

The Global Reefer Trade

Trends, risks, claims and loss prevention

by

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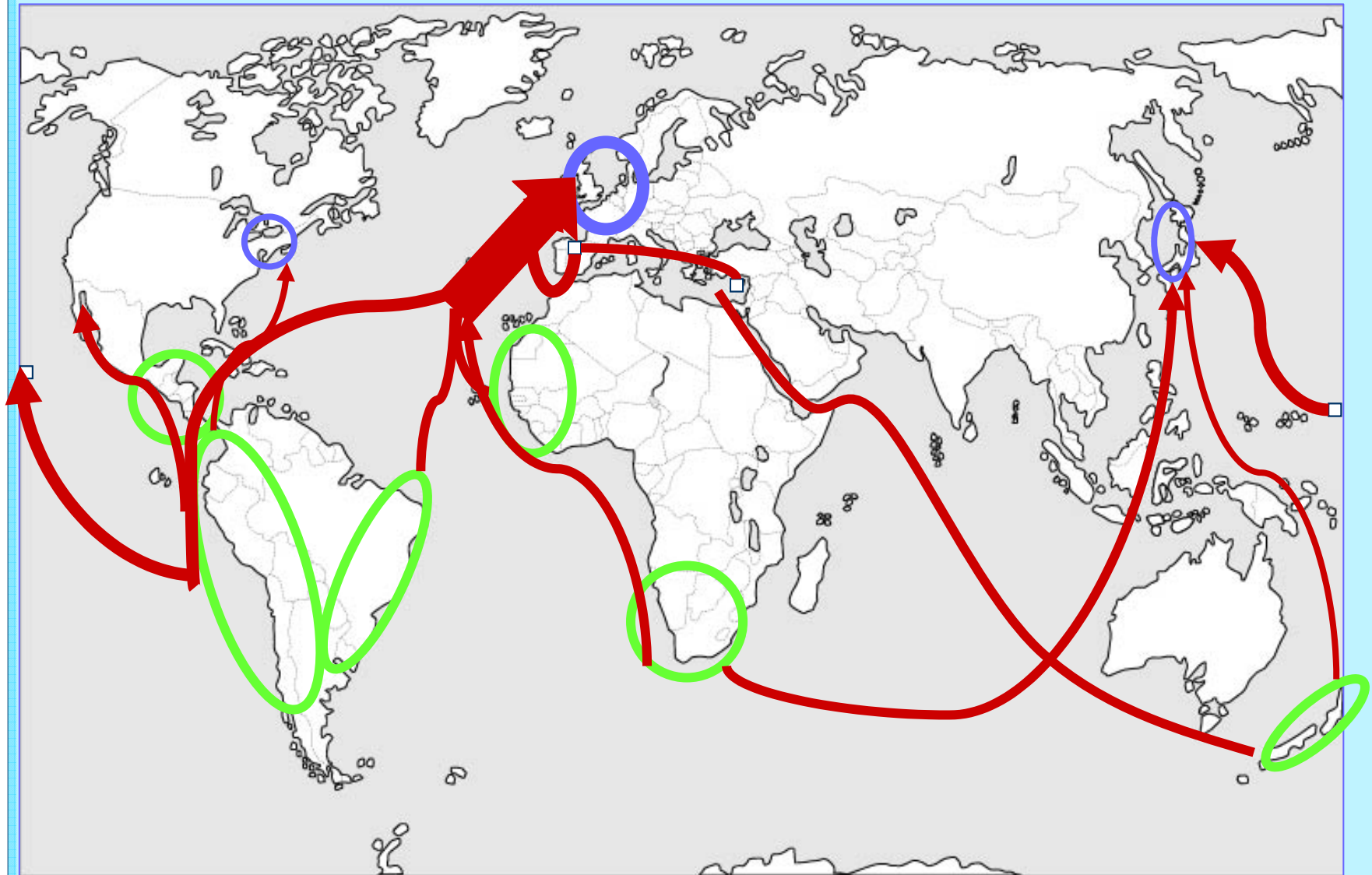
Rotterdam / Antwerp

Nautical, cargo and technical surveyors and consultants

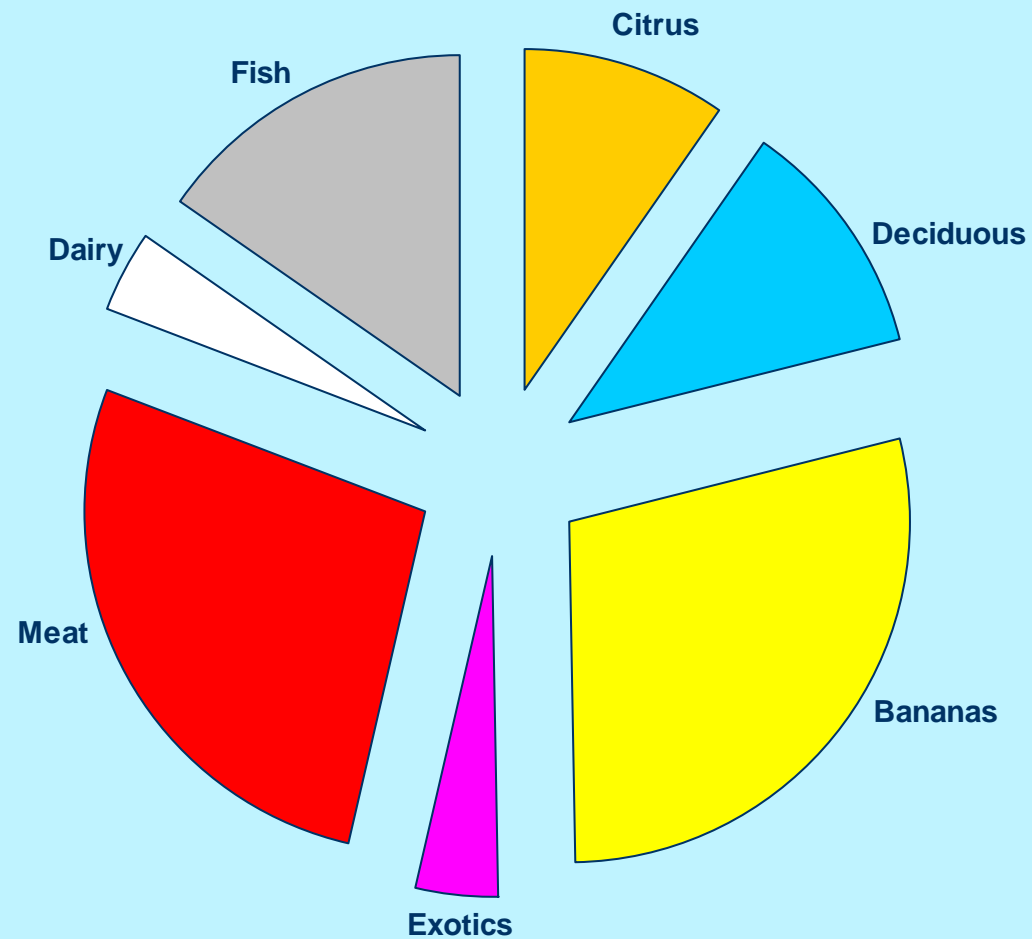
Director of BMT Survey Division, U.K.



Reefer world trade



Reefer trade by commodity (2004)



Source: Drewry

Reefer cargo mode of transport (1)

Stowed as breakbulk or on pallets on board a conventional reefer ship operated by specialist reefer carriers.



Total world fleet: +/-860 ships. Capacity up to 7.000 pallets per ship.

