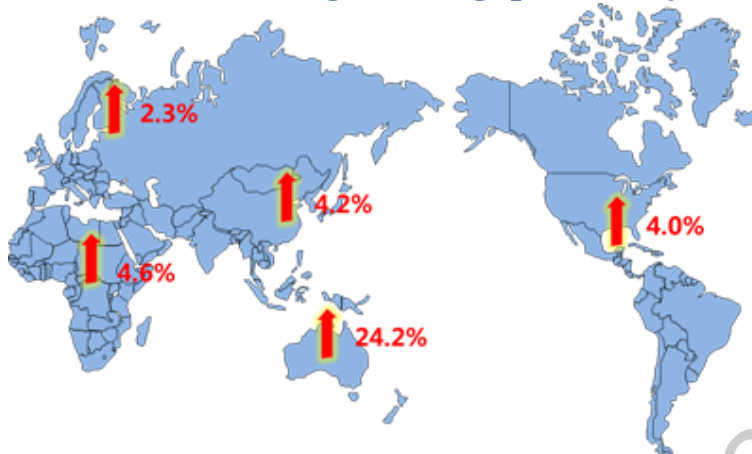


Global Port Development Report

——Steady growth of global economy and recovery of container trade

◇ Growth Rates of Cargo Throughput of Major Ports



- **Global container ports recovered and cargo throughput grew at a slower rate.** Although ports in Europe, the US and Australia grew steadily and those in Africa regained growth, global ports still grew at a slower rate because of the economy leveling off and slower port growth in Asia. However, the upswing in European and American merchandise trade boosted the overall container throughput in Europe, the US and Asia, and main ports around the world achieved an overall growth rate of more than 5% this quarter, whereas Chinese ports were in a recession with general growth decline.

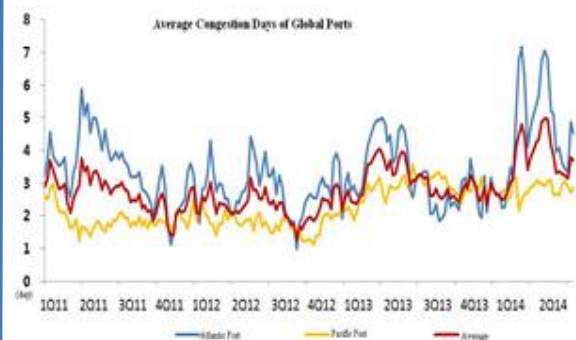
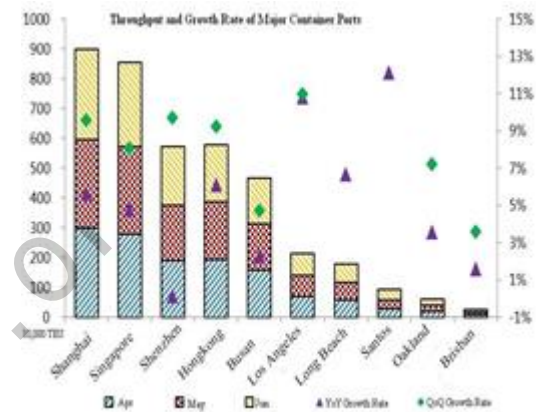
- **Increment effect helped global terminal operators develop aggressively.** In H1, throughput growth of global terminal operators obviously increased compared with the same period of last year. Foreign operators such as Maersk, DP World and ICTSI achieved notable growth thanks to the recovery of European and American ports, while Chinese-funded global terminal operators mainly benefited from the increment effects of their newly bought terminals.

Topics Inside ▶▶▶

- Chinese ports developed well and will continue the uptrend next quarter.
- New round of port game – competition in tax and fee preference
- Deepened port integration in regional economy

——Please read the disclaimer following the report carefully.——

Panorama on Global Ports ▶▶▶



Side Products ▶▶▶

- Rankings of Global Ports with Greatest Potential
- Comprehensive Development Index of Global Ports

Port Development Dept.▶▶▶

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I . Overview of Global Port Production in Q2

- Global ports grew at slower rate and low-speed growth may become normal for Chinese and Korean ports.
- Container throughput picked up speed and maintained more than 5% growth in general in Europe, the US and Asia.
- With lowering price, main ports around the world performed similarly in iron ore and coal.
- Liquid bulk cargo at global ports grew at slower rate this quarter.

1.1 Overview of global port operation

The steady recovery of global economy and merchandise trade in 2014Q2 spurred the increase of shipping demand, and the ports registered notable quarter-on-quarter growth after the bad weather and holiday influence in Q1. However, Asian ports grew slowly because of the industrial transformation and economic slowdown in China and other emerging market countries in Asia, and main ports around the world came to a “slow lane” of growth with an overall growth rate of less than 5%. With the arrival of peak shipping season, port performance is expected to pick up in H2, but the growth rate of global ports will remain on a low level due to insufficient internal drive of emerging economies and aggravating international trade disputes and geopolitical risks.

As shown in Table 2-1, European and American ports performed steadily and African ports bottomed out despite the general weakness of global ports this quarter, and medium- and small-sized ports took the lead again because of the small base number last year. While large Chinese ports such as Shanghai, Ningbo-Zhoushan and Tianjin had obviously slower throughput growth because of declining minerals and building materials caused by investment slowdown, large pivotal ports in Europe and the US maintained a sound growing momentum, resulting in a division among ports in different regions.

Table 1-1 Cargo Throughput of Global Major Ports

Unit: 1,000 Ton

Continent	Port	2Q14	2Q13	YoY growth rate (%)	1Q14	QoQ growth rate (%)
Asia	Ningbo-Zhoushan	231810	219060	5.82	213390	8.63
	Shanghai	198690	198360	0.17	184690	7.58
	Singapore	141780	147410	-3.82	144370	-1.80
	Tianjin	137990	133870	3.08	120970	14.07
	Guangzhou	124110	116780	6.28	109550	13.29
	Tangshan	124080	105200	17.95	118610	4.61
	Qingdao	118910	113440	4.82	122920	-3.26
	Dalian	104830	103060	1.72	108250	-3.16

	Yingkou	87130	82720	5.33	89340	-2.47
	Busan	86370	83010	4.05	83010	4.04
	Rizhao	85280	78920	8.06	87050	-2.03
	Qinghuangdao	67890	68580	-1.01	66440	2.18
	Kwangyang	60650	58230	4.16	63590	-4.61
	Yantai	59310	57660	2.86	61060	-2.87
	Shenzhen	55330	59610	-7.18	50700	9.13
	Xiamen	50700	47990	5.65	46770	8.4
	Zhanjiang	49880	44310	12.57	55880	-10.74
	Lianyungang	49320	46230	6.68	49580	-0.52
	Ulsan	47900	45910	4.34	49170	-2.59
	Huanghua	47740	42670	11.88	40100	19.05
	Fuzhou	37580	32120	17.00	33340	12.72
	Inchon	35690	36120	-1.18	38560	-7.42
	Pyeongtaek-Karatsu	28380	26560	6.88	32450	-12.52
	Quanzhou	27950	27700	0.90	26770	4.41
	Keelung	18750	17180	9.09	16780	11.69
	Pohang	17290	15460	11.82	16140	7.17
	Taishan	16150	16230	-0.50	18300	-11.76
	Jeddah	13830	15800	-12.49	13970	-1.05
Tonghae	8270	8010	3.20	7820	5.70	
Europe	Rotterdam	112270	110630	1.49	108880	3.12
	Antwerp	50060	48650	2.90	48170	3.94
	Barcelona	11480	10930	5.08	10560	8.73
	Riga	10250	9250	10.81	9920	3.35
	Tallinn	6960	7210	-3.46	8280	-16.02
America	Mexico	71830	72260	-0.59	70070	2.51
	South Louisiana	59960	51900	15.54	65970	-9.12
	Long Beach*	41740	40980	1.88	39960	4.46
	Santos	27750	28900	-3.98	25140	10.40
	Tacoma	4470	3490	28.15	4920	-9.16
	Virginia	4410	4160	6.02	4310	2.36
	Halifax	1860	2190	-15.43	2040	-8.91
Africa	Richards Bay	32660	30720	6.30	31840	2.58
	Durban*	19320	19140	0.95	19410	-0.44
	Saldanha Bay*	16670	15760	5.81	14810	12.62
	Cape Town*	4160	3800	9.51	4080	1.89
	Port Elizabeth*	3340	2960	12.92	2770	20.50
	East London*	470	560	-16.98	390	19.14

	Mossel Bay*	340	610	-44.68	510	-33.86
Oceania	Hedland	106270	83500	27.27	92530	14.85
	Maine potter	29590	25850	14.46	25310	16.91
	Brisbane	11610	9420	23.28	8470	37.03

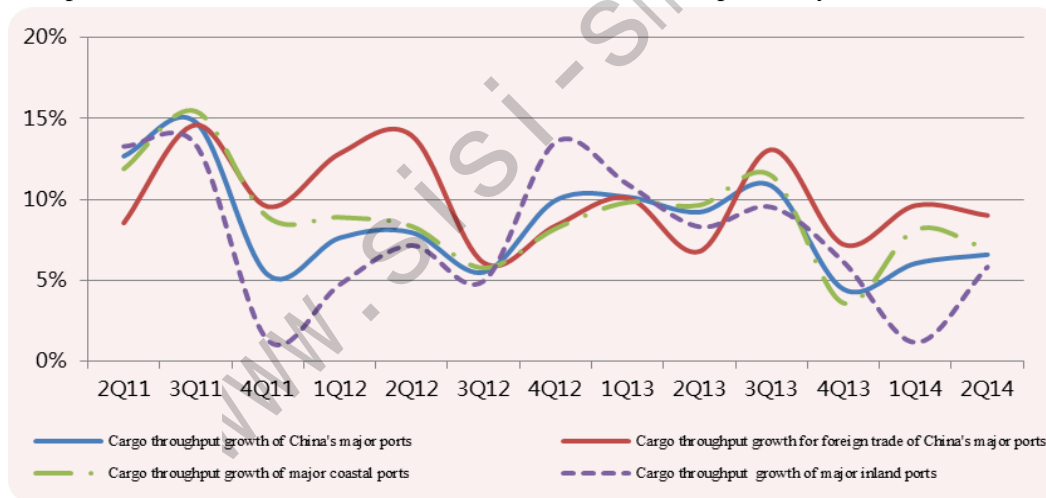
Source: Website of Ministry of Transport of the People's Republic of China, and websites of port authorities, sorted by SISI

i. Smaller growth for traditional large ports and Port Hedland ranking top 10

Global trade showed conspicuous recovery in Q2 whereas Chinese ports suffered general growth slowdown due to sluggish domestic trade shipment. Among ports with a single-quarter throughput larger than 100 million tons, only Guangzhou, Hedland and Rotterdam realized slight growth compared with the same period last year. Taking this opportunity, Hedland made it to the “100 million ton club” with a remarkable growing momentum, surpassing Yingkou port to rank top 10 in H1 and even overtaking Dalian port to rank 9th in Q2.

ii. Low-speed growth for Chinese and Korean ports

The Chinese economy was in a special period in Q2 when growth was shifting gear, restructuring was facing throes and incentive policies earlier on were being digested, the import and export trade increased 1.2% slightly and ports were under rising downward pressure. In this quarter, Chinese ports above the designated scale completed 2.87 billion ton cargo throughput, registering a 6.57% growth rate that was 2.6 percentage points lower year on year. Among that, coastal ports increased 6.9% to reach 1.96 billion tons and inland ports only increased 5.8%.



