

# **Challenges and Strategies for Mega paradigm of Container ports - Busan port case -**

2017.7.12

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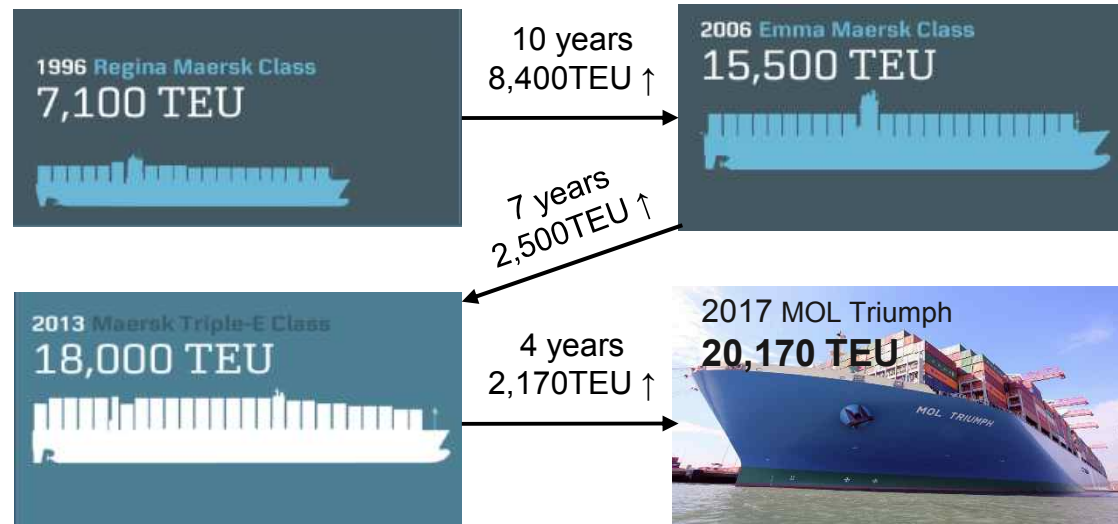
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# **I. Big challenges to the container port**

# Big, bigger, biggest

## 💡 Bigger ships

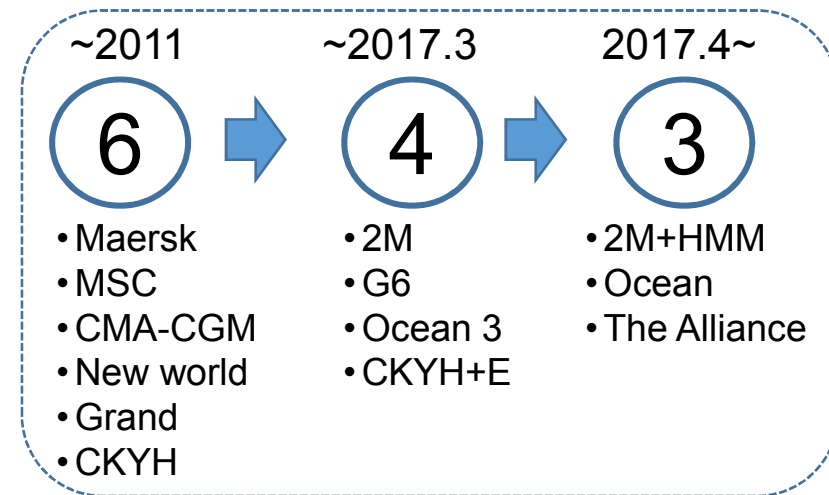
- Fast cycle
- 20,000 TEU ships already in service, now 40 ships on order
- Ever large?



Source : Maersk webpage, MOL logistics.

## 💡 Mega Alliance

- Less big customer, big competition
- Greater power, pressure on tariff
- More uncertainties (Are they stable? Another reshuffling?)



