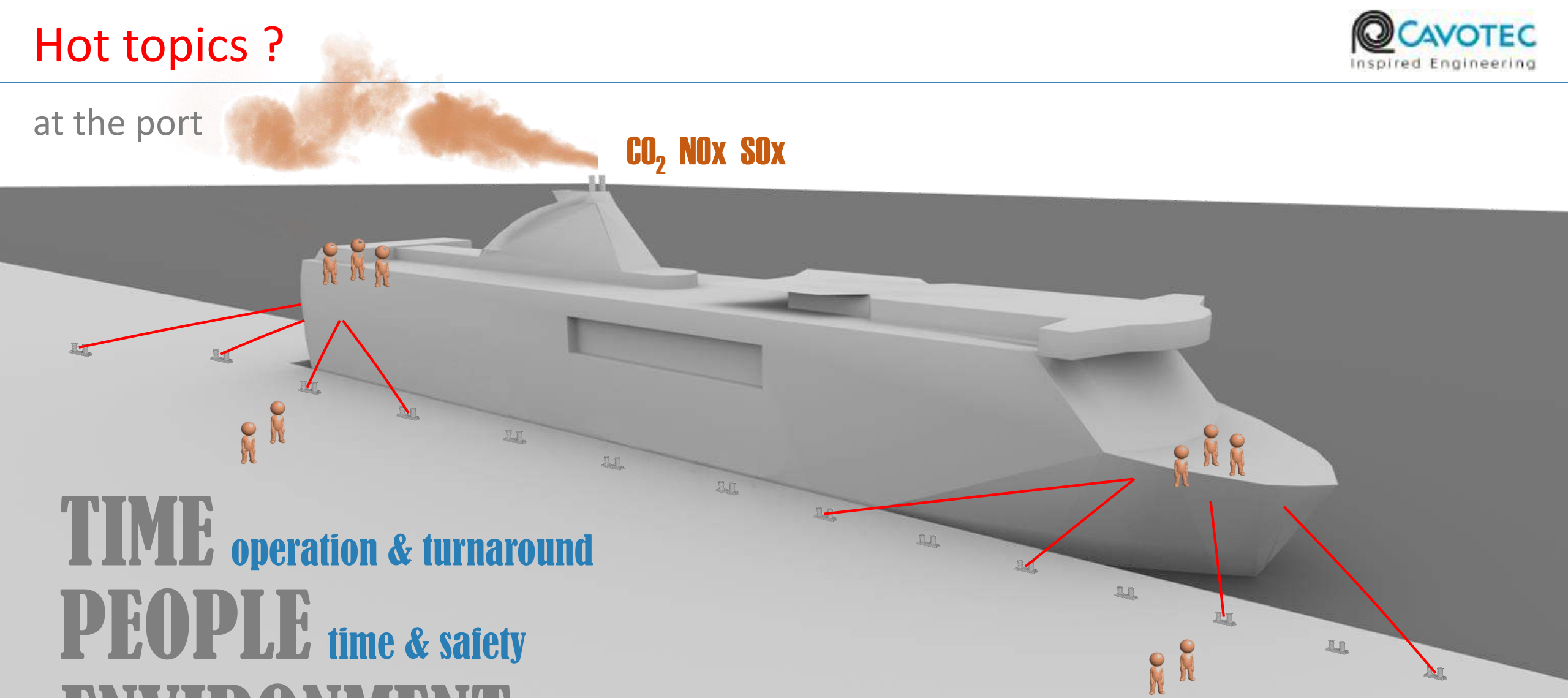
The industry´s position in automation?





Hot topics ?