Reefer cargo: mode of transport (2)

Reefer container on board a container ship



5th generation container ships

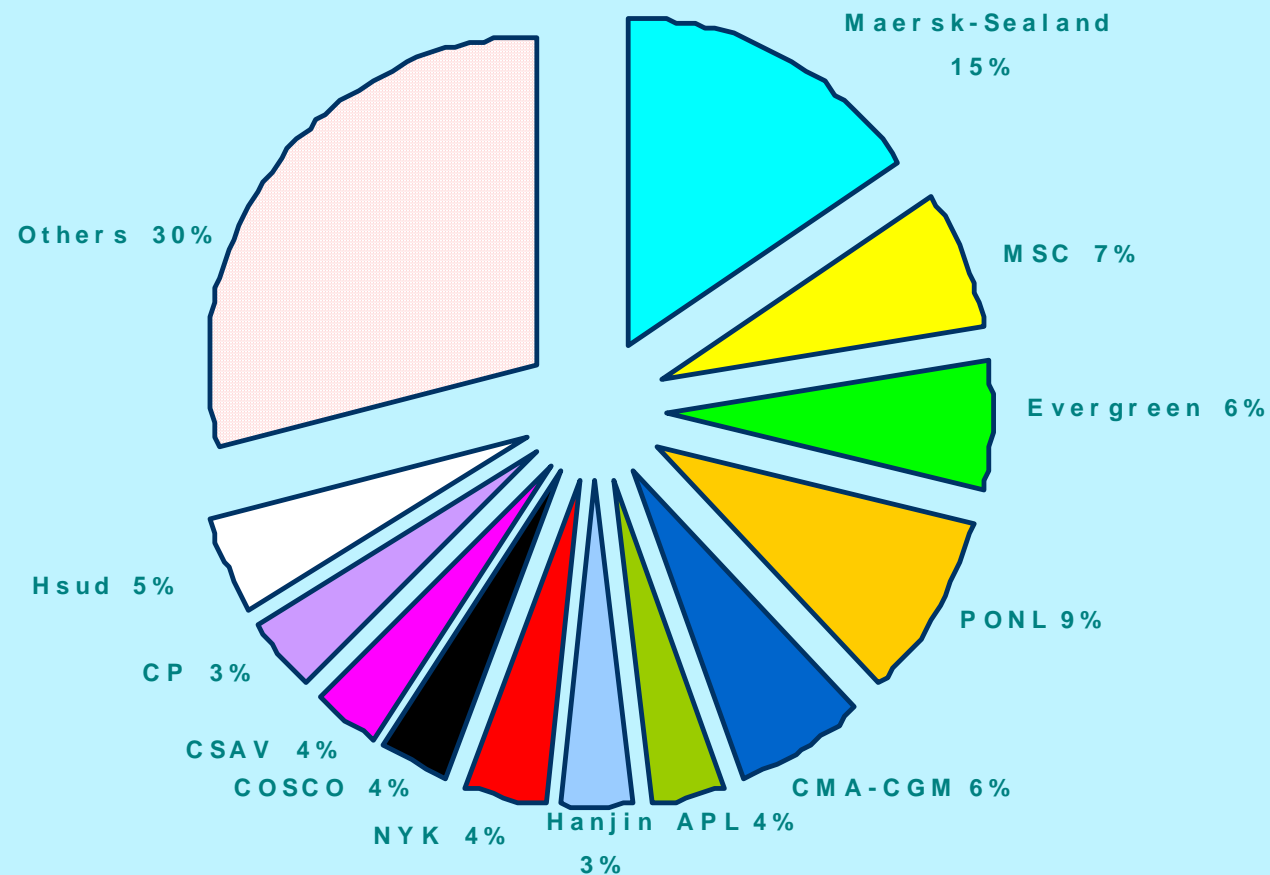
Reefer capacity: 600-800 plugs per ship,
including under deck stowage.

Reefer cargo: mode of transport



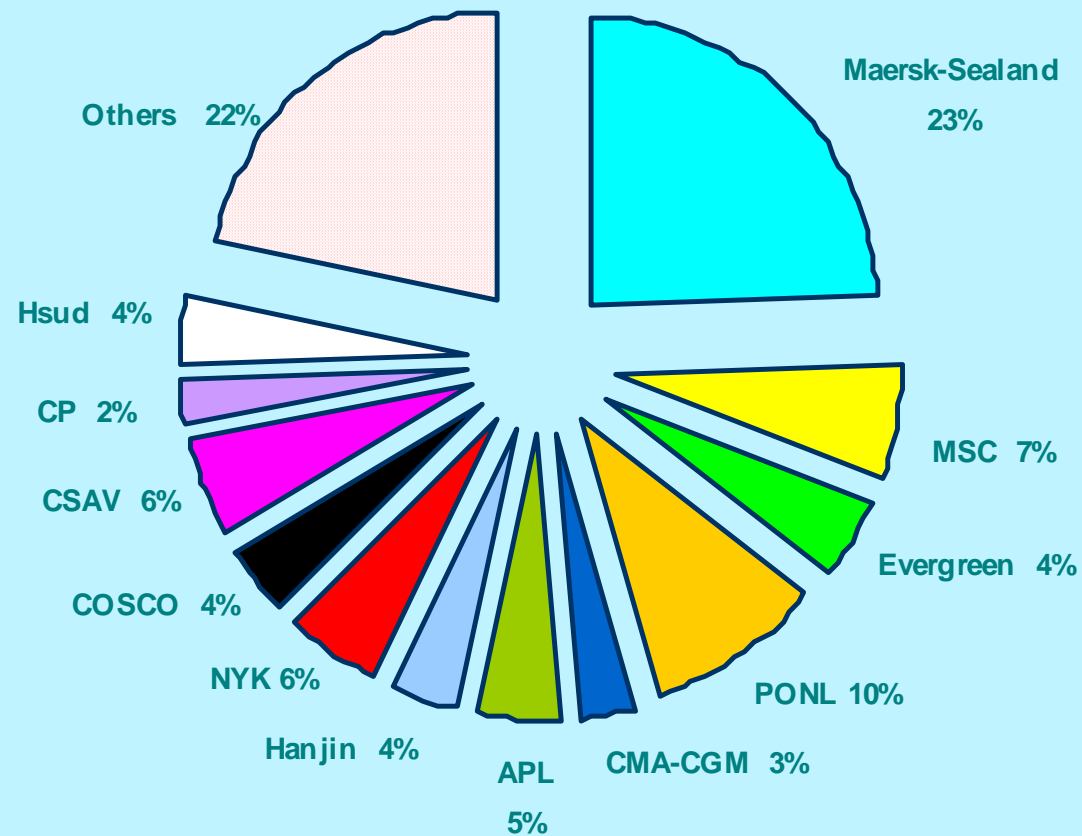
New “Hamburg Sud” - MONTE- class vessels (6)
Total reefer capacity 1.365 plugs = 27.000 pallets
Auxiliary power = 15.000 kW

