

Keynote Presentation



Trends in the Movement of Perishable Products

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KUEHNE+NAGEL



**21ST EUROPEAN
COLD CHAIN CONFERENCE**
14-16 MARCH 2018 | ANTWERP
Global Cold Chain Alliance

KUEHNE+NAGEL



K+N reefer logistics

Marc Rooms

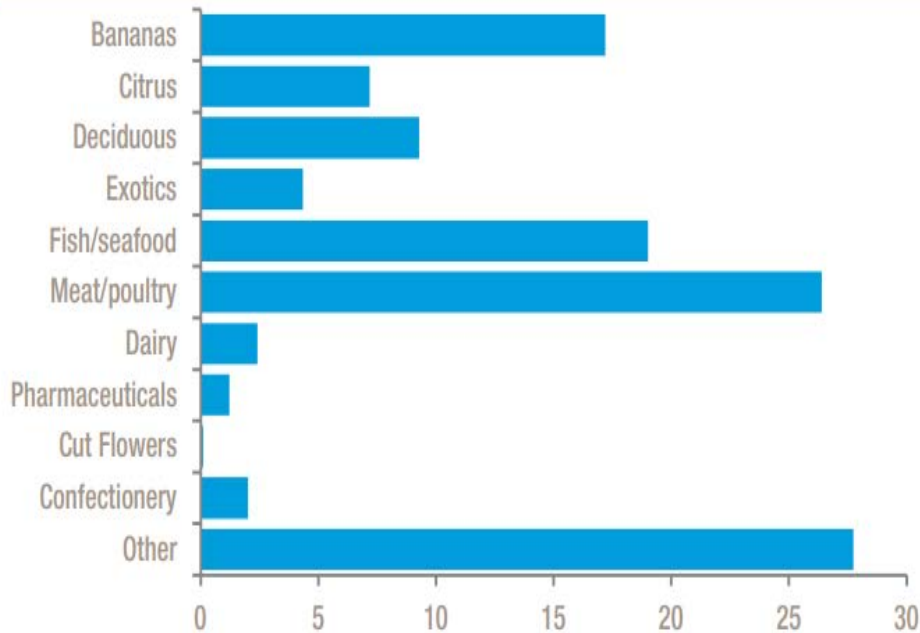
Global Reefer Management

For the Global Cold Chain Alliance

The global perishable reefer market seaborne transport



SEABORNE TRADE OF PERISHABLE REEFER CARGO BY
COMMODITY, 2016 (MILLION TONNES)



Source: Drewry Maritime Research, Sextant Consultancy

- 2016 total 116 mio ton.
- total 221 mio for all modes of transport
- growth with 4,7 mio ton
- Estimate to grow annually with +- 3 % for the next 5 years

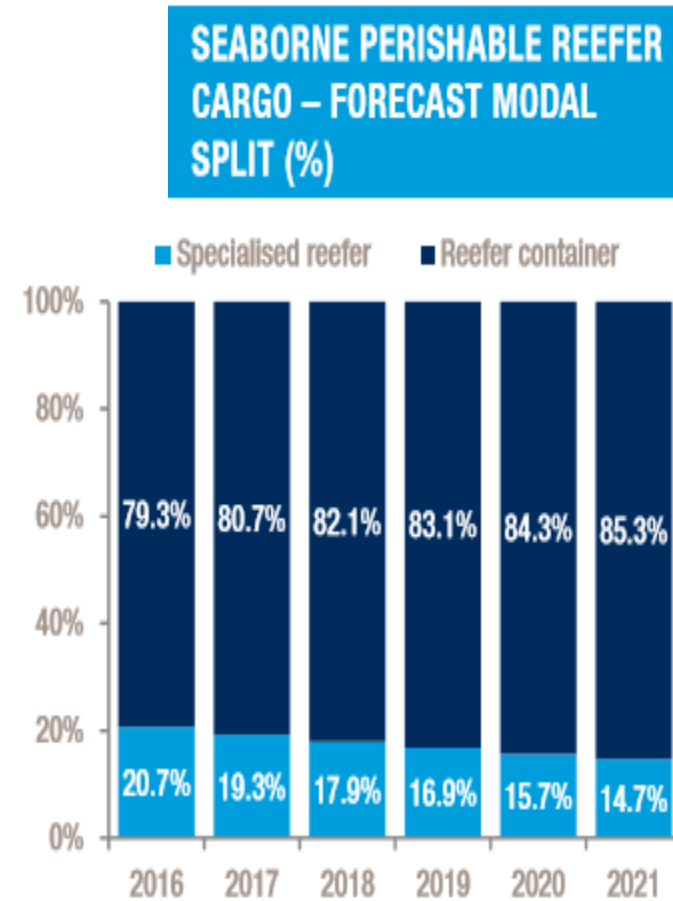
The global seaborne reefer market

Reefer container versus Reefer break bulk



Advantages of container :

- Door to Door is possible
- Full temperature control
- Last minute COD (Change Of Destination)
- Reduced handling of cargo
- No weather exposure
- Regular supply in smaller quantities

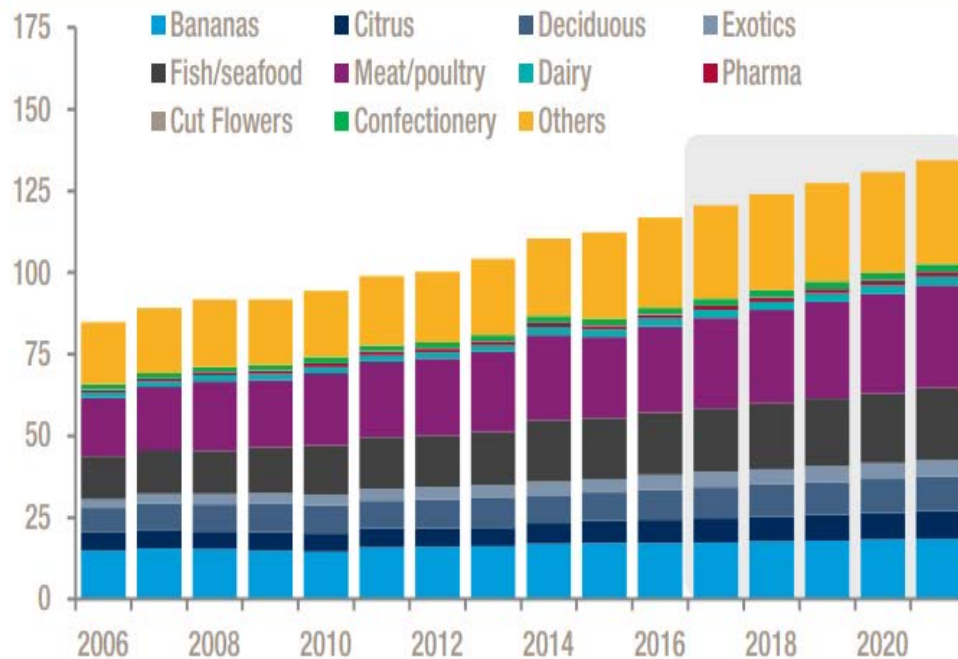


Source: Sextant Consultancy

The global perishable reefer market commodities



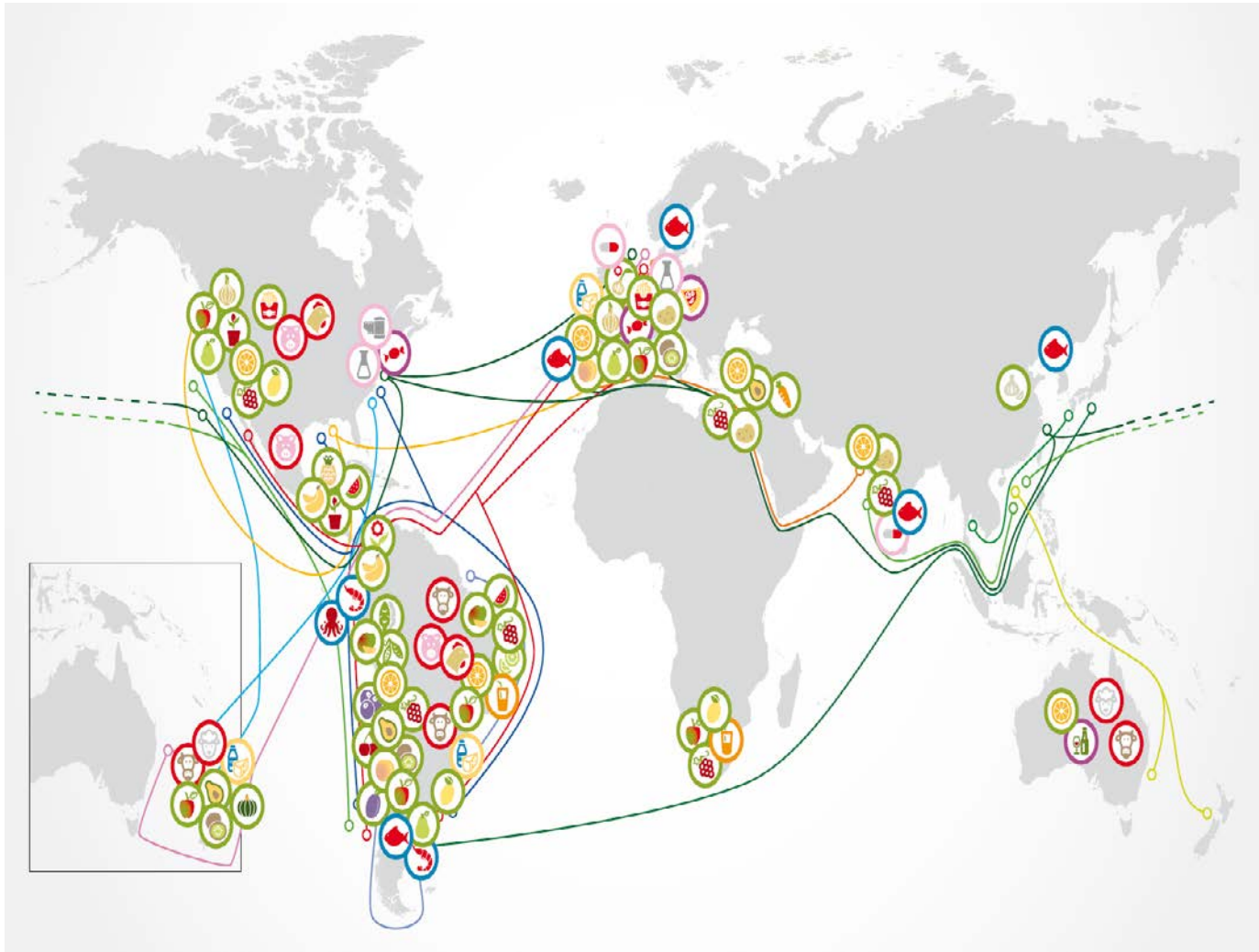
SEABORNE PERISHABLE REEFER CARGOES 2006-2021
(MILLION TONNES)



Source: Drewry Maritime Research, Sextant Consultancy

- Biggest % growth is in the exotics : pineapple, kiwi, avocado...
- Biggest volume growth is for meat : poultry, beef, pork...
- Growing population and GDP
- Possible shift in regions due to climate, harvest and trade regulations.

The global perishable reefer market regions



Totals to approx
4,1 mio reefer teu.

- Biggest % growth is Middle East/Ind/Pak
- Biggest volume are EUR/USA to ASIA
SAM to EUR/USA/ASIA
CAM to EUR/USA/ASIA

KN Seafreight Reefer: the cargo



3 %

Pharma Healthcare



+2°C /+ 8°C
+15°C /+ 25°C
Below -25°C

Characteristics
Light Weight
High value / claim risk
Containers often not fully utilized
Dangerous when off power.

40 %

Perishable Cargo
Fruits, Vegetables



-1°C /+ 13°C

Characteristics
Transit time Critical
No transshipments !
Shelf life is Short
Each commodity has it's own setting.
Seasonal cargo !

7 %

Perishable Cargo
Dairy



-1°C /+15°C

Characteristics
Medium transit time
Limited shelf life
Transshipment possible
Medium – Heavy weight

10 %

General foodstuffs
And various



+14°C /+18°C

Characteristics
Flexible transit time
Longer shelf life
Transshipment possible
Medium – Heavy weight

40 %

Frozen Cargo
Meat, Seafood, Industrial



< -18°C

Characteristics
Heavy weight
Year around cargo
Off power less critical
Less transit time sensitive

The global reefer market carrier consolidation



Unseen changes during the last 24 months

- Carrier industry suffers from overcapacities for past 6 years
- Only 6 big, global ocean carriers left
- Carriers are organized in 3 alliances (vessel sharing agreements)
- Shift of power from shippers back to the carriers

The global reefer market

Big 15 becomes Big 6

2014 2016 2017 2018



EVERGREEN



The 3 Alliances



2M



MAERSK LINE

HAMBURG SÜD

MSC
MEDITERRANEAN SHIPPING COMPANY

HMM

Ocean Alliance



CMA CGM

APL

COSCO SHIPPING

OOCL

EVERGREEN

THE Alliance



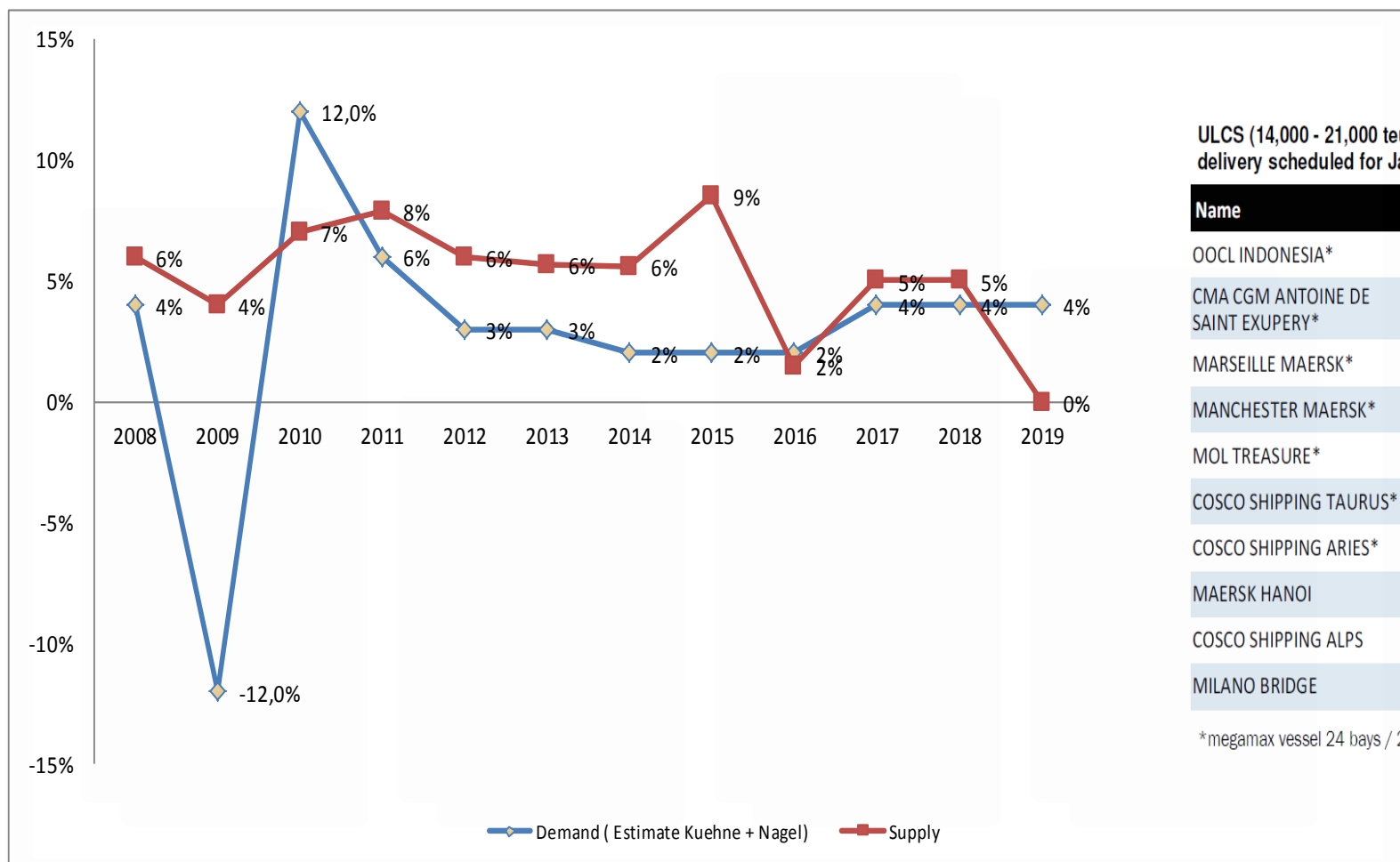
Hapag-Lloyd

ONE
OCEAN NETWORK EXPRESS

YANG MING

Global Supply and demand in container shipping

more balanced ...



ULCS (14,000 - 21,000 teu) with delivery scheduled for January 2018:

Name	Teu	Operator
OOCL INDONESIA*	21,413	OOCL
CMA CGM ANTOINE DE SAINT EXUPERY*	20,776	CMA CGM
MARSEILLE MAERSK*	20,568	Maersk
MANCHESTER MAERSK*	20,568	Maersk
MOL TREASURE*	20,182	MOL
COSCO SHIPPING TAURUS*	20,119	COSCO
COSCO SHIPPING ARIES*	19,273	COSCO
MAERSK HANOI	15,282	Maersk
COSCO SHIPPING ALPS	14,568	COSCO
MILANO BRIDGE	13,870	K Line

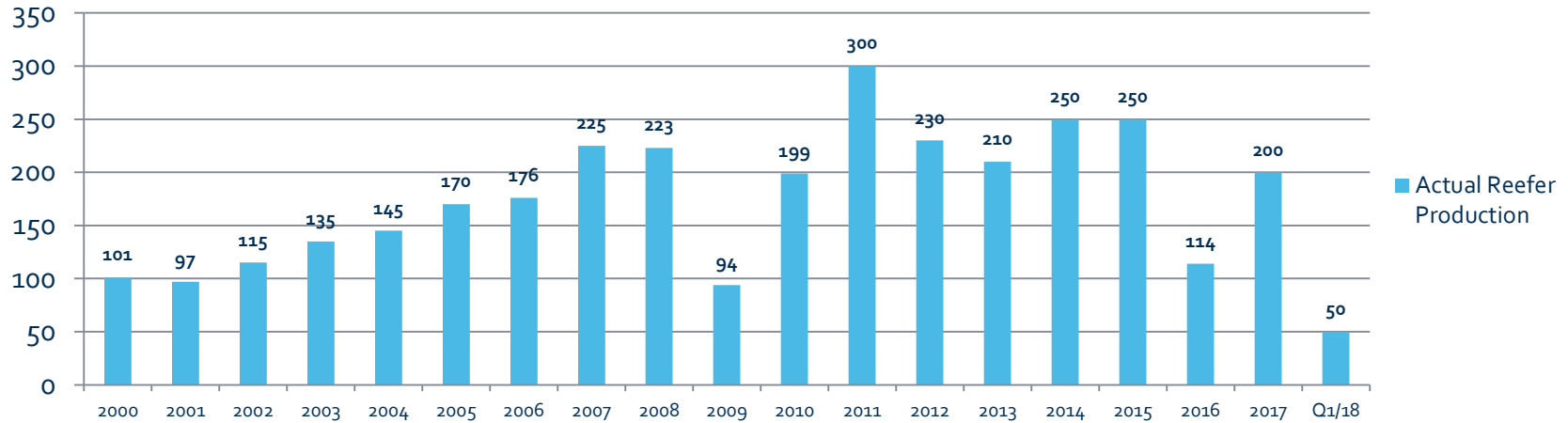
*megamax vessel 24 bays / 23 rows

Reefer Logistics: Reefer new buildings TEU

Strong orders in Q4/17 and Q1/18 kept supply and demand in balance



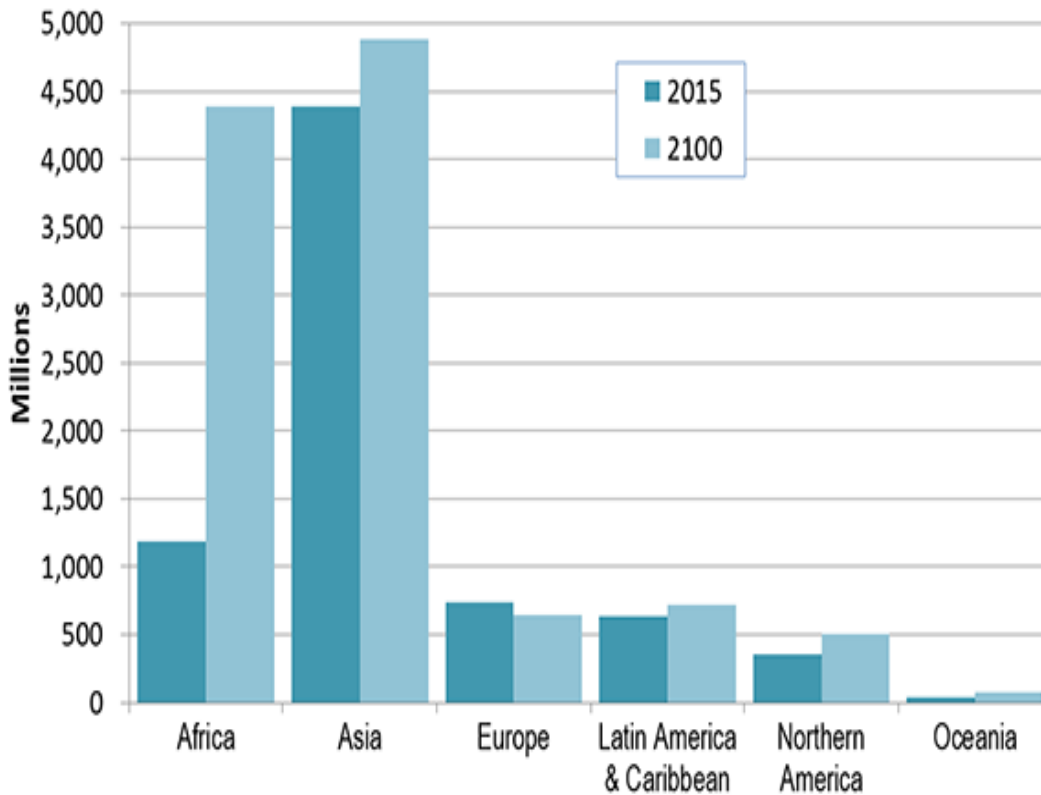
Actual Reefer Production



- Global Reefer manufacturing capacity: ~ 300.000 RE TEU p.a
- 2017 approx. 400.000 RE TEU over 15 years old (critical age)
- → large amount of Reefers should be put out of service (life cycle > 15 year)
- → Strong recent orders will keep Reefer demand and supply in balance

The global reefer market

world population 2015-2100



- Consumption growth in one of the major consumption markets – Europe – will stagnate as the population will decrease
- Largest growth projected in Africa
- Population and parallelly consumption will grow significantly in Asia and in particular China
- World population 2050: 9,5 - 10 Billion

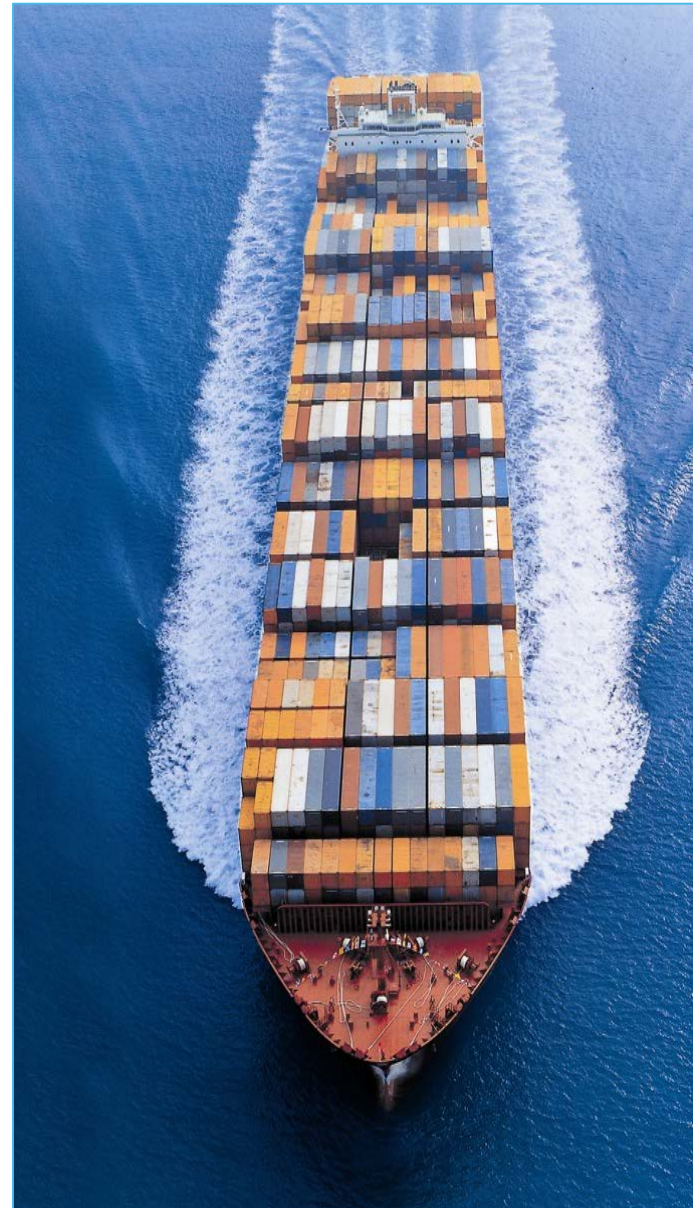
From United Nations World Population Prospects 2015.

The global reefer market

World population 2015-2100



- More people means more food.
- This will be grown in the best yielding areas.
- So it will have to be transported to the corners of the earth.
- So staying focused have to tools and the people ready for this business !



76,000 logistics experts



SEAFREIGHT

More than
4.4 million
TEUs handled

AIRFRIGHT

1.6 million
tons handled

CONTRACT LOGISTICS

Over *10.6 million m2*
warehousing & logistics space

OVERLAND

18.4 million
shipments

KN seafreight reefer logistics

cool facts



- Almost 250,000 Export Reefer TEU globally
- Average volume growth of 10 to 15 % per annum
- Market leadership globally as a freight forwarder
- 350 dedicated Reefer staff globally
- 55 branches with specialized operations / expertise
- Pharma Chain : 29 attested GXP stations
- Access and good relationship to all leading carriers
- Carrier independent temperature monitoring system ; most
- Carrier independent schedule system ; sea explorer





People Focus Dedication Specialisation

„Train people well enough so they can leave,
treat them well enough so they don't want to“ Richard Branson; Entrepreneur

Thank you !



KN Global reefer team