Source: The Ministry of Transport of People’s Republic of China

Figure 1-1 Cargo Throughput Growth Rate of China’s Ports

At present, Chinese ports generally face the challenge of adjusting the industrial structure and exploring new markets. While medium- and small-sized ports mainly expand their throughput by opening new lines, exploring port functions and improving operating efficiency, traditional large ports secure their market position through the scale effect and cluster advantage. The unevenness of port performance was once again reflected this quarter. The top 10 ports included both Tangshan with a growth rate as high as 18% and Qinhuangdao and Shanghai that scored negative or zero growth. Among ports that ranked lower, the Beibu Gulf port jumped from the 17th to the 13th position based on its small base number and the ship-to-ship advantage featuring “unloading at one port and pickup at four ports”.

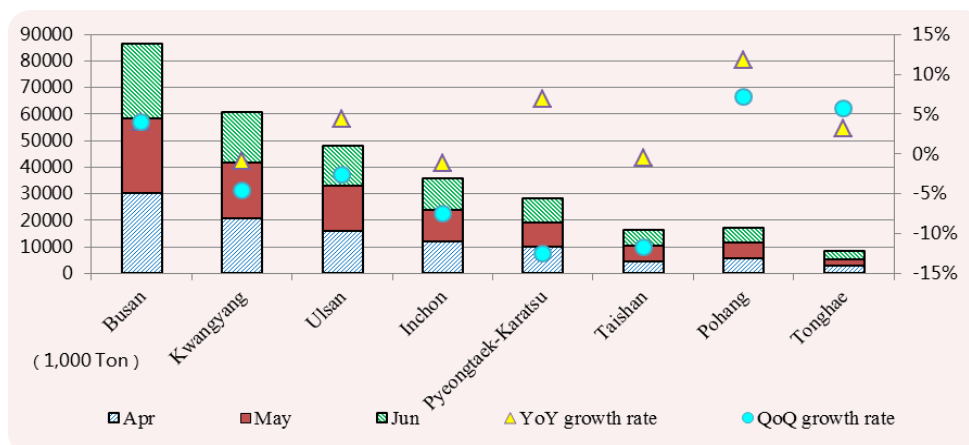
Table 1-2 Ranks of China's Coastal Ports above Designated Size**Unit: 1,000 Ton**

Ranking	Port	2Q14	2Q13	YoY growth rate (%)	1Q14	QoQ growth rate (%)
1(1)	Ningbo-zhoushan	231810	219060	5.82	213390	8.63
2(2)	Shanghai	198690	198360	0.17	184690	7.58
3(3)	Tianjin	137990	133870	3.08	120970	14.07
4(4)	Guangzhou	124110	116780	6.28	109550	13.29
5(6)	Tangshan	124080	105200	17.95	118610	4.61
6(5)	Qingdao	118910	113440	4.82	122920	-3.26
7(7)	Dalian	104830	103060	1.72	108250	-3.16
8(8)	Yingkou	87130	82720	5.33	89340	-2.47
9(9)	Rizhao	85280	78920	8.06	87050	-2.03
10(10)	Qinhuangdao	67890	68580	-1.01	66440	2.18
11(12)	Yantai	59310	57660	2.86	61060	-2.87
12(11)	Shenzhen	55330	59610	-7.18	50700	9.13
13(17)	Beibuwan	53210	42630	24.82	46750	13.82
14(13)	Xiamen	50700	47990	5.65	46770	8.40
15(15)	Zhanjiang	49880	44310	12.57	55880	-10.74
16(14)	Lianyungang	49320	46230	6.68	49580	-0.52
17(16)	Huanghua	47740	42670	11.88	40100	19.05
18(18)	Fuzhou	37580	32120	17.00	33340	12.72
19(19)	Quanzhou	27950	27700	0.90	26770	4.41

Note: () is the ranking of 2013 in the same time;

Source: The Ministry of Transport of People's Republic of China.

As to Korean ports, the economic incentive policies issued by the government and central bank took primary effect this quarter, and the recovering trade drove the port throughput to 347 million tons with a slight increase of 3.3%. The rising international demand for Korean goods resulted in a higher export growth of 8.81% year-on-year to reach 130 million tons, whereas domestic consumption, despite a slight recovery, was focused on domestic products and didn't help import much, which only increased 1.01% to 217 million tons. Besides, the sharp fluctuations in the growth rate of transshipped cargo reflected the changing foreign trade demand of neighboring countries and also the shaking position of Korean ports in transshipment. Korean ports increased 8.56% year-on-year this quarter to reach 57.68 million tons and will hardly go back to the former high-speed growth of 20-30%.



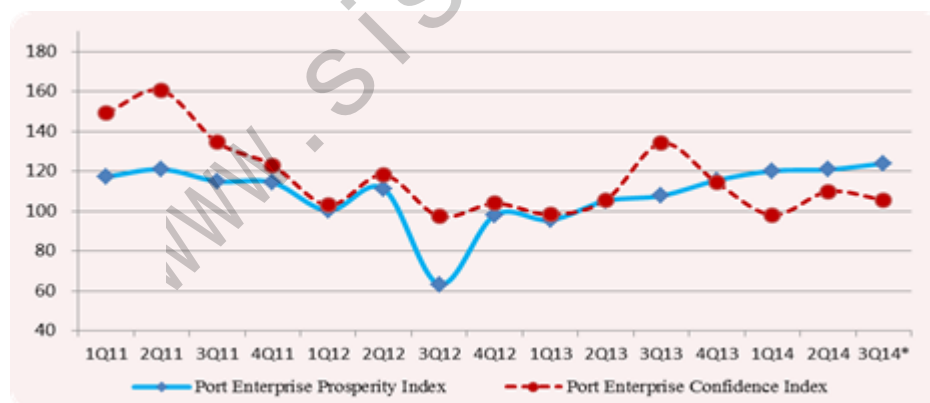
Source: Website of port authorities, sorted by SISI

Figure 1-2 Throughput of Major Ports in South Korea

Special topic 1: Chinese ports developed well and will continue the uptrend next quarter.

◆ Port enterprises had better operation this quarter

According to China Shipping Prosperity Index (CSPI), Chinese port enterprises came back to the prosperous interval with an index of 109.79 points in 2014Q2. The prosperity index of large, medium and small ports all increased to reach 116,32, 109 and 85 points respectively, but small ones were relatively weak. On the other hand, the confidence index of port enterprises was on a par with last quarter at 120.79 points, still in the prosperous interval.



Note: Data of the third quarter of 2014 was predicted;

Source: Shanghai International Shipping Institute.

Figure 1-3 Prosperity of China's Port Enterprise

According to the observation indicators of port enterprises, production and operation indicators picked up this quarter with both throughput and berth occupancy rate rising to the prosperous interval. Their profit indicator also made a robust rebound, and over half port enterprises regarded their operation as good this quarter.

Table 1-3 Prosperity Indices of Monitoring Indicators of Port Enterprises

Monitoring Indicators of Port Enterprises	2Q14 Prosperity Indices	Compare with 1Q14	Prosperity
Throughput	149.21	29.59	Moderately prosperous
Berth Utilization	134.74	25.12	Moderately prosperous
Charge	94.34	-8.99	Slightly stagnant
Operating Cost	64.74	6.94	Moderately stagnant
Enterprise Profitability	118.95	29.78	Relatively prosperous
Current Fund	106.32	-6.33	Slightly prosperous
Enterprise financing	108.16	5.89	Slightly prosperous
Loan liability	85.53	8.64	Relatively stagnant
Labor demand	128.95	21.9	Moderately prosperous
Newly Built Berths and Machinery Investment	106.97	4.47	Slightly prosperous

Note: CSPI takes 100 point as its demarcation. Values greater than 100 represent prosperity, while those lower than 100 represent depression. The higher the value is, the more optimizing the industrial outlook is;

Source: Shanghai International Shipping Institute.

◆ Port enterprises to register steady and solid performance in Q3

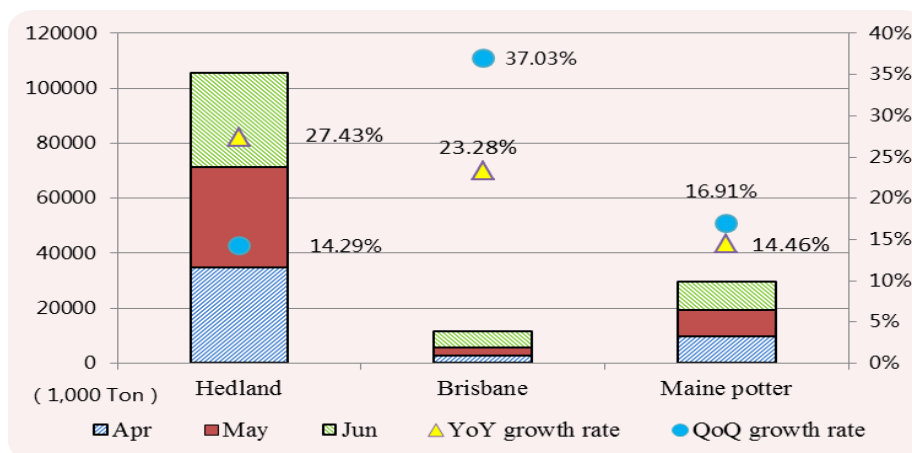
China shipping prosperity survey showed that following the sound performance in Q2, port enterprises are expected to reach the prosperity index of 123.95 points in Q3 and stay in the prosperous interval, but their confidence index will fall to 105.62 points. While the prosperity of large port enterprises will decline a little, that of medium- and small-sized ports will basically remain the same as this quarter. Of the 10 operation indicators, new berth, machinery investment improvement, charge and assets & liabilities will remain the same, while the rest indicators will all decline to varying degrees.

iii. European ports continued last quarter's trend and grew at slow rate

European economy and trade recovered slowly, trade has been on the rise but the possibility of relapse still existed, and port growth was mild, better than a year before but basically the same as in Q1. Among the main ports, Rotterdam's growth rate returned to 1.49% thanks to the support of dry bulk cargoes, while Antwerp's quarterly throughput increased 2.9% because the increasing oil derivatives, iron and steel and container throughput made up for the decreasing dry bulk cargo shipment.

iv. Australian ports grew in general

Australian economy progressed steadily in Q2, consumer market slightly picked up, and import and export continued to develop, which effectively boosted the enthusiasm of Australian ports. Port Hedland maintained high-speed growth and its single-quarter throughput exceeded 100 million tons thanks to the steadily rising iron ore demand from China and South Korea. The recovering coal demand drove the throughput of Hay Point port to increase 14.5% year-on-year to 29.59 million tons, while Brisbane port increased 23.28% from a year earlier to 11.61 million tons.

