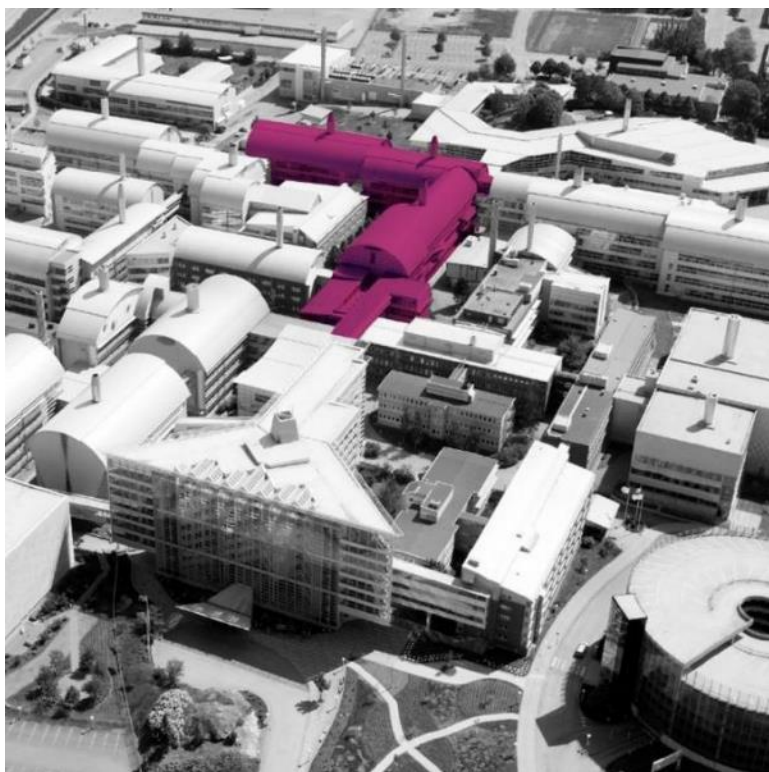




Company Presentation

# I-TECH set up



- A global biotechnology company
- Inventor of the repelling and most powerful active agent for marine coatings
- Strong IPR position



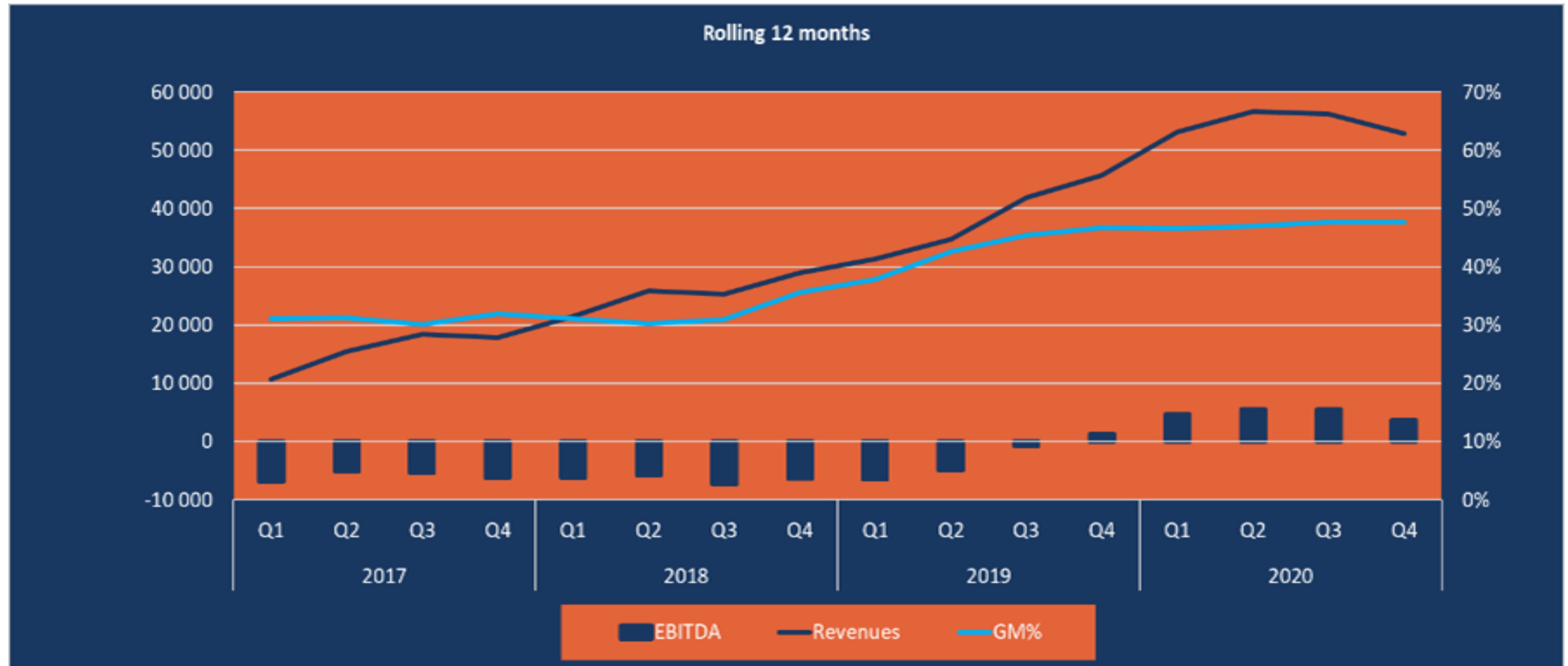
- 10+ AF products on market and powered by Selektope®
- Used on most large ship types
- Current customer base control 60%+ of global market opportunity.



- Significant top line growth past three years
- Strong balance sheet.
- 5 X top line growth with existing set up (2020 base line)



# Our performance – rolling 12 months



# Market – a 350-500 MUSD potential



Stena Suede, 159158 DWT, 274 m long

- ✓ 54 773 vessels larger than 2000 DWT
- ✓ Approx. 10-15 000 dockings/year



- ✓ 43 457 vessels smaller than 2000 dWT
- ✓ Approx. 8000 – 10 000 dockings/year



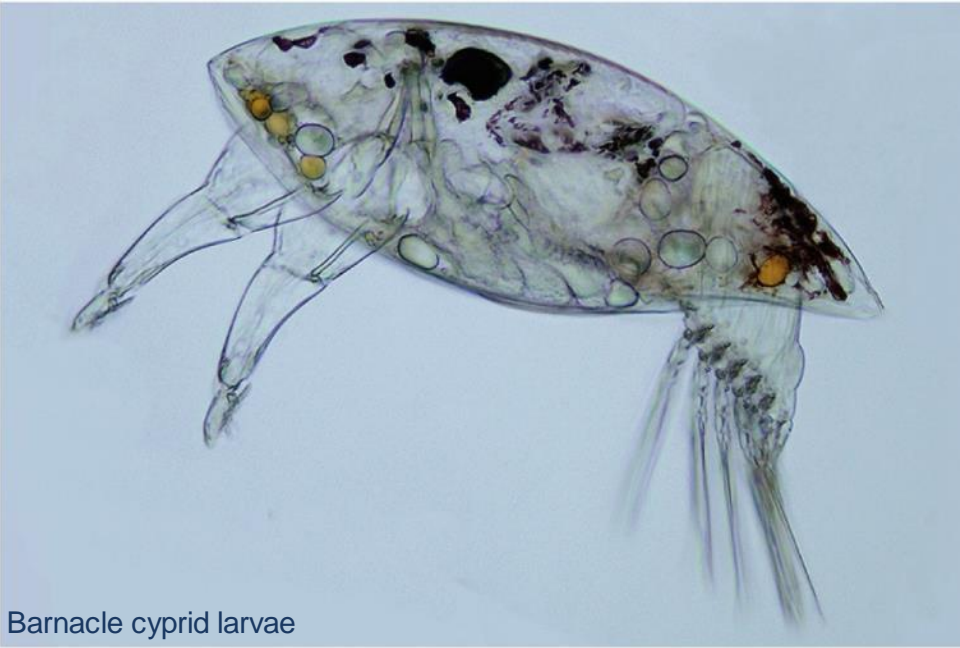
- ✓ > 10 million boats of all sizes
- ✓ > 10 000 mega and super yachts

- ✓ Current main focus for I-Tech
- ✓ Clear majority of all AF sold globally

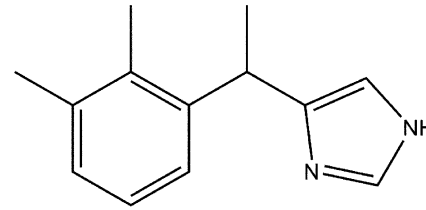
- ✓ Untapped potential



# The biotech approach: Receptor stimulation



Barnacle cyprid larvae



Receptor stimulation  
by medetomidine  
triggers barnacle  
larvae flight mode



Image provided by Chugoku Marine Paints

selektope®



# SeaQuantum – the ultimate fuel saver

**SeaQuantum** | PRO ACE  
The ultimate fuel saver



- Newly developed
- Employs highly potent biocide package
- Extremely high efficacy against barnacles
- For outfitting duration of up to 8 months
- Based on SeaQuantum Silyl Acrylate Technology
- Expected Speed Loss of 3.5% during operations
- Improved biocide delivery required for operational performance
- 50 days Idle period against barnacles during operations

with  
**selektope®**

- ❖ Same excellent operational performance as SeaQuantum Pro U
- ❖ Can be applied by itself
- ❖ For Duplex with SeaQuantum Pro U or SeaMate NB
- ❖ As part of system specified through Pathfinder



# SEAFLO NEO CF PREMIUM

ULTRA LOW FRICTION, SPECTACULAR PERFORMANCE  
AGAINST SLIME AND BARNACLES



**CMP CHUGOKU**



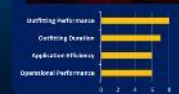
# SEA PREMIER 3000 PLUS

Ultra low friction, High performance antifouling

Powered by **selektope®**

## SeaForce – Hydractive™ Technology

**SeaForce** | ACTIVE ACE



- Newly developed
- Employs highly potent biocide package
- Extremely high efficacy against barnacles
- For outfitting duration of up to 8 months
- Based on SeaForce Hydractive Technology
- Expected Speed Loss of 3% during operations

with  
**selektope®**

- ❖ Same high operational performance as SeaForce Active Plus
- ❖ Can be applied by itself
- ❖ For Duplex with SeaForce Active or SeaForce Active Plus
- ❖ As part of system specified through Pathfinder



**SEA GRANDPRIX 880HS PLUS**  
OUTSTANDING PERFORMANCE



**CMP CHUGOKU**

# Globic 9500 S

Supreme anti-fouling performance  
for new builds and beyond

Improve your efficiency with high  
performance anti-fouling - advanced  
protection to combat hard  
fouling for extended outfitting.

[Globic9500.hempel.com](http://Globic9500.hempel.com)

# Marine Paint Companies - Overview

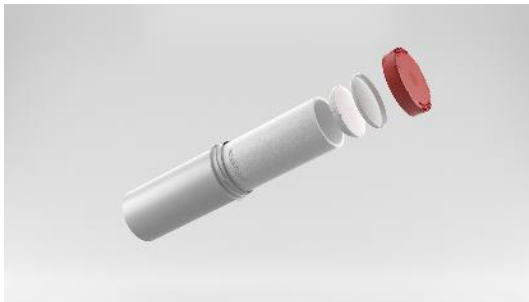
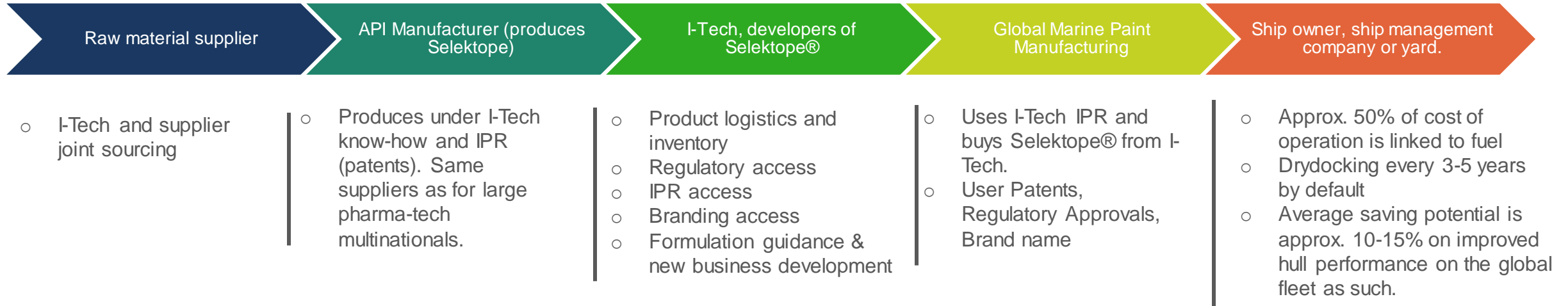
Approx 80% joint market share in international shipping. Many of which also offers coatings for all other recreational and industrial vessel segments.



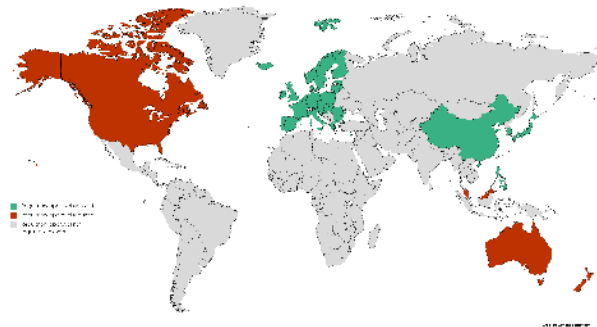
Cutting edge companies on the move within the marine coating industry (commercial shipping)



# I-Techs value chain



Advanced capsule delivery system for safe handling



Approvals and notifications on key markets for shipping (green & grey). Approvals under consideration US/NZ/AUS (red)

**CMP CHUGOKU**



Official customers





# Decreased emissions – a global challenge

CO<sub>2</sub>  
reduction  
potential

**5–10%**  
Route and autopilot  
optimisations



Optimal hull  
performance

**10–15%**

Optimised  
propulsion  
(engine and  
propeller  
control)

**3–15%**

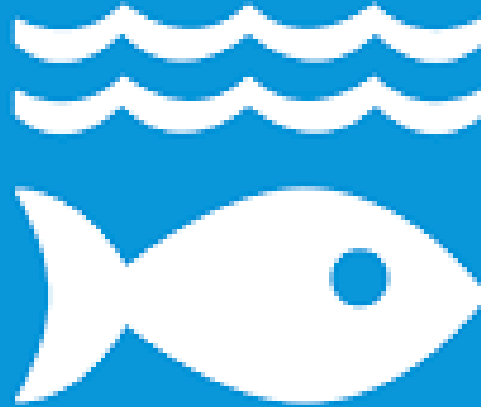
A propeller free from marine  
fouling, with an optimal  
design can deliver savings  
approximately 3-8%.

**3–8%**

# 13 CLIMATE ACTION



# 14 LIFE BELOW WATER



Spread of invasive aquatic species



GHG Reduction target 2050



Sulphur cap implementation 2020



**SUSTAINABLE  
DEVELOPMENT  
GOALS**



# Key sustainability challenges for marine transportation

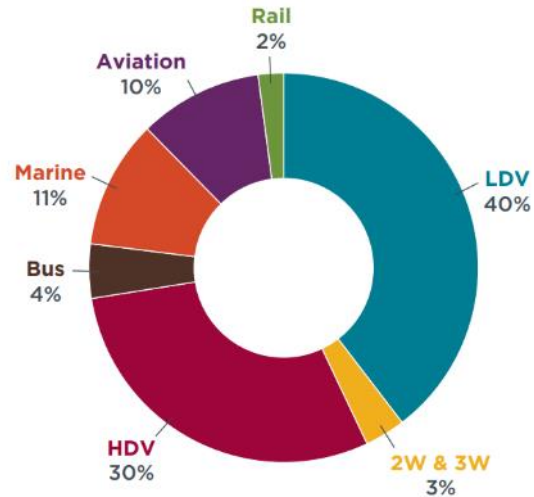


Figure 1. Share of 2020 well-to-wheel CO<sub>2</sub> emissions from transportation, by mode.

[Vision 2050: A strategy to decarbonize the global transport sector by mid-century \(theicct.org\)](https://theicct.org)

1. Seaborn trade counts for around 2.3 - 2.6% of global CO<sub>2</sub> emissions = 1 million tonnes CO<sub>2</sub> and 350 million tonnes of fuel annually



The lionfish (*Pterois miles*), native to the western Indo-Pacific region, is widely spread throughout the Mediterranean, Caribbean and Western Atlantic  
©Alexander Vasenin, Wikimedia common

<https://ec.europa.eu/jrc/en/science-update/best-options-control-marine-invasive-species>

2. Invasive Alien Species (IAS) is the second most common cause of species extinctions.



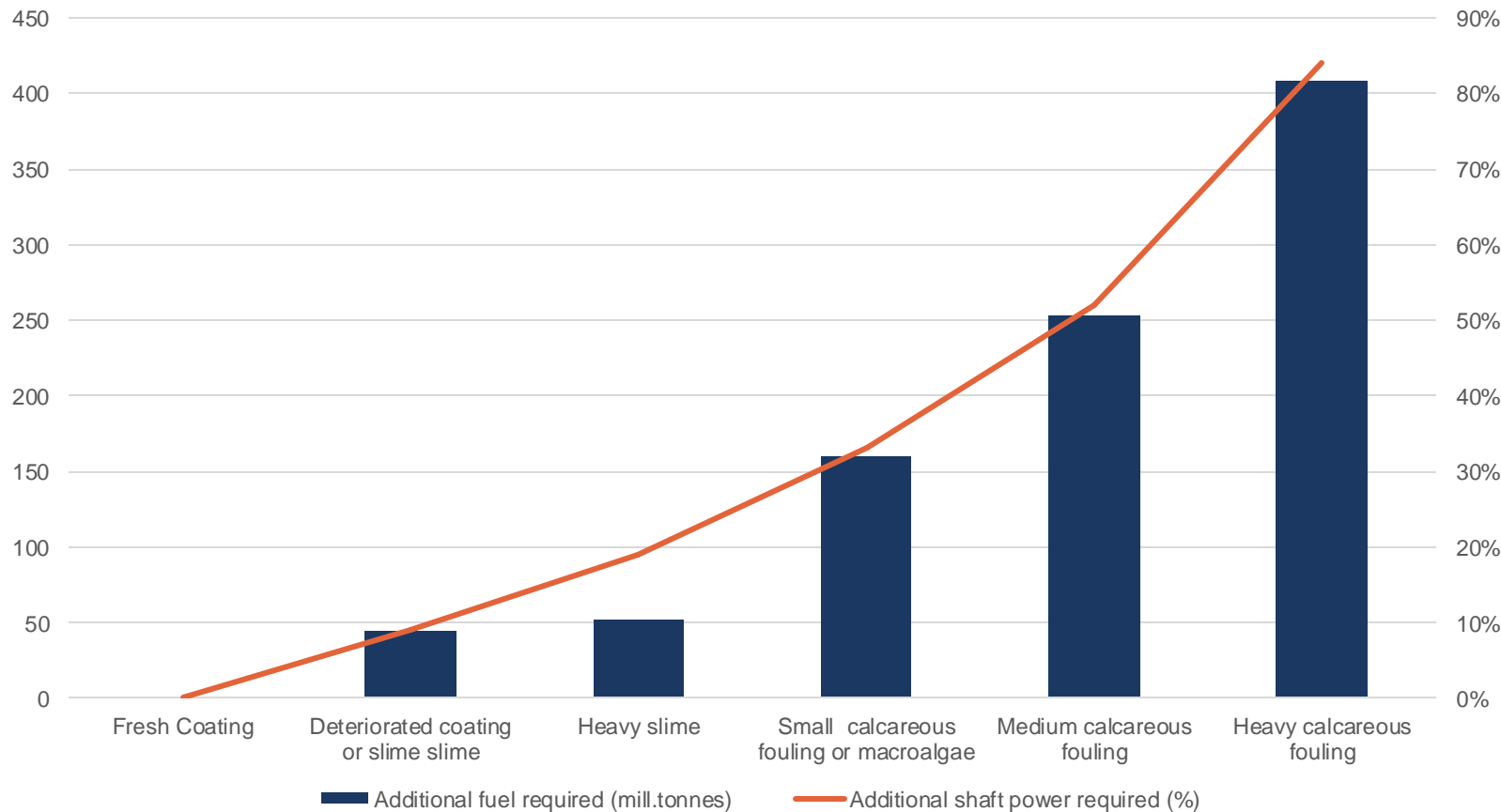
"Saving natural resources is not only saving raw materials for future generations but creating multiple benefits starting from reducing waste and ending with new innovative business opportunities", underlined Sirpa Pietikäinen MEP, EPP Group Rapporteur of the Report 'Resource efficiency: moving towards a circular economy' adopted today in the Environment, Public Health and Food Safety Committee of the European Parliament

3. Smarter use of natural resources: > 50 000 tonnes/year of metal oxides are used in common marine coatings



# Barnacle fouling: ~30-80% excessive fuel consumption

Fouling impact on fuel consumption



Examples of estimated\* fuel consumption rates of some larger vessel types (tonnes/day)

Container: ~150

Cruise ship: ~200

VLCC: ~100

SuezMax: ~40

Aframax: ~35

MR: ~25

\*slow-steaming, laden voyage etc assumed. For container vessels the number can vary significantly as there are many different sizes of ships

# Out-competing sister vessels in long-term trial

- Comparing 3 MR Tankers, all with premium grade AF:
- Selektope® containing AF has ~10% lower fuel consumption.

= ~\$1200 USD/day (@500USD/tonnes)  
= ~6-7 tonnes CO<sub>2</sub> /day

## Business Case

Addtl. cost for premium paint: **\$55 /day**  
USD 100 000

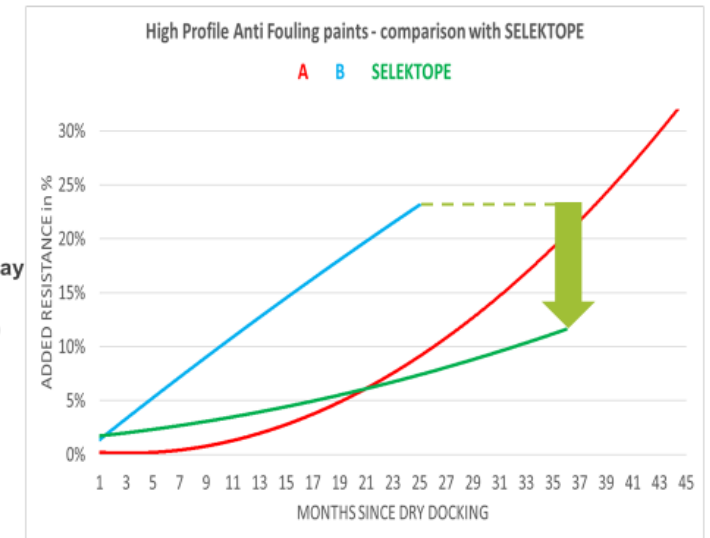
Saved on hull cleaning: **\$20 /day:**  
5 hull cleanings / 5 years  
= USD 35 000

Savings in fuel per day: **\$1,200 /day**  
Vs B: 2.4 mt/day

Saving for 12 months: **\$212,000**

+ With current MGO pricing, savings increase by 50%

+ Risk of extra cleaning to enter ports (biofouling regulation) is significantly reduced.



27 November 2018  
Page 22

Above basis fuel price of 500 USD/mt, 50% sailing time

TEAM

# Hull-Borne Invasive Aquatic Species



**~100 000  
commercial vessels**

**84%**

**Global marine  
ecoregions affected  
by IAS**

**60**

**Alien species  
introduced to  
European marine  
seaways 2001-2010**

**M€45**

**Estimated annual  
costs in UK only**

[PortShield - Hull-borne Invasive Aquatic Species Risk Management](#)



# Selektope® impact on niche-area fouling

Fouled sea chests are one of the critical areas acting as vehicle for transportation of invasive species.



Grating coated with high grade AF of SPC Cu<sub>2</sub>O type for coastal LPG carrier (1200DWT) - 15 months

Paint with Selektope® integrated keeps niche areas cleaner longer which reduces risks considerably.



Grating coated with high grade AF of SPC Cu<sub>2</sub>O + Selektope® for coastal LPG carrier (1200DWT) - 16 months

# > 50,000 tonnes of metal oxides leach every year into ocean beds from shipping

*Ultra low addition of Selektope® in one litre of paint can boost existing formulations or fully replace significant amounts of other traditional biocides.*

< = >

Less is more