at the port



TIME operation & turnaround

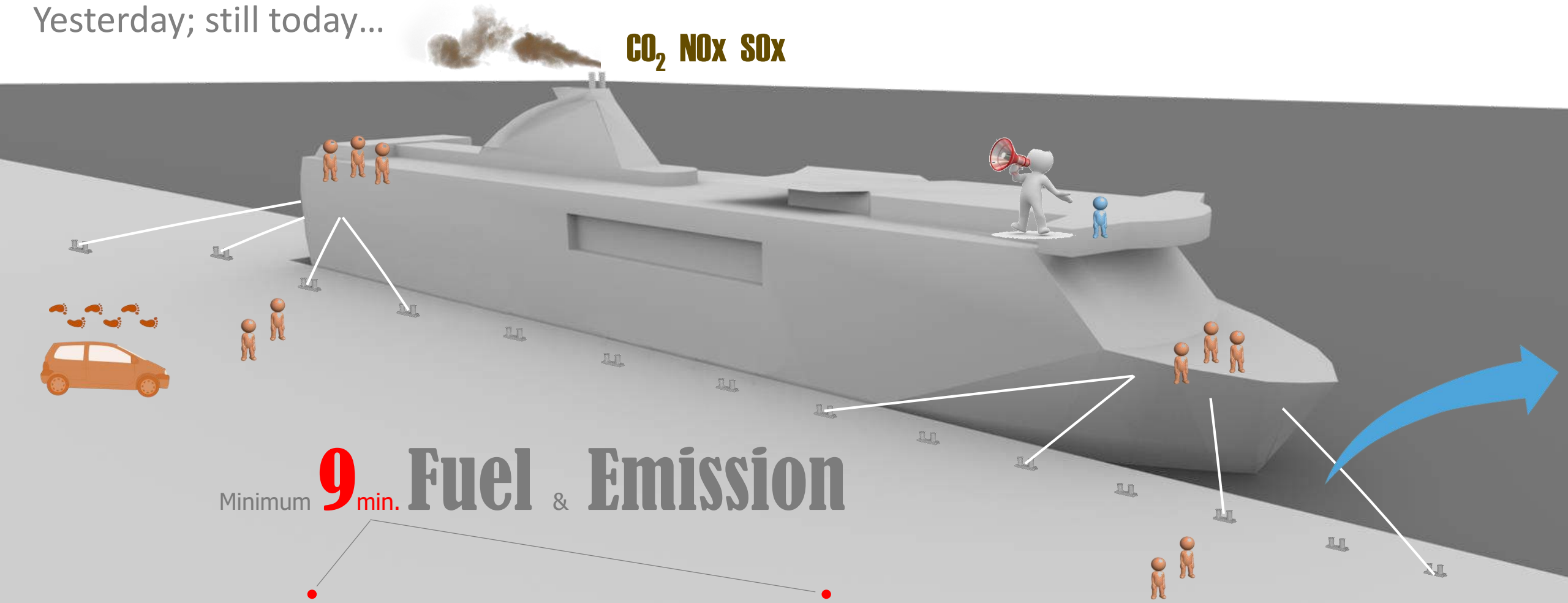
PEOPLE time & safety

ENVIRONMENT health & regulations

INFRASTRUCTURE CAPEX & maintenance

Conventional mooring

Yesterday; still today…



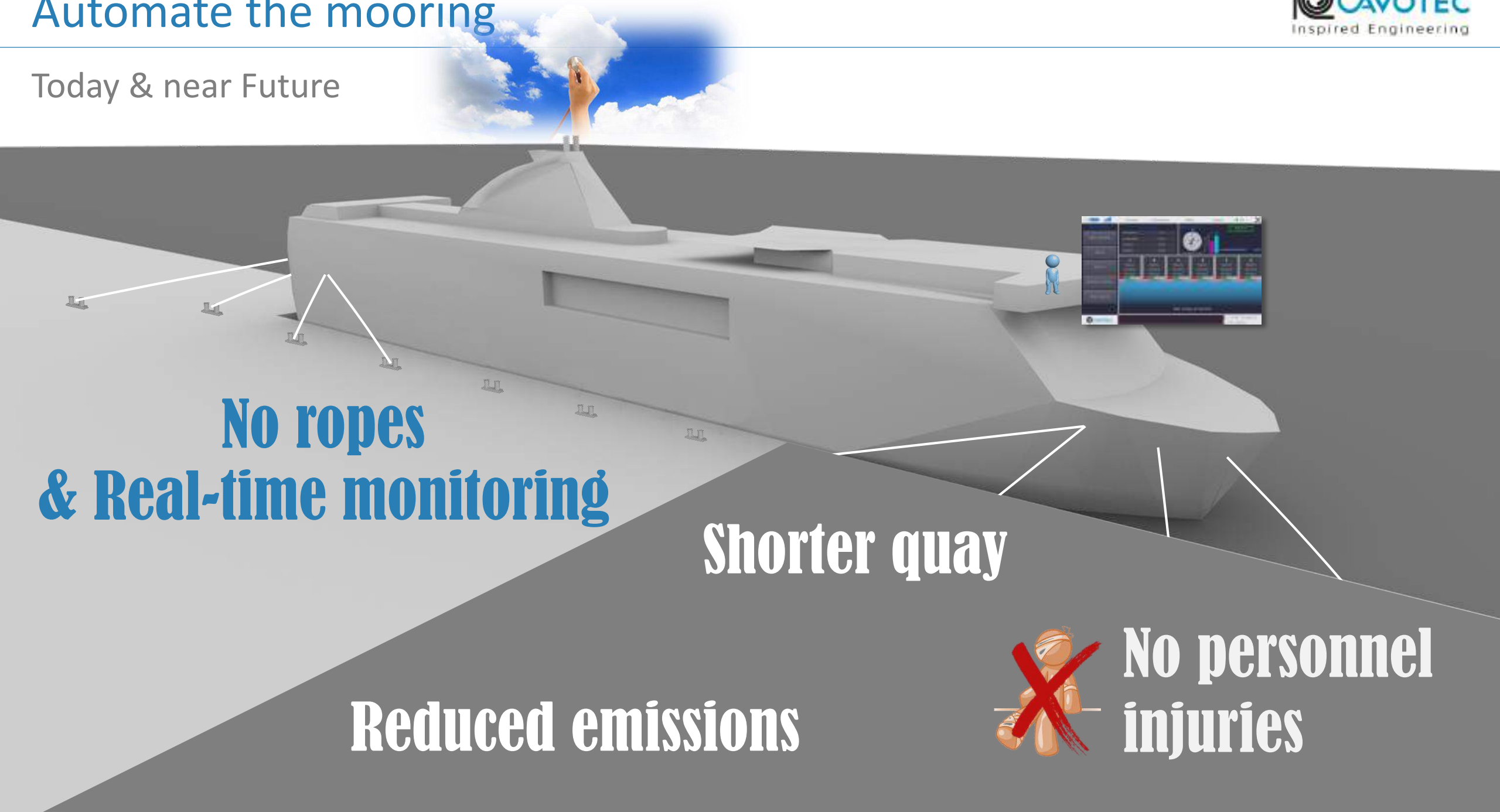
Minimum **9** min. **Fuel** & **Emission**