# Challenges to the terminals

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## Main challenges

- Reduced frequency + bigger ship = greater peaks
- Yard occupancy ratio
- Inter-terminal transfer
- Inefficiency in the port that have highly fragmented terminals

## Requirements to the terminals

- Productivity
- Low tariff
- Bigger terminal & handling equipment
- Depth
- Automation

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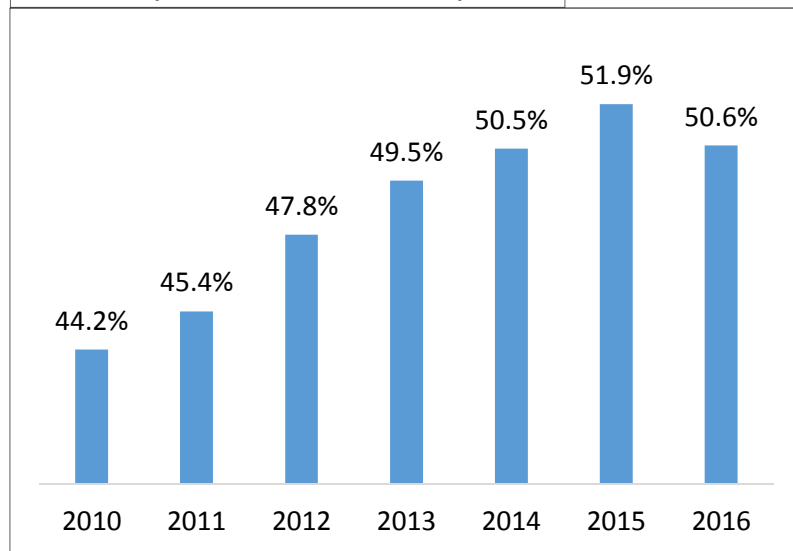
## **II. Impact on the container terminal - Busan port case -**

# High transshipment activity

## 🌐 Busan port is the second largest transshipment port in the world

- Ratio of transshipment container volume is over 50% since 2014
- Handled over 10 mil. TEU in 2015

Transshipment ratio of Busan port



Source : Busan port authority.

Estimated transshipment volume at Main Hub port, 2015

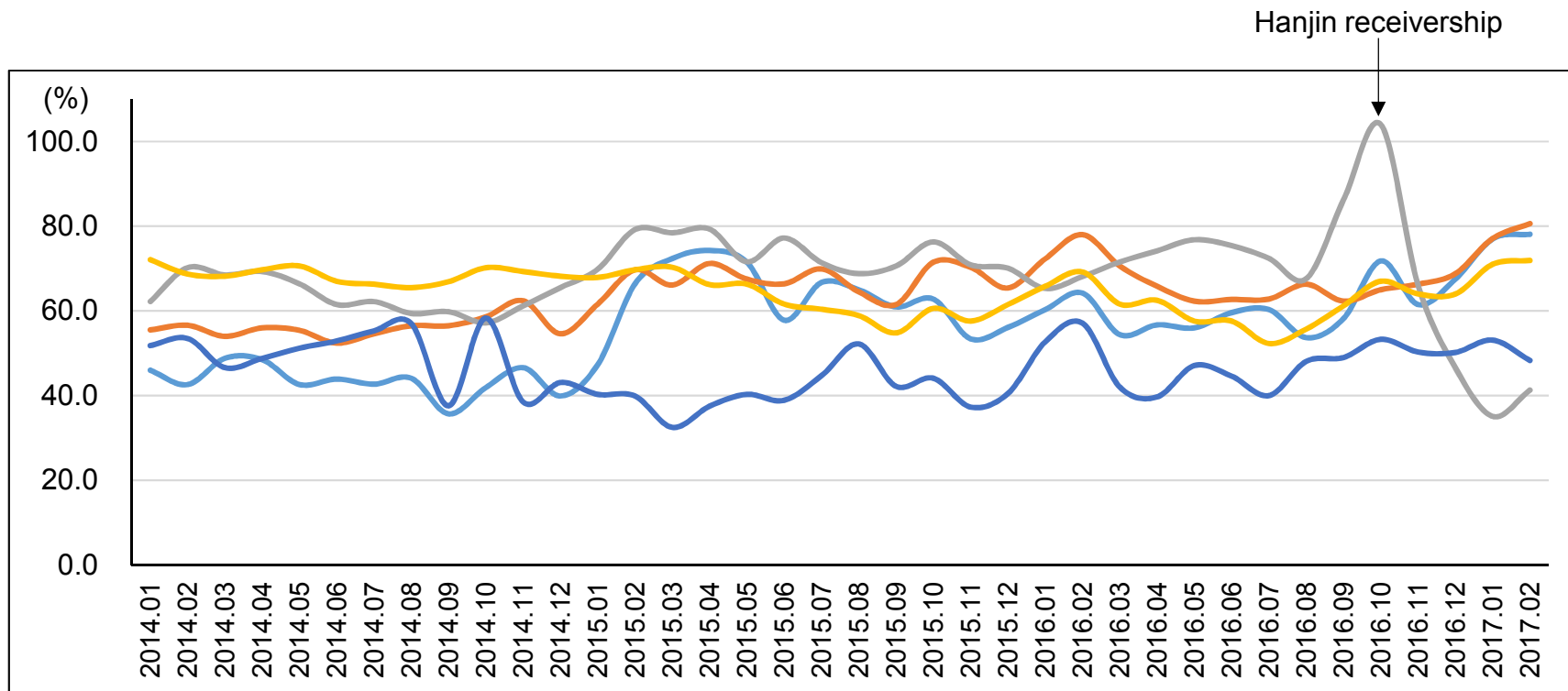
	port	country	transshipment
1	Singapore	Singapore	26,318
<b>2</b>	<b>Busan</b>	<b>S Korea</b>	<b>10,150</b>
3	Tanjung Pelepas	Malaysia	8,095
4	Port Kelang	Malaysia	7,931
5	Jebel Ali	UAE	7,640
6	Hong Kong	Hong Kong	5,353
7	Shenzhen	China	4,852
8	Kaohsiung	Taiwan	4,788
9	Ningbo	China	4,784
10	Shanghai	China	4,384