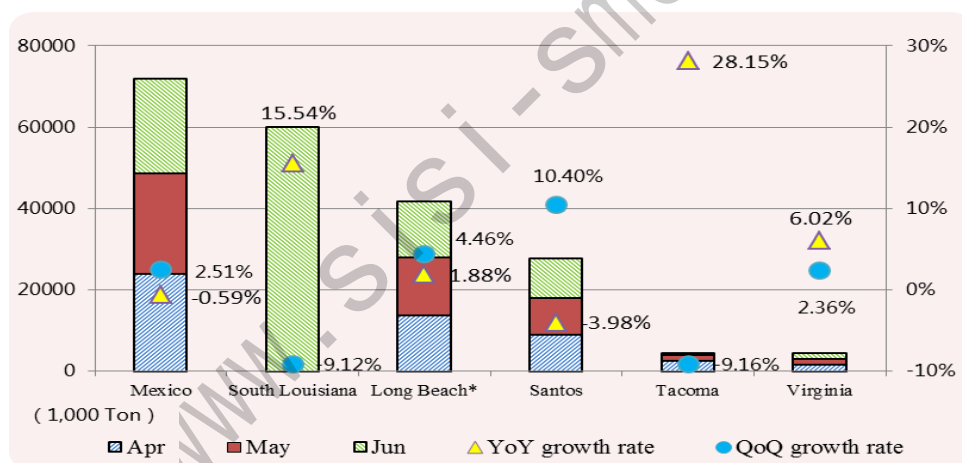


Source: Websites of ports authorities, sorted by SISI

Figure 1-4 Throughput of Australia's Ports

v. American ports grew at slower rate

Most American ports grew at a slower rate in Q2, presenting “slower growth rate and larger decline” in general except for Tacoma and South Louisiana that scored two-digit growth. The expiration of labor contract along the west coast forced cargo owners and shippers to replenish the inventory in advance, moving the shipping peak season forward. However, as market demand was unleashed in advance, port growth may face difficulty in Q3.

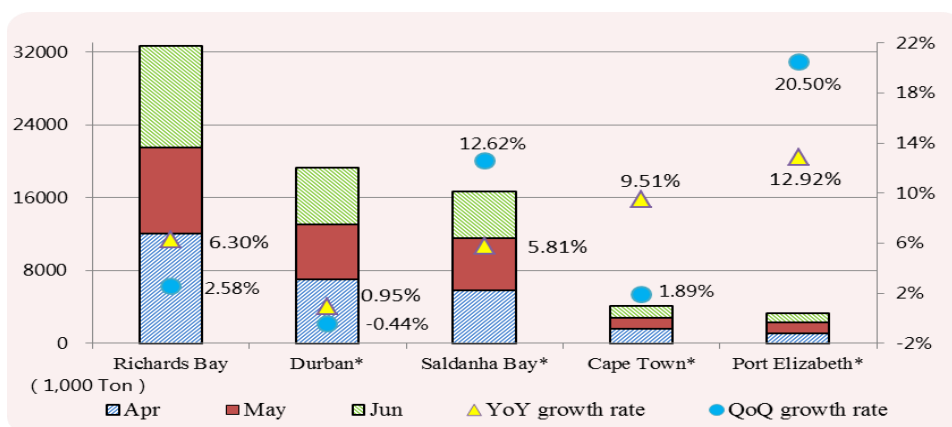


Source:Websites of ports authorities, sorted by SISI

Figure 1-5 Throughput of America's Major Ports

vi. Large African ports back to growth

Large ports performed better than small ones in Africa in Q2. Port Elizabeth registered a two-digit quarterly growth, Richards Bay grew 6.3% thanks to coal export, and Durban, Saldanha Bay, Cape Town and other ports all saw strong growth from the same period last year and their growth rate turned from negative to positive. In contrast, small ports like East London and Mossel Bay were in a recession and their two-digit decline indicated sluggish growth.



Source: Websites of ports authorities, sorted by SISI.

Figure 1-6 Throughput of Africa's Major Ports

1.2 Container throughput of global ports

With the improving import and export trade in main economies around the world and with the more active cross-border investment and merchandise trade in 2014Q2, container shipment on Asia-Europe, Europe-US and trans-Pacific lines increased steadily, and container throughput at ports in Europe, the US and Asia maintained a general growth rate above 5%, a two-year high and slightly better than cargo throughput. Meanwhile, the number of fast-growing ports increased obviously.

Table 1-4 Container Throughput of Major Ports in the World

Unit: 1,000TEU

Continent	Port	2Q14	2Q13	YoY growth rate (%)	1Q14	QoQ growth rate (%)
Asia	Shanghai	9011.5	8528.0	5.67	8223.1	9.59
	Singapore	8571.6	8179.5	4.79	7934.4	8.03
	Hong Kong	5802.0	5468.0	6.11	5312.0	9.22
	Shenzhen	5735.5	5729.2	0.11	5228.8	9.69
	Ningbo-Zhoushan	5116.0	4386.2	16.64	4502.2	13.63
	Busan	4662.0	4557.9	2.28	4452.7	4.70
	Qingdao	4484.7	4086.2	9.75	4153.5	7.97
	Guangzhou	4132.8	3916.1	5.53	3578.3	15.50
	Tianjin	3713.3	3505.9	5.92	3174.3	16.98
	Dalian	2483.0	2428.3	2.25	2150.1	15.48
	Xiamen	2163.7	1978.7	9.35	1865.1	16.01
	Yingkou	1460.7	1353.6	7.91	1410.6	3.55
	Lianyungang	1310.2	1371.3	-4.46	1255.8	4.33
	Jeddah	1114	1220.9	-8.75	1030.1	8.14
	Inchon	604.4	533.7	13.25	521.2	15.97
Kwangyang	589.9	553.9	6.51	598.4	-1.41	

America	Los Angeles	2131.6	1923.8	10.80	1920.6	10.99
	Long Beach	1779.9	1668.5	6.67	1537.1	15.79
	Santos	937.0	835.7	12.12	814.2	15.09
	Vancouver*	741.2	698.7	6.08	638.3	16.12
	Oakland	609.0	587.8	3.59	568.0	7.21
	Virginia	592.0	546.6	8.31	544.6	8.7
	Tacoma	538.3	461.8	16.58	467.8	15.08
	Houston	489.5	498.7	-1.84	470.8	3.98
	Montreal	409.9	382.6	7.14	282.3	45.19
	Seattle	364.5	404.4	-9.88	335	8.8
Halifax	108.3	111.7	-3.03	97.8	10.76	
Europe	Rotterdam	3108.3	3004.7	3.45	2898.3	7.25
	Antwerp	2266.1	2126.8	6.55	2150.0	5.40
	Barcelona	455.7	421.2	8.17	430.4	5.87
Africa	Durban*	638.5	664.9	-3.97	597.7	6.83
	Cape Town*	233.9	229.5	1.92	222.5	5.12
Oceania	Brisbane	261.3	257.2	1.59	252.3	3.57

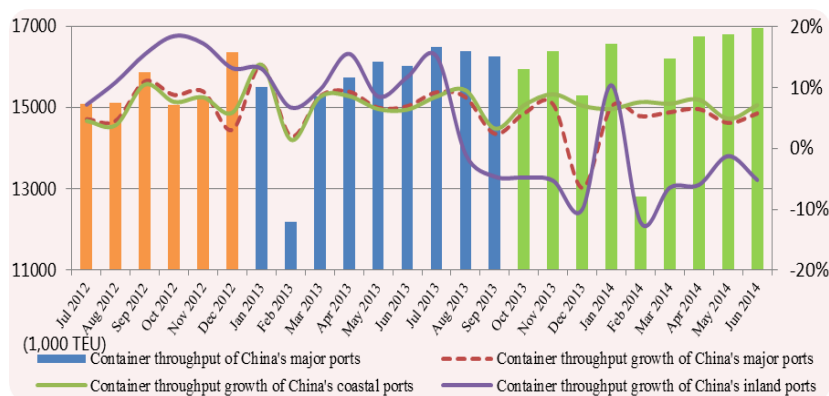
Source: Ministry of Transport of the People's Republic of China and websites of all port authorities, sorted by SISI.

i. Container throughput in Asia increased slightly

Cross-border ocean trade recovered and regional trade flourished among China, Europe and the US in 2014Q2. Though the external market environment wasn't substantially improved in the short term, container throughput at Asian ports grew twice as fast as a year earlier thanks to the recovering manufacture in emerging markets and the growing regional consumption.

● Container shipment at Chinese ports in recession

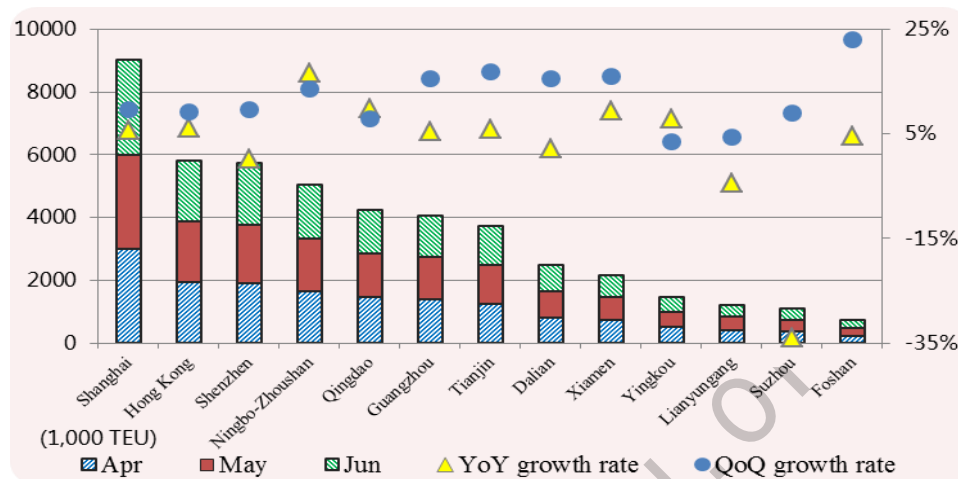
In Q2, Chinese ports above the designated scale registered a container throughput of 51.11 million TEU accumulatively, up 5.5% year-on-year, which was less than the 7.6% a year before and last quarter's 6.09%. Among that, coastal ports completed 45.91 million TEU in total, up 6.9% year-on-year, while inland ports completed 5.20 million TEU with a 5.2% decline, the negative growth for three quarters in a row indicating a low-speed period for container shipment at inland ports.