Transport	Mooring	Transport	Transport	Detach	Transport	
5 minutes	+ 6 minutes	+ 5 minutes	+ 5 minutes	+ 3 minutes	+ 5 minutes	= ~ **5** Man hrs/call

(29 min. • 10 people)

Automate the mooring

Today & near Future



No ropes
& Real-time monitoring

Shorter quay

Reduced emissions

No personnel injuries

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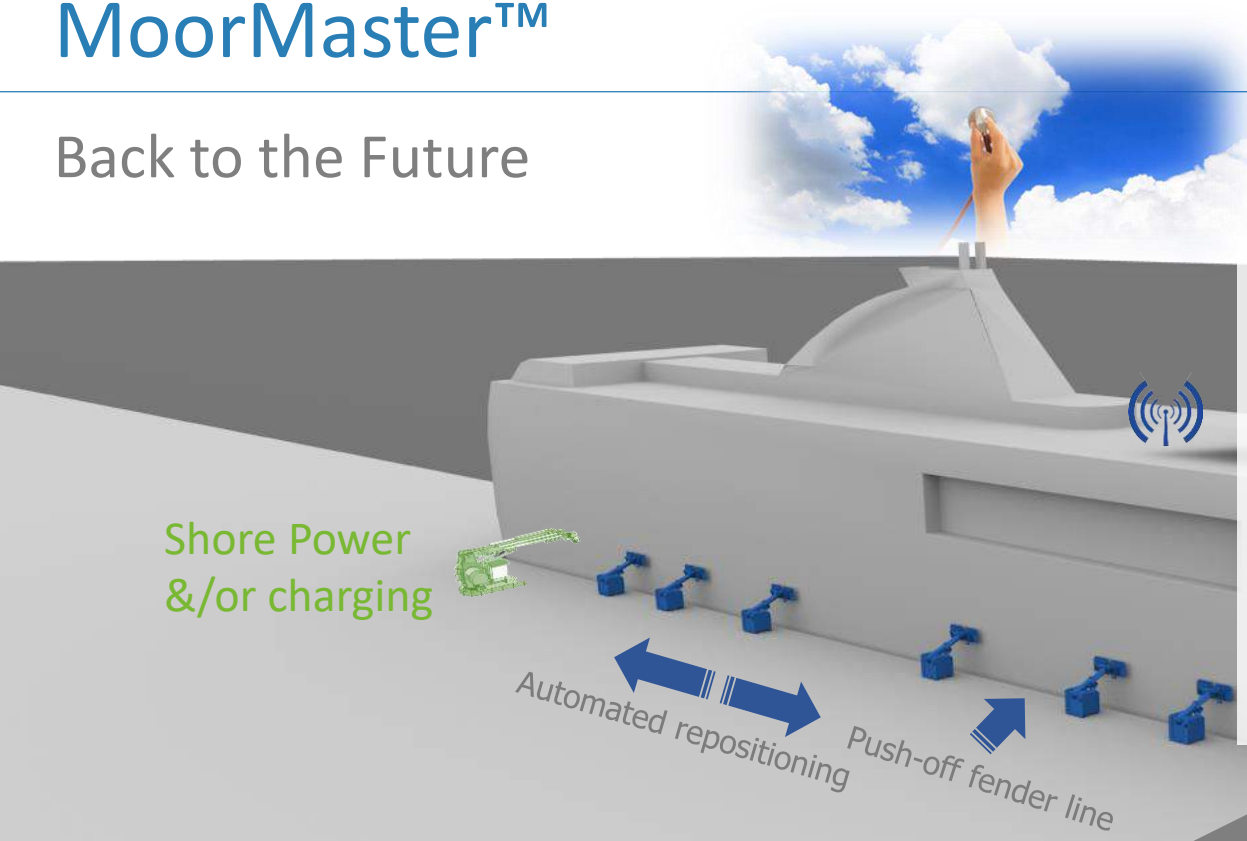
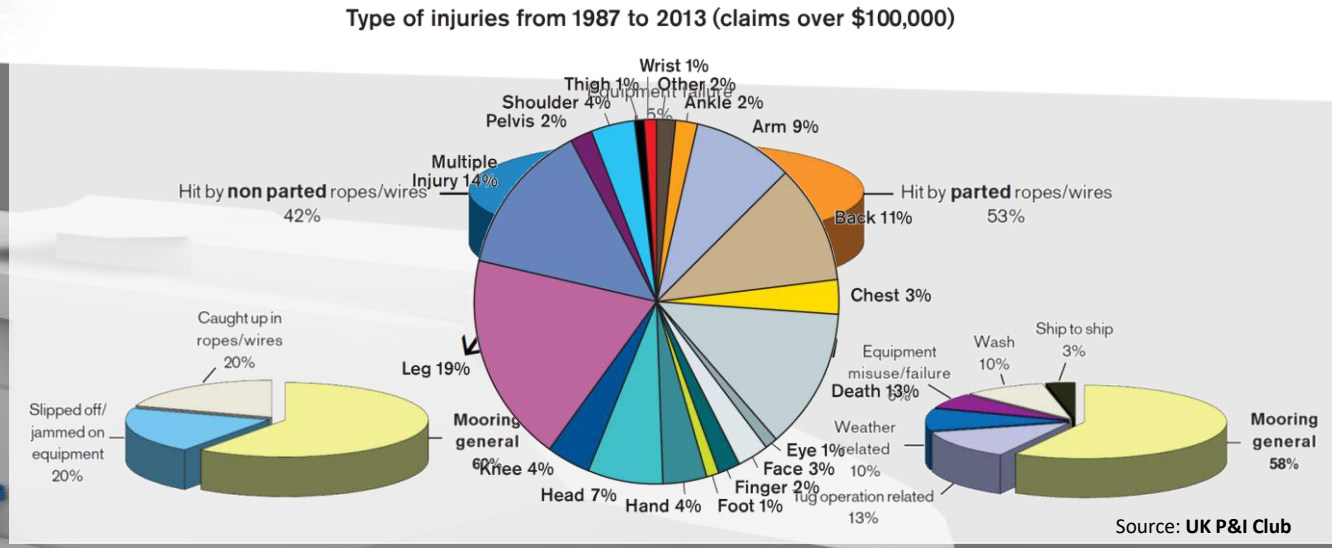
Back to the Future





