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Saimaa Canal Seminar on  
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# Saimaa Canal - Fleet renewal possibility:

Off-balance sheet finance of “green”  
Saimaa-max vessels with the  
industry in direct demand of  
European short-sea transports.

# Introduction



- Alexander Schepers, 38 years old, managing owner
  - Always involved in ship management activities
  - Graduated with a degree in maritime Economics and Port Management (Elsfleth, Germany – „Diplom Wirtschaftsingenieur für Seeverkehrs- und Hafenwirtschaft (FH))
  - H. Clarksons & Company, London – 2005 until 2009 – Container Feeder Chartering
- SMS Bereederung [www.bereederung.de](http://www.bereederung.de)
  - Spin off from Reederei Schepers: [www.schepers.de](http://www.schepers.de) Fleet size peaked 10 vessels, ranging from 2.800 dwt – 4.700 dwt – 971 TEU geared, 1.660 TEU geared
  - Four generations of shipping
- SMS Bereederung is active since 2014
  - independent from banks, on project basis ship surveys ([360° spherical tours](#)),
  - Agency in Germany (Emden), Chartering
  - Core activity is technical management of presently three 7.850 dwt geared MPP-tweendecker in worldwide trades
  - Compliance, quality control, proactivity and high professionalism has to be the basis of the ship management:
    - Crew, Charterer, Service Partners and Employees have to be seen as one team
    - Unconditional transparency and the best flexibility is to be offered to stakeholders

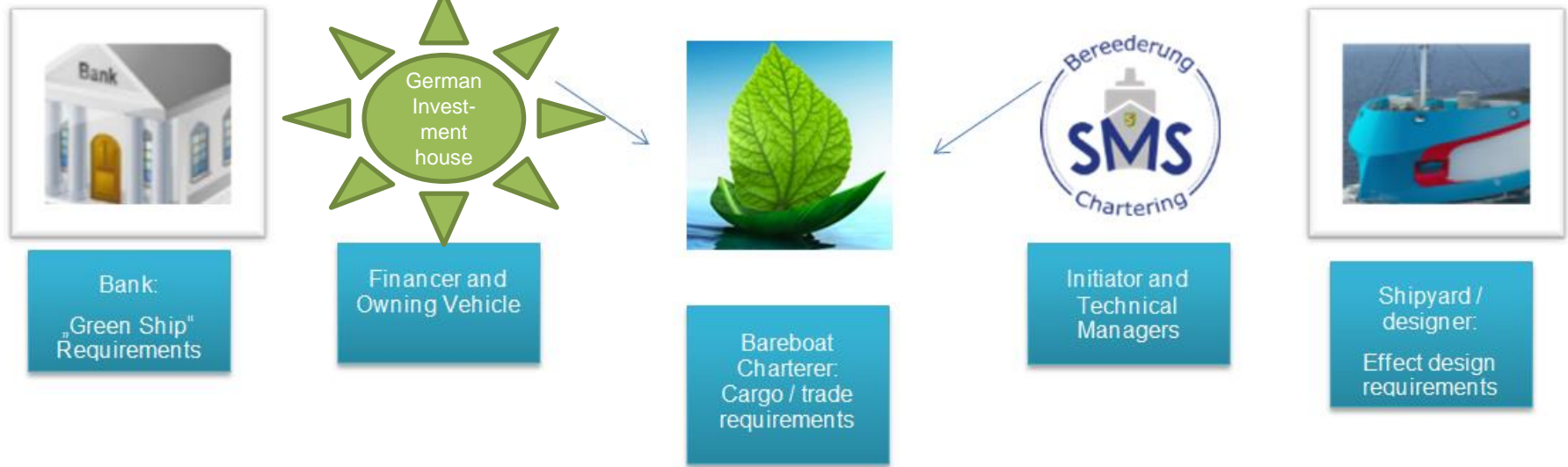


# Initiation of a vessel project

- Investing in a ship project with the ambition to offer a “green solution” for end customers
  - Emission friendly approach: cleaning exhaust gas
  - Optimised consumption – deployment of hybrid engines / optimised hull shape
- Market environment – despite all competitiveness – offers the horizon that the vessel sustains itself
  - the average fleet age is beyond a vital threshold
  - the vessel competes directly to road/rail alternatives in European short sea trades
- A sustainable long term partnership with the clear view to realise the project on moderate terms
  - Maximise risk diversification
  - Long term means low interest expenses
  - Professional Management of the vessels
    - Already at building stage a clear view to have low operational expenses
    - Transparency approach on Operational Expenses
    - Compliance in all aspects of trade

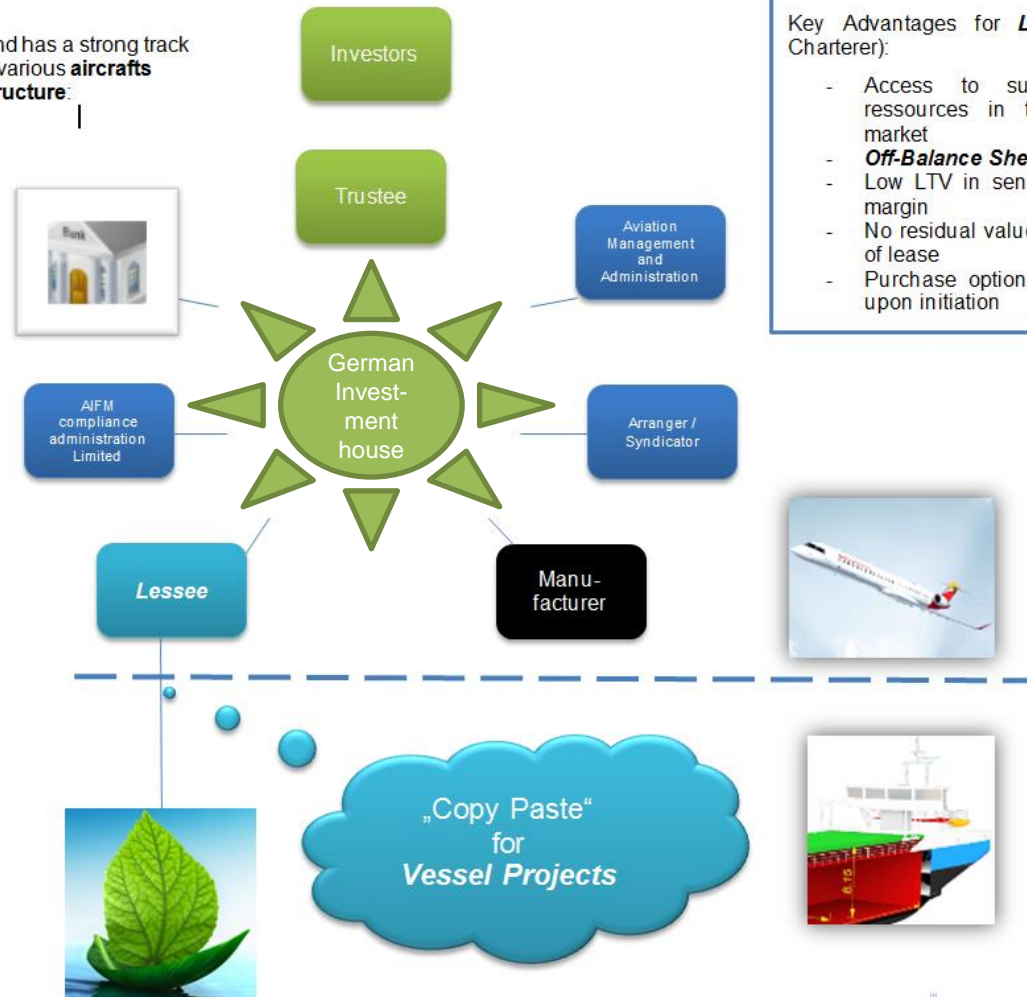
# Initiation of a vessel project

*On this basis, the following structure could bring the project forward.*



# Initiation of a vessel project

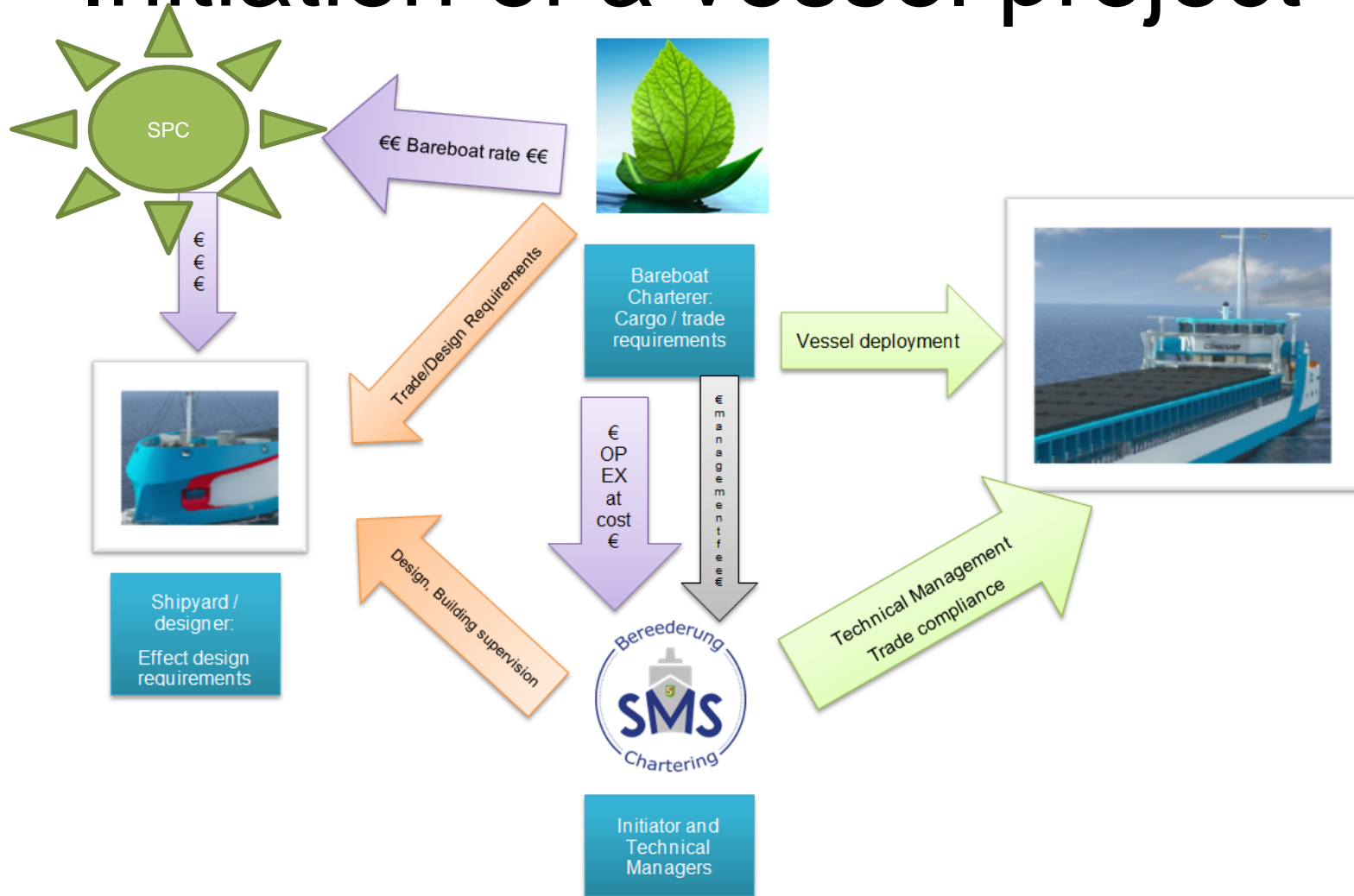
Is a reputable partner and has a strong track record having financed various **aircrafts** in following **example structure**:



Key Advantages for **Lessee** (= Bareboat Charterer):

- Access to sustainable financial resources in the strong German market
- **Off-Balance Sheet financing**
- Low LTV in senior loan = low bank margin
- No residual value risk after expiration of lease
- Purchase options can be discussed upon initiation

# Initiation of a vessel project



# Pressure on the fleet/age profile

- Ballast Water Treatment plants have to be deployed on any vessel latest by 2021/2022. **Older vessels** will struggle:
  - Finding space
  - Not have enough electrical capacity
  - Condition of existing ballast water system poor
  - Not have the financial resources
  - Investment horizon too short compared to the age of a ship, therefore economically unfeasible
    - ~2/3<sup>rd</sup> of the fleet?
- ***An investment in a new vessel almost extinct the write-off necessity on value of a vessel, because of the tonnage demands of trades, which will increase if tonnage has to exit due to age!***

# Emission Control Areas



NO<sub>x</sub> = „Nitrogen Oxide“ = reason for acid rain, asthmatic and lung problems – carbon black – root – danger to local environments  
SO<sub>x</sub> = “sulphur oxide” = in fuel contained sulphur which after combustion is emitted in the air

Only US/Caribs N-America presently has NO<sub>x</sub> limits where a treatment of exhaust gas is necessary



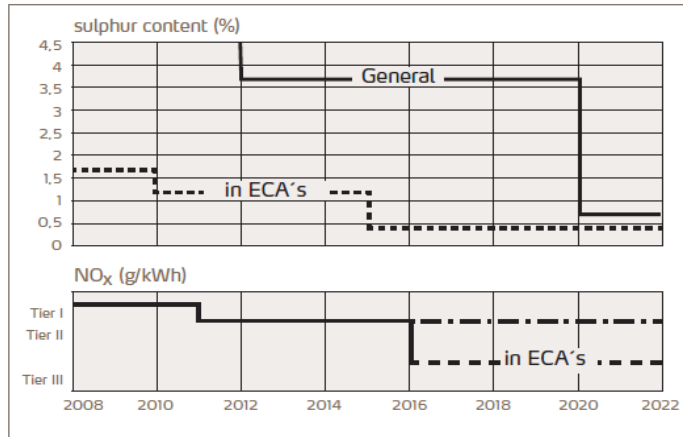
# Emission Control Areas

Annex VI: Prevention of air pollution by ships (Emission Control Areas)			
Baltic Sea (SO <sub>x</sub> )	26 Sept 1997	19 May 2005	19 May 2006
North Sea (SO <sub>x</sub> )	22 Jul 2005	22 Nov 2006	22 Nov 2007
North American ECA (SO <sub>x</sub> and PM)	26 Mar 2010	1 Aug 2011	1 Aug 2012
(NO <sub>x</sub> )	26 Mar 2010	1 Aug 2011	***
United States Caribbean Sea ECA (SO <sub>x</sub> and PM)	26 Jul 2011	1 Jan 2013	1 Jan 2014
(NO <sub>x</sub> )	26 Jul 2011	1 Jan 2013	***

\*\*\* A ship constructed on or after 1 January 2016 and is operating in these emission control areas shall comply with NO<sub>x</sub> Tier III standards set forth in regulation 13.5 of MARPOL Annex VI.

# Emission Control Schedule

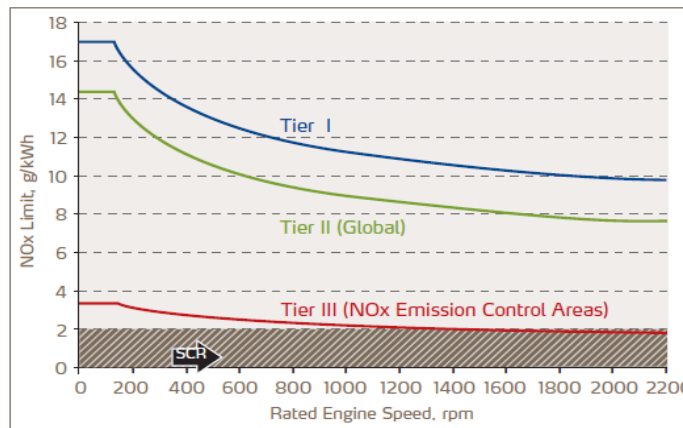
Implementation schedule  
according MARPOL 73/78  
Annex VI



Europe

US/Caribs/N-  
America

IMO NOx Limit Curves



# Future Vessels?

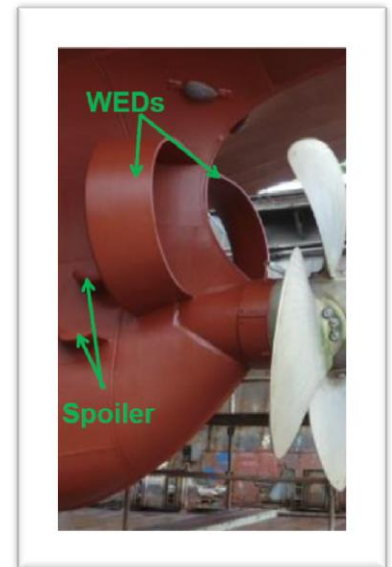
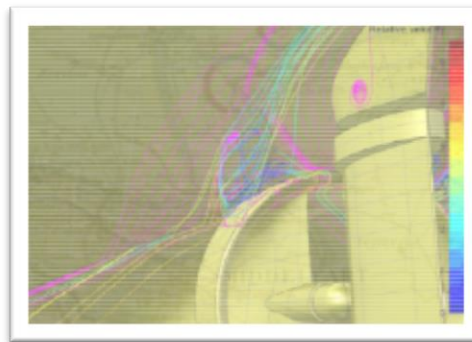
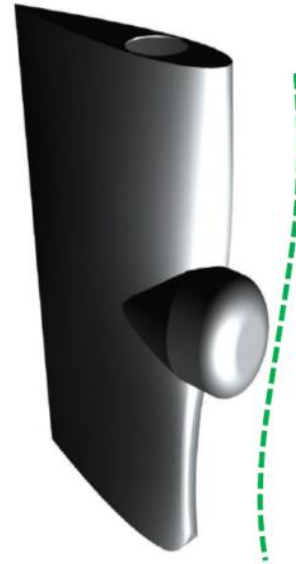
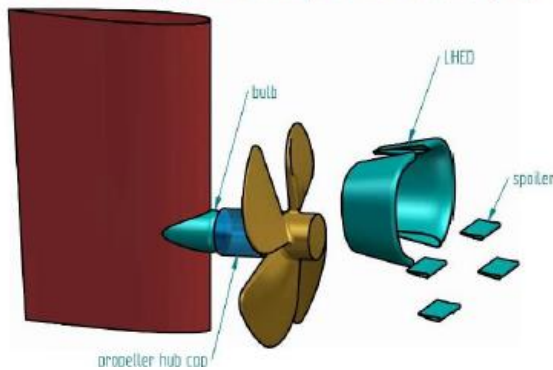
- Beyond LNG – LNG facts: technology today:
  - High investment costs (factor times 3(+!))
  - Crew has hardly any experience (knowledge?)
  - Heating value of LNG is only about 60% of marine diesel oil == volume of engine increases, increase of investment costs
  - End-to-end CO2 balance sheet is „said to be“ higher than marine fuels (claim without proof)
  - Politically driven – lowest NOx values

## → Other technologies

- If dependent on HFO (large engine?) – Scrubber
- If MGO okay – SCR – selective catalyst reduction
  - Dilution of 32-40% Urea with technical water
  - Proven technology, inexpensive investment
  - however running costs: typically 5-8% of fuel consumption
- Hybrid systems (with or without) batteries – depending on trade and size of vessels

# Future Vessels?

bulb for rudder blade, propeller hub cap & LHED in front of propeller



# Risk diversification

- Multinational company with sea transport requirements
  - Diversified business
  - Transport is seen as a cost factor: buying vessels is not (today) an option

## Idea:

- If the main aim would be getting away from tonnage market exposure, the solution would be **buying/building** ships.
- If however buying ships is not of interest for your company (as not a core biz, or out of strategy), maybe **renting** (bareboat charter, time charter) is an option.
- If however such renting would likely be poorly utilised (owing to the commodity trade direction), then **participating in a vessel sharing venture could be the key**.
- My financing partners are really interested to venture into trades whose industry has a distinct interest to transport their goods in the technologically best ecological way, but yet wants to keep OPEX and CAPEX in sound dimensions.
- What this would boil down to is **creating a formal platform**:
  - purpose to share vessels
  - participants from the industry would fund the platform in the way of guarantees, which would comprise
  - commit to trade, tonnage demand and time
- pay for the use of the system at cost
  - critical mass
  - One or two new type vessels
  - Technical management is appointed by the platform, the vessels OPEX will be paid directly by the platform
  - The platform will pay a bareboat charter hire to the financier

# Platform idea

Having set up a platform along those lines my **financing partners** would then

- (again subject to a critical mass) accept the structure and guarantees and
- provide equity finance to a particular vessel and facilitate a loan by a bank
- will order and acquire the vessels according to the platforms needs
- will charge a reasonable bareboat charter hire
  - to cover bank finance costs,
  - setup and brokerage fees,
  - overhead for regulatory requirements and
  - a reasonable dividend for their individual equity providers
  - have the vessels on their books
  - agree to purchase options to the platform itself

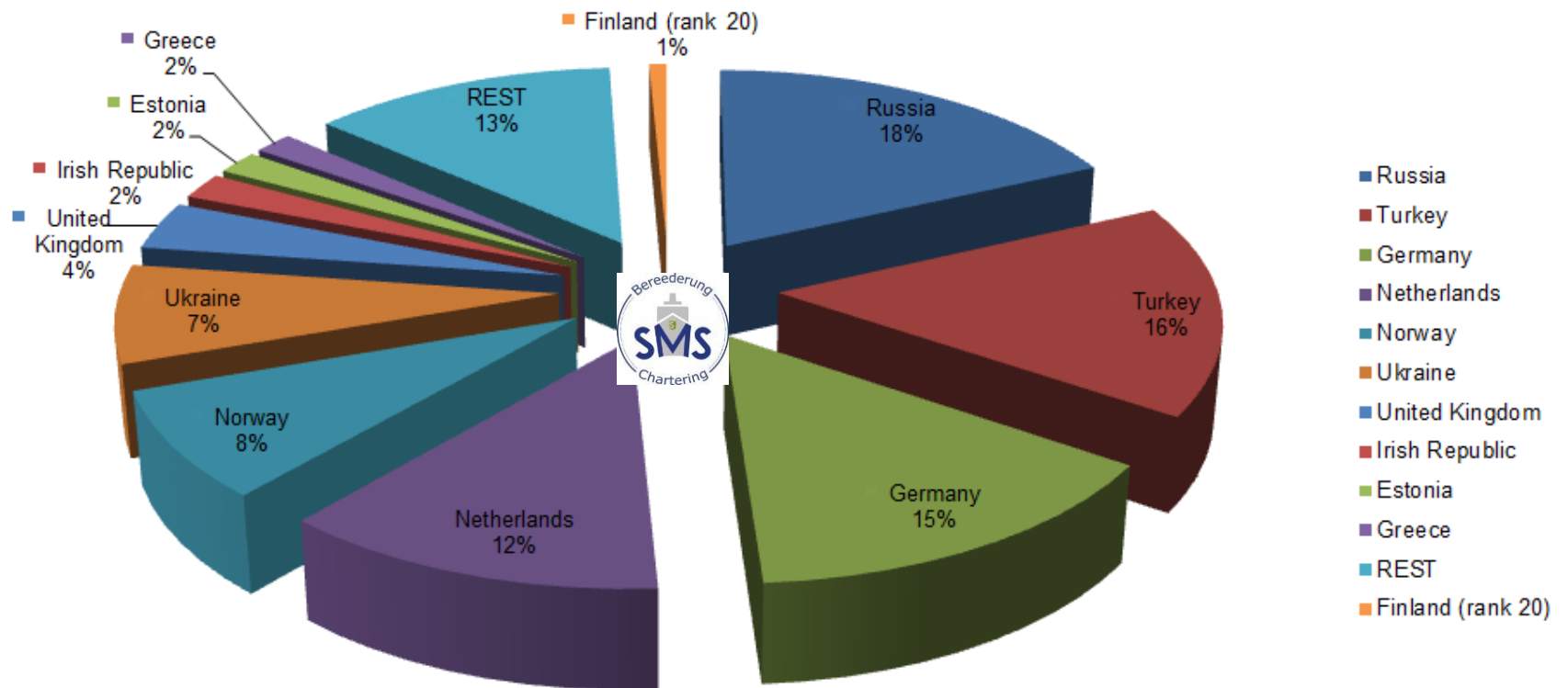
# Fleet

- Source: IHS Global, 22nd January 2018 - Tonnage: DWT: 1000-10000;  
Construction: ----Bulk Carrier; -----General Cargo Ship; ----Container Ship  
(Fully Cellular)
- By selected (!! ) nationalities (Group owner domicile or registered owner  
domicile):

<b>Geared and Gearless, 1.000-10.000 dwt; Group or registered owner's domicile, No. Vessels:</b>							<b>Total</b>	<b>4284</b>	
Turkey	Germany	Russia	Netherlands	Norway	Ukraine	United Kingdom	Greece	Cyprus	Irish Republic
764	710	709	506	324	281	150	118	105	71
17.8%	16.6%	16.5%	11.8%	7.6%	6.6%	3.5%	2.8%	2.5%	1.7%
Marshall Islands	Denmark	Estonia	Romania	Switzerland	Sweden	Malta	Italy	Latvia	Lithuania
70	66	64	56	49	44	40	37	33	31
1.6%	1.5%	1.5%	1.3%	1.1%	1.0%	0.9%	0.9%	0.8%	0.7%
Belgium	Finland	Poland	Portugal	France	Israel	Faeroe Islands	Isle Of Man	Iceland	Monaco
29	25	19	14	11	11	10	8	8	5
0.7%	0.6%	0.4%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.1%
Austria	Moldova	Madeira	Albania	Croatia	Gibraltar	Greenland			
4	1	1	0	0	0	0			
0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

# Fleet

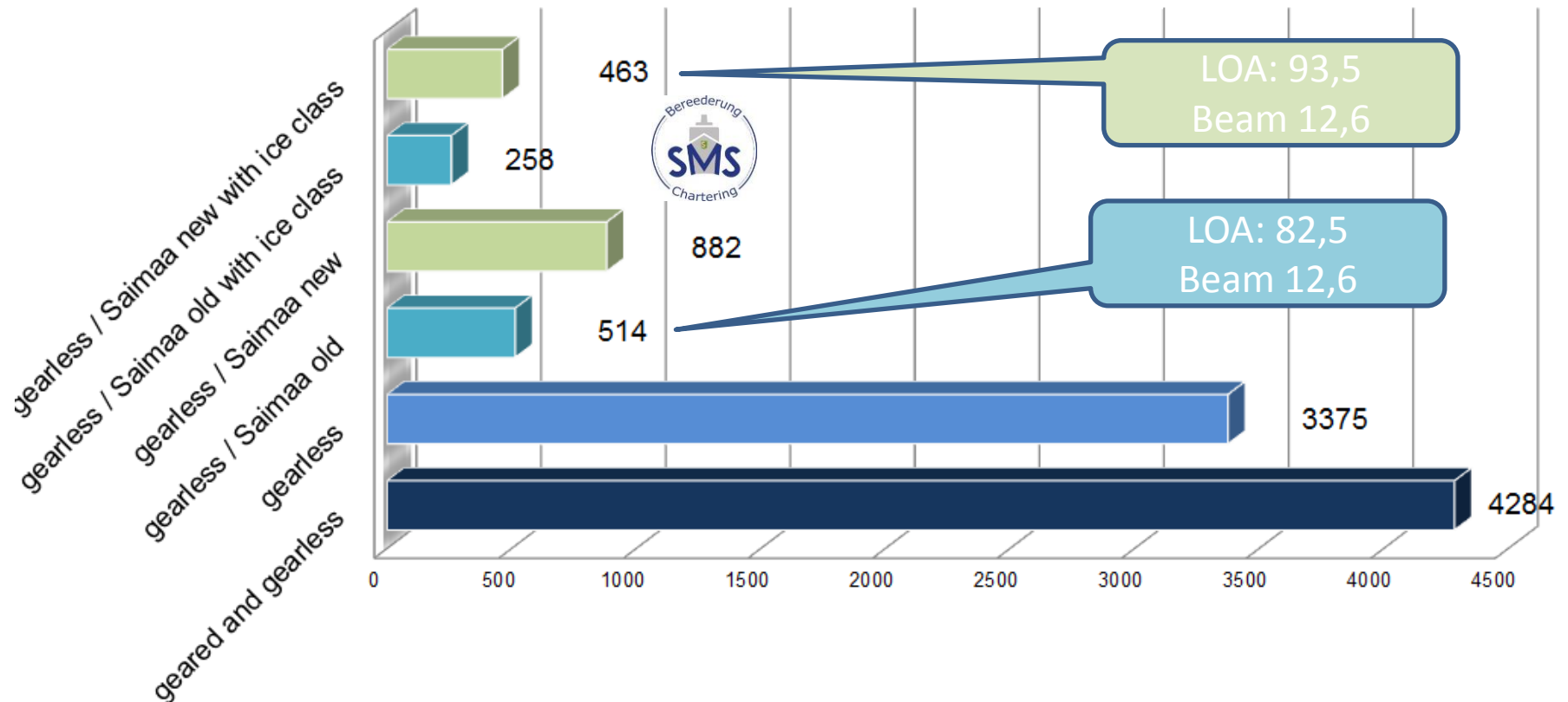
## Gearless "short sea vessels" by Nation



