

# Mega-ships: do the benefits outweigh the costs to the transport chain?

Olaf Merk

1 June 2016

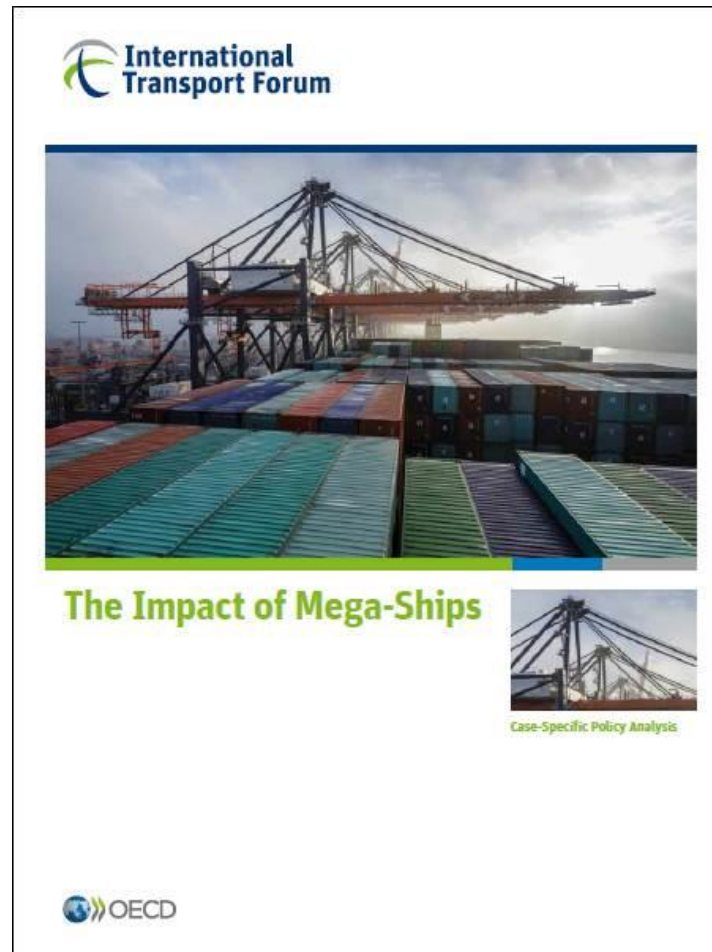
10<sup>th</sup> International Harbour Masters Congress

Vancouver, Canada

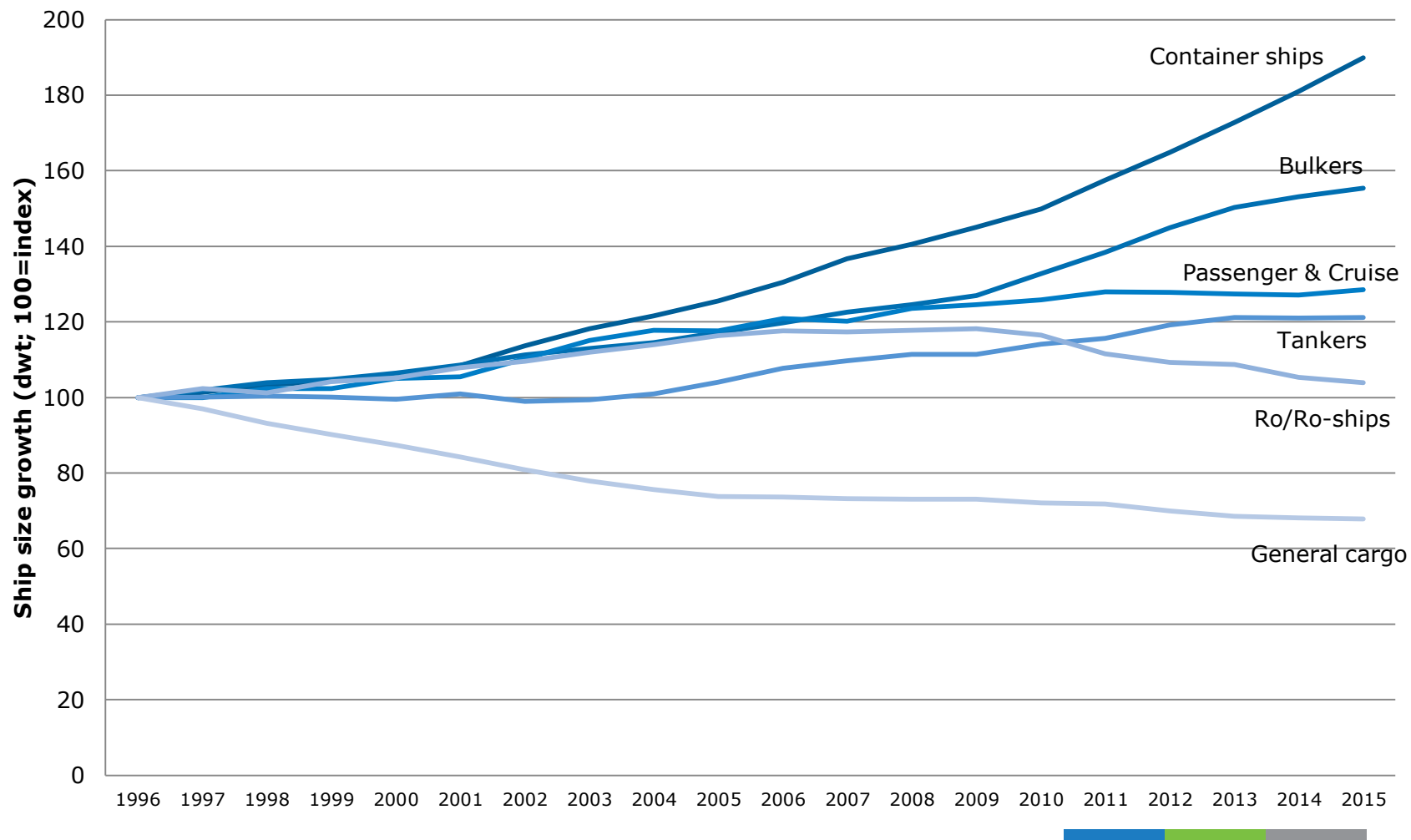
## **Big is beautiful?**

- Bigger ships
- Bigger costs, peaks, risks
- Bigger shipping lines
- Bigger ports and terminals
- Always bigger?