Max. 1 min. **Fuel & Emission**

Automated Mooring

30 seconds

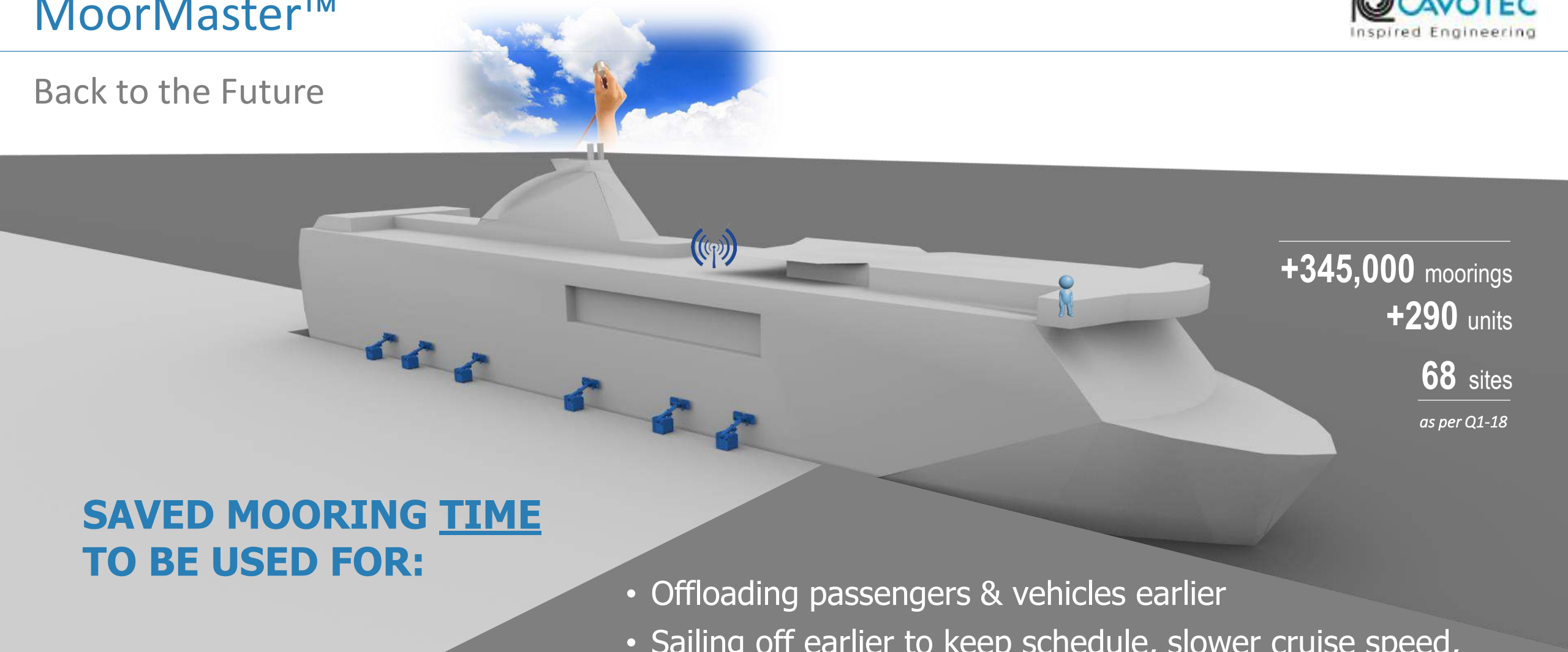
Automated Detach

15 seconds

- ✓ Fast docking & turnaround
- ✓ Reduced emissions
- ✓ Reduced fuel consumption
- ✓ Reducing fender wear
- ✓ Reducing operational docking time & fuel consumption
- ✓ Time schedule better kept, delays recovered, more trips
- ✓ No shore crew needed
- ✓ No personnel injury danger

MoorMaster™

Back to the Future



+345,000 moorings

+290 units

68 sites

as per Q1-18

SAVED MOORING TIME TO BE USED FOR:

- Offloading passengers & vehicles earlier
- Sailing off earlier to keep schedule, slower cruise speed, more calls in the schedule
- Shut down engines early to save fuel & emissions
- Faster connection to shore power

MoorMaster™

Back to the Future

+345,000 moorings

+290 units

68 sites

as per Q1-18

UNIQUE MOORMASTER™ FEATURES:

- Improve personnel Safety
- Reduce CAPEX when considering quay extensions
- Reduce maintenance cost for fenders, winches & mooring lines

MoorMaster™ automated mooring

Type of ferries we already moor

LOA 60m - Beam 13m

LOA 79m

LOA 79m

LOA 81m - Beam 17m

LOA 90m - Beam

LOA 90m - Beam 19m

LOA 91m - Beam 17m

LOA 100m - Beam 18m

LOA 100m - Beam 18m

LOA 106m - Beam 17m

LOA 131m - Beam 23m

LOA 135m - Beam 28m

LOA 181m - Beam 23m

LOA 181m – Beam 27m

LOA 186m – Beam 28m

LOA 212m – Beam 31m

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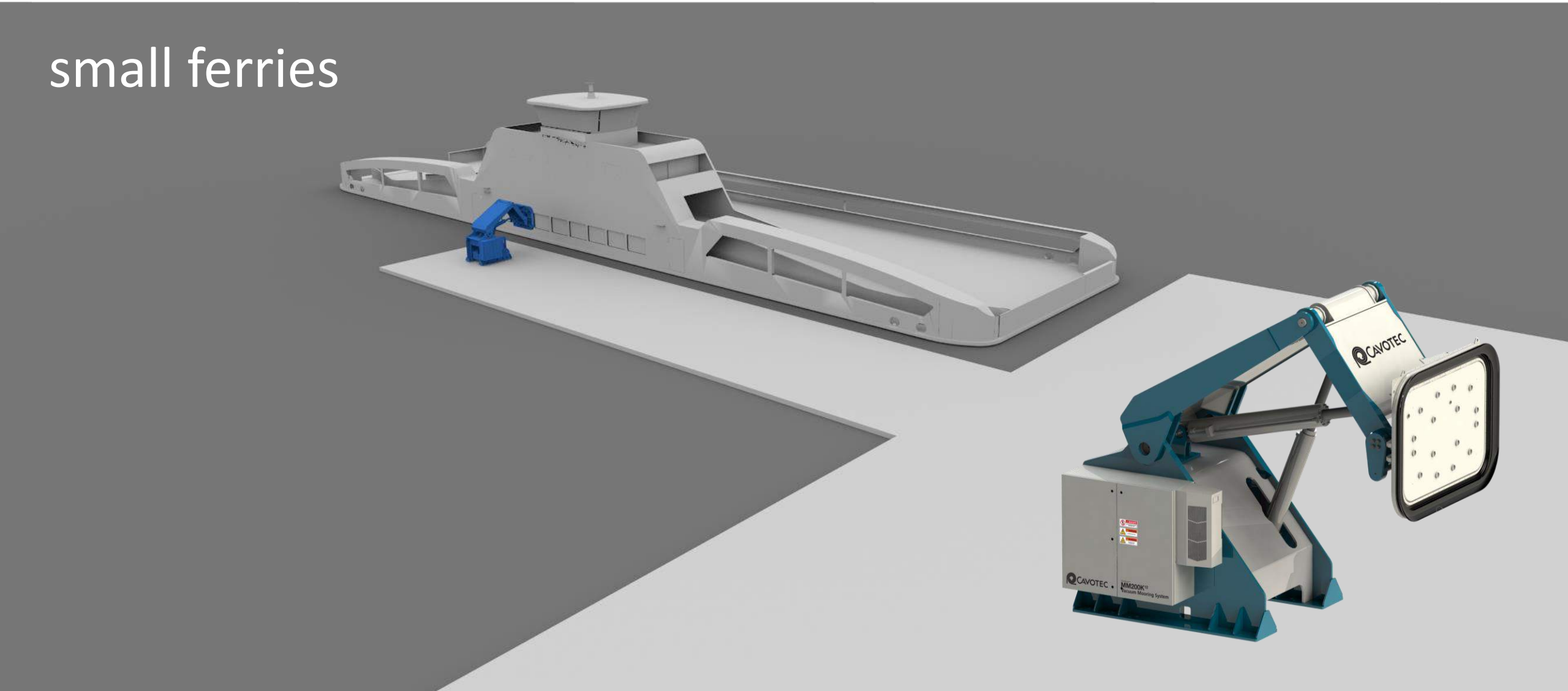
Automated mooring example