Reefer container: plug capacity per carrier



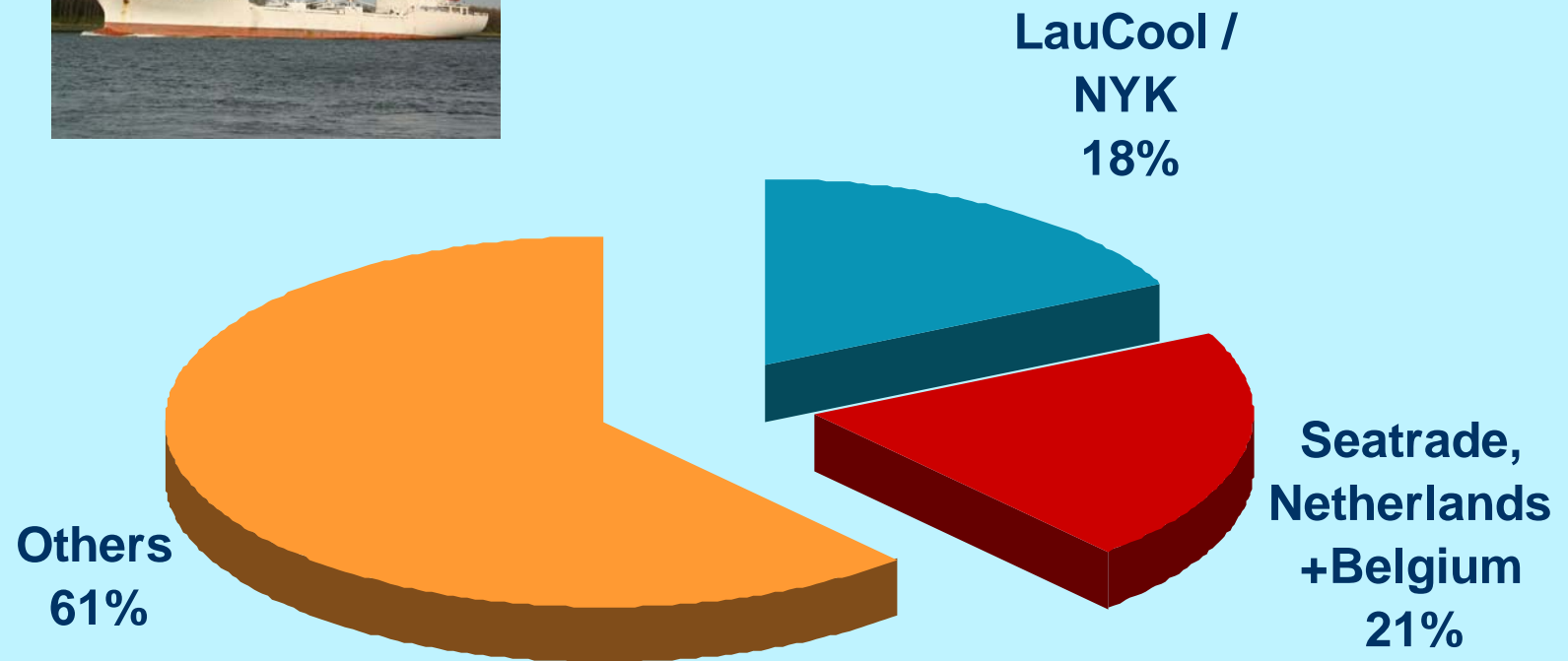
Source: Company info / BRS Alphaliner / MDS Databank

Reefer container: operated reefer containers



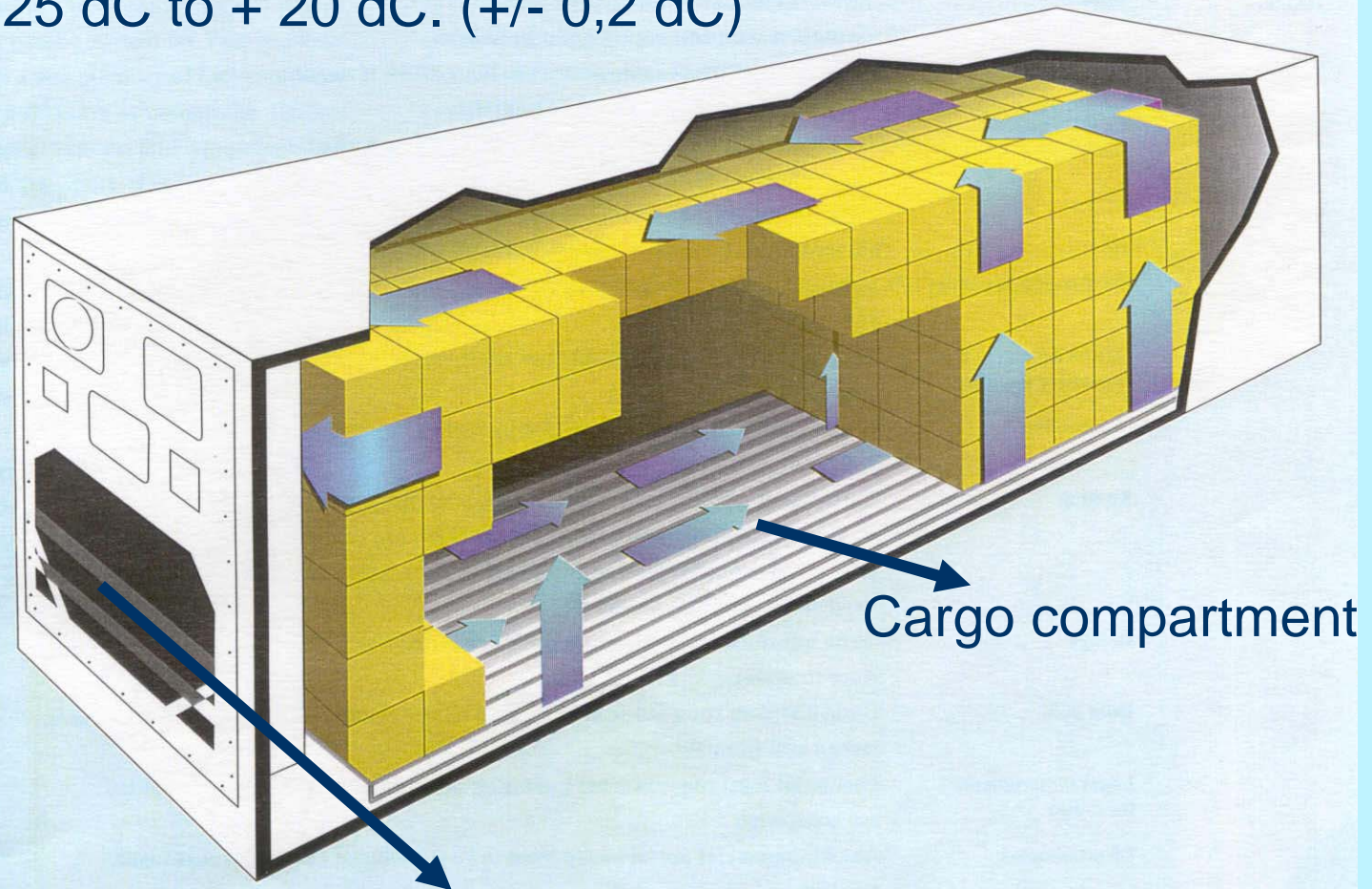
Source: Company info / BRS Alphaliner / MDS Databank

Conventional reefer operators



Reefer containers: operation

-25 dC to + 20 dC. (+/- 0,2 dC)



Cooling unit to maintain temperature, no cooling down!!

Reefer containers: features / risks (\$)

- Greatest advantage : flexibility
- Owners / operators of reefer containers, very fragmented
- New buildings per year : approx. 100.000
- Equipment value
new:

20'	approx. USD 16.000,=
40'	approx. USD 19.500,=
- Cargo claim risk : 0,3%
- Financial risk in case of cooling failure restricted to 10 / 20 pallets

Reefer containers: features / risks

Cargo value: (40'reefer)

- < € 50.000,= : fruit, vegetables, plants
- € 50 - 100.000,=: frozen fish, frozen meat, cut flowers
- € 100 - 250.000,=: chilled meat, frozen shell fish, flower bulbs
- > € 250.000,=: temperature sensitive cargoes, viz.
electronic equipment, photographic film, computer chips,
printer cartridges, medical supplies etc.