Source: Ministry of Transport of the People's Republic of China, sorted by SISI.

Figure 1-7 Container Throughput and Growth Rate of Ports in China

As to specific port, Ningbo-Zhoushan attracted ships with its advantageous geographical position and natural deepwater port, and exceeded 5-million-TEU single-quarter throughput for the first time to lead the country with a 16.64% growth rate. Tianjin, Dalian and Yingkou ports in the round-Bohai Bay port cluster fell back to one-digit growth rate because the insufficient industrial momentum and more realistic port data made their growing drive hard to sustain. Shanghai and Shenzhen ports overcame the weak domestic trade to realize mild growth, while Guangzhou port kept a steady container growth by opening new lines.



Source: Ministry of Transport of the People’s Republic of China, sorted by SISI.

Figure 1-8 Container Throughput of Major Ports in China

● **Main ports in Taiwan, China maintained container growth**

The official discussion of the *Cross-Strait Service Trade Agreement* sent positive signals to cross-strait trade this quarter. Consumer confidence in the Taiwan market rose again and the decline of cross-strait import and export trade almost halved from Q1 to 8.2%, enabling Taiwan ports to continue the container growth.

Table 1-5 Container Handling of Major Ports in Taiwan

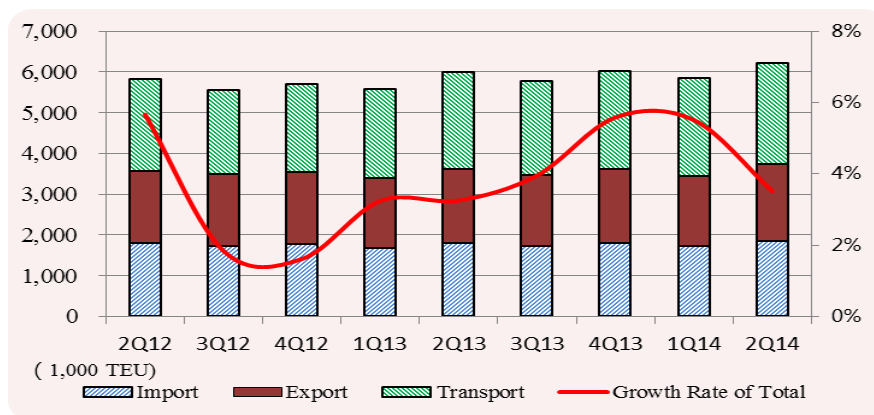
Unit: 1,000TEU

Port	2Q14	2Q13	YoY growth rate(%)	1Q14	QoQ growth rate(%)
Kaohsiung	2677.1	2469.2	8.42	2484.7	7.74
Keelung	433.0	402.3	7.62	392.3	10.38
Taipei	359.2	265.6	35.23	253.8	41.53

Source: Port Authority of Taiwan.

● **South Korean ports saw slower container growth**

South Korean ports completed 6.21-million-TEU container throughput in Q2, up 3.51% year-on-year, which was slower than the beginning of the year and similar to a year before. The increasing new orders in manufacture reflected the recovering demand for South Korean goods, and export container volume slightly rose 3.31%, a peak in the past two years. In comparison, import container volume increased 2.93% year-on-year to reach 1.85 million TEU, while the uptrend of transhipped container volume geared down 7.23 percentage points to 4.13%.



Source: Websites of ports authorities, sorted by SISI.

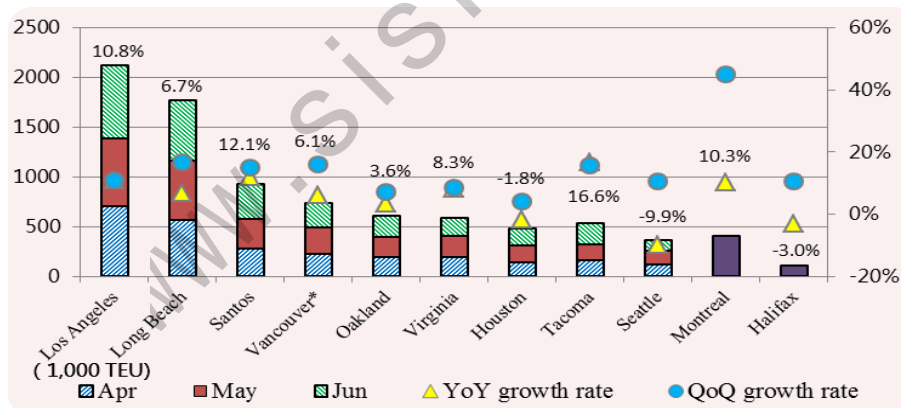
Figure 1-9 Container Throughput and Growth Rate of Major Ports in South Korea

ii. European container ports sent recovery signals

European economy remained steady this quarter and the widening trade surplus heralded a new round of export expansion. As large ships are put into use on Asia-Europe lines, the volume of seaborne trade mildly picked up and container throughput at European ports further increased.

iii. Container shipment at American ports rebounded aggressively

Bad weather left the American region in Q2, domestic consumption increased, both output and new orders went up thanks to the expansion of manufacture and other entity industries, and regional trade boomed, which jointly boosted the recovery of port industry. Besides, stores made prior preparations in June for the new semester and vacation, resulting in the abnormal increase of import container volume. In this quarter, main ports in America had an overall growth of more than 7%, overtaking Asia and Europe and leading the recovery of global container port industry.



Source: Websites of ports authorities, sorted by SISI.

Figure 1-10 Container Throughput of Major Ports in America

1.3 Dry bulk throughput of global ports

1.3.1 Dry bulk throughput analysis of global ports

The international shipping market of dry bulk cargo saw larger supply than demand and falling price in 2014Q2. Coal export picked up and iron ore trade remained hot as ever, but their growth rate shrank because of the rising port inventory. The difference among bulk cargo ports focused on coal and iron ore is diminishing.

Table 1-6 Dry Bulk Throughput of Major Ports**Unit: 1,000 Ton**

Port	2Q14	2Q13	YoY growth rate (%)	1Q14	QoQ growth rate (%)
Qinhuangdao*	59160	60010	-1.41	57920	2.15
Hedland	104470	81650	27.96	90450	15.51
Santos	13350	15240	-12.37	12480	6.95
Antwerp	3470	3680	-5.46	3400	2.33
Rotterdam	23720	21820	8.68	22170	6.96
Richard Bay	15950	15890	0.37	15520	2.81

Source: Websites of ports authorities, sorted by SISI.

i. Global ports performed well in iron ore throughput

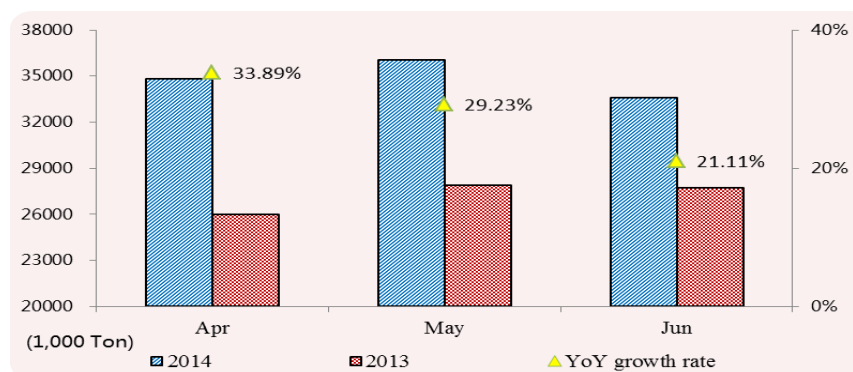
In this quarter, the huge iron ore inventory restrained its price hike, and the large consumption and high demand in Asia stimulated the successive release of new mining capacity worldwide, resulting in good performance for both the port of iron ore shipment and discharge.

- **China continued high growth of iron ore import**

China imported 235 million tons of iron ore in Q2, up 18.31% year-on-year and maintaining the high-speed growth. The domestic steel market has entered the peak season since April, during which purchase intention of raw materials has risen, the gradually falling import price caused by the launch of new mining capacity in Australia has met the domestic demand, and financing mines have also stimulated the purchase. Among the main ports of shipment and discharge, Ningbo-Zhoushan topped other ports with a 28.69% growth rate by handling 103 million ton iron ore in three months, Tangshan saw continuous rise in iron ore throughput since the Spring Festival and achieved a year-on-year growth of 20.06% by handling 81.25 million tons of iron ore in January-May accumulatively, while Rizhao handled 63.14 million tons with a slight increase of 8.16%.

- **Port Hedland shipped over 100 million ton iron ore**

The falling iron ore price stimulated iron ore export from Hedland in Q2, which shipped 104.47 million tons in a single quarter with a year-on-year growth of 27.27%. 86.13 millions of ton iron ore shipped from Hedland was for China, up 31.40% year-on-year, accounting for 82.4% of the port's total shipment. As iron ore inventory at Chinese ports reached a high level, iron ore demand is expected to fall in Q3, when Hedland may see an increasing shipment but slower growth rate.



Source: Websites of Hedland Port Authority, sorted by SISI.

Figure 1-11 Iron Ore Throughput in Port of Hedland

- **European ports saw slower growth in iron ore shipment**

Steel turnover went down in the European market this quarter, and the weak demand from downstream enterprises directly affected upstream iron ore supply, leading to the shrinking iron ore throughput at European ports. Port Rotterdam handled 17.47 million tons of iron ore in H1, up only 0.26% year-on-year, indicating a notable growth decline. Port Antwerp handled 1.36 million tons of iron ore in H1, the 9.2% growth rate still far less than last quarter's 36.6%, and port Barcelona handled 80,100 tons, falling 19.5% in Q2 after the decrease in Q1.