small ferries



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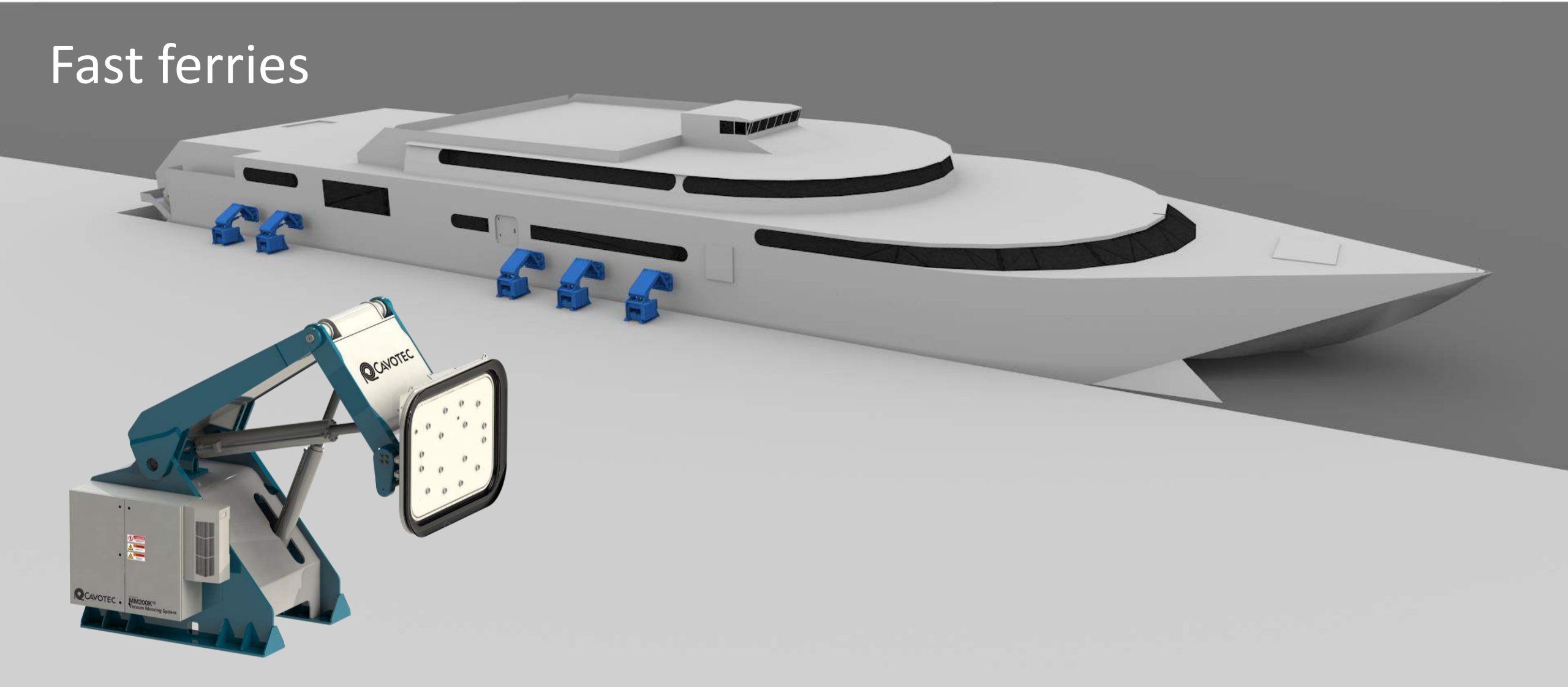
Automated mooring example