Source : Drewry, Container Forecast & Annual Review 2016/2017, 2016.

# Yard occupancy ratio

## 🟢 Average 65% of utilization since 2014

- 🟡 Internationally accepted that 70% of utilization is maximum efficiency(Drewry, 2015)



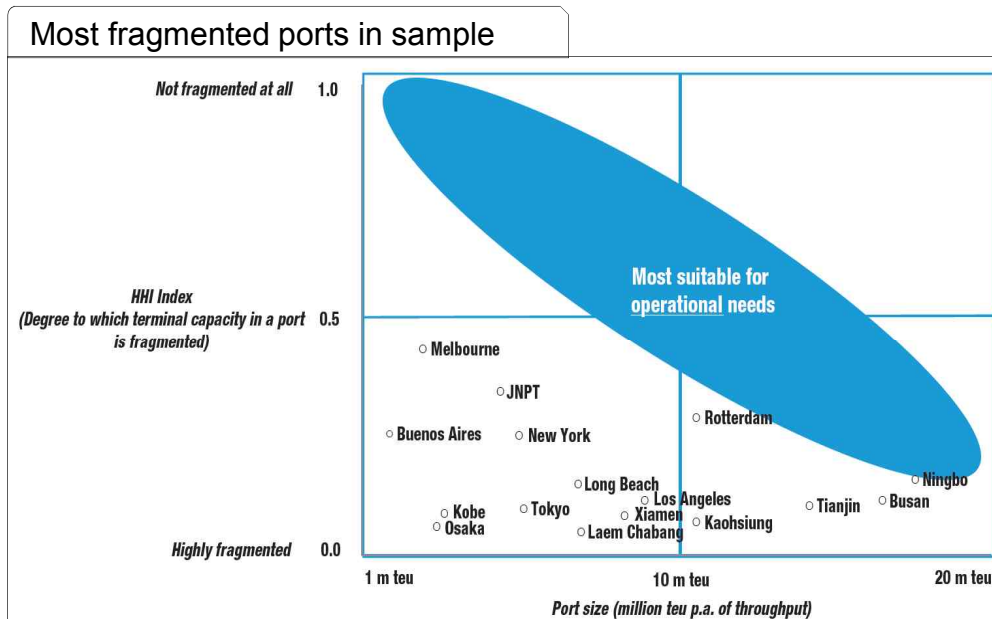
Source : Korea Maritime Institute.



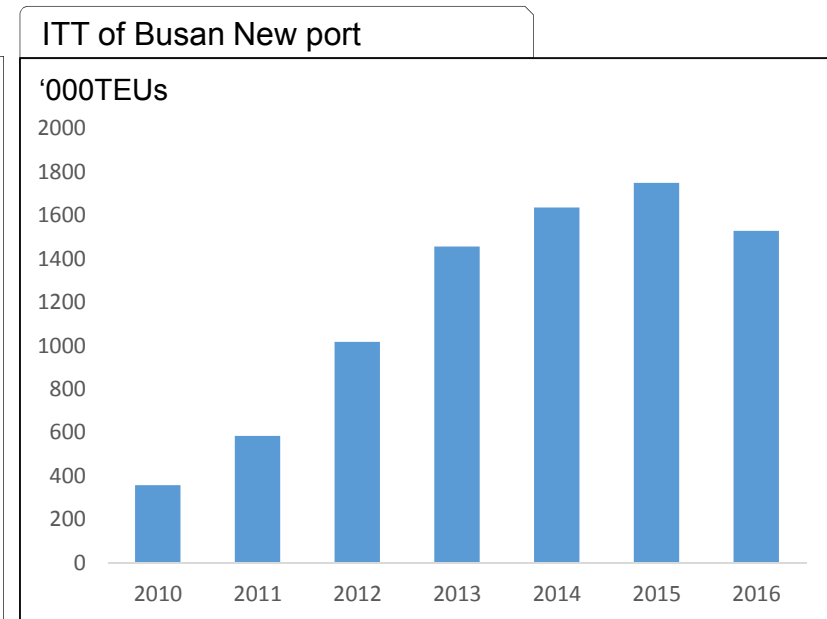
# Inter-terminal transfer

## Increasing ITT

- Belong to highly fragmented port
- Short terminal length
- Changes of calling terminals after reshuffling of shipping alliance



Source : Drewry Maritime Research.

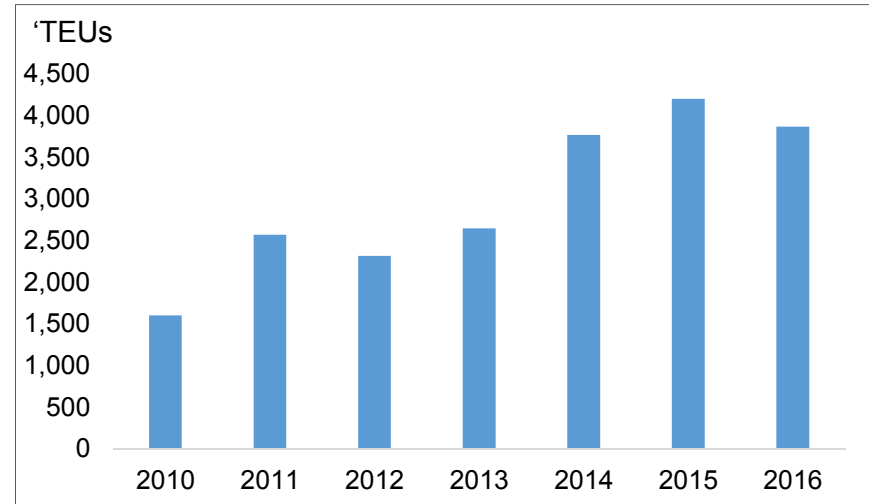


Source : Korea Maritime Institute.

# Peaks & Utilization

## Increasing moves per vessel call

- Average 4,000 moves per call over 15,000 TEUs big ship in 2015
- Good AVR (Average vessel rate)



Source : Korea Maritime Institute.

## Utilization

- Simultaneous idle and waiting time in berth window
- Can be maximize space & berth utilization
- Consolidation is big challenge

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## **III. Strategies of Busan port**

# Strategies of Busan port

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## Terminal consolidation

- Ownership consolidation of old port (North port), concentrate to New port
- Long-term plan to consolidate Busan new port terminals

## Reduce inefficiency

- Joint operation of berth between terminal operators to reduce ship waiting
- More collaboration between carriers and terminals
- Sharing container information in order to maximize efficiency of ITT

## Improve productivity

- Planning to construct fully automated terminal at new terminal
- Reduce operation time for handling container

**Thank you!**

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