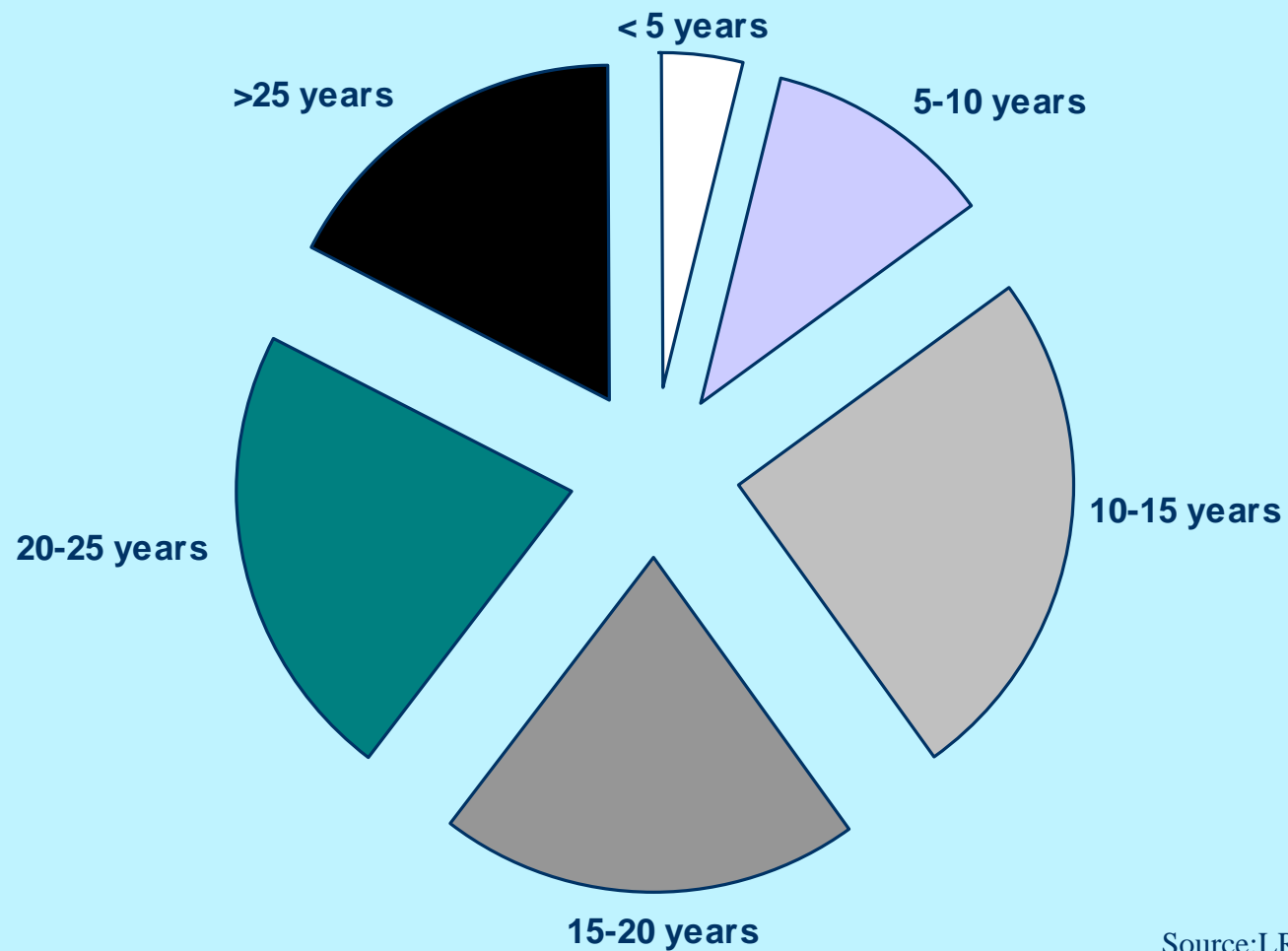


Reefer vessel, features:

- > Advantage:
 - Fast (20-24 knots), direct calls
 - No cooling interruption
 - Cooling capacity
- > Heavily leaning on large-volume trades (bananas/apples/citrus)
- > Cargo value : up to € 4 - 7.000.000,= per ship / voyage
- > New buildings (2004): 4 ships
- > Scrapped (2004): 30 ships
- > Newbuildings required before 2012: 440 ships
- > **Aged world fleet**

Reefer fleet age structure

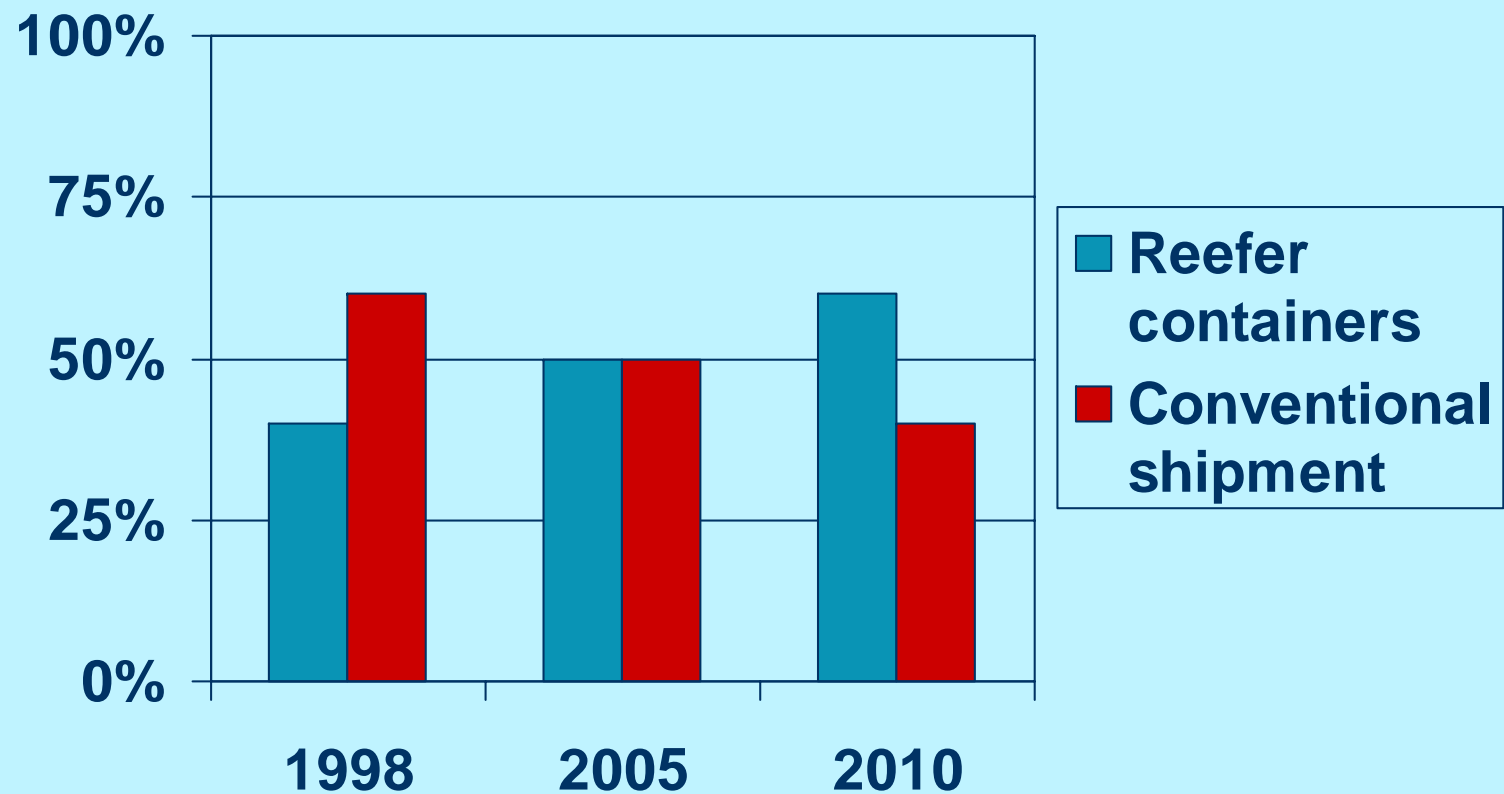
Total reefer fleet : 866 ships (2004)