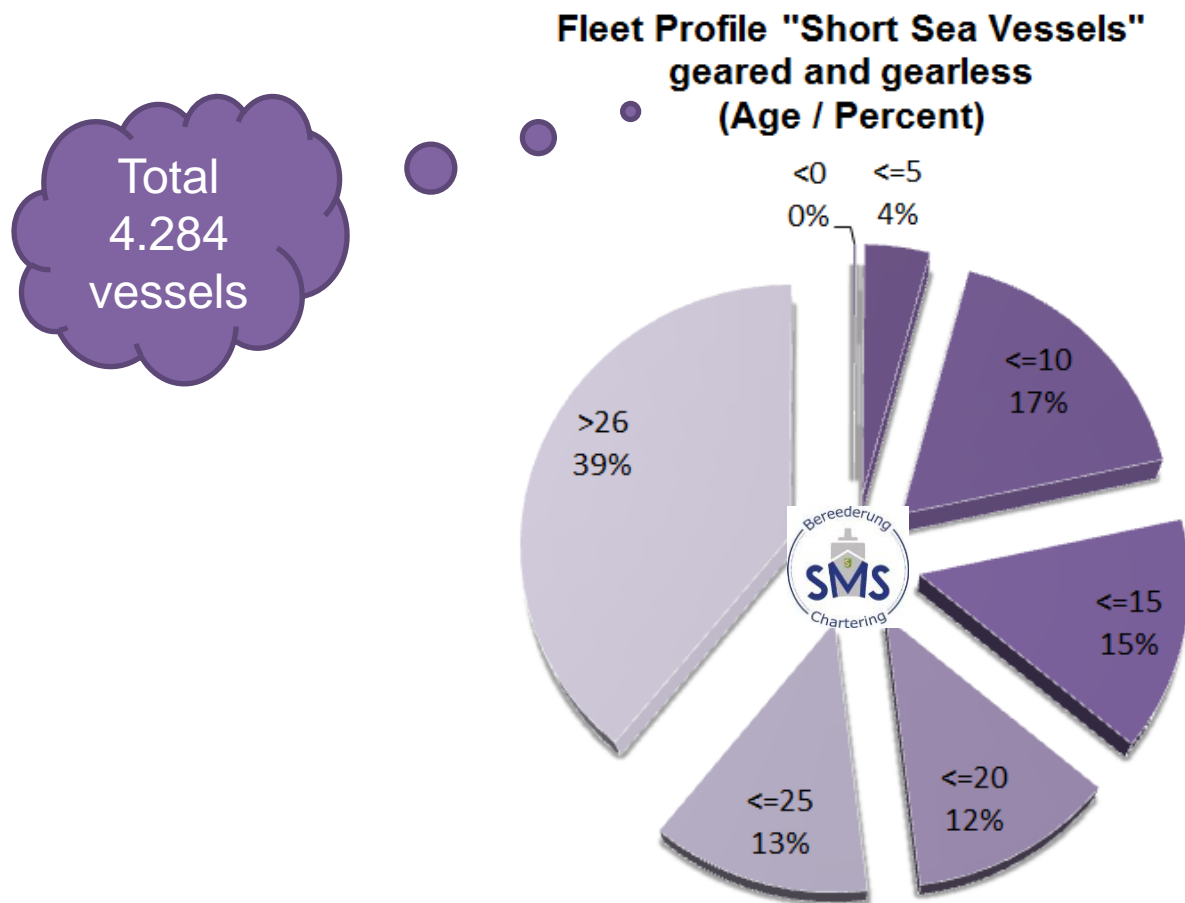


# Fleet

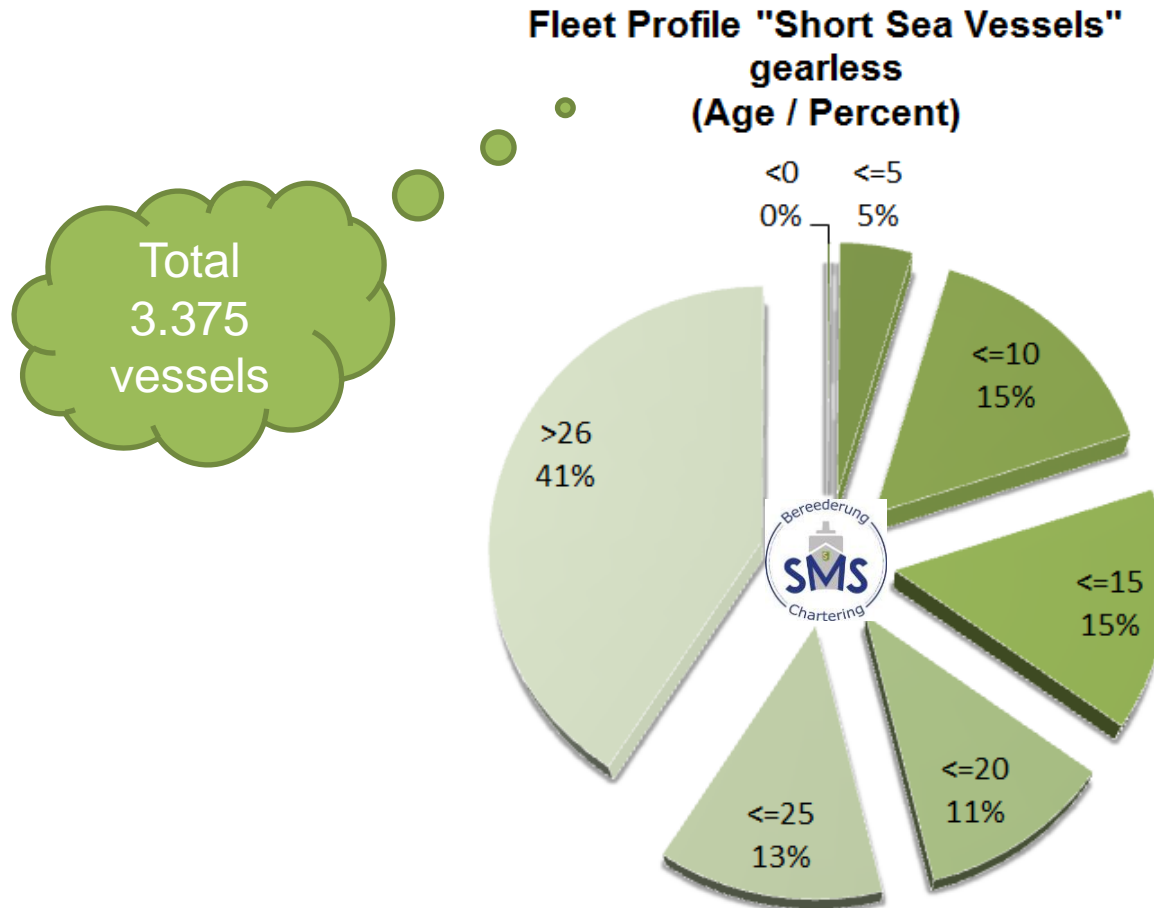
## Overview european short sea trade fleet



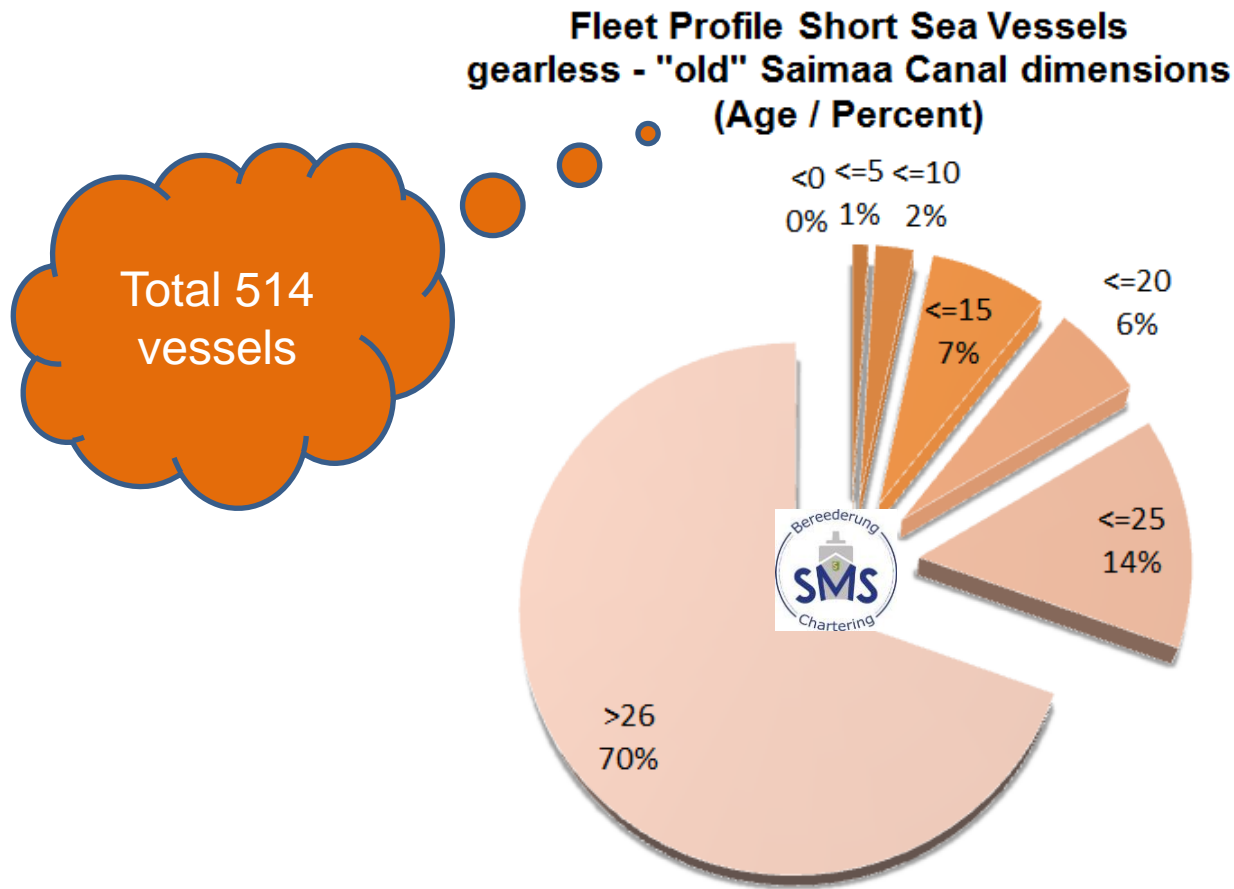
# Fleet – age share - all



# Fleet – age share - gearless

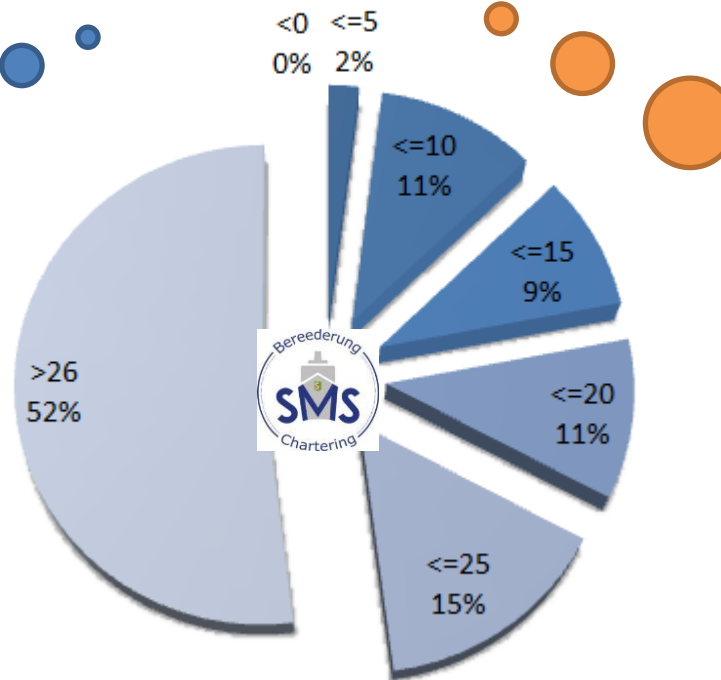


# Fleet – age share Saimaa



# Fleet – age share new Saimaa

Fleet Profile Short Sea Vessels  
gearless - "new" Saimaa Canal dimensions  
(Age / Percent)



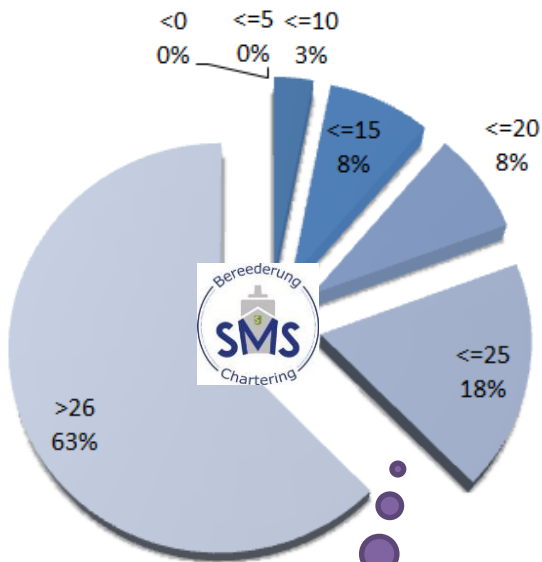
Potentially  
892 vessels

By the way...  
if LOA <=90m  
...882  
vessels

SOLAS  
convention, no  
free fall  
lifeboat <90 m

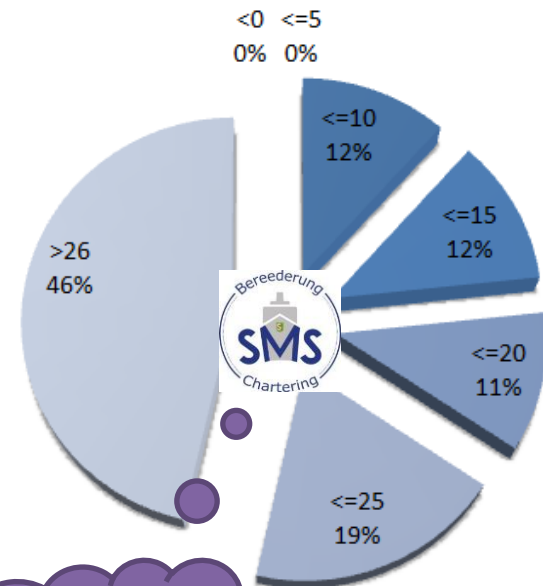
# Fleet – age share new Saimaa, with ice class („ice capable“)

**Fleet Profile Short Sea Vessels**  
gearless - "old" Saimaa Canal dimensions, ICE  
(Age / Percent)



258  
vessels

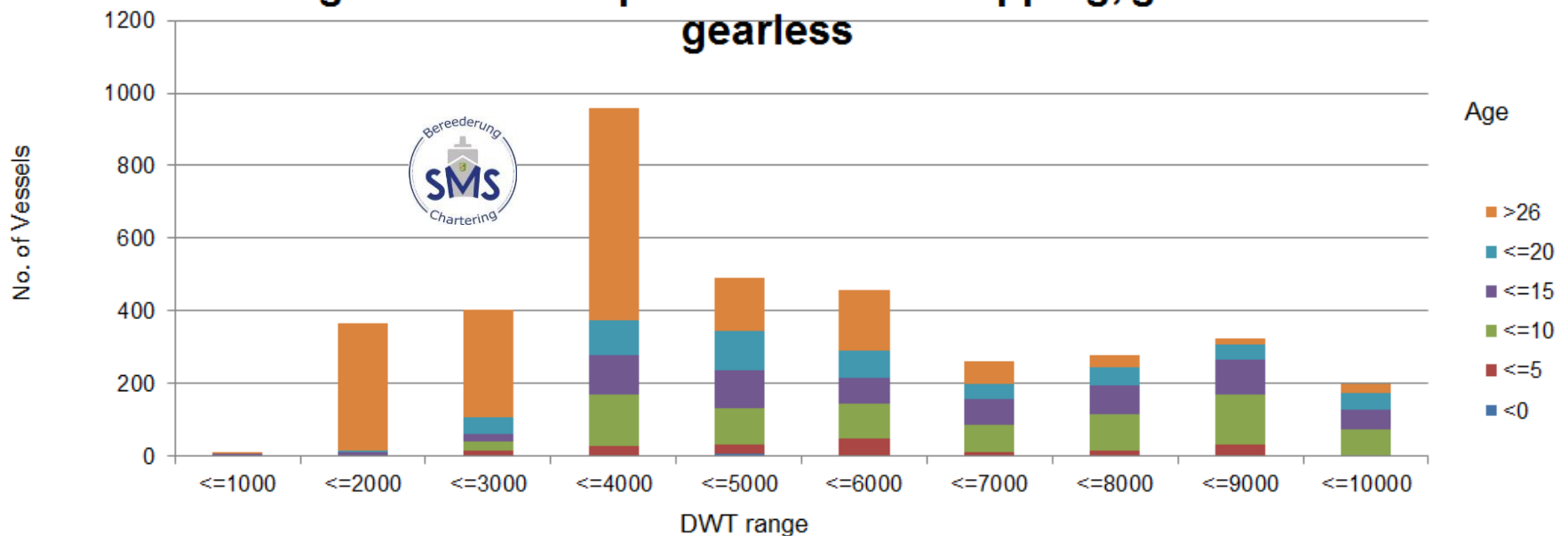
**Fleet Profile Short Sea Vessels**  
gearless - "new" Saimaa Canal dimensions, ICE  
(Age / Percent)