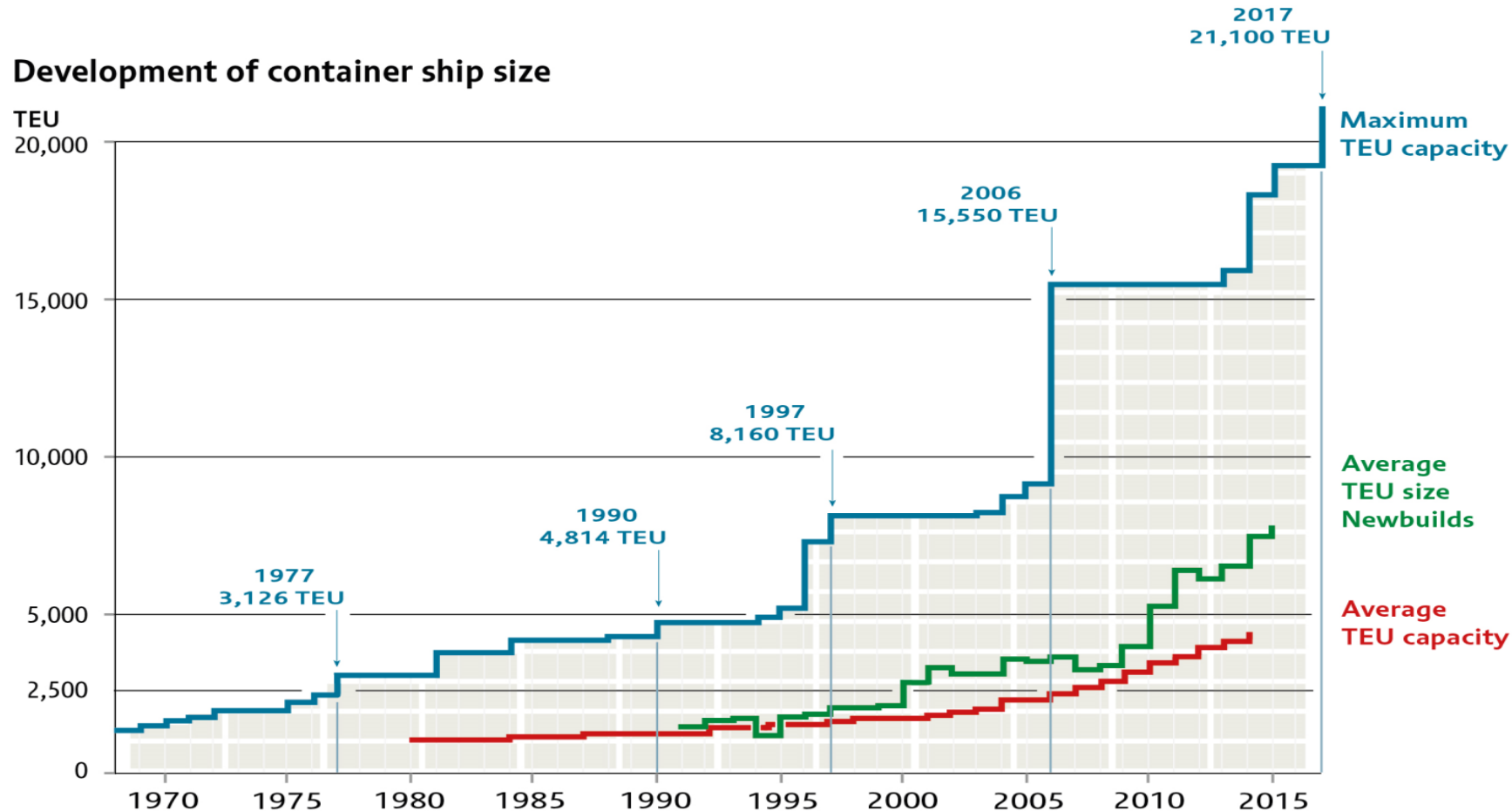
# “The Impact of Mega-Ships” Report



# Bigger ships

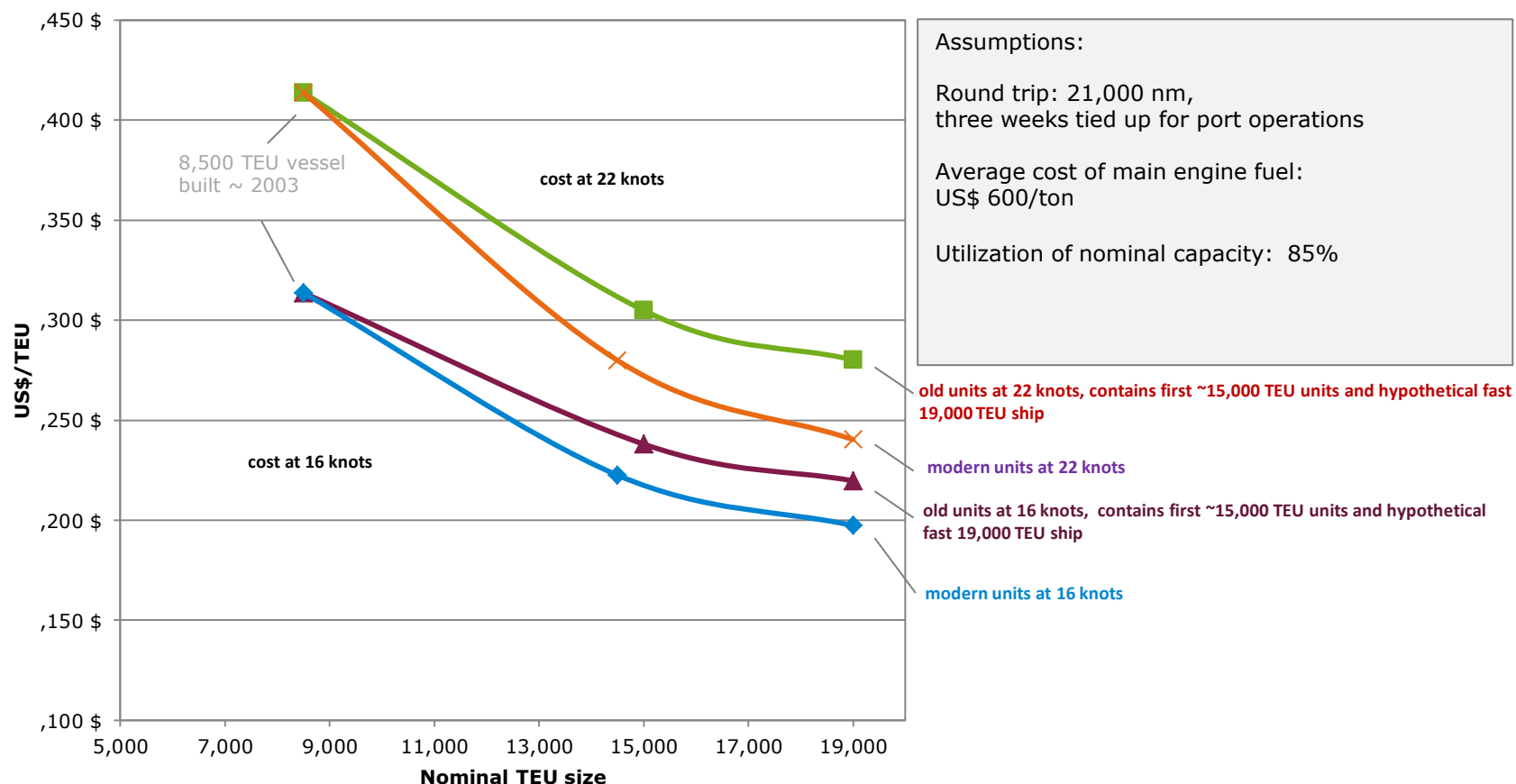


# Bigger container ships

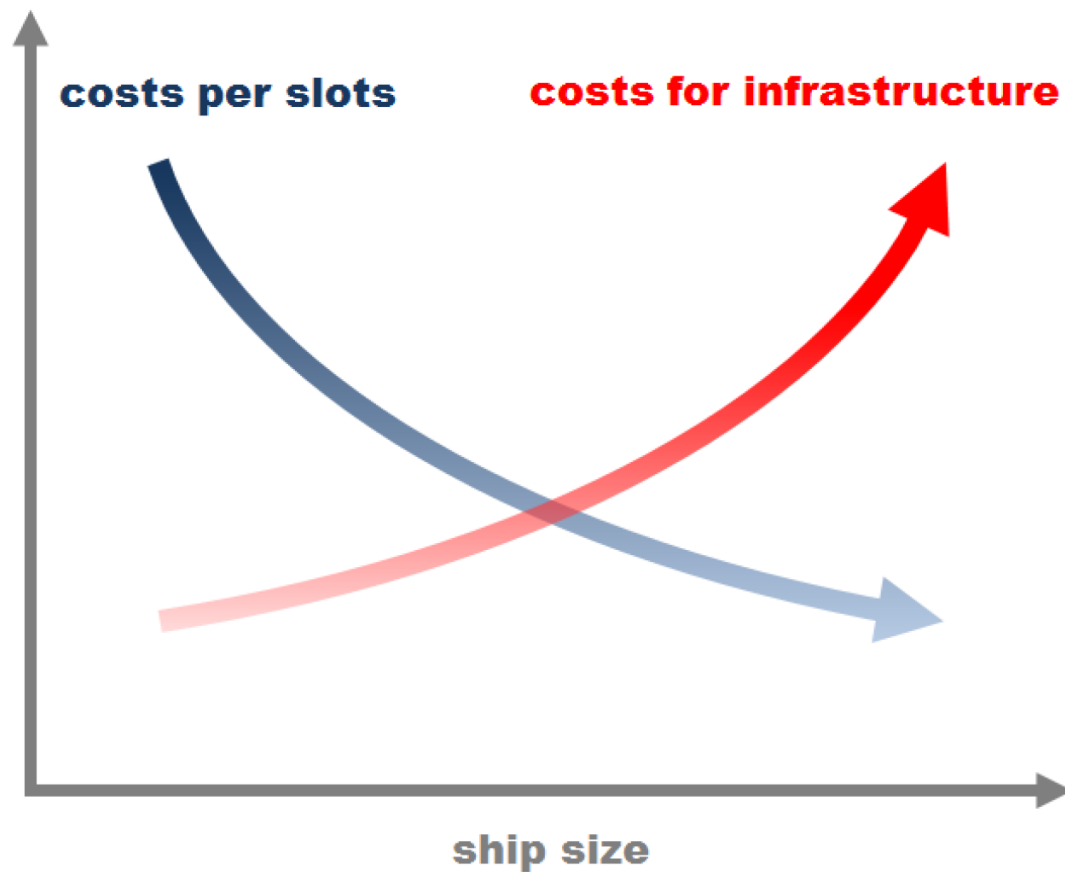


Source: OECD/ITF based on data from Clarkson Research Services

# Cost savings for shipping lines



## Bigger costs for the transport chain







MAERSK LINE

EVERGREEN









**Hapag-Lloyd**





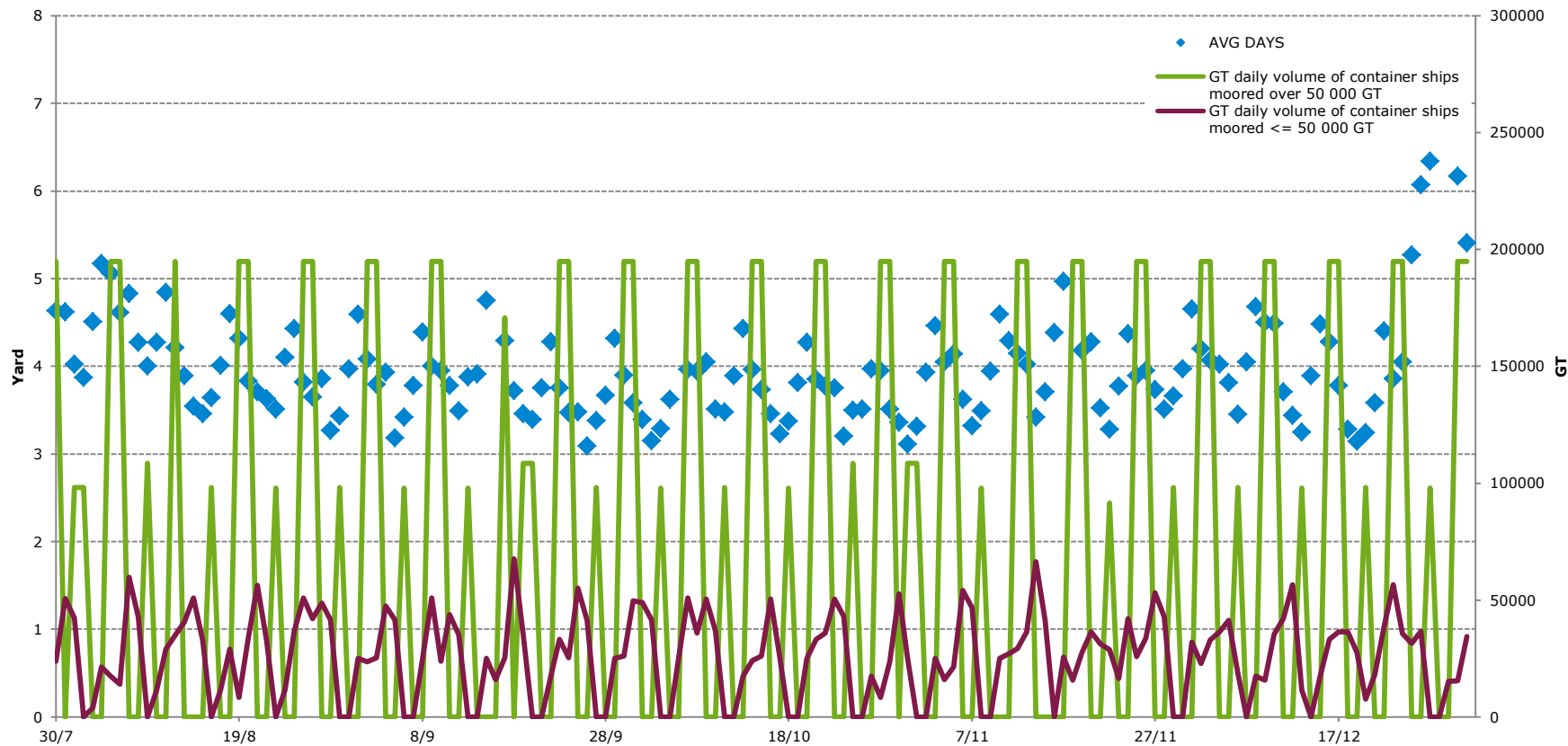






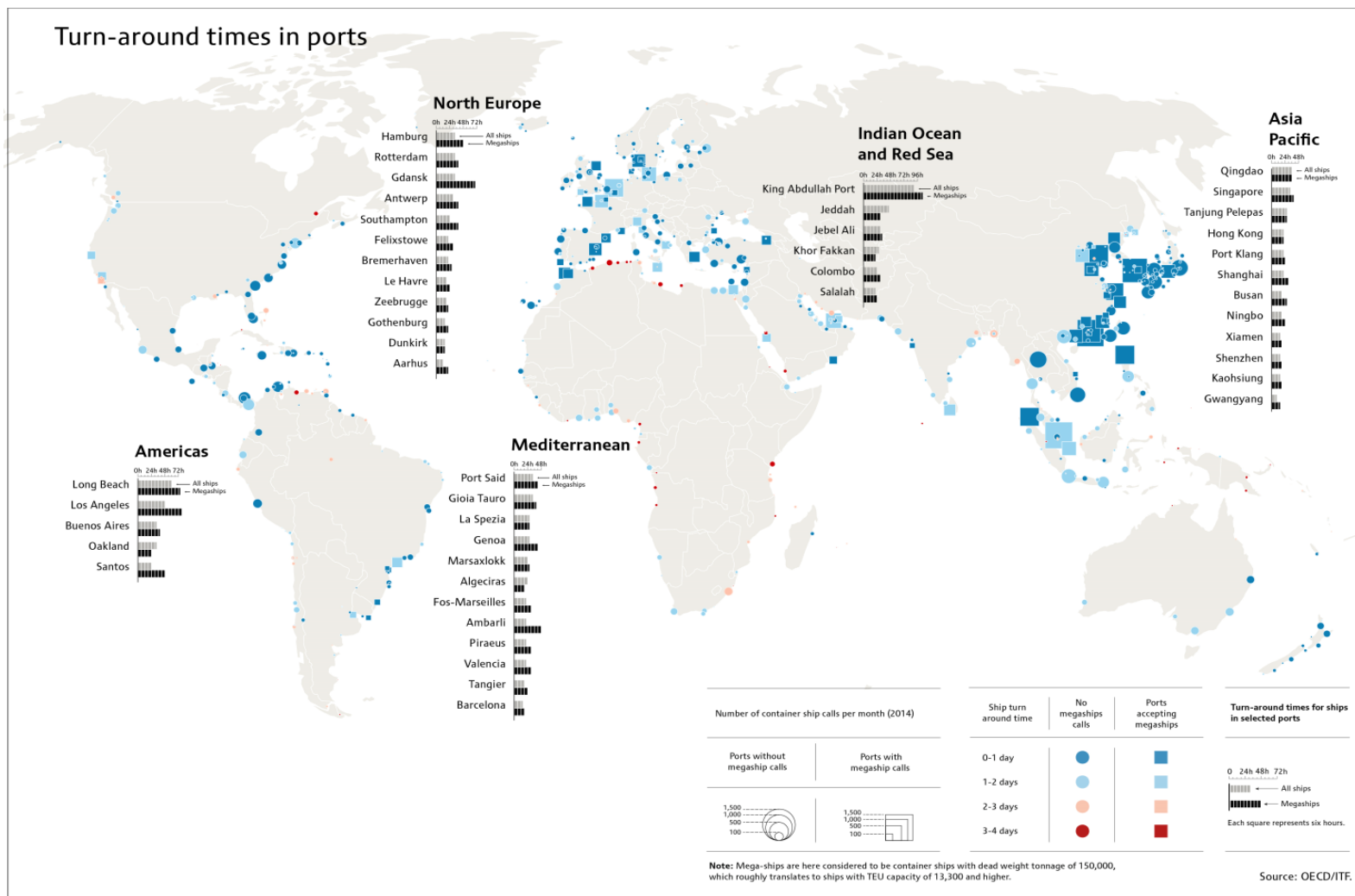


## Bigger peaks

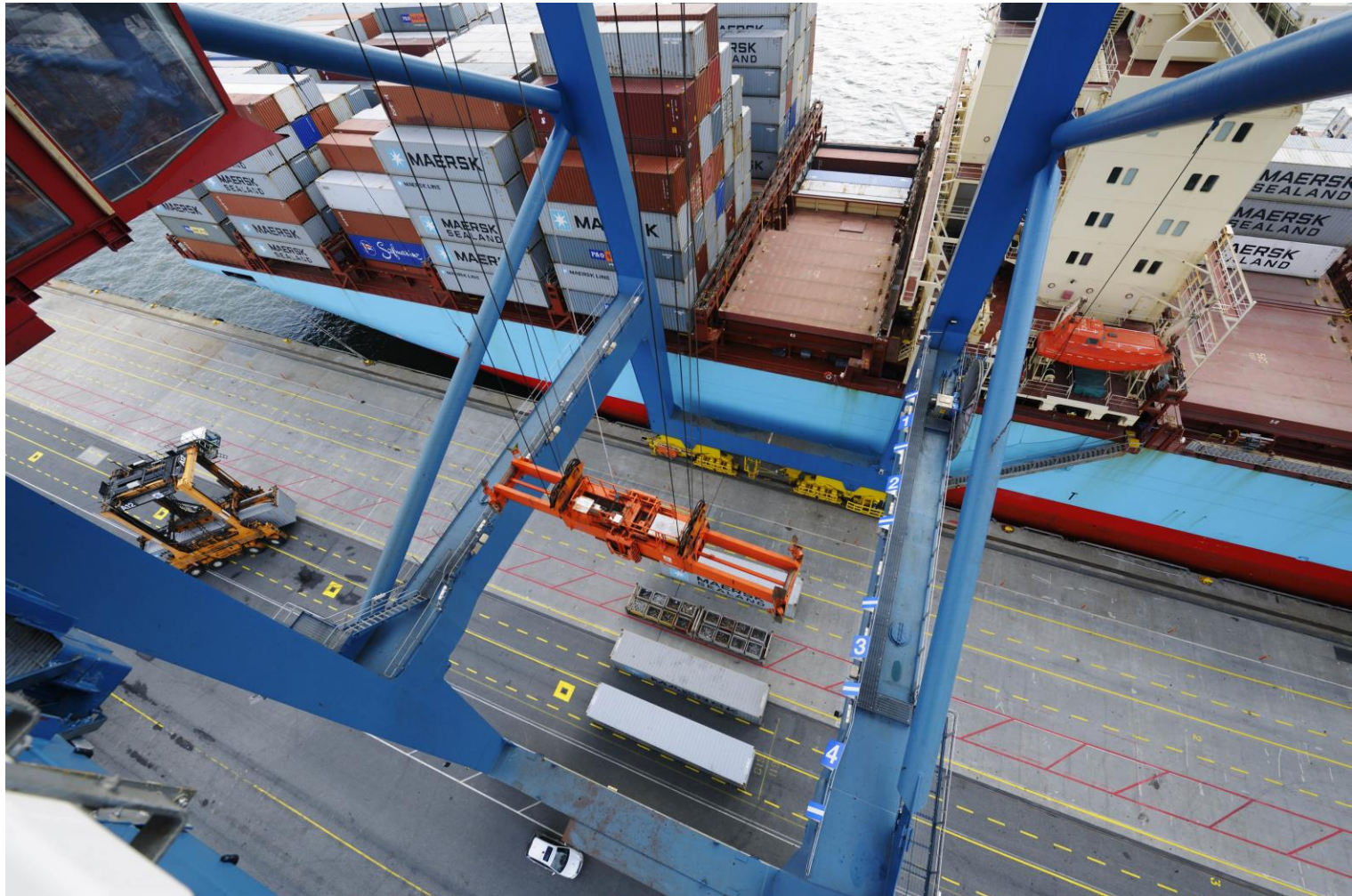




# Pressure on terminals

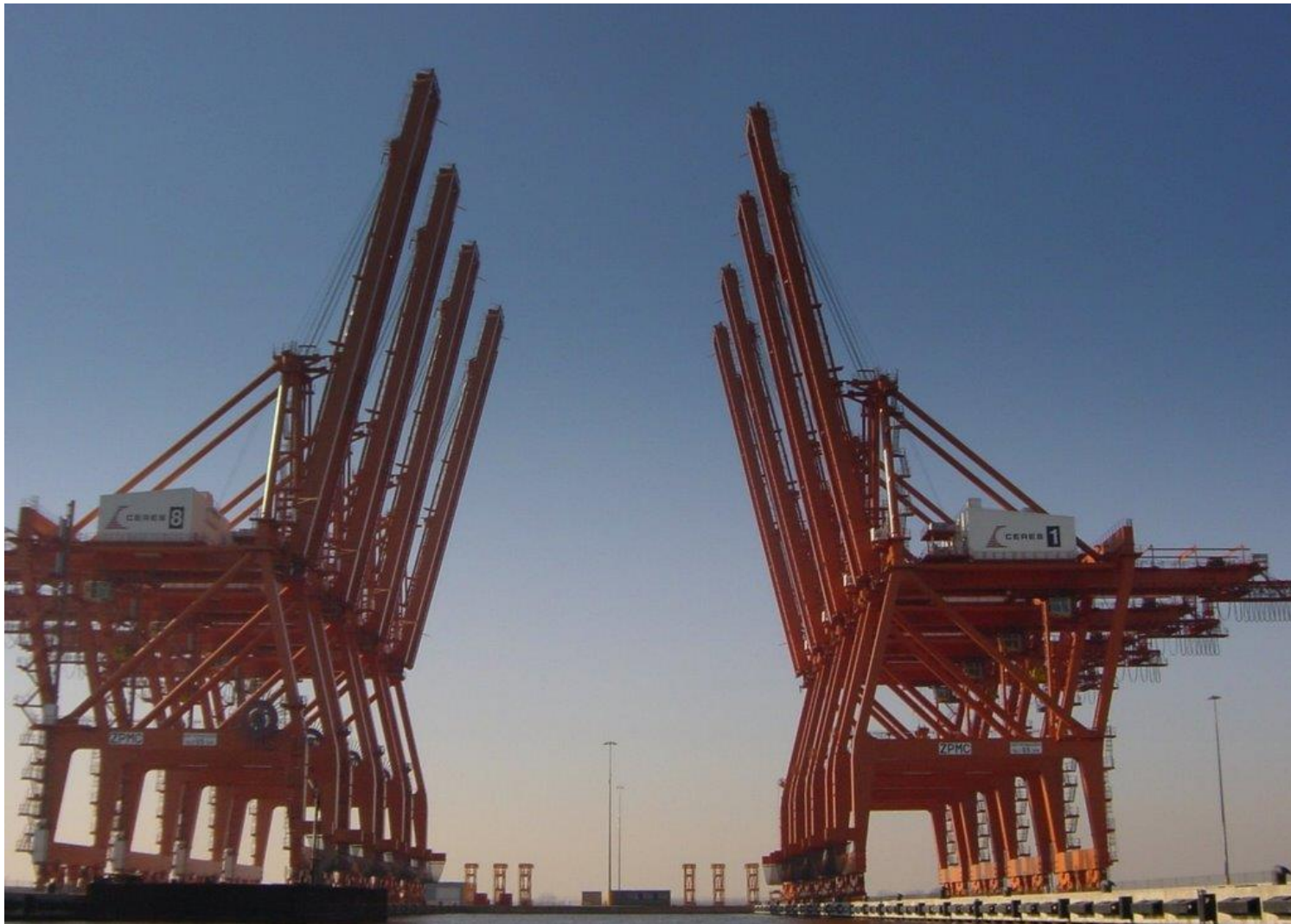


# Bigger is not faster

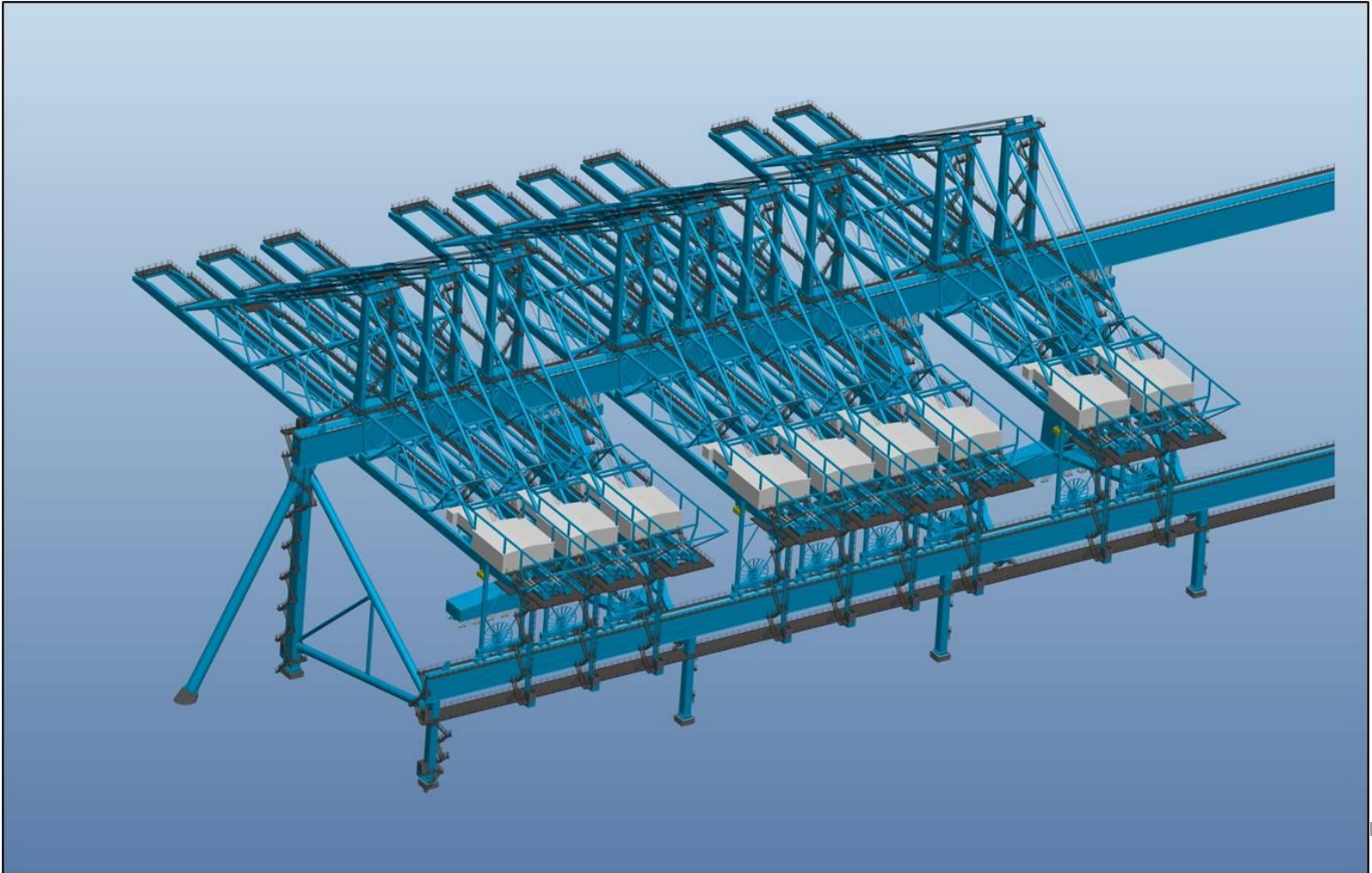




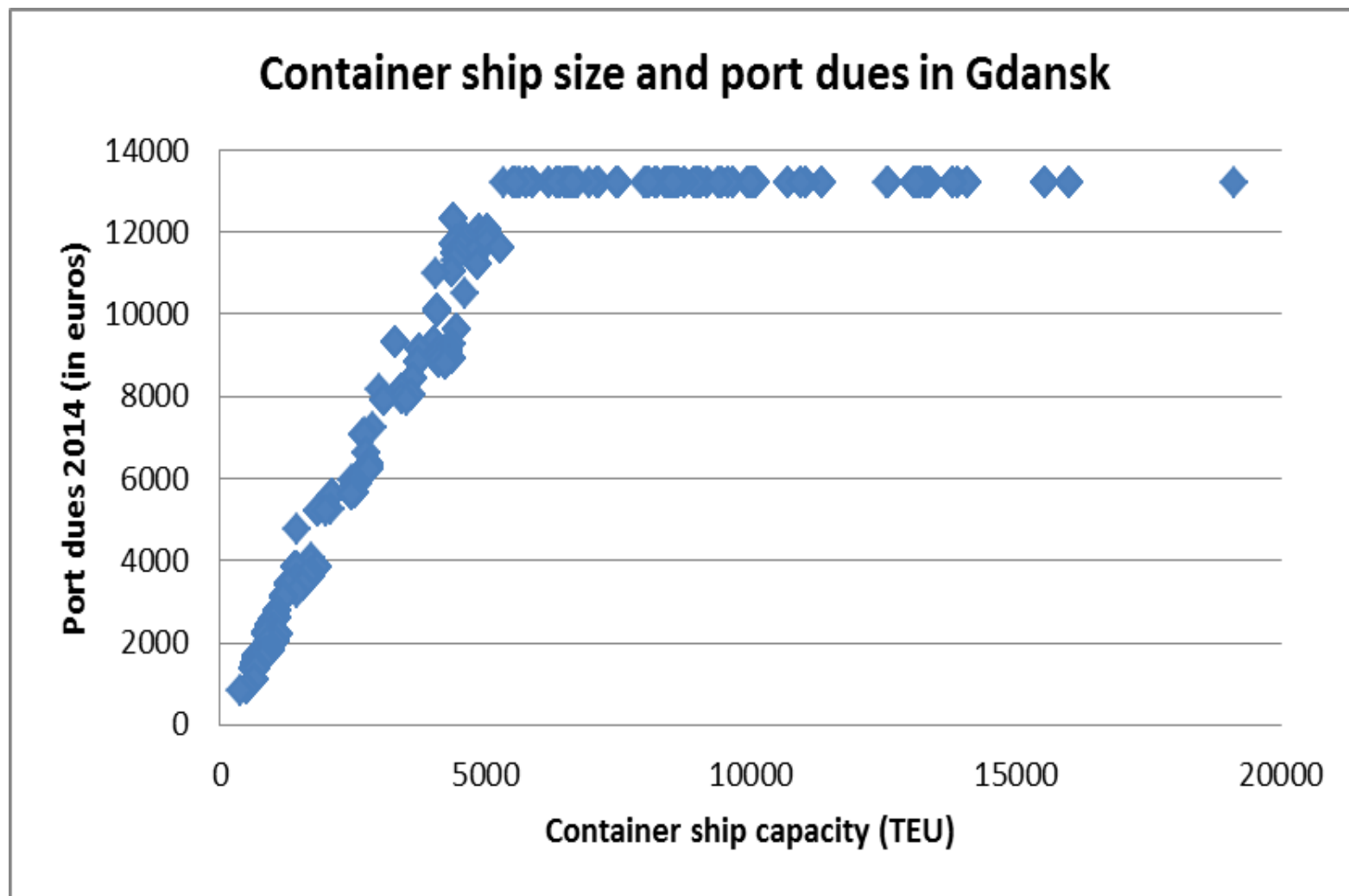
## How much faster is possible?



# How much faster is possible?

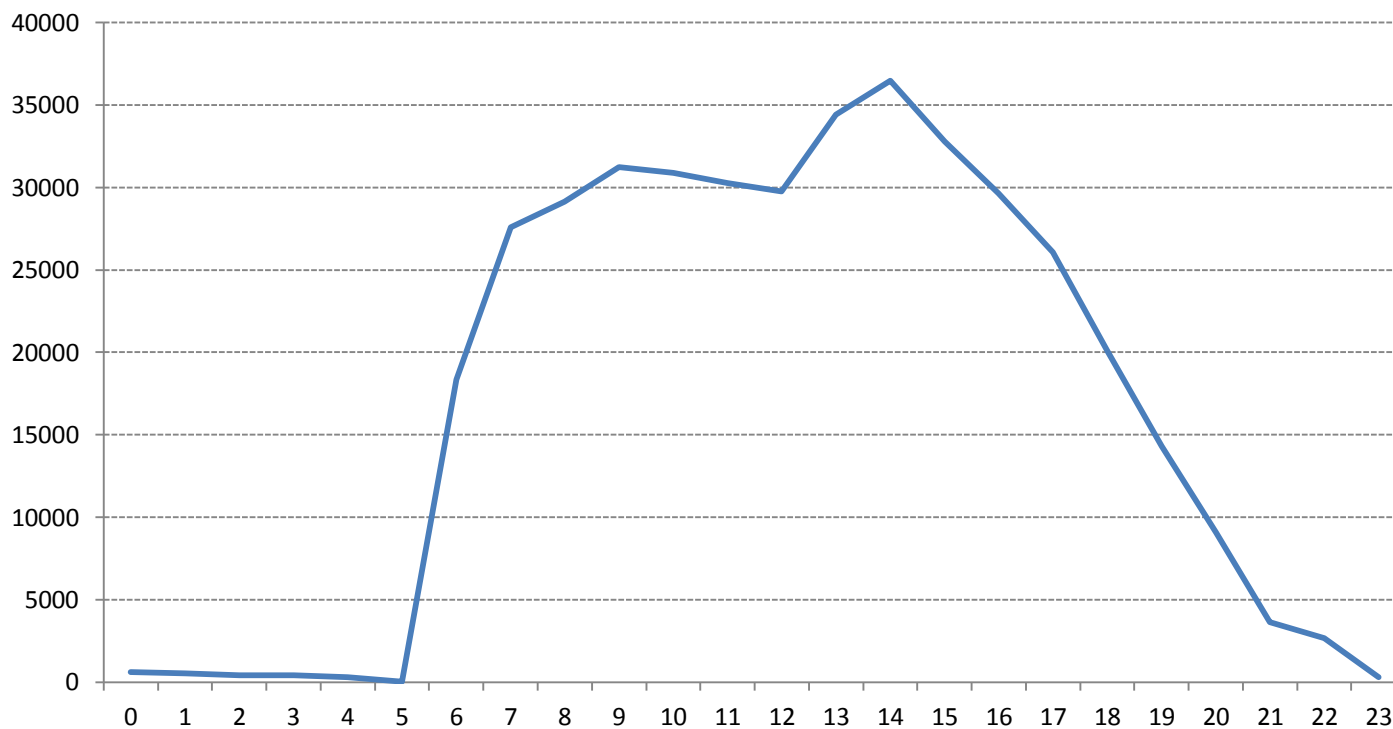


## Who is going to pay?



# More flexibility

Container arrivals/departures by road transport per hour of day in 2014









## Bigger risks



## Bigger risks



# Bigger container shipping lines

## Alphaliner - TOP 100

Operated fleets as per 14 January 2016

### THE TOP 100 LEAGUE

> The percentage shown on the left of each bar represents the operator's share of the world liner fleet in TEU terms.

> The light coloured bar on the right represents the current orderbook (firm orders).

Rnk	Operator	TEU	Share	Existing fleet	Orderbook
1	APM-Maersk	2,990,921	14.7%		
2	Mediterranean Shg Co	2,671,943	13.1%		
3	CMA CGM Group	1,821,728	8.9%		
4	Hapag-Lloyd	932,822	4.6%		
5	Evergreen Line	931,849	4.6%		
6	COSCO Container L.	862,025	4.2%		
7	CSCL	689,252	3.4%		
8	Hamburg Süd Group	649,310	3.2%		
9	Hanjin Shipping	626,217	3.1%		
10	OOCL	561,522	2.8%		
11	MOL	554,425	2.7%		
12	APL	535,007	2.6%		
13	Yang Ming Marine Transport Corp.	534,540	2.6%		
14	UASC	523,841	2.6%		
15	NYK Line	491,103	2.4%		
16	K Line	380,273	1.9%		
17	Hyundai M.M.	379,392	1.9%		
18	Zim	360,746	1.8%		
19	PIL (Pacific Int. Line)	358,229	1.8%		
20	Wan Hai Lines	221,034	1.1%		
21	X-Press Feeders Group	125,593	0.6%		
22	KMTC	108,233	0.5%		
23	HDS Lines	88,608	0.4%		
24	SITC	88,267	0.4%		
25	TS Lines	81,634	0.4%		
26	Arkas Line / EMES	58,339	0.3%		
27	Simatech	54,083	0.3%		
28	Quanzhou An Sheng Shg Co	51,531	0.3%		
29	RCL (Regional Container L.)	50,665	0.2%		
30	Zhonggu Shipping	45,764	0.2%		



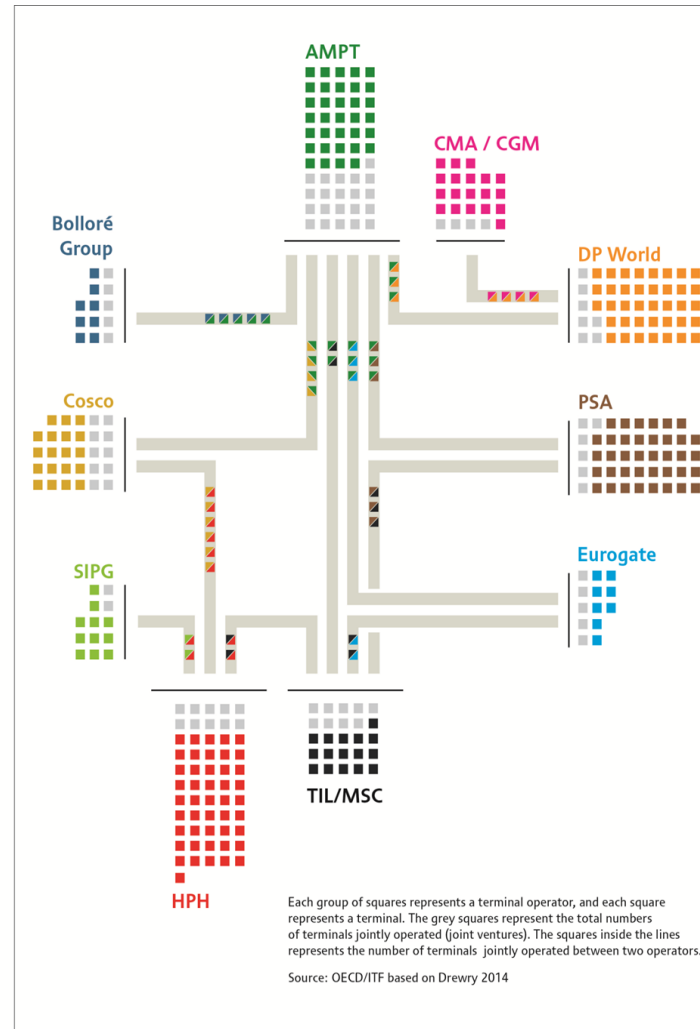
## Bigger shipping lines: alliances

### Alliance formation in container shipping

Q2 1996	Q1 1998	Q4 2001	Q4 2005	Q4 2009	Q1 2012	Q2 2015
<b>GLOBAL ALLIANCE</b> APL MOL Nedlloyd OOCL MSC	<b>NWA</b> APL/NOL MOL Hyundai	<b>NWA</b> APL/NOL MOL Hyundai	<b>NWA</b> APL/NOL MOL Hyundai	<b>NWA</b> APL/NOL MOL Hyundai	<b>G6 ALLIANCE</b> APL/NOL MOL Hyundai Hapag-Lloyd NYK Line OOCL	<b>G6 ALLIANCE</b> APL/NOL MOL Hyundai Hapag-Lloyd NYK Line OOCL
<b>GRAND ALLIANCE</b> Hapag-Lloyd NYK Line NOL P&OCL	<b>GRAND ALLIANCE II</b> Hapag-Lloyd NYK Line P&O Nedlloyd OOCL MSC	<b>GRAND ALLIANCE II</b> Hapag-Lloyd NYK Line P&O Nedlloyd OOCL MSC	<b>GRAND ALLIANCE III</b> Hapag-Lloyd NYK Line OOCL MSC	<b>GRAND ALLIANCE IV</b> Hapag-Lloyd NYK Line OOCL	<b>CKYH</b> Hanjin K-Line Yang Ming COSCO	<b>CKYH</b> Hanjin K-Line Yang Ming COSCO
<b>UNITED ALLIANCE</b> Hanjin (incl. DSR-Senator) Cho Yang UASC	<b>CKYH</b> Hanjin (incl. DSR-Senator) K-Line Yang Ming COSCO	<b>CKYH</b> Hanjin (incl. DSR-Senator) K-Line Yang Ming COSCO	<b>CKYH</b> Hanjin K-Line Yang Ming COSCO	<b>CKYH</b> Hanjin K-Line Yang Ming COSCO	<b>MSC/CMA CGM</b> MSC CMA CGM	<b>2M</b> MSC Maersk Line
<b>CKYH ALLIANCE</b> K-Line Yang Ming COSCO	<b>CKYH ALLIANCE</b> K-Line Yang Ming COSCO	<b>CKYH ALLIANCE</b> K-Line Yang Ming COSCO	<b>CKYH ALLIANCE</b> K-Line Yang Ming COSCO	<b>CKYH ALLIANCE</b> K-Line Yang Ming COSCO	<b>Ocean Three</b> CMA CGM China Shipping UASC	<b>Ocean Three</b> CMA CGM China Shipping UASC
<b>Maersk</b> Sea-Land	<b>Maersk</b> Sea-Land	<b>Maersk</b> Sea-Land	<b>Maersk</b> Sea-Land	<b>Maersk</b> Sea-Land	<b>Maersk</b> Sea-Land	<b>Maersk</b> Sea-Land
<b>MSC</b>	<b>MSC</b>	<b>MSC</b>	<b>MSC</b>	<b>MSC</b>	<b>MSC</b>	<b>MSC</b>
<b>CMA CGM</b>	<b>CMA CGM</b>	<b>CMA CGM</b>	<b>CMA CGM</b>	<b>CMA CGM</b>	<b>CMA CGM</b>	<b>CMA CGM</b>
<b>Evergreen</b>	<b>Evergreen</b>	<b>Evergreen</b>	<b>Evergreen</b>	<b>Evergreen</b>	<b>Evergreen</b>	<b>Evergreen</b>

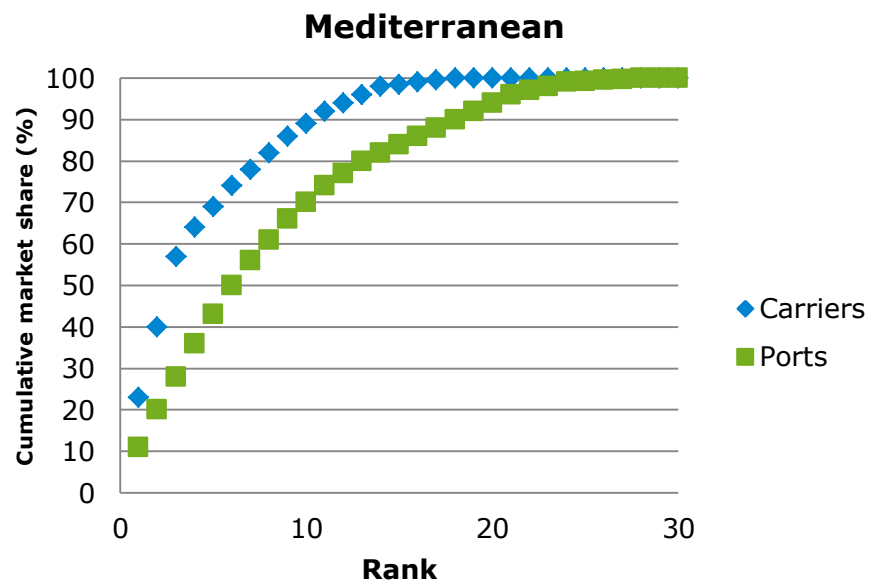
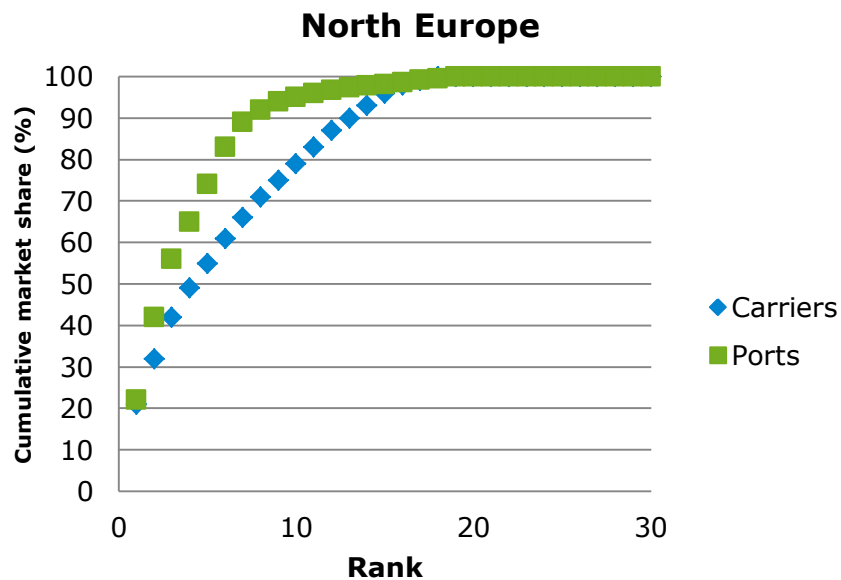
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# Bigger terminals: alliances of terminals

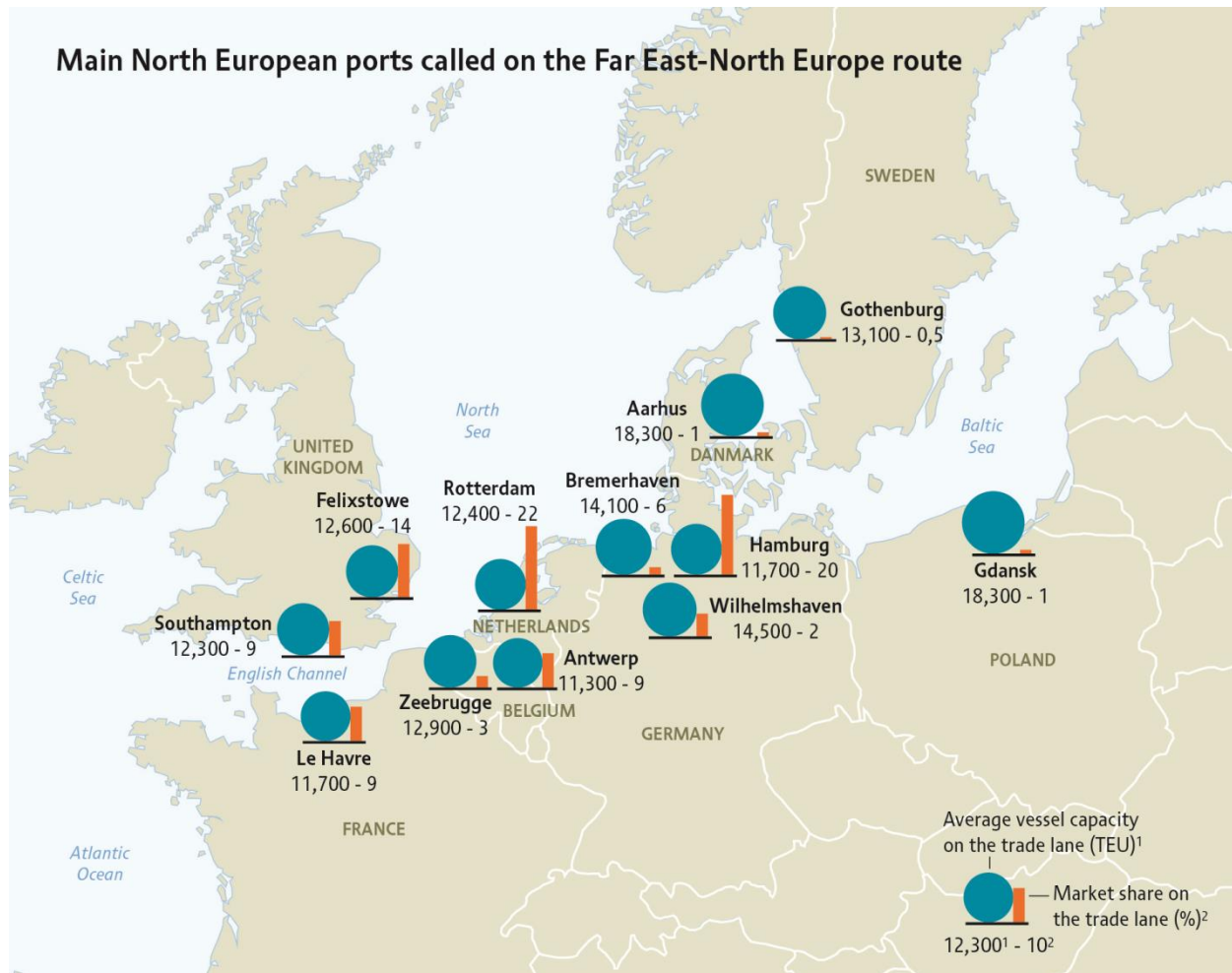




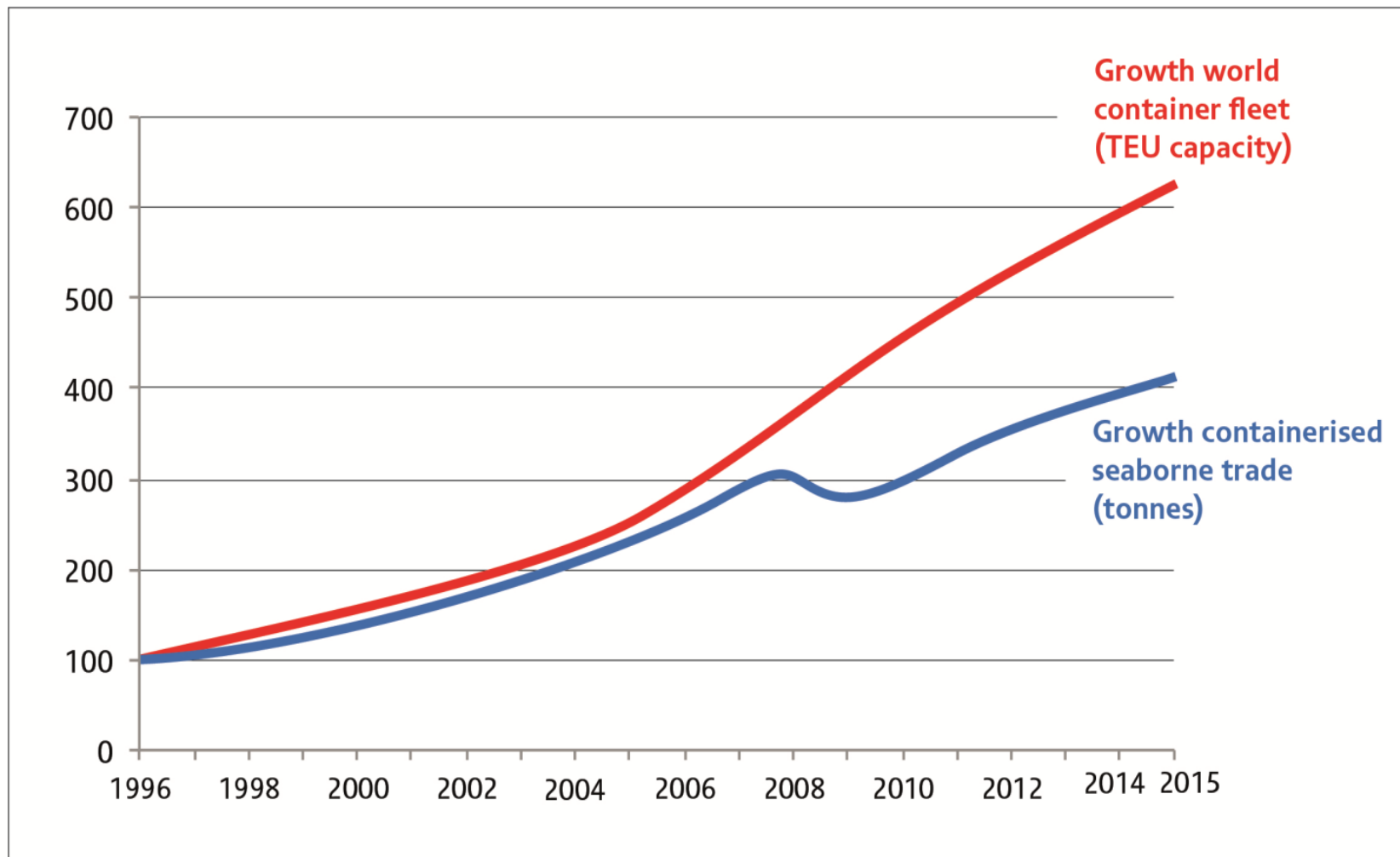
# Need for bigger ports?



## Bigger ports

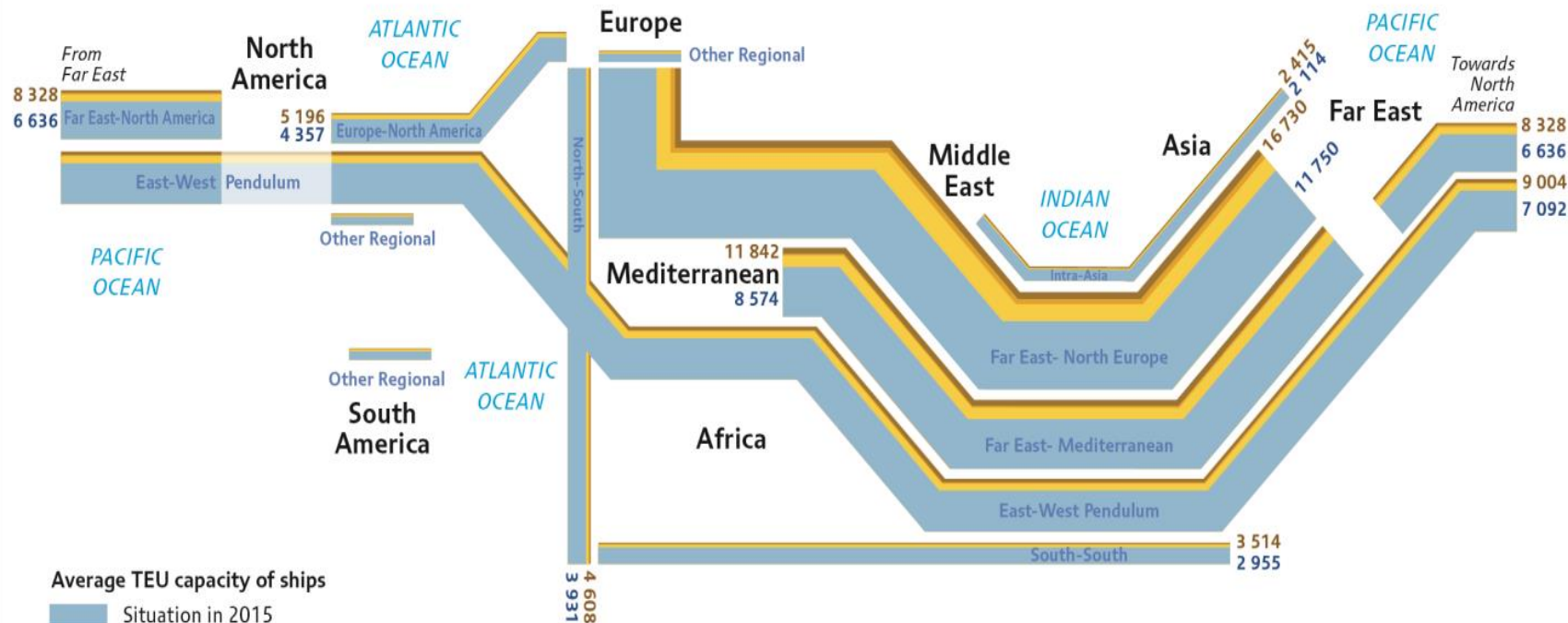


## Can the ships be filled?



# Where are we heading?

Average container ship size on main trade lanes: three scenarios for 2020



Average TEU capacity of ships

Situation in 2015

Projected increase in average ship size if there will be...

Capacity growth in line with market demand in 2020

50 container ships with 24,000 TEU capacity in 2020

100 container ships with 24,000 TEU capacity in 2020

NB. TEU (Twenty-foot Equivalent Unit). This refers to a 20 foot-long container. TEU is the standard unit used for indicating the capacity of container ships. The thickness of the lines is proportional to the average TEU capacity.

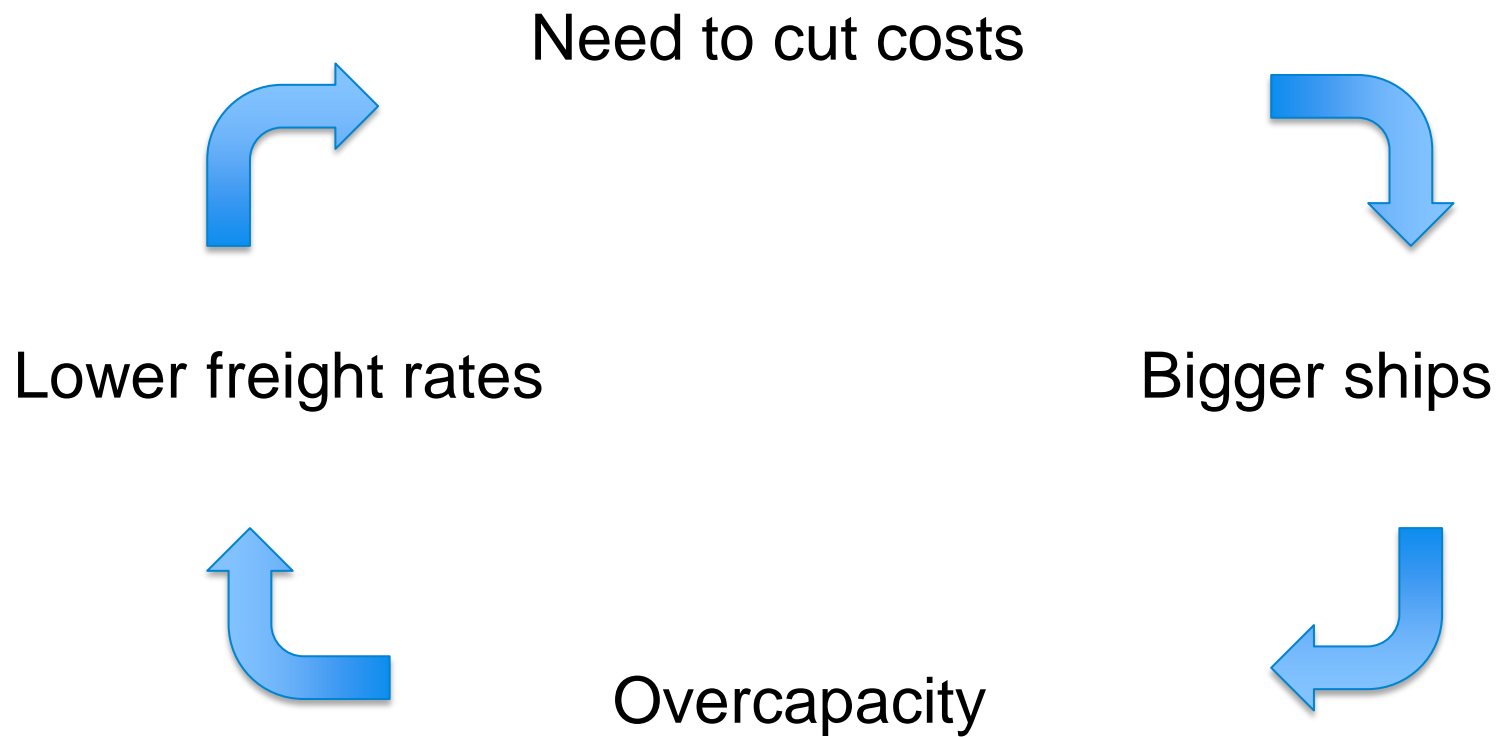
Source: OECD/ITF.

## Cascade effects



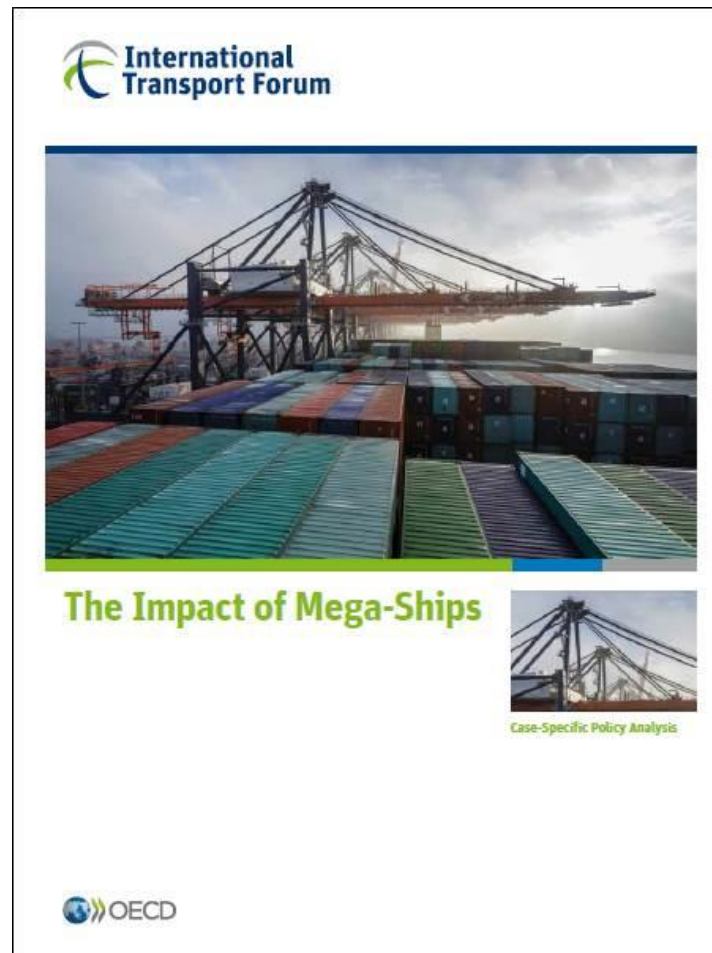


## Big, bigger, biggest: vicious circle?





# “The Impact of Mega-Ships” Report



# Thank you!

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