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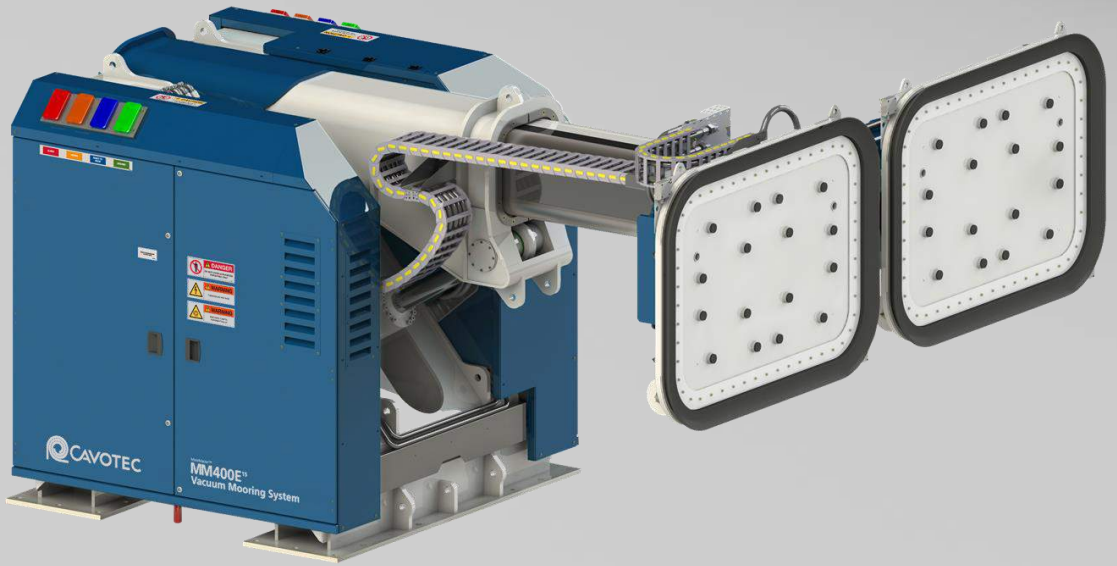
Automated mooring example

Container ships



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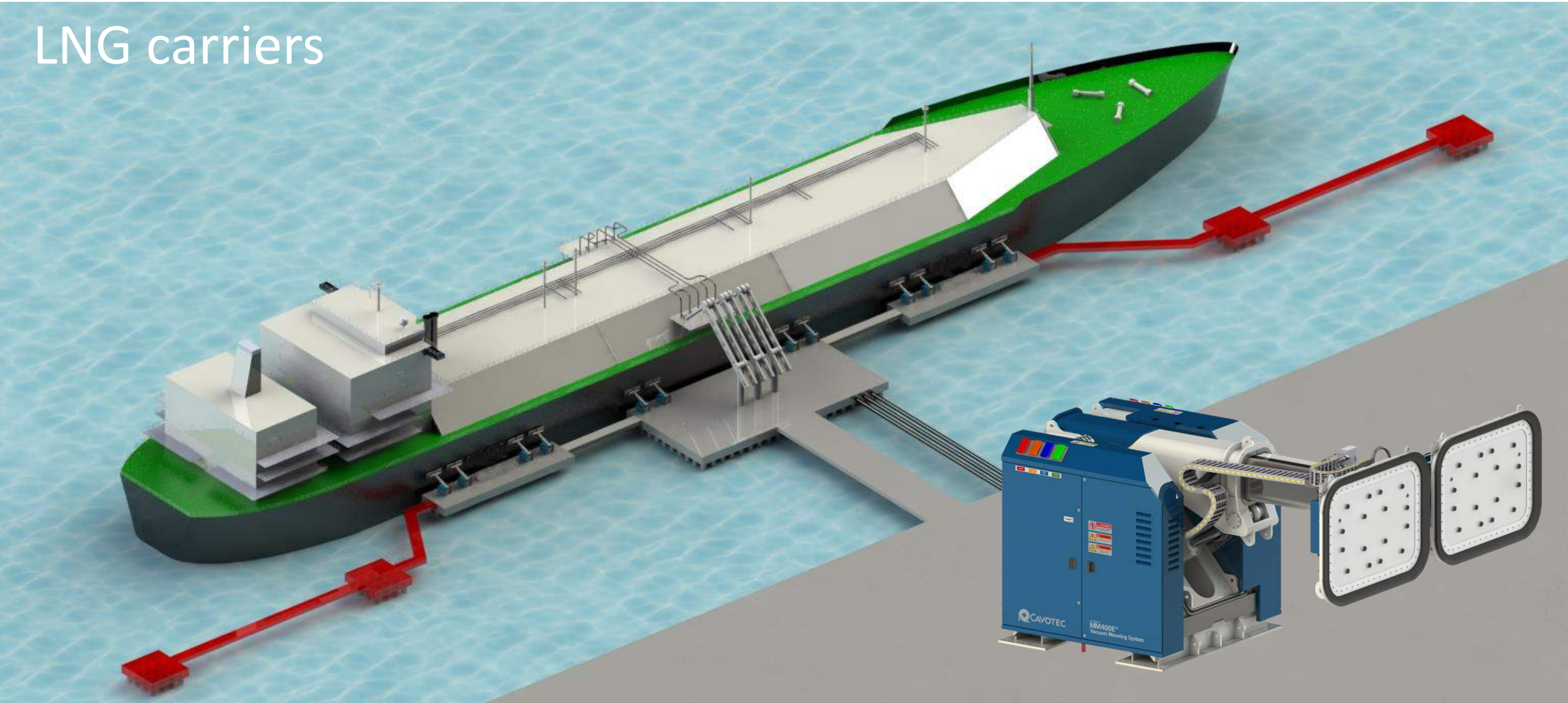
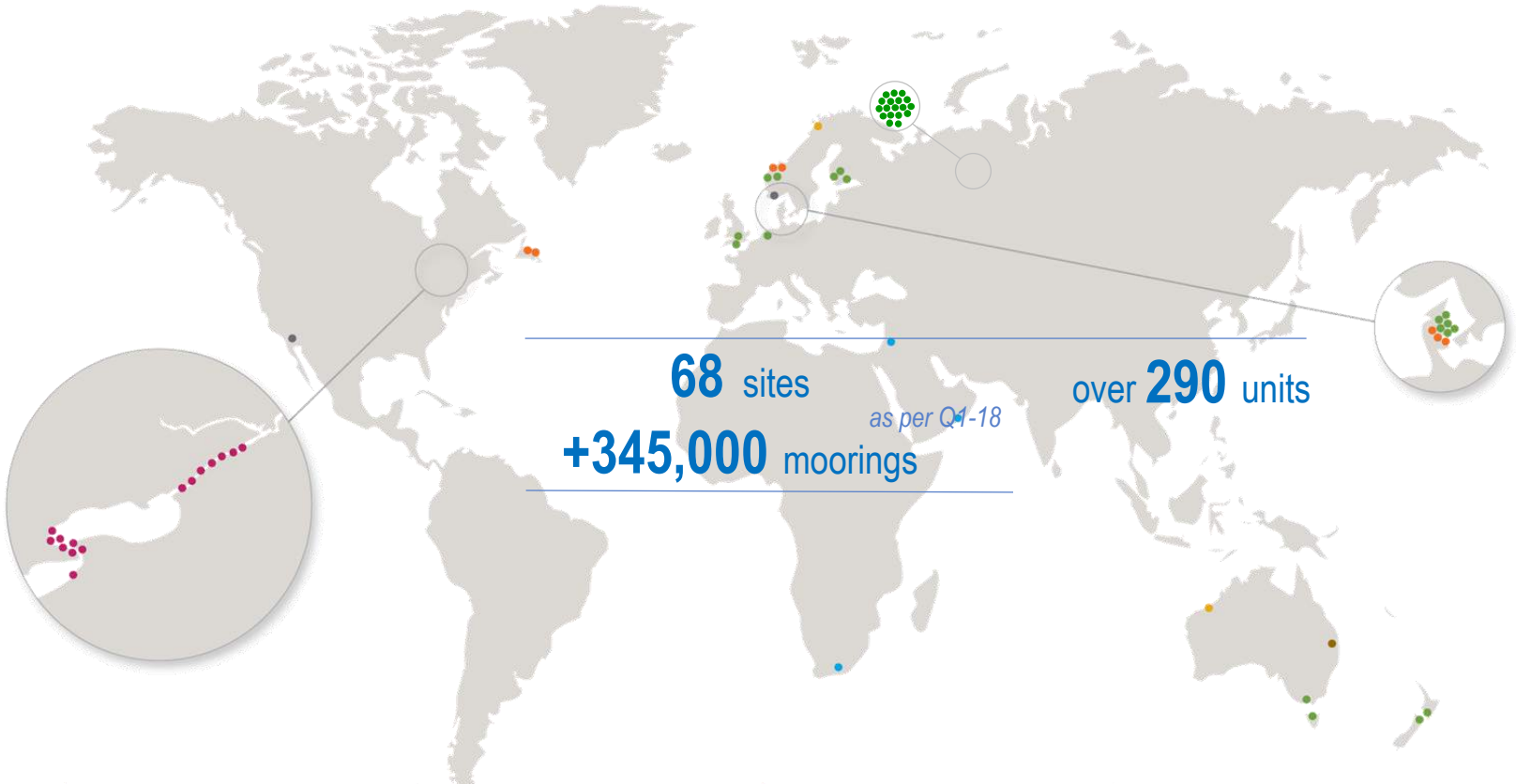
Automated mooring example



Automated vacuum mooring

Our references



- Hou, Denmark
- Sælvig, Denmark
- Spodsbjerg, Denmark
- Taars, Denmark
- Ballen, Denmark
- Kalundborg, Denmark
- Lavik, Norway
- Oppedal, Norway
- Anda, Norway
- Lote, Norway
- Helsinki, Finland
- Den Helder, Netherlands
- Picton, New Zealand
- Wellington, New Zealand
- Devonport, Australia
- Melbourne, Australia
- Bell Island, Canada
- Portugal Cove, Canada
- Portsmouth, UK
- Fishbourne, UK
- Nauvo, Finland
- Parainen, Finland
- Berth 1, 5 & 6, Salalah Oman
- Quay 16, Beirut Lebanon
- Port Ngqura, South Africa
- Brisbane, Australia
- Utah Point, Port Hedland Australia
- LKAB, Narvik Norway
- SLSMC & SLSDC, Canada & USA (16 locks)
- US Navy

NOTE

- BY 2020 we will moor e-ferries at min. 42 sites in Scandinavia

Ready for a change ?!

Thank you for your attention

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