- ii. **Coal throughput at global ports slightly picked up**

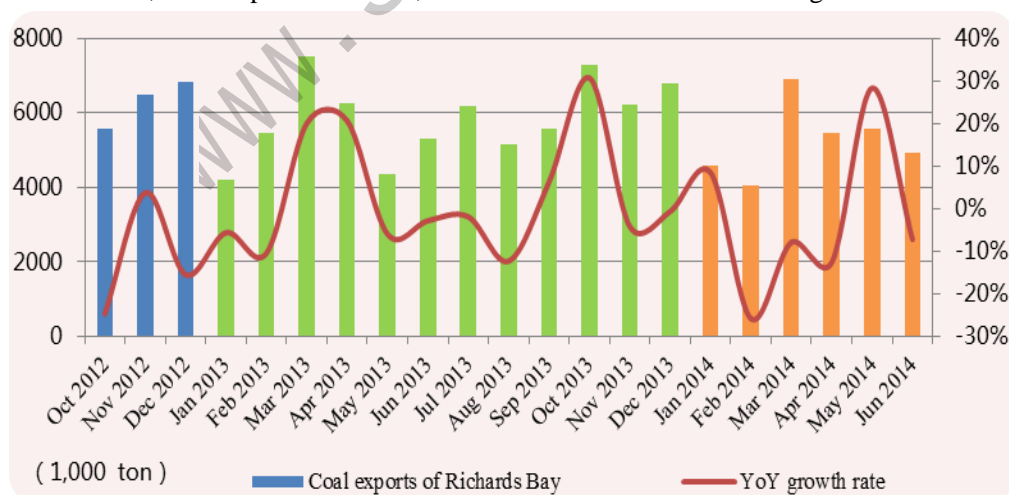
The global coal supply recovered but demand remained weak in Q2, keeping the price on a low level. Main coal ports worldwide performed slightly better, and export-oriented ports showed obvious recovery, but import ports still lacked driving force despite the consumption stimulated by low coal price.

- **China's coal import grew at slower rate**

The coal inventory was high both at Chinese ports and in coking plants this quarter, and some downstream dealers wanted to store up coal prior to the peak season in Q3, which resulted in this round of increase. China imported 76.17 million tons of coal from April to June, a slight increase of 3.82% that's far less than a year before. Chinese ports above the designated scale handled 915 million tons of coal from January to May, up 4.03% year-on-year. As to main ports of shipment and discharge, Ningbo-Zhoushan handled 47.19 million ton coal, a smaller increase of 5.80%, Huanghua handled 58.39 million tons with a steady increase of 8.41%, Tangshan handled 77.01 million tons with a 4.58% increase, and Shanghai handled 48.64 million tons, continuing the negative growth of 8.92%.

- **Port of Richards Bay in South Africa took a good turn in coal export**

The global imbalance in coal supply and demand was alleviated in Q2. The Port of Richards Bay presented a reversed V curve featuring increase first and decrease later, and its coal shipment regained a mild 0.39% positive growth to reach 15.95 million tons, over half of which, namely 9.62 million tons, were exported to India, Pakistan and other South Asian regions.



Source: Websites of Port of Richards Bay, sorted by SISI.

Figure 1-12 Coal Throughput in Port of Richards Bay

- **Coal throughput in Europe fell sharply**

There was an excess supply in the European coal market in Q2, spot transaction had no support and throughput fell sharply. Port Rotterdam handled 14.59 million tons of coal in H1,

dragging the 14.7% growth rate in Q1 down to 9.48%, while port Antwerp's coal throughput shrank by 5% from a year earlier.

1.4 Liquid bulk throughput of global ports

In 2014Q2, oil exporting countries didn't reach the expected output because of the shocking situations, some oil importing countries had less demand for fuel and port inventory increased, and signs began to appear that natural gas and other alternative energies will squeeze the oil market. The shipping demand for oil products around the world further weakened, and the throughput of liquid bulk cargo focused on oil products grew much slower.

Table 1-7 Liquid Bulk Throughput of Major Global Ports

Unit: 1,000 Ton

Port	2Q2014	2Q2013	YoY growth rate(%)	1Q2014	QoQ growth rate (%)
Rotterdam	49763	51409	-3.20	49247	1.05
Singapore	46412	46635	-0.48	47684	-2.67
Ulsan	33105	31875	3.86	35347	-6.34
Gwangyang	25029	25913	-3.41	27932	-10.39
Inchon	9670	11279	-14.27	14825	-34.78
Antwerp	15334	15040	1.95	15095	1.58
Barcelona	3185	2830	12.52	2997	6.27

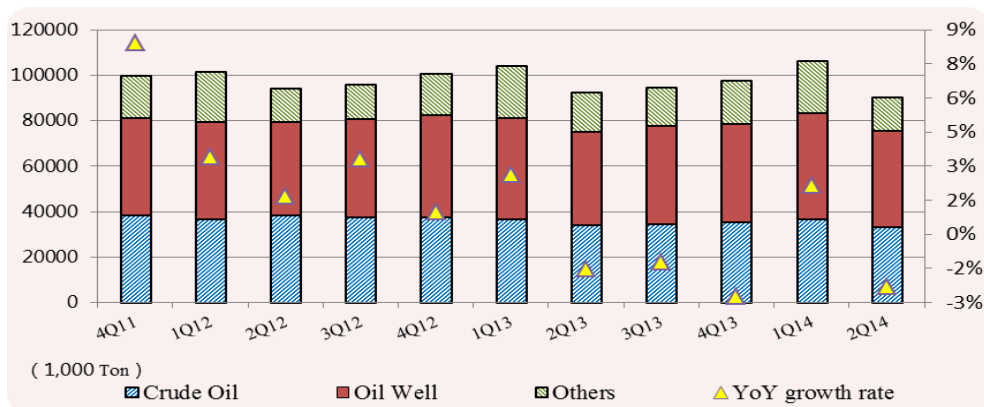
Source: Websites of port authorities, sorted by SISI.

i. Port of Singapore's oil throughput declined

Oil importing countries in Asia had less oil demand in Q2 and alternative energies squeezed the crude oil market, which dampened the port of Singapore's oil cargo down to only 46.41 million tons, a decrease of 0.48% from a year before. The seasonal replenishment in Singapore increased oil throughput in April, but the port's oil cargo fell by 4% or so in the following two months. As some Asian oil refineries were in maintenance outage in June, the supply-demand imbalance might be alleviated.

ii. Oil cargo throughput at South Korean ports in negative growth again

South Korean ports handled 90.28 million tons of oil cargo in total in Q2, down 2.30% year-on-year. Although the ports implemented tax and fee preferences to boost oil cargo, they suffered a negative growth again because of the recent fluctuations in liquid bulk cargo. In terms of the type of cargo, crude oil at South Korean ports dropped 2.57% again to 32.96 million tons, while oil well products increased 3.00% year-on-year to 42.56 million tons, a massive decline of 14.47% for the first time in two years, which was the main reason for the falling liquid bulk cargo throughput this quarter.



Source: Korea Port Authority.

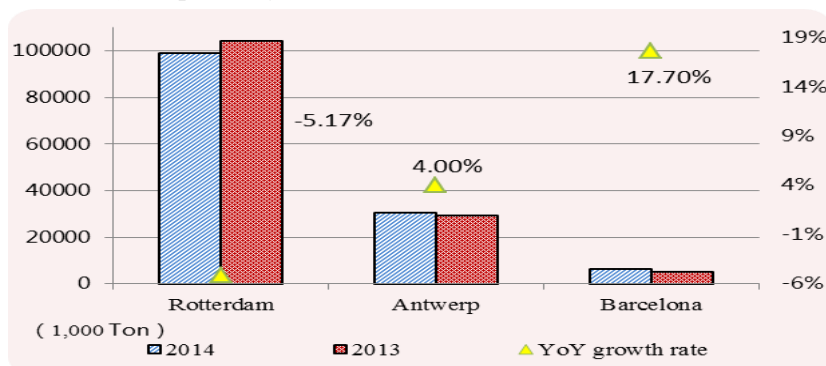
Figure 1-13 4Q11-2Q14 Liquid Bulk Throughput of Korea Ports in Cargo Type

iii. China’s crude oil import increased mildly

China’s crude oil import increased 11.62% in Q2 to 77.24 million tons, better than last quarter. Although the implementation of “National IV standard” decreased crude oil demand in the market, the government issued the state policy to increase strategic oil reserve in order to boost crude oil import, which is likely to keep the uptrend in the short term. Chinese ports above the designated scale handled 184 million tons of crude oil in January-May, up 7.04% year-on-year. Among the main ports of shipment and discharge, oil products handled by Ningbo-Zhoushan increased 8.91% to reach 40.97 million tons, while those handled by Qingdao decreased 1.54% to 25.39 million tons.

iv. Liquid bulk cargo at European ports pessimistic

Crude oil demand in Europe showed no sign of obvious recovery in Q2, and there was a potential oil supply crisis in the Middle East and North Africa, so liquid bulk cargo handled by European ports saw only a small increase. In H1, port Rotterdam handled 99.01 million tons of liquid bulk cargo accumulatively, down 5.17% year-on-year, which is less than last quarter’s decline. Among that, crude oil throughput regained a year-on-year growth of 3.3% to 47.71 million tons. From January to June, port Antwerp handled 30.43 million ton liquid bulk cargo, up 6.2% year-on-year, which is far less than the previous 31.9%. In terms of the type of cargo, oil derivatives had a stronger growth of 7.8% to 22.38 million tons, while chemicals and crude oil declined 4.2% and 7.4% respectively.



Source: Websites of ports authorities, sorted by SISI

Figure 1-14 Liquid Bulk (Crude Oil) Throughput of Major European Ports

II. Global Port Operation and Management in Q2

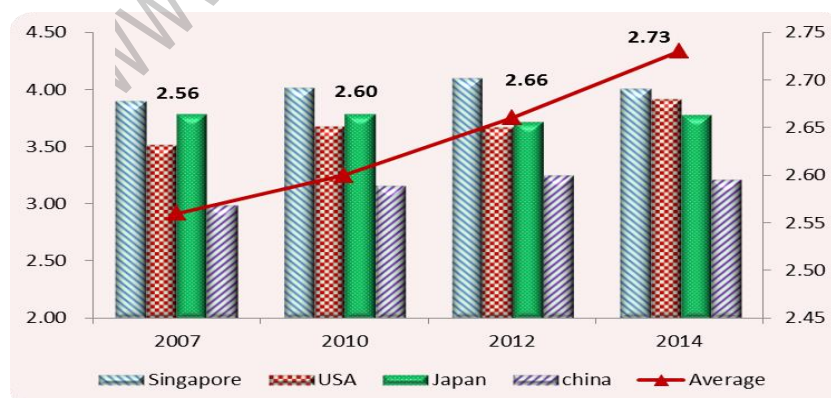
- “Single window” improved efficiency of port customs clearance.
- Energetically develop “cold chain” logistics to seek breakthrough in transformation.
- Global terminal operators expanded faster and made great contributions to growth.
- Australia opened port investment to attract operators.

2.1 Status quo and tendency of global port operation

1. Implementation of “single window” improved port efficiency

◆ “Single window” requires IT support

Electronic customs clearance technology has been widely used and become the foundation to implement the “single window” clearance mode in all countries. Based on electronic customs declaration and document review, Singapore established a “one-stop” electronic customs clearance system featuring seamless connection. One-time paperless customs declaration is conducted on the “trade network”, which handles 80% of the declarations within 20 minutes, and it takes only 2 minutes to release the cargo after the electronic declaration is completed. The Japanese customs have used the “automatic taxation system” to automatically calculate duties, which can also be used for the declaration and payment of duties and consumption tax, saving a lot of time for cargoes to clear customs. A large number of electronic systems are already in operation at the American customs, the most important of which include the automatic commercial system, intensification system and management system. As a system that tracks, controls and handles all cargoes entering the United States, the Automatic Commercial System (ACS) effectively improves the efficiency of port customs clearance by separating cargo pickup from tax payment. Nevertheless, due to the absence of integrated and electronic customs clearance platforms, China’s customs clearance efficiency has long lagged behind the international level.



Source: The World Bank

Figure 2-1 Logistics Performance (customs) Index in Typical Regions of the world in 2007-2014

◆ “Single window” optimizes customs clearance process

Traditional port businesses require the review of a huge amount of paper documents. Data show that customs clearance concerns 29-30 different departments including the customs, involves

about 40 different types of documents, and more than 200 data have to be filled (30% are repeated at least 30 times) while the remaining data are repeated at least once. What’s behind the tedious formalities is the backward management system. It is estimated that the cost of global trade occurring at port accounts for about 7%-10% of its value. Besides, the differences in operating systems and data formats used by various departments easily hinder the transmission of trading information and declared data, and “single window” is the best choice to break this bottleneck.

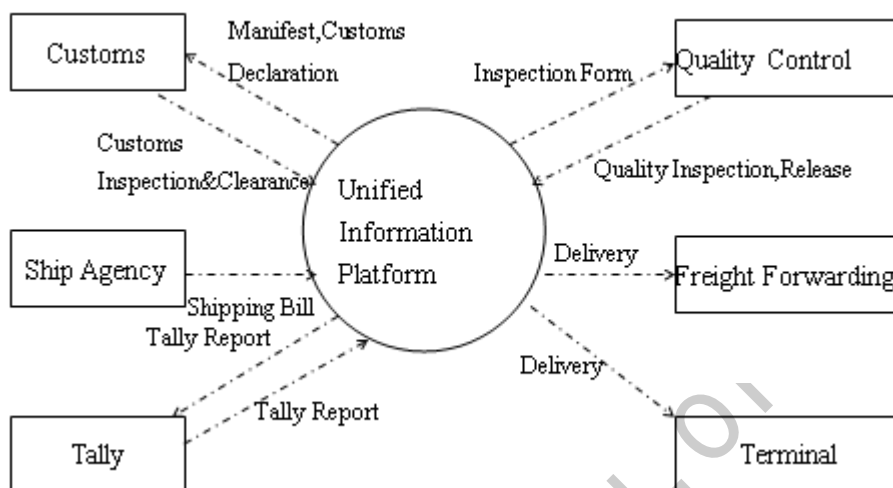
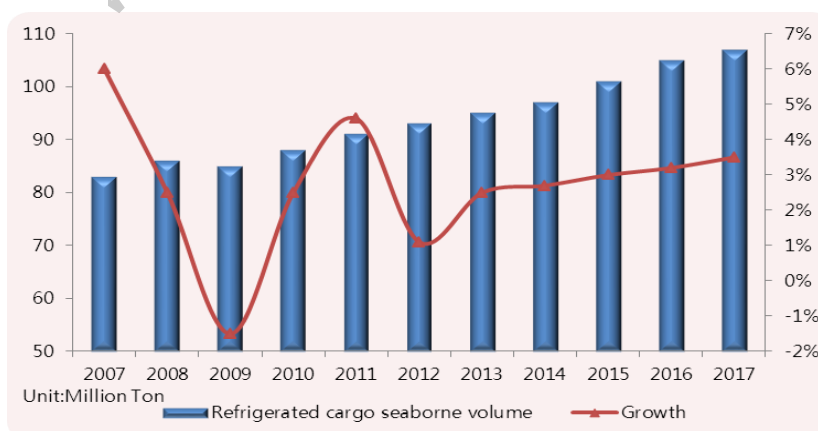


Figure 2-2 Trade Customs Clearance based on the “Single Window”

2. Expand port functions and actively create “cold chain logistics” and other special advantages

As the scope of refrigerated goods keeps expanding, the type of cargo quickly expands from foodstuff to chemical, biochemical, medical, electronic and agricultural products that are very demanding on temperature. As a result, the global shipment of refrigerated goods has increased steadily and cold chain logistics with high value added developed even more rapidly. In the Chinese market, nearly one billion ton perishable food is consumed every year, over 50% of which shall be transported through the cold chain, but it actually only transports 10% of the total amount now. In the future, the cold chain logistics in China will remain a high-speed growth of 25% per year on average, the market size is likely to exceed RMB470 billion in 2017, and the annual income increment from refrigeration storage will reach RMB2.7 billion.



Source: Drewry, Global Reefer Trades 2014, 2014-2017 Estimated.

Figure 2-3 Global Refrigerated Cargo Seaborne Volume in 2007-2017

◆ **Create port’s core function of cold chain**

The ports have mature operating mode, modern logistic facilities and sound soft environment for development. Based on their rich logistic resources, establishing the cold chain logistics system is good for achieving the scale effect. By gathering a group of leading enterprises in the industrial chain and attracting domestic and foreign wholesalers of cold chain products, port enterprises can concentrate the source of goods and cultivate the trading market. On the other hand, setting up a special zone for the inspection and quarantine of refrigerated goods in the port area can facilitate the entry, transfer and storage of such goods. A similar special refrigeration zone can also be set up in comprehensive bonded zones, where a variety of value-added bonded businesses can be provided, turning the port into a large cold chain logistics center featuring low operating cost and high handling efficiency and integrating such functions as transfer, storage, processing, collection and distribution.

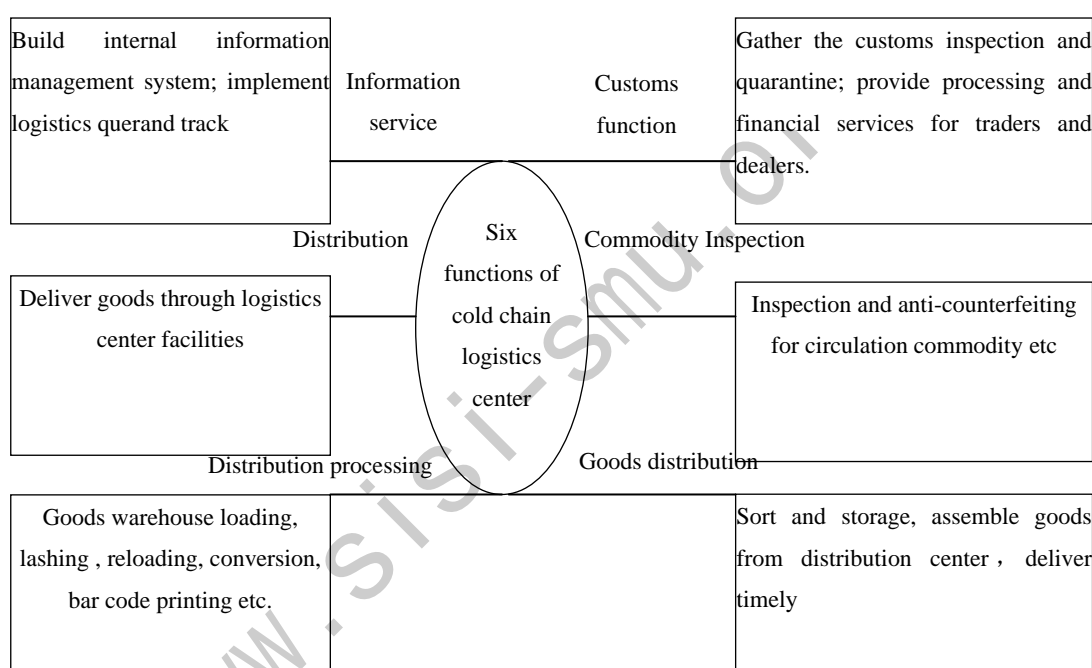


Figure 2-4 Major Functions of Cold Chain Distribution Center

◆ **Cold chain logistics become popular for ports**

International cold chain transportation developed quite early and is rather mature. Today, a complete cold chain logistics system is already formed in developed countries including the US, Canada, Germany, Italy, Australia, Japan and South Korea, which is characterized by high level of IT application and sound market operation, but supporting infrastructure is equally crucial. Cold chain logistics center has been established in large northern ports like Qingdao, Tianjin and Dalian to provide “door-to-door” refrigeration container shipment. “Door-to-door” means from the door of the pre-cooling room in the refrigeration house, which is an intermediate link in the circulation, to the door of the retailer’s refrigeration house, which is the final link in the circulation.

Table 2-1 Development of cold chain logistics at home and abroad

Port	Region	Refrigerator Volume	Function& Positioning	Partner
Antwerp Port	Europe	1 , 500 thousand	Europe's largest logistics transit base ,import and export trade fruit	—

		square meters		
Jebel ali port	Middle East	—	Supply distribution center in Middle East and regional multinational logistics base	—
Qingdao Port	Asia	55 thousand tons	Provide low temperature storage service for aquatic products along the Yellow River	The world's largest cold chain logistics operator EIMSKIP
Dalian Port	Asia	50 thousand tons	The advanced cold storage cluster, cold storage public service center and related electronic trading platform	Y.D.International.INC
Tianjin Port	Asia	43 thousand tons	An important logistics distribution base for medium and high-end refrigeration & frozen food in Northern area	The third largest reefer cargo operator in the world - _Profix

Special topic 2: New round of port game – competition in tax and fee preference

The tremendous impacts imposed by the 2008 financial crisis on the shipping and port industry are still lingering today. In the post-crisis period, even though developed countries and regions have shown signs of economic recovery, the process of recovery is tortuous and foundation is weak, while emerging economies have bid farewell to the “fast-growing” period and trade in emerging markets is growing at a low speed. Under such circumstances, new changes such as liner alliance and ship scale-up have exerted greater impacts on ports, port game is upgraded, and “price war” and “policy war” have become the most effective means to attract source of goods and lines.

◆ Policy competition yields remarkable results

Port shipment is affected by a number of factors. In addition to hinterland economy and international trade, port's natural conditions, production efficiency of port area and port partners are all important for port development. Furthermore, multilateral/bilateral trade agreements such as the TPP, TIPP and PSA promote regional trade and consequently drive the development of medium- and small-sized ports, while the formation of large shipping alliance such as 2M aggravates the competition among international pivotal ports, which will directly or indirectly affect port performance. However, according to recent port shipment, what's most effective in concentrating the source of goods in the short term is the competition in port taxes and fees, namely the game of port policy.

◆ Global ports take turns to offer tax and fee preference

In the “post-crisis period”, global ports have taken turns to implement a series of preferential measures to scramble for source of goods, including reducing or exempting port use fee, lowering tax rate and rewarding shipping companies, and the shipping companies end up the most immediate beneficiary. On the one hand, ports provide tax and fee preference to lower the ship's port expenses, consolidate the lines and secure source of goods. On the other hand, certain ports set up preference threshold to specifically motivate shipping companies and cargo agents to load and unload at their ports, thus seizing market share in the region.

Table 2-2 Port Tax Benefits and Incentive Policy

Port	Implementation time	Tax preferential policies	Validity
Spain Ports	January, 2014	Cancel port usage tax	Perpetual
Long Beach Port	June,2014	Free port charge for shore-powered ship and preferential policy for railway transportation	—
Goteborg Port	2015	30% discount for LNG-powered ship	4 years
Busan Port	Proposed	Slash ITT cost; increase reward for transit cargo ship	—
Crimea Port	Proposed	Implement tax in port special economic zone	49 years

Attraction first and consolidation later, preferential policies weaken step by step. Many ports have adopted the “progressive decrease” approach to tax and fee preference and reward, and set different preferential standards at different stages. After the shipping companies and cargo owners get used to their services, the ports will gradually weaken the preferences, so that they not only achieve the goal of attracting the source of goods, but also avoid the impacts caused by losses in tax and fee income.

Unreasonable tax and fee is eliminated to make ports more competitive. Unlike the inducing tax and fee preferences, some ports plan to completely eliminate the port use tax in stages. Since October 2012, the Portuguese government has repeatedly reduced the use tax for ships to load and unload at the ports, and decided to completely eliminate this tax by 2014, which is also likely to expand to other port taxes.

Table 2-3 Portuguese government port rate cut progress

Time	October,2012	January,2014	At the end of 2014
Rate cut progress	Decrease 80 percent of port usage tax	Cancel port usage tax	Freeze other port tax

“Green preferences” improve port environment. Some of the preferential measures the ports have already launched or plan to launch are obviously inclined toward environmental protection. For instance, to encourage oceangoing freighters to implement the “green flag air quality” program aimed to improve the air quality at ports, the port of Long Beach provides an annual reward of \$2 million along with an extra reward ranging from \$3 million to 9 million. In addition to this reward policy, the port also exempts dock charge for ships that use shore power technology to reach port this year, and launches a plan to encourage sea-railway combined transportation, which means that it will provide \$5 reward per TEU for railway transportation enterprises that exceeded their transportation volume in 2013. Besides, to encourage ship owners to use LNG as fuel, the port of Goteborg provides a 30% port fee discount for LNG-driven ships, and promises further discount if a ship shifts from heavy oil to LNG.

“Transshipment preference” consolidates position of pivotal ports. Aggravated regional competition is one of the key reasons why ports launch the tax and fee preferences. As large regional ports appear one after another, port competition is getting increasingly fierce. Especially after the shipping alliance that changed the global port landscape appeared, marginalized pivotal ports engaged in transshipment have no choice but offer tax and fee preferences in order to prevent the massive loss of source of goods. Previously, the P3 alliance’s inclination toward

Chinese ports put South Korea's Busan port on pins and needles because its position as a pivotal transshipment port was in danger. To address the threat, Busan port lowered the ITT fee (the handling fee to move cargo from one dock to another) by a large margin, raised reward for transshipped cargo and reduced port charge, with the aim to secure its lines.

◆ **Government interference in tax and fee preference triggers unfair competition**

To consolidate their throughput, it is a general trend for ports to actively launch various preferential tax and fee policies in order to attract source of goods, but this also triggers worries on unfair competition. In July 2014, the EU competition regulator investigated the tax exemption policies at Dutch ports to confirm whether they were given more favorable tax treatments than private enterprises and obtained unfair competitive edges through government tax exemption.

In 2013, European ports successively lowered their dock charge due to insufficient source of goods, and both public and private ports hoped to attract shipping companies with favorable tax rate. Once a port receives government tax preference, that means it has absolute advantage in adjusting the tax rate for ships, which obviously distorts normal market competition. At present, the Dutch government still implements the tax exemption policy at five of its ports, namely Rotterdam, Amsterdam, Zeeland, Groningen and Moerdijk, but tax and fee preferences provided by the government cannot make the ports more competitive. Instead, they easily make the port enterprises dependent and break the fair market order.

2.2 Operating performance of global terminal operators

2.2.1 Overall development of global terminal operators

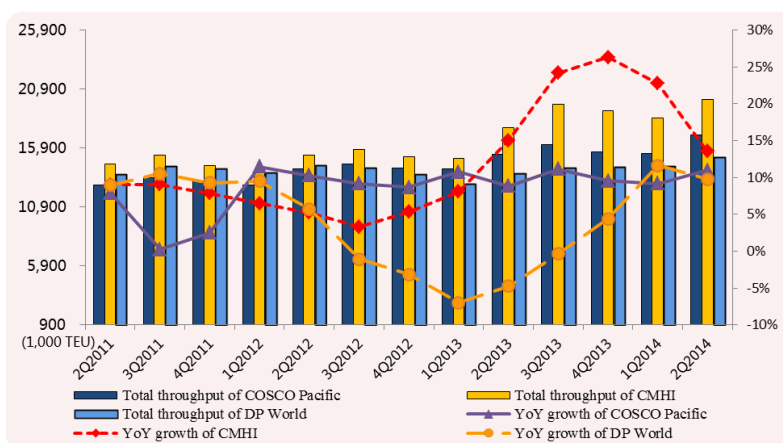
In 2014H1, major terminal operators worldwide registered sound growth in general thanks to the mild recovery of global economy. Except for China Shipping Terminal Development Co., Ltd., which suffered a decline because of the large base number last year, the equity throughput of operators focused on Asian dock assets all grew by two digits.

Table 2-4 The world's major terminal operators throughput ranking 1H2014 Throughput

Ranking of the World's Major Terminal Operators in 1H 2014

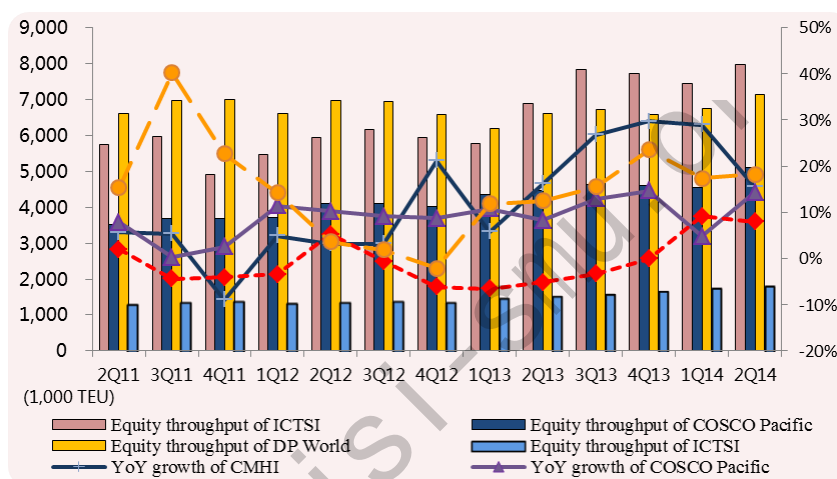
Ranking	Operator	Equity throughput 1H2014/1,000 TEU	YoY growth/%	Equity throughput 1H2013/1,000 TEU	YoY growth/%
1	APMT	18700*	5.65	17700	0
2	CMHI	15421	21.66	12675	11.20
3	DP World	13889	8.51	12800	-5.81
4	COSCO Pacific	9651	13.29	8519	8.74
5	China Shipping	4132	-3.50	4282	—
6	ICTSI	3566	17.81	3027	12.19

Source: Websites of terminal operators Note: PSA and HPH are not included.



Source: Websites of terminal operators

Figure 2-5 Total Throughput and Growth Rate of Major Global Terminal Operators

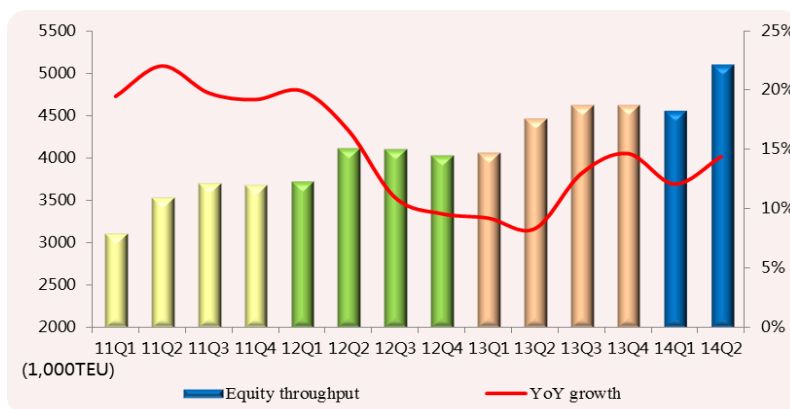


Source: Websites of terminal operators

Figure 2-6 Equity Throughput and Growth rate of Major Global Terminal Operators

2.2.2 Throughput analysis of COSCO Pacific

COSCO Pacific completed 17.03 million TEU containers this quarter, an increase of 10.99% year-on-year and 1.8 percentage points from last quarter. Although the continuous recovery of global economy is good for the development of container business, container increase at domestic ports relies more on shipment for domestic trade. With the implementation of a series of state policies to “stabilize growth and adjust structure”, both domestic consumer market and international shipping demand face some uncertainties.



Source: COSCO Pacific websites Website of COSCO Pacific ,sorted by SISI.

Figure 2-7 Equity Throughput and Growth Rate of COSCO Pacific in 1Q11-2Q14

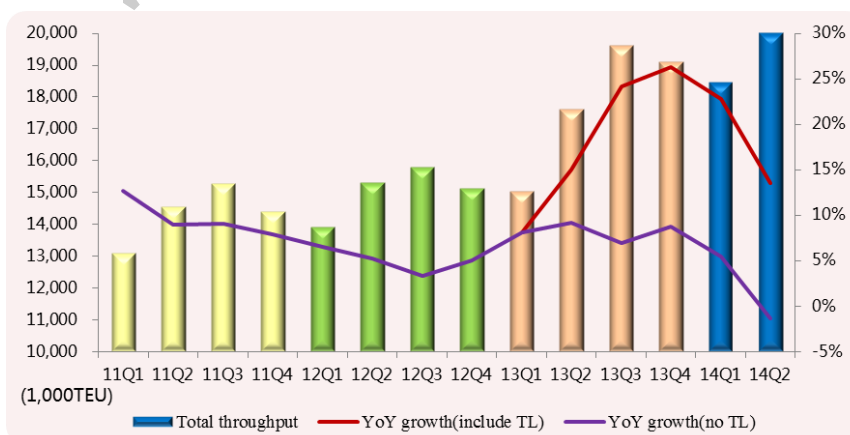
Table 2-5 Container Equity Throughput of COSCO Pacific by Region in 2Q14

Region	China				Total	Overseas
	Bohai Rim	Yangtze River Delta	Southeast Coast	Pearl River Delta		
Equity throughput/1,000TEU	1435.2	702.5	550.3	1209.7	3897.7	1201.7
YoY growth/%	3.47	9.17	23.57	19.55	11.85	23.52

Source: COSCO Pacific websites,sorted by SISI.

2.2.3 Throughput analysis of China Merchants Holdings (International) Company Limited

China Merchants Holdings (International) Company Limited (CMHI) completed 19.99 million TEU containers in Q2, a smaller year-on-year increase of 13.56%. Apart from the increment effect brought by Terminal Link, the original dock assets fell 1.32% year-on-year and negative growth appeared for the first time, while the performance is even more worrisome next quarter when the increment effect disappears. As to equity throughput, CMHI still took the lead with 7.97 million TEU and an increase of 15.56%.



Source: China Merchants Holdings Website

Figure 2-8 Total Throughput Growth of CMHI in 1Q11-2Q14

Figure 2-9 Throughput of Chinese local terminal operators by Investment Region and its Subsidiaries (Unit:1,000TEU)

Investment Region and its Subsidiaries	COSCO Pacific		Investment Region and its Subsidiaries	China Shipping		Investment Region and its Subsidiaries	CMHI	
	2Q	YoY growth (%)		2Q	YoY growth (%)		2Q	YoY growth (%)
Bohai Rim	6443.40	3.46	Bohai Rim	2501.44	0.52	Bohai Rim	1978.00	-2.18
Qingdao qianwan container terminal	4044.50	3.00	Tianjin Five continents	684.84	8.30	Tianjin Port	684.00	8.23
Dalian harbor container terminal	725.80	-2.31	Dalian international	776.41	10.38	Qingdao Port	1294.00	-6.91
Tianjin five continents terminal	684.90	8.32	Dalian Dagang	5.75	4.51			
Tianjin port Eurasia terminal	544.30	10.92	Yantai port Shares	571.13	-10.58			
Yingkou port container terminal	444.00	2.07	Yingkou New Century	270.98	5.86			
			Jinzhou New Era	83.23	-47.73			
			Qinhuangdao New Harbor	109.10	16.77			
Yangtze River Delta	2531.90	13.71	Yangtze River Delta	1271.62	-24.83	Yangtze River Delta	9727.00	6.53
Shanghai Pudong container terminal	627.00	27.08	Ningbo Meishan	371.19	62.49	Shanghai Port	9098.00	6.73
Ningbo Yuandong terminal	801.60	22.96	Lianyungang container terminal	900.43	-34.13	Ningbo Daxie	629.00	3.62
Zhang Jiagang Yongjia terminal	183.30	-46.12						
Yangzhou Yuanyang terminal	123.40	9.30						
Taicang international terminal	171.40	—						
Nanjing port Longtan terminal	625.20	-0.48						
Southeast Coast	1000.00	19.52	Southeast Coast	334.33	—	Southeast Coast	334.00	27.00
Quanzhou Pacific terminal	311.10	8.10	Kao Ming container terminal	334.33	—	Kaohsiung Port	334.00	27.00
Jinjiang Pacific terminal	124.90	-0.32						
Xiamen Yuanhai container terminal	229.70	41.88						
Kao Ming container terminal	334.20	27.61						
Pearl River Delta	4666.90	15.26	Pearl River Delta	1747.10	8.32	Pearl River Delta	4851.00	-2.57
						West Shenzhen	2736.00	-7.75
COSCO-HIT Terminals	453.50	2.53	Guangzhou Nansha	1567.46	6.45	Dongguan	—	—
Yantian international container terminal	2718.40	7.74	Guangxi Qinzhou	179.65	27.87	CKRTT	313	0.97
Guangzhou Nansha Harbor terminal	1162.00	7.24				Hong Kong	1589.00	7.08
Asian container terminal	333.00					Zhangjiang	121.00	53.16
						Zhangzhou	92.00	-34.29
Overseas	2391.50	19.19	Overseas	427.23	15.20	Overseas	3102.00	156.15
Piraeus Container Terminal S.A.	785.50	25.62	Los Angeles West Basin	401.18	14.74	Colombo	161.00	—
Suez Canal Container Terminal S.A.E.	861.90	6.90	Seattle	26.05	22.77	Lagos	103.00	-1.90
COSCO-Xingang Terminals	327.50	33.13				Djibout	218.00	5.31
Antwerp Gateway NV	416.60	26.66				Terminal Link	2620.00	191.43
Total throughput	17033.60	10.99	Total throughput	6281.71	1.91	Total throughput	19993.00	13.56

Source: Websites of terminal operators.

2.2.4 Throughput analysis of China Shipping Terminal Development

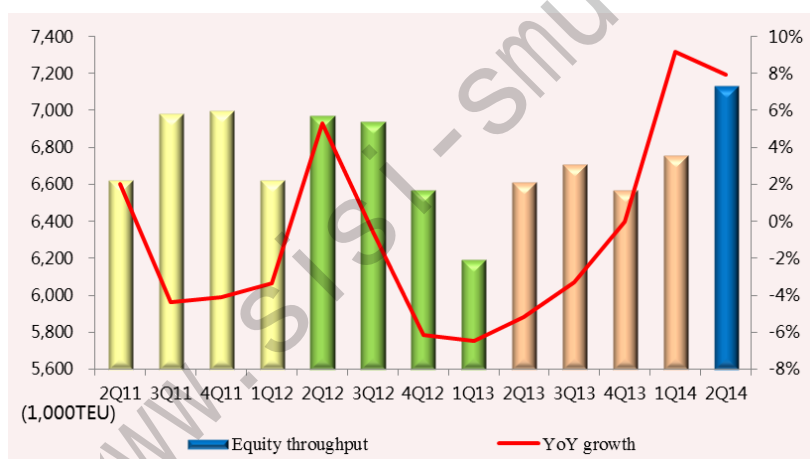
Co., Ltd.

China Shipping Terminal Development Co., Ltd. completed 6.28 million TEU containers in Q2, an increase of only 1.91% with a sharp decline of 8.08 percentage points.

In terms of region, while domestic ports grew at a slower rate, overseas ports performed quite impressively. Ports around the Bohai Bay suffered a major decline to grow only 0.52%, and ports at the Yangtze River Delta took an even heavier fall. With Yangjing of Shanghai excluded, the Lianyungang container terminal was in a downturn, one major reason for which is the shortage of international trunk lines.

2.2.5 Throughput analysis of Dubai Ports World

Terminals under Dubai Ports World (DP World) completed 15.06 million TEU containers in Q2, up 9.77% year-on-year, which remained on a high level despite a slight decline. DP World completed 7.13 million TEU equity throughput this quarter, an increase of 7.91%, which is a little less than the overall growth. Its aggressive growth within the year is mostly attributed to the economic and trade upturn in the Middle East and the wise investment decisions made by the group.

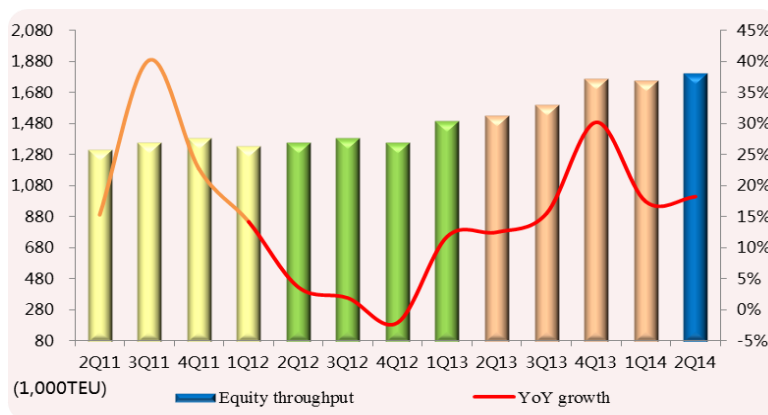


Source: DPW Website.

Figure 2-10 Equity throughput growth of DPW in 2Q11-2Q14

2.2.6 Container throughput analysis of ICTSI

International Container Terminal Services Inc. (ICTSI) completed the equity throughput of 1.81 million TEU containers in Q2, up 18.23% year-on-year, which is 5.73 percentage points higher than a year before. The upturn of international economic and trade environment and the increase of lines affiliated to its main terminals ensured ICTSI's development, while the top contributor to the massive throughput increase is the increment effect brought by the recent entry of CMSA terminal of Manzanillo, Mexico and the OPC terminal of Honduras.



Source: ICTSI website.

Figure 2-11 Equity Throughput of ICTSI in 2Q11-2Q14

2.2.7 Container throughput analysis of APM Terminal

APM Terminal completed the equity throughput of 9.8 million TEU containers in Q2, a year-on-year increase of 7.69% that's less than the previous quarter. APM Terminal recently adjusted its dock assets and sold the stakes in certain docks in order to retrieve capital and optimize the investment portfolio. It reached an agreement to transfer all stakes in APM Terminals Virginia to the infrastructure investor Alinda Capital Partners, and also sold 50% stakes in the container terminals of the port of Le Havre to the logistics operator Perrigault SA.



Source: APMT website.

Figure 2-12 Equity Throughput and Growth Rate of APMT in 1Q11-2Q14

2.3 Investment and construction analysis of global terminal operators

1. Australia opened port investment on a large scale

Despite the abundant resources, Australian ports suffer from poor management and low productivity, and a number of factors, such as cargo structure, tax policy and operating cost, make their return on investment lower than in other regions (less than 5%). In recent years, the backward port facilities and low productivity caused by monopoly have propelled the Australian government to decide to open port investment on a large scale in order to attract global terminal operators and professional management teams to inject new vitality into its ports.

To keep a fiscal balance while improving the port productivity, the Australian government tried to privatize its ports in the 1990s, but the ports that were open for investment from 1996 to

2010 were mostly small ones. It is only in recent years under the new trends of port and shipping development such as ship scale-up that large- and medium-sized ports including Brisbane and New South Wