

# Combined Efforts for Safer, Greener and More Fuel Efficient Ships

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## **About Danish Maritime**

- Danish Maritime is a trade organization founded in 1919 for Danish shipyards and maritime equipment manufacturers
- Our members are involved in all facets of the industry innovation, research, development, production, technical support, repairs and service
- Through policymaking, our aim is to collectively safeguard the common interests of businesses in the Danish maritime industry and to facilitate cooperation with other countries' industry





## The Danish maritime industry

- is an innovative and competitive industry
- is at the forefront of creating green technology and maritime safety solutions for all. Many businesses are first movers
- invests in education and know-how for a highly skilled workforce
- supplies components and equipment to virtually all ships in service worldwide





# **The Global Environmental confrontation**

- Climate change poses a major challenge
- Growth in transport intensifies challenges
- Barriers to energy efficient shipping
- New solutions with competitive advantage
- High pace in technology, development and application
- Competing investments in less efficient technology





# **IMO future rules:**

2016 ECDIS 50,000+ ships to retrofit	dwt	2016 ICG code New gas tankers constructed (keel laid) from 1 July 2016	2016 Damage stability for tankers	2016 GBS Goal based Standards tankers and b carriers. Ship Construction File.	oulk	2017 amendr SOLAS flow P/ instead small vo flow bro valves	ment to V valves of the plume eather	2017 CO <sub>2</sub> I fair s defin	?: imit hare iition	2017 Amendme to the NO Technical Gas fuel a dual fuel testing	ents x Code nd	2019 Sp (Sewage) in the B	ecial ) Area saltic	2020 ?: Damage stability. Fire prot sprinkler systems, based sy for for b	water stems ooiler30%	LONE CON 2025 EEDI 6 reduct	tion	ion
	2016 Tier III NOx for gas fuel Gas engines must comply with regulation 13 of MARPOL Annex VI.		2016 Atmospher e testing in tanks portable on board all ships to test for oxygen, flammable gases, carbon monoxide and hydrogen sulphide.	2017 Polar Code Certificate mandatory	201 IGF Cod Low flas poin fuel	7 le / h nt I	2017 ? BWMC Ballast Water Manage ent Convent n requir all ships to instal BWMS a first renewal survey	em tio res i ll at	2018 revie Use o INM/ satel syste and L main elect navig radio requi	SOLAS w of non- ARSAT lite m, AIS .RIT other ly ronic gation and irements	202 EEE 209 reduc	20 DI % tion	2 evacu analy Life B Servic Firefi Fire In	020 nation sis oat ce Foam ghting ntegrity	2020 (2025?) Global sulphur limit	LOLLE COL	moli	nos



## **IMO MEPC 70 – October 2016**

- Data Collection System for fuel approved.
- Additional CO<sub>2</sub> emissions measures be taken, based on DCS.
- Ballast Water: Entry into force expected 2017
- Sulphur global limit value of 0,5% date to be conformed at MEPC 70
- Decision to revise guidelines for scrubbers.





# A local Danish initiative Green ferry vision





#### Danish Maritime



Local yard Søby Værft has commenced construction of Ærøs new electrical ferry. Planned delivery and in operation by summer 2017. The project has received DKK 120 millions support from EU.



# Short and medium distance operations. Ferry routes up to 13 nautical miles (24 kilometers)





#### Energy efficient design concept by Consulting Naval Architects Jens Kristensen ApS











#### Interior design which reduces weight and minimize crew





#### **Electricity from sustainable energy sources**





#### **Projektpartners**

Marstal Navigationsskole Søby Værft **Tuco Marine** Jens Kristensen Rådgivende Skibsingeniør Ærø Kommune, Udvalget for Bæredygtig Energi SIMAC Syddansk Universitet Siemens Force Technology **DNV GL** SE Søby Skibselektro Transportens Innovationsnetværk



# **Industry preferences**

- 1. Maintain 2020 entry into force of 0.5% global sulphur limit.
- 2. Incentives to ensure First Movers being rewarded.
- 3. New regulations for safety and improved Polar code
- 4. Green Technology encouraged.
- 5. Research on sustainable global maritime transport.
- 6. Increase business innovation, productivity and competitiveness
- 7. greater governance coherence, better coordination and less uncertainty
- 8. Even stronger ties between Danish maritime industry a companies abroad





## **Academia / Industries Cooperation**

- <u>https://www.interreg-baltic.eu/home.html</u> grant to international research network on green shipping
- Builds on best practice efficiencies from producers to shippers, shipowners, customers, ports, and local communities
- Sustainability expectations are growing in shipping, together we must explore opportunities for progress







'Green Ship of the Future' is a Danish joint industry project for innovation and demonstration of technologies and methods that makes shipping more environmental friendly.

It was conceived as an industry contribution to the COP 15 in Denmark

### A GSF project is

A collaboration between several GSF partners Presents ambitious goals for innovation Considers the business case at an early stage Cutting edge green solutions for and beyond compliance

Its is a Danish initiative but foreign companies have participated in GSF projects and studies





# **Cooperation Opportunities**

- Already strong common focus on maritime technology.
- Future shipbuilding technology projects for greener ships and ships with unique capabilities.
- A cooperation agreement at industry and government level
- Industry events, supplier development tours and B2B meetings.





# Thank you! Questions?

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