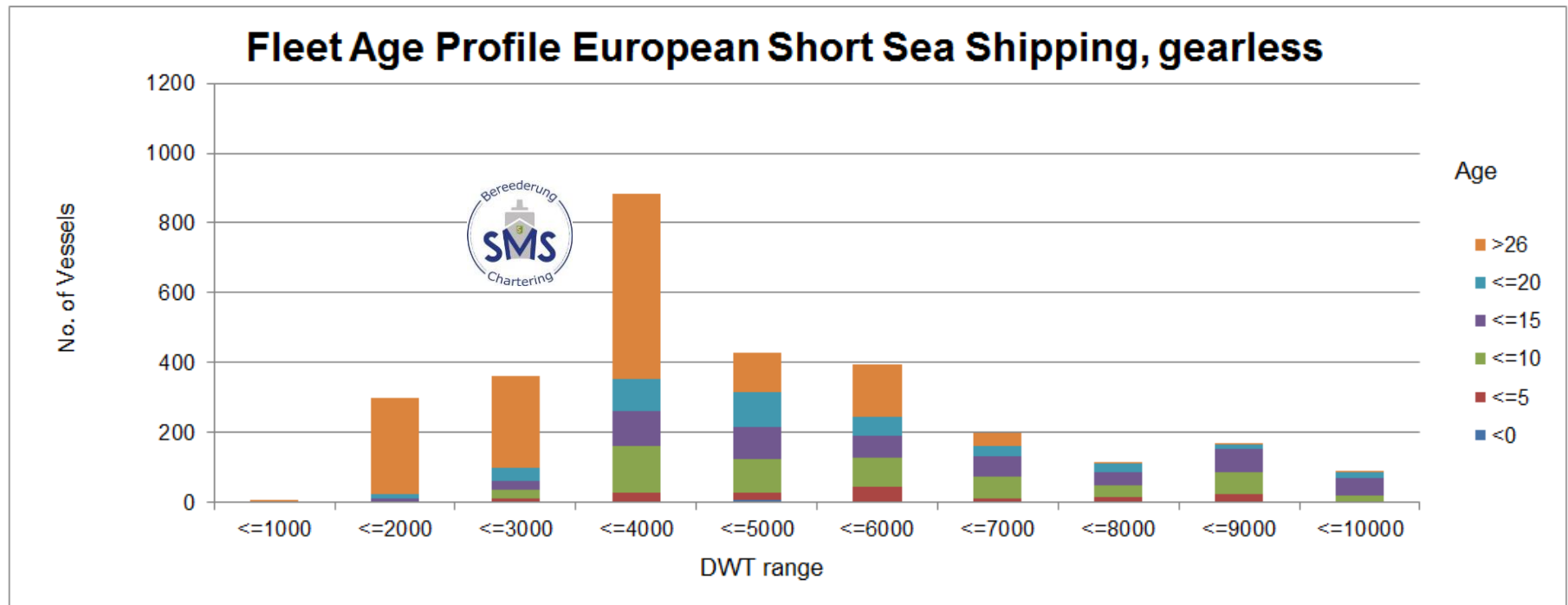
463  
vessels

# Fleet – dwt/age

**Fleet Age Profile European Short Sea Shipping, geared and gearless**

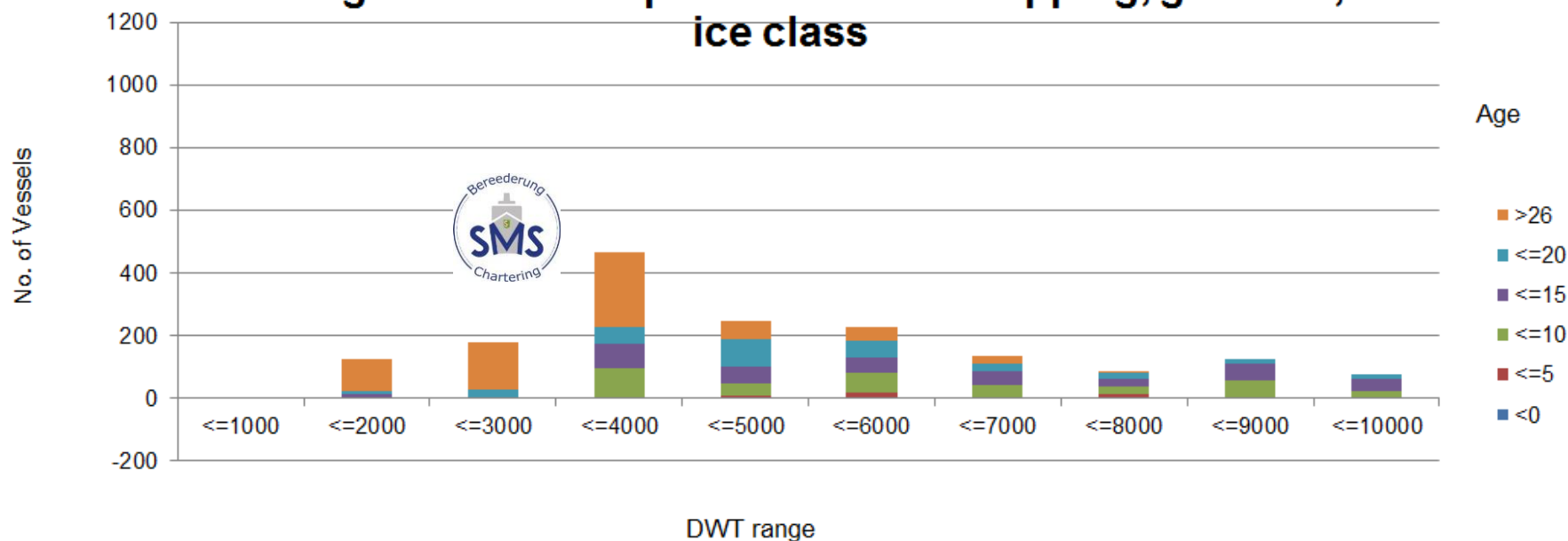


# Fleet, dwt/age - gearless





## Fleet Age Profile European Short Sea Shipping, gearless, ice class



# Thank you!

- Please contact me – today? Tomorrow morning?
- [alexander@schepers.de](mailto:alexander@schepers.de)

*Abstracted from aforementioned databases and derived from estimates or subjective judgments. Any other sources may differ. It was taken reasonable care in the compilation of the information and it is believed to be accurate and correct, however was not audited and may accordingly contain errors. The provision of the information is not an endorsement of any commercial policy and conclusion by SMS Bereederung and it's connected persons and is not intended to recommend any decision by the recipient. Any forecast may not be accurate. No warranties or representations are taken, expressed or implied about the completeness, accuracy, reliability, suitability or availability with respect to the information. Any reliance placed on such information is therefore strictly at the recipient's own risk. All intellectual property rights are fully reserved by SMS Bereederung. No warranty or liability is taken.*



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