



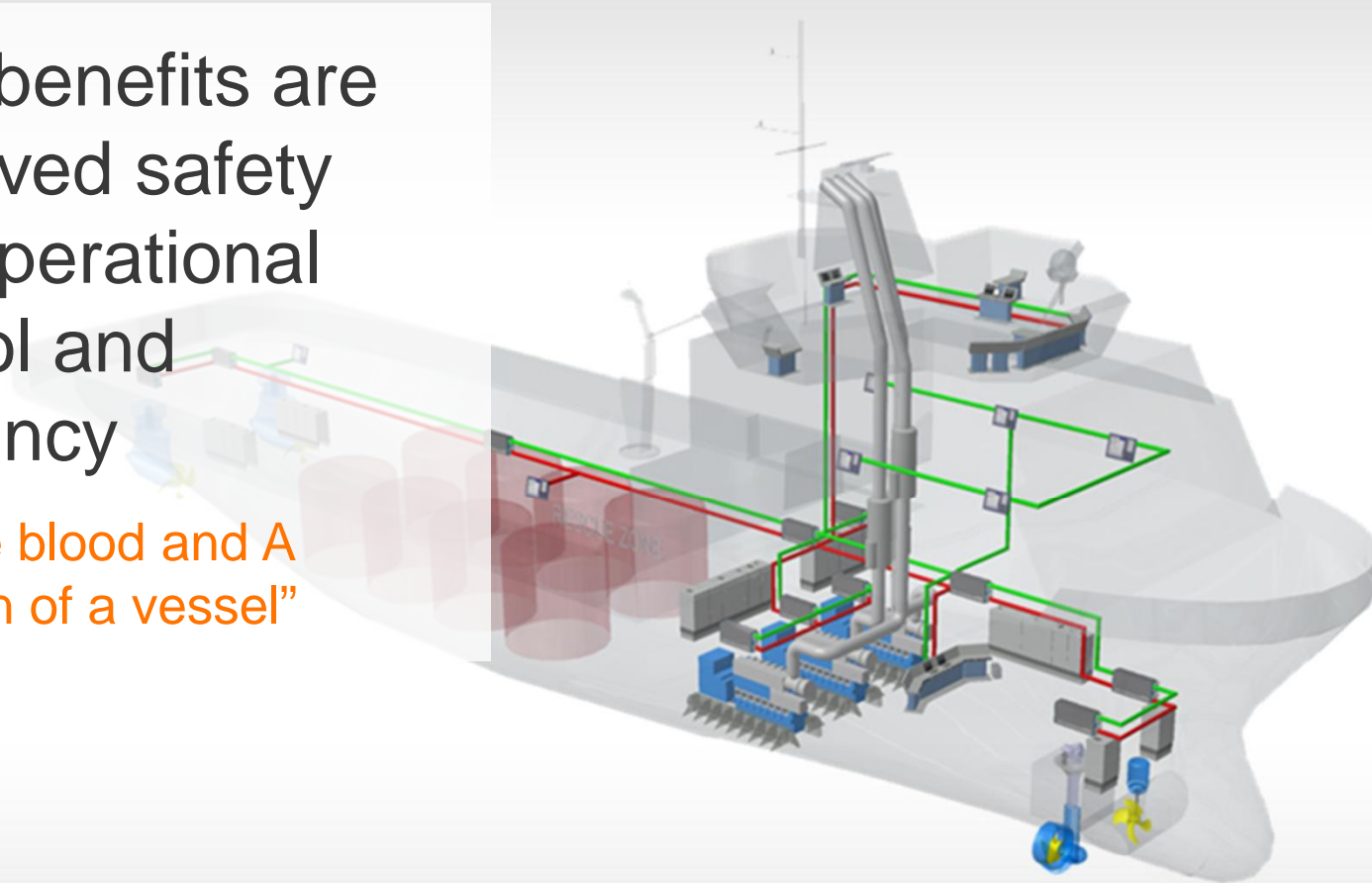
ELECTRICAL & AUTOMATION IN FOCUS

15 CAPITAL
MARKETS
DAY HELSINKI
FINLAND

Stephan Kuhn,
Vice President, Electrical & Automation

Main benefits are improved safety and operational control and efficiency

“E is the blood and A the brain of a vessel”



Customer needs

Variable speed drives:

- Propulsion, winches and drilling applications

Power distribution:

- For oil & gas and marine applications

Propulsion controls:

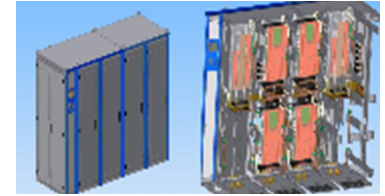
- Basic and advanced control systems

Vessel automation:

- From alarm & monitoring to integrated automation systems

Wärtsilä's offering

Low voltage variable speed drives



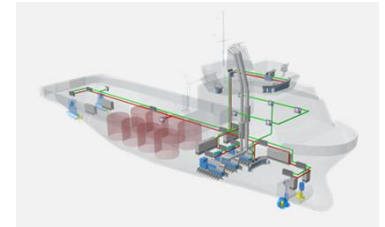
Medium and low voltage modular switchboards



Propulsion control automation products for all solutions related to Wärtsilä and other brands propulsion products



- Alarm & monitoring systems
- Integrated automation and power management systems for diesel electric solutions
- Wärtsilä 3C bridge





Advanced Marine

- Cruise & Ferry
- Offshore support vessels, platform supply vessels, offshore construction vessel, anchor handling tugs
- Dredgers
- Ice-class/arctic
- Merchant
- Navy



Oil & Gas Drilling

- Drillships
- Accommodation units
- Semi-sub drilling rigs
- Jack-up drilling rigs

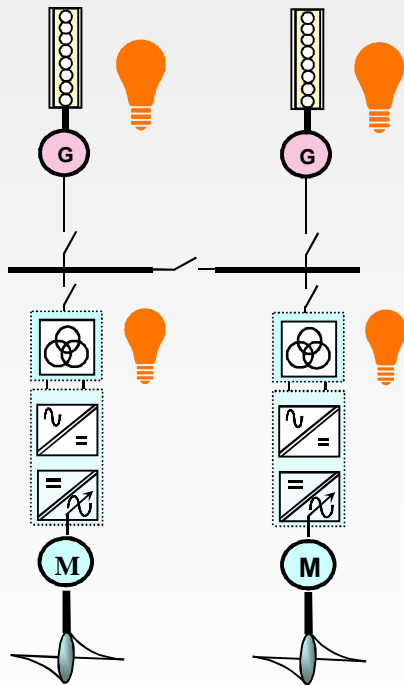


Oil & Gas Production

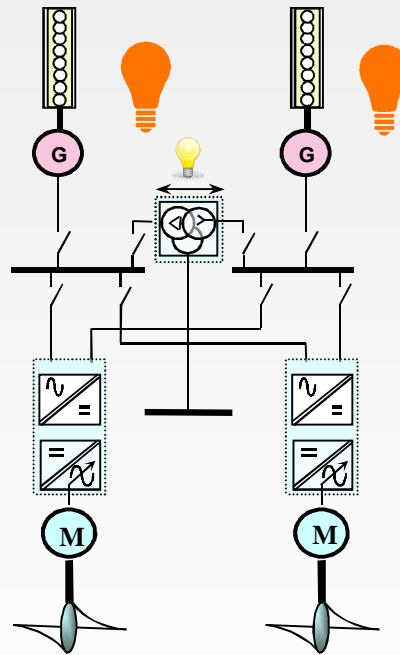
- FPSO & other floating units
- Fixed installations
- DEH Flow line heating

System highlight: Wärtsilä Low Loss Concept

Traditional system



Wärtsilä LLC



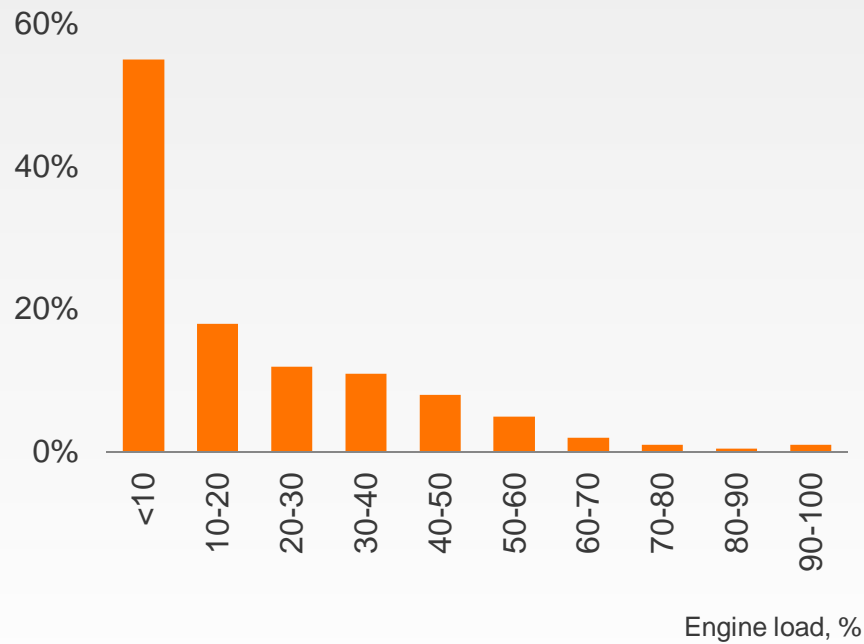
Patented
by Wärtsilä

Benefits:

- More efficient
- More compact
- More freedom in transformer location
- More redundancy

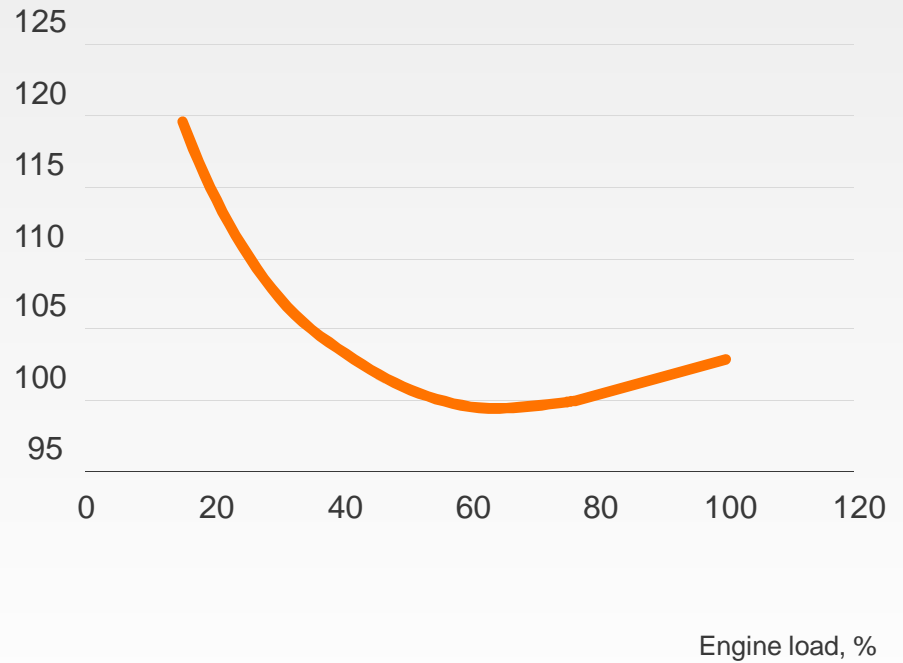
Ship assist

Total time



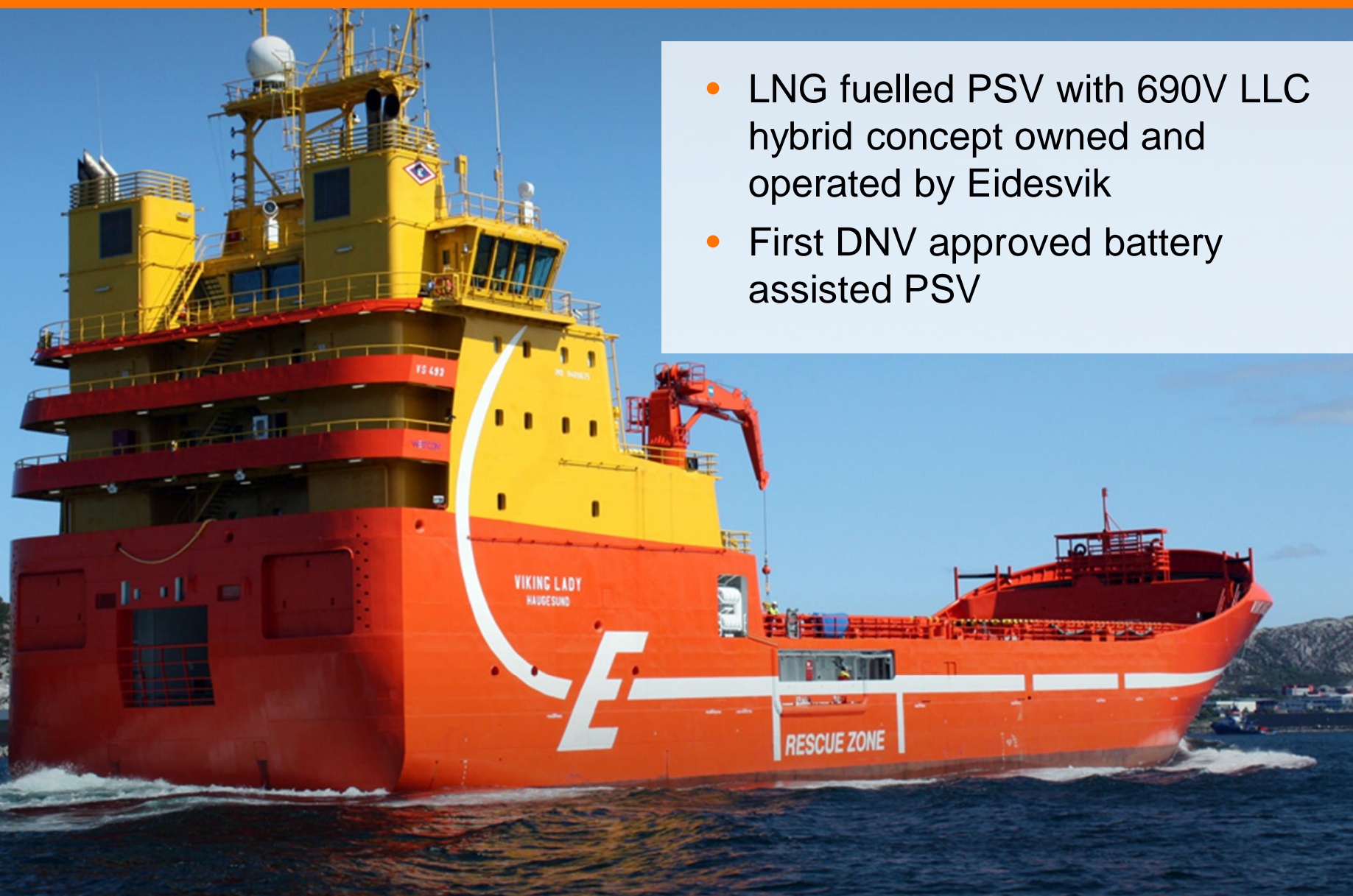
Engine specific fuel consumption

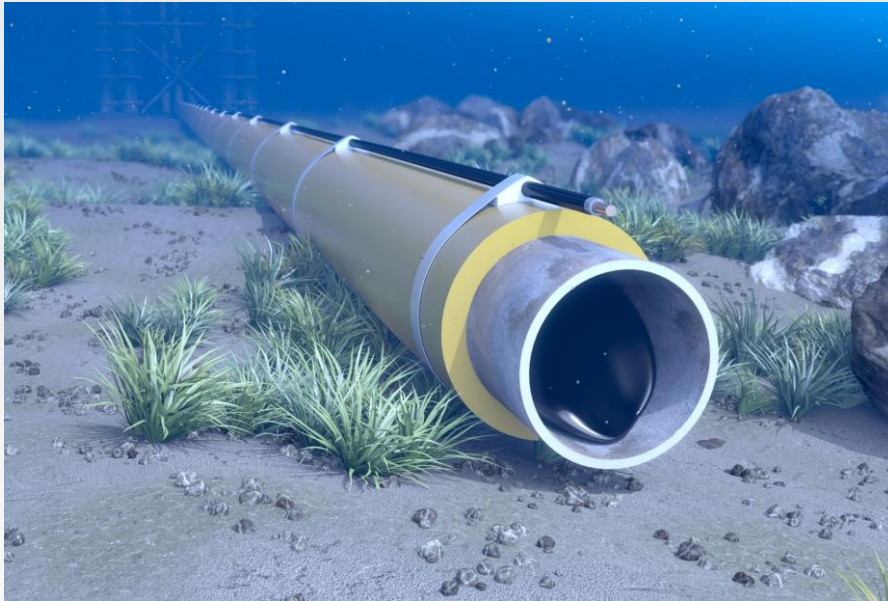
SFC [%]



Viking lady – the world's first hybrid PSV

- LNG fuelled PSV with 690V LLC hybrid concept owned and operated by Eidesvik
- First DNV approved battery assisted PSV





- Risk for hydrate and wax formation clogging subsea pipes in deep sea oil and gas extraction
- Traditional solution is to inject chemicals
- Wärtsilä's solution avoids clogging by heating the pipes

Acquisition: Marine Systems International

16th Dec 2014

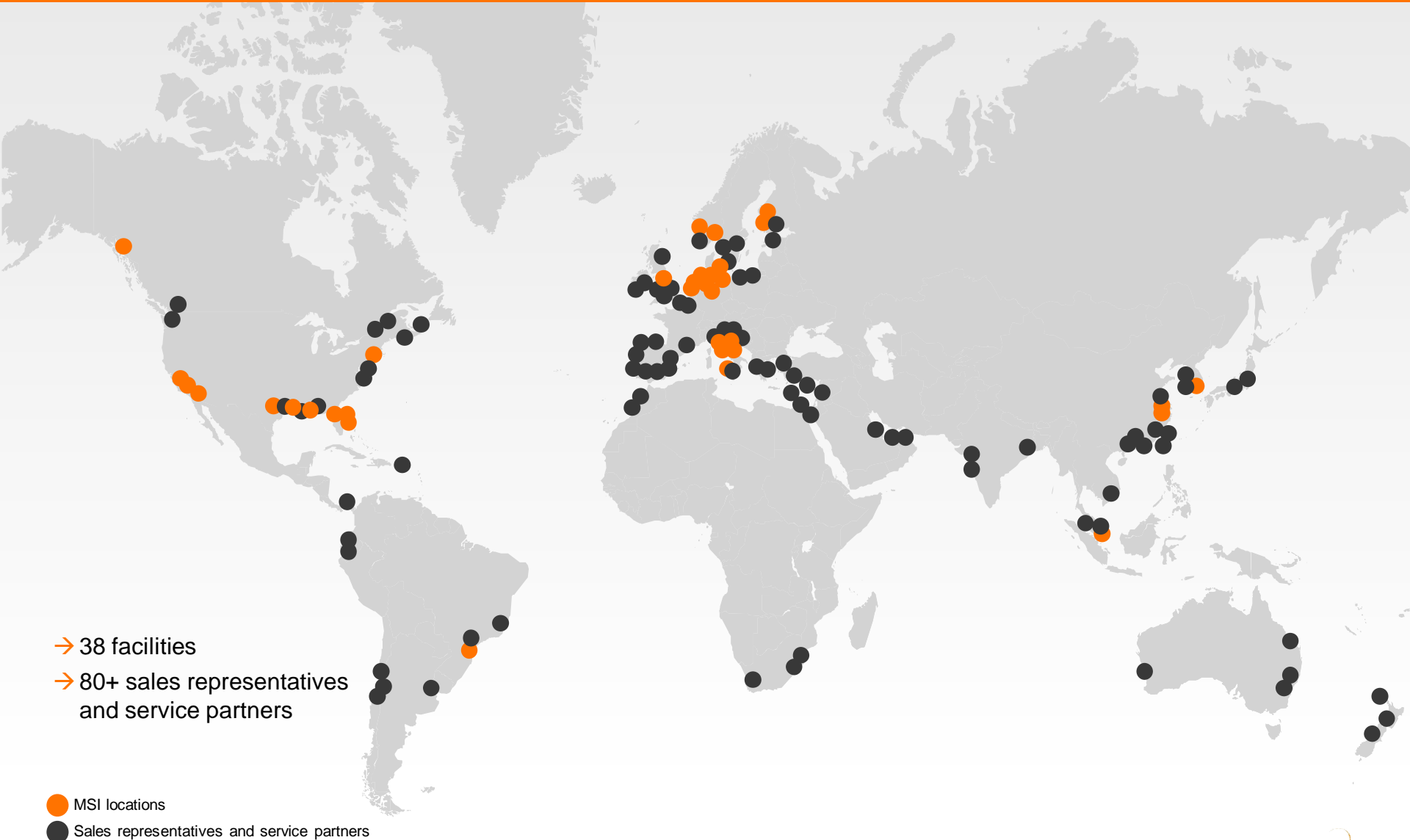
SPA signed

EU & Korean merger control
approvals

Q2 2015

Change of
ownership

Global presence in all major shipbuilding countries











	Relevant fleet (# of vessels)	Ship yard order book	Market position Wärtsilä and MSI	Market trend
Cruise & Ferry	6 519	96	●	↗
Merchant	53 710	3 987	●	→
Offshore Oil & Gas	9 226	965	●	↘
Navy	N.A.	N.A.	●	→

● Good ● Medium ● Weak

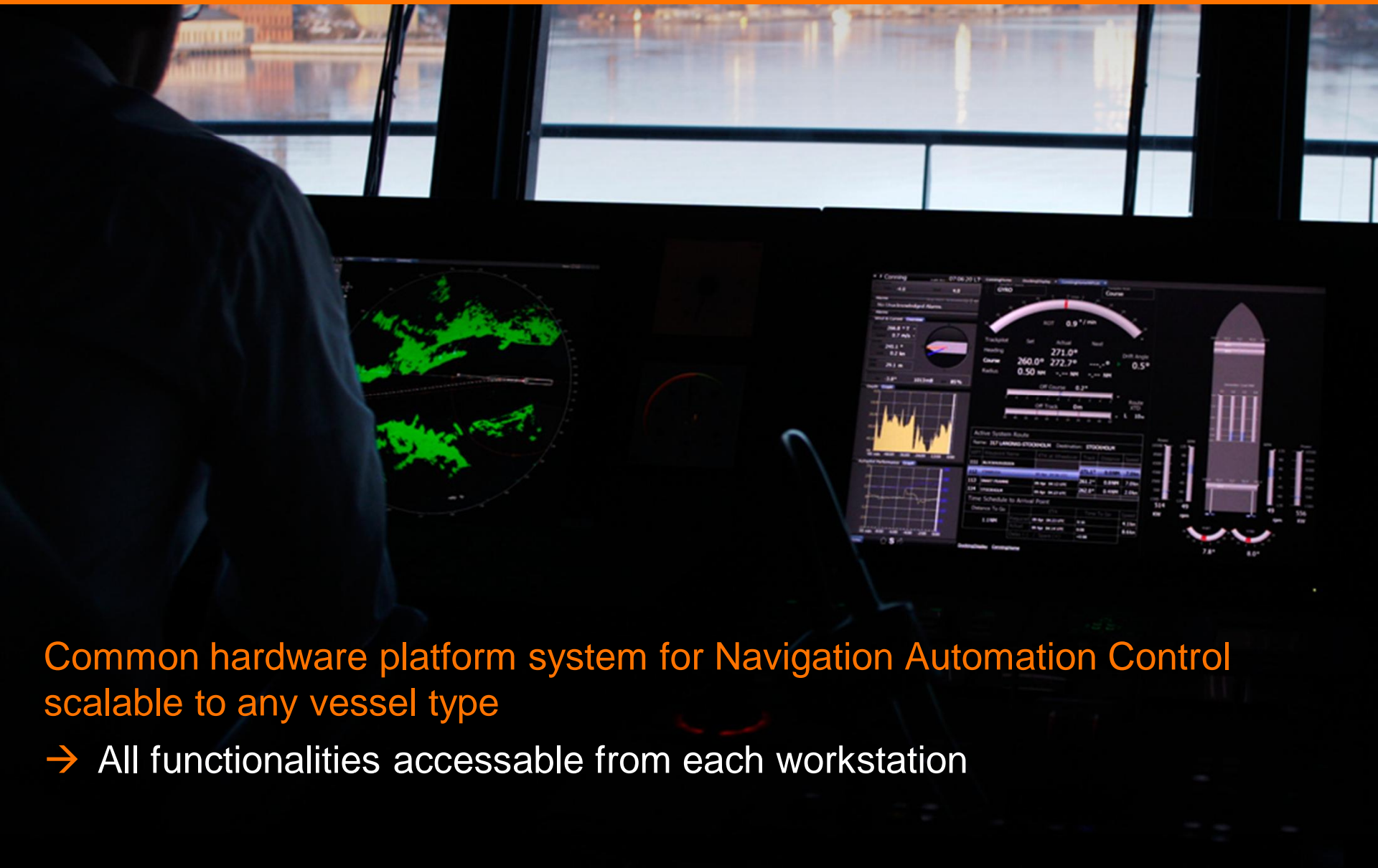


Source: Clarksons World Shipyard Monitor March 2015

Competitive landscape

	Electrical power systems	Automation systems	Power generation and management	Navigation systems	Communication systems	DP systems	Electrical and mechanical services	Audio Visual
	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Vertically integrated OE established 	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Light Grey	Light Grey	Light Grey	Light Grey
Vertically integrated OE newcomers 	Dark Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey
Electrical power giant OE 	Dark Grey	Dark Grey	Dark Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey
Electronics system suppliers 	Light Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Light Grey	Light Grey
Electronics product suppliers 	Light Grey	Light Grey	Light Grey	Dark Grey	Dark Grey	Light Grey	Light Grey	Light Grey
Electronics product suppliers - newcomers 	Light Grey	Dark Grey	Dark Grey	Light Grey	Light Grey	Light Grey	Light Grey	Dark Grey
Technical service providers 	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Light Grey	Dark Grey	Light Grey

MSI product highlight: NACOS Platinum System

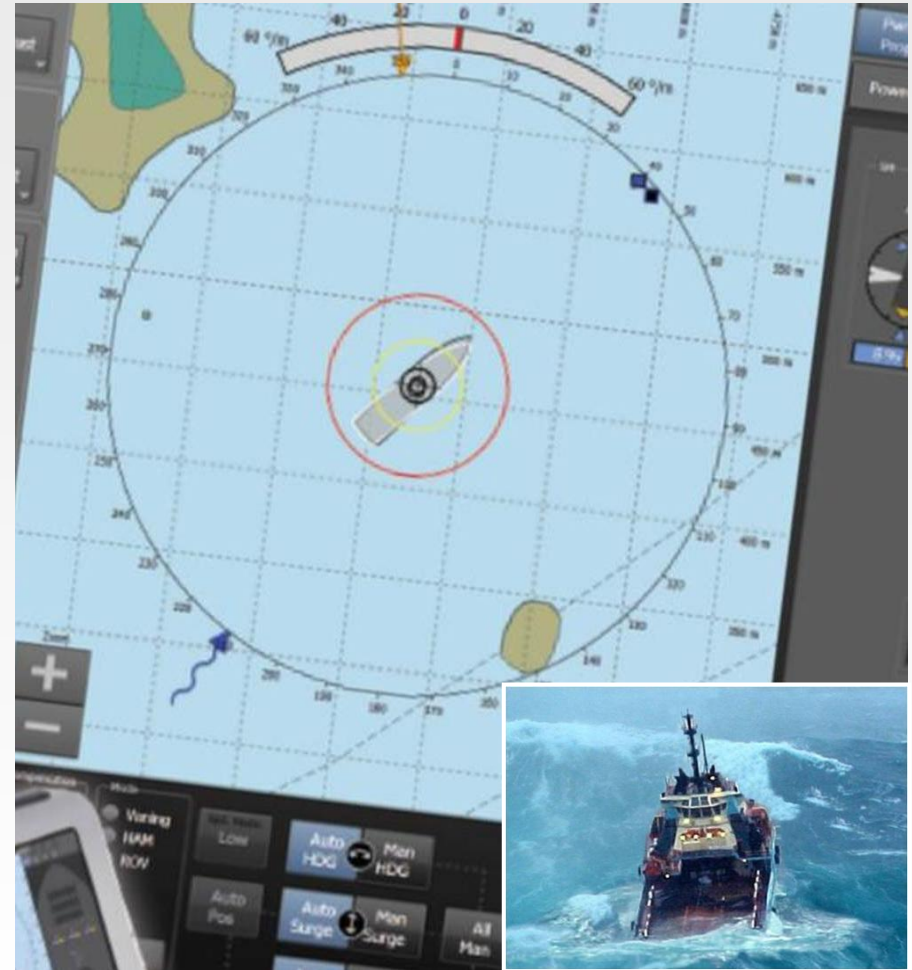


Common hardware platform system for Navigation Automation Control
scalable to any vessel type

→ All functionalities accessible from each workstation

The dynamic position system is the «brain» for automatic positioning by using the propulsors and position sensors

- MSI Nacos Platinum DP systems runs on same hardware as integrated navigation system
- Scalable DP system compliant with any marine classification requirement

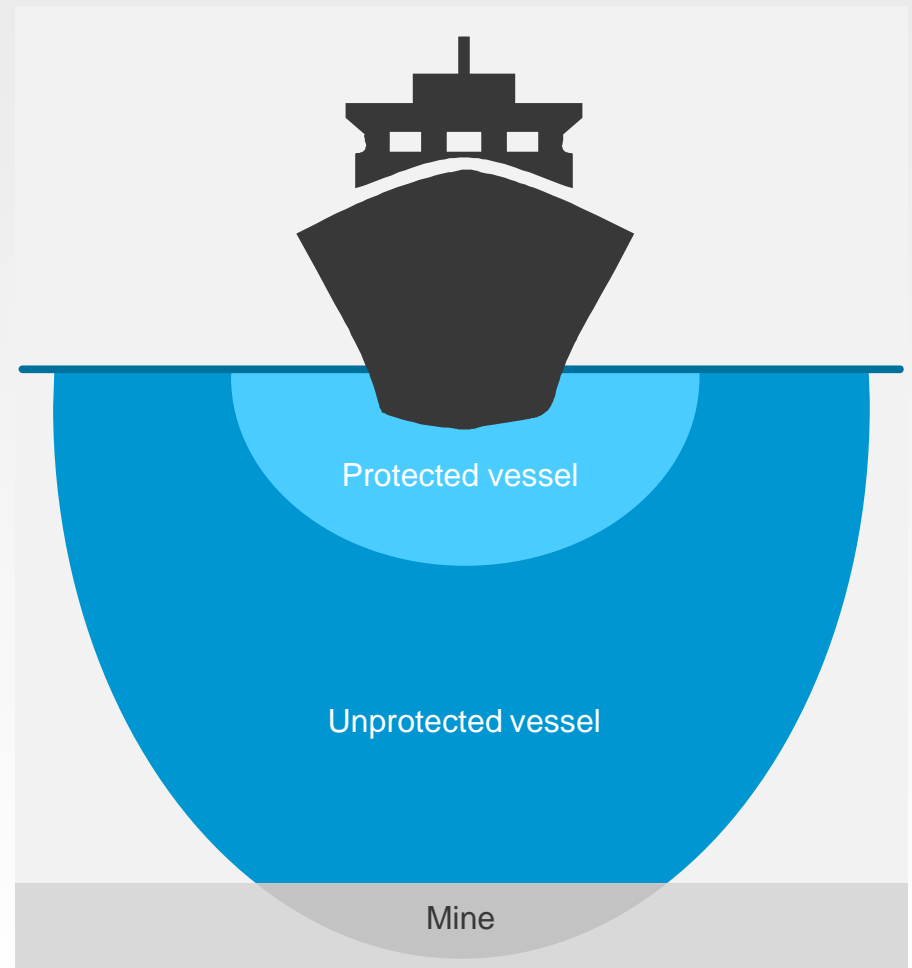


MSI product highlight: Audio Visual Entertainment Systems



The range of entertainment systems varies from standalone applications up to complete integrated multipurpose systems

- Custom made solutions for naval vessels up to turnkey responsibility
- Degaussing systems and magnetic ranging systems
- Automation and navigation systems dedicated for naval vessels



- The MSI acquisition gives critical mass to our E&A business and scope for leveraging product sales
- MSI will increase Wärtsilä's business opportunities in the cruise, ferry and merchant segments
- The combined offering of Wärtsilä and MSI will be unmatched
- MSI's main focus in the first year is to maintain the current trading

WÄRTSILÄ



**What system do you need to have
to ride the perfect storm?**

Thank you!



WÄRTSILÄ

www.wartsila.com