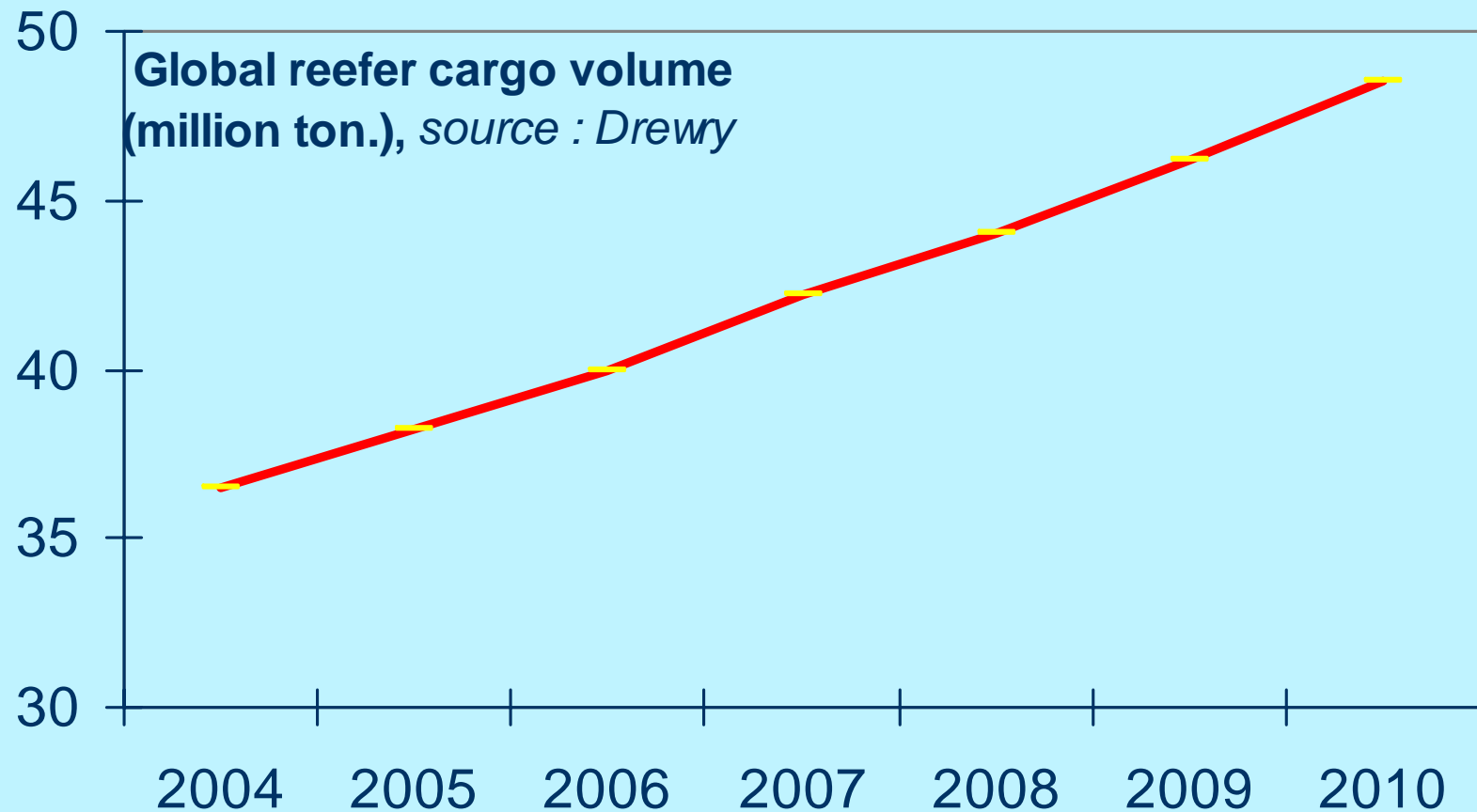
Source:LR-Fairplay

Reefer cargo means of transport.

Market share development

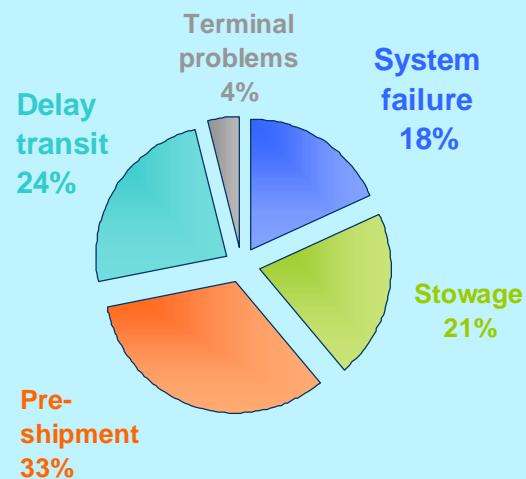


Reefer cargo, future trend - volume.



Reefer transport, claims:

Containers, cause of claim('04):



Source : BMT De Beer

Conventional transport:

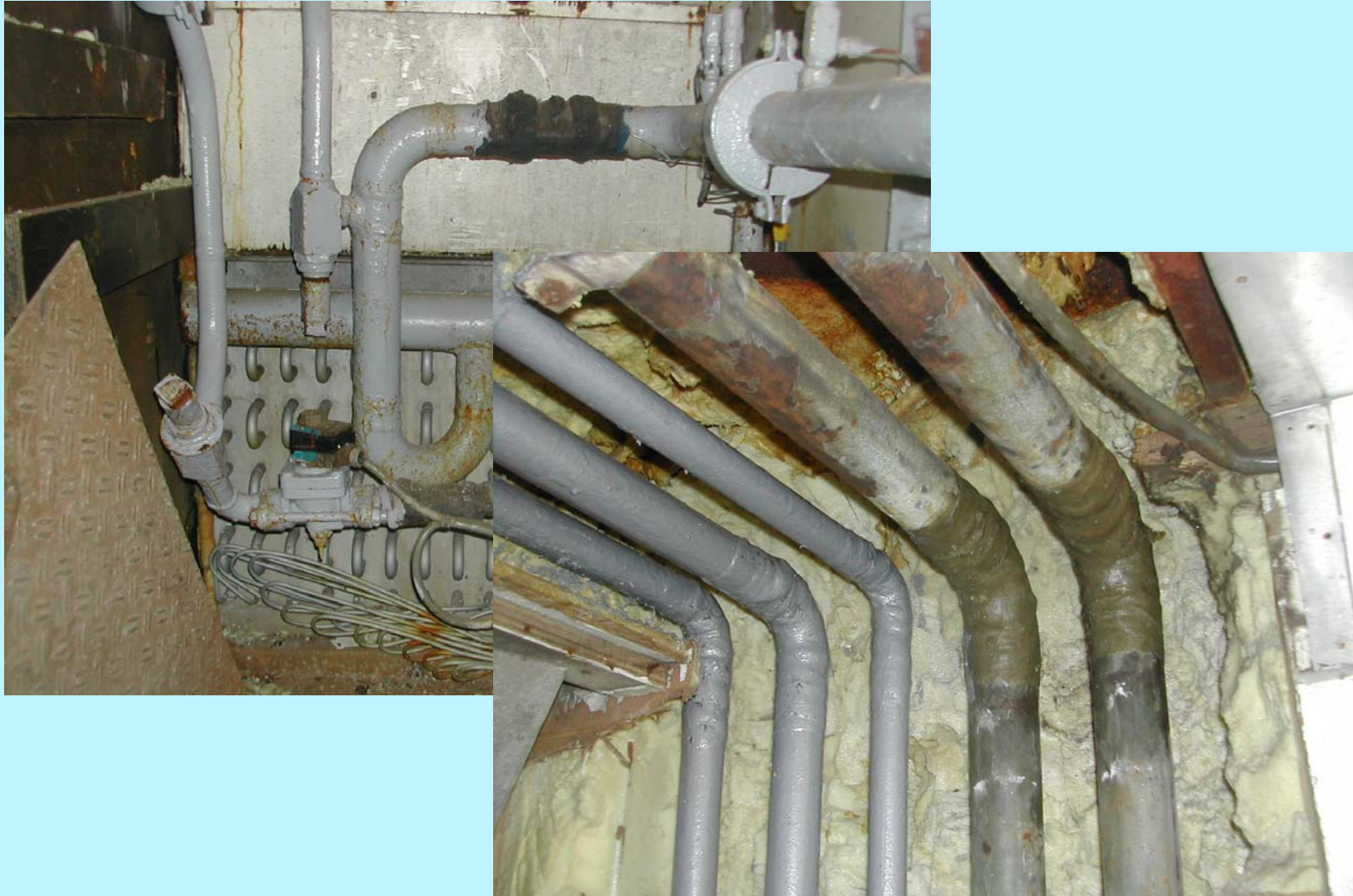
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- Cargo shift
- Wet damage
- Fuel contamination

Cargo shift, poor packaging / stowage



Corroded piping (brine)



Contamination / taint damage - fuel

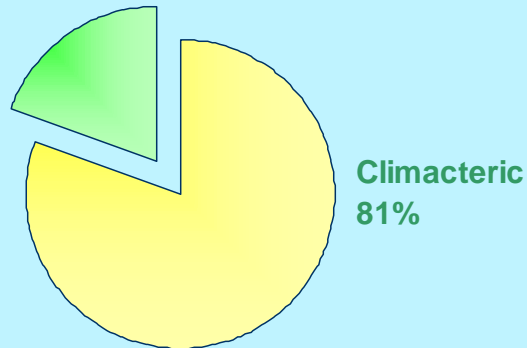


Cracked tanktop

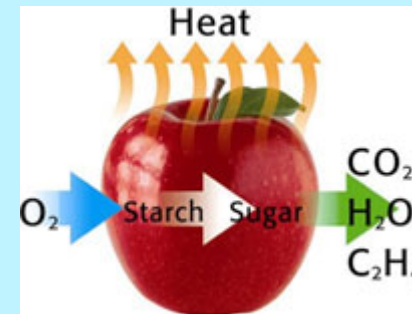


Examples: Inherent condition of cargo

Non-
Climacteric
19%



Climacteric: fruit that ripens after harvest (=become sweeter)



Climacteric fruit

peaches
cherries
nectarines
pears
bananas
avocados

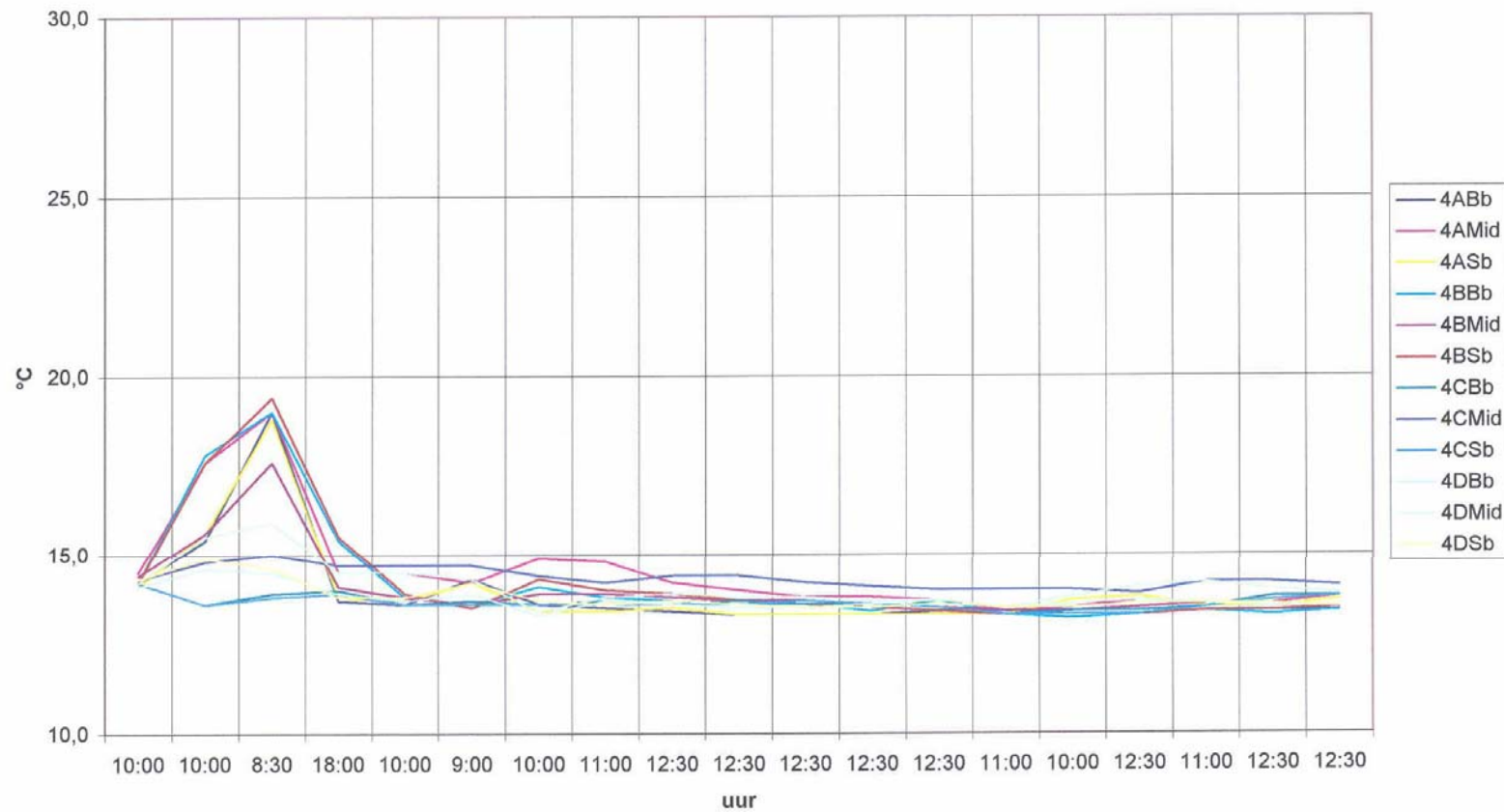
Non-climacteric fruit

grapes
citrus
pineapples
melons

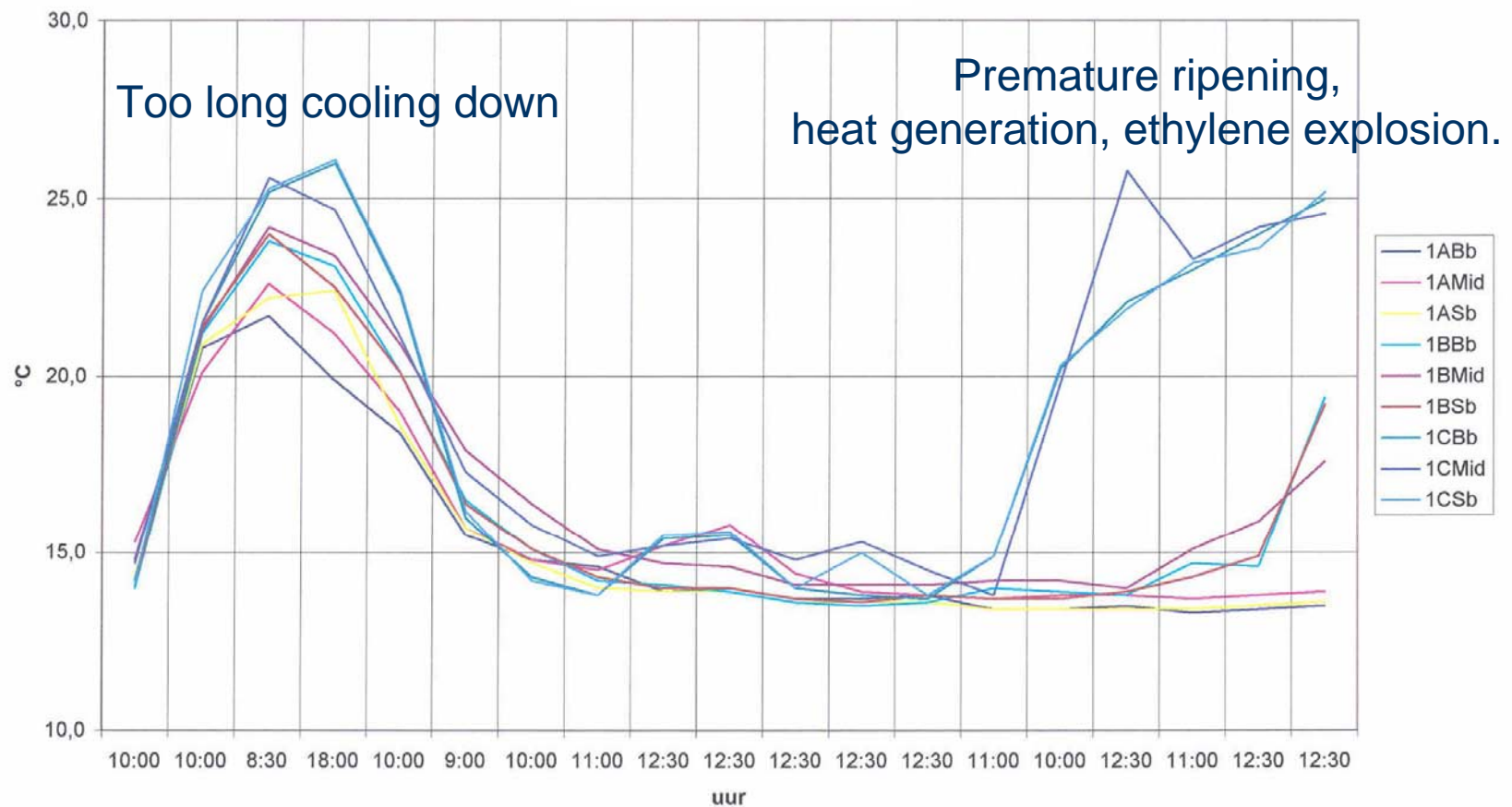
Climacteric fruit (1)



Proper cooling cycle, bananas



Cooling failure, bananas



Cooling failure bananas



Climacteric fruit (2)



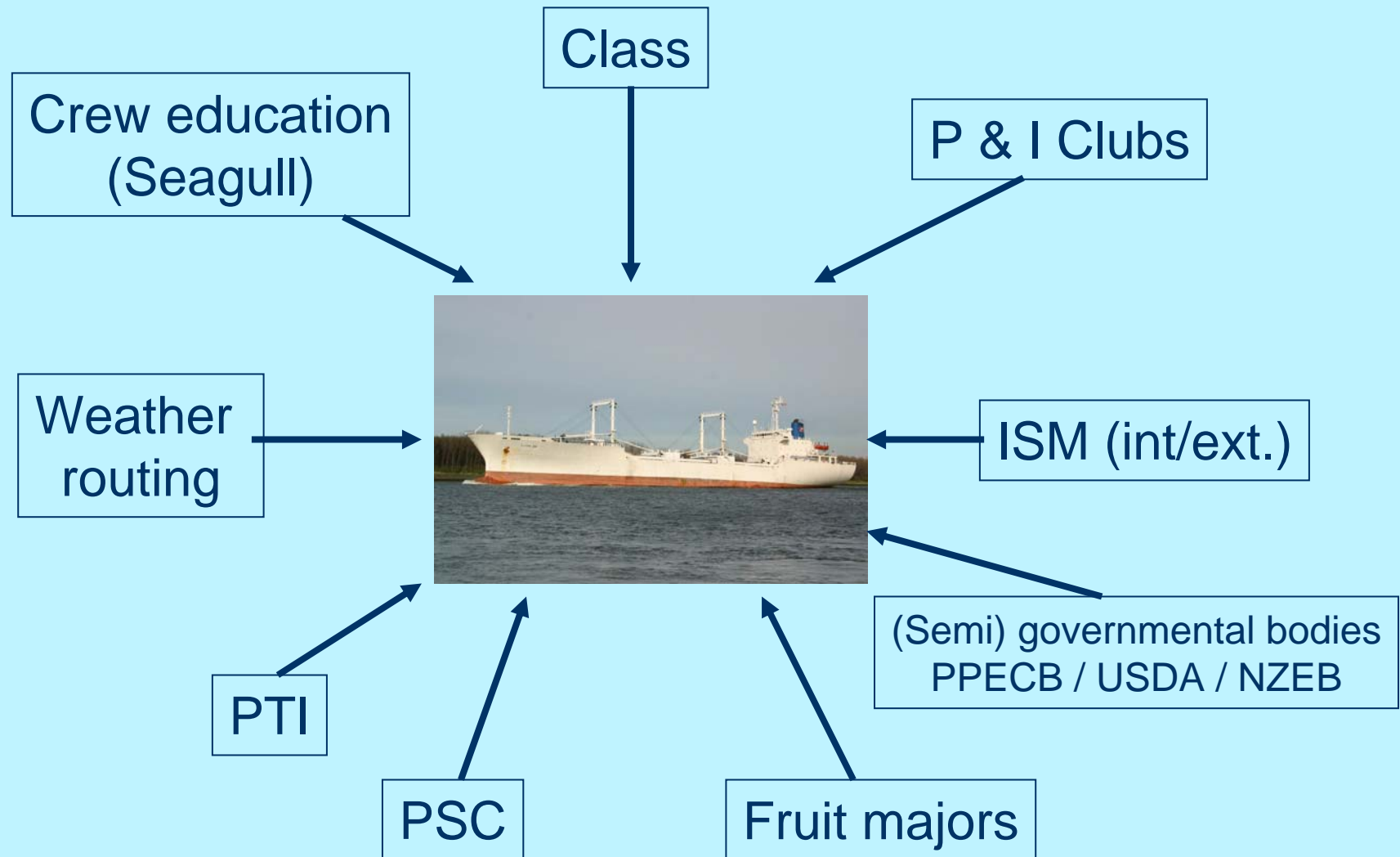
Climacteric fruit (3)



Containers, cooling failure, mangoes

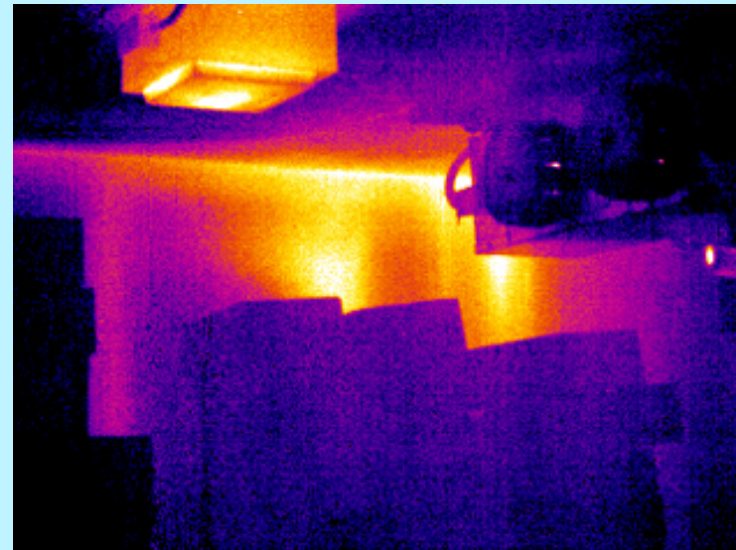


Loss prevention, vessel monitoring



Loss prevention, reefer check

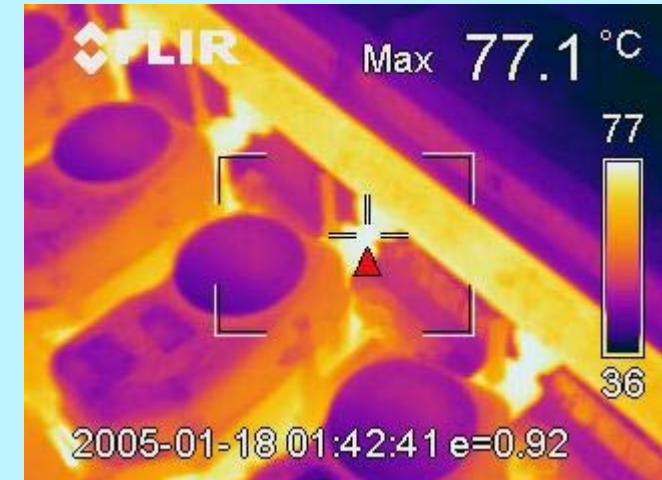
- Claim- and loss prevention survey (cargo worthiness items)
- Thermography : early detection of engine / equipment failures



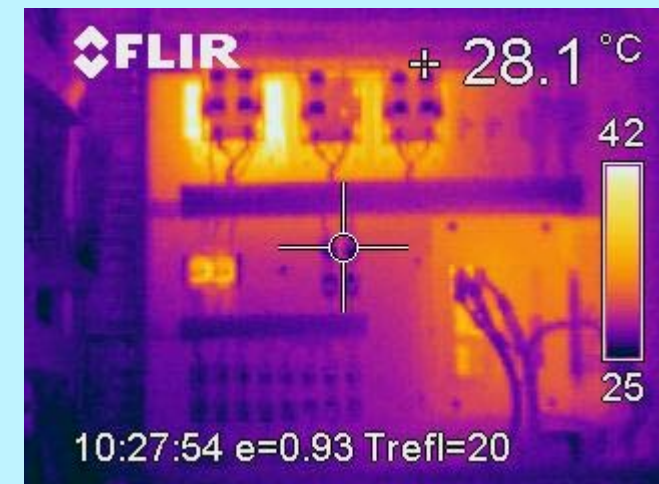
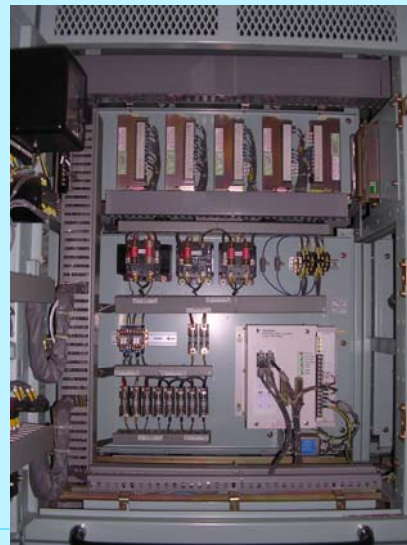
Generators, condition analyses



Aux. engine



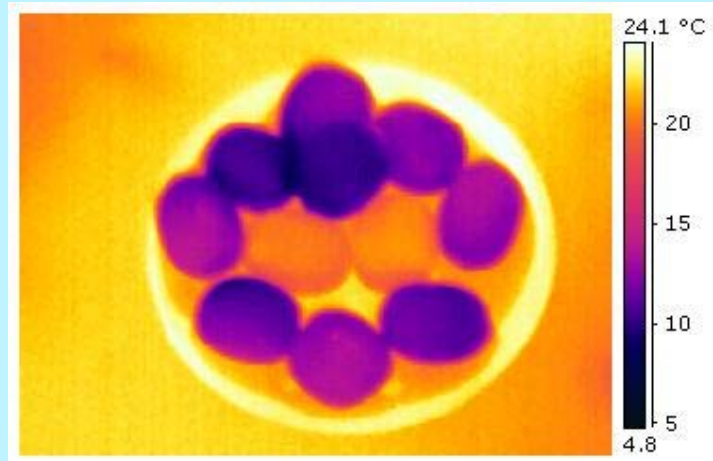
Electrical
fuse



Infra red thermography



Temperature / valve check
of brine line (-3,2 dC)

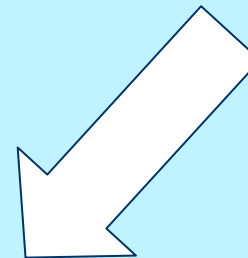
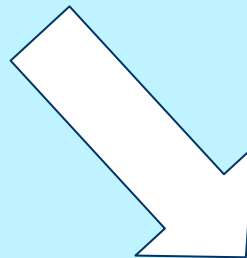


Kiwis

Loss prevention, new programmes



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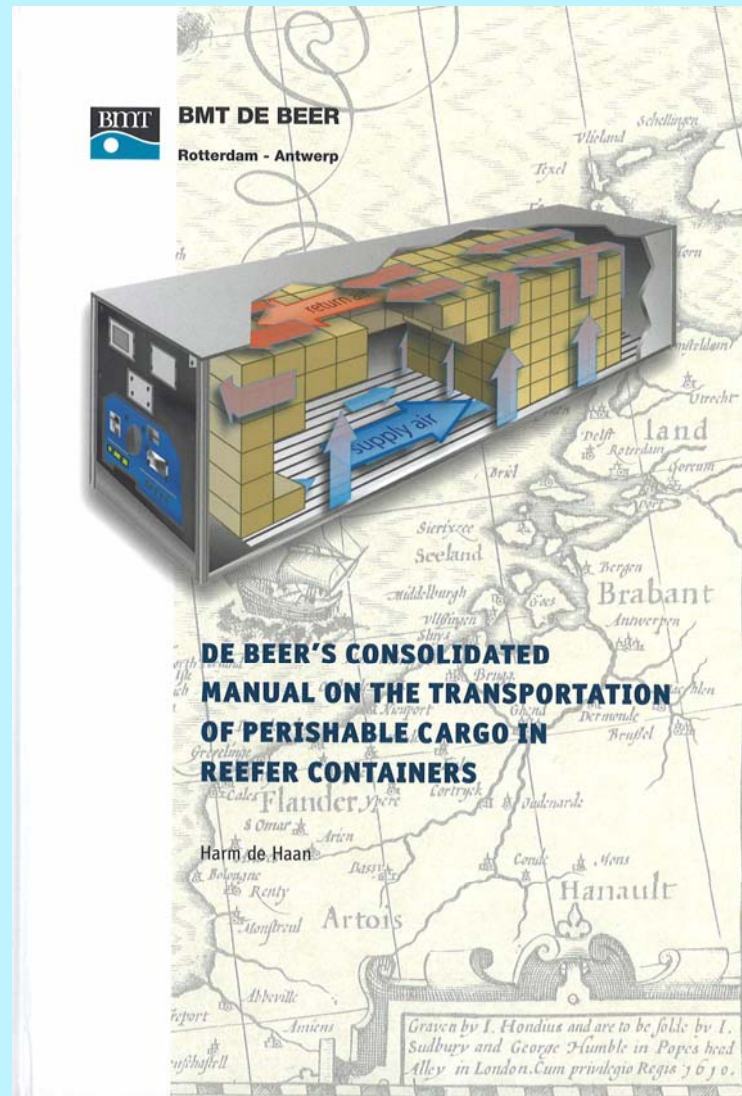


Specialised Reefer Ship Association (SRSA)

360 Quality Code:

- Harmonised reporting standard for terminals
- Internal and external ship auditing.

Consolidated manual on the transportation of perishable cargo in reefer containers



Thank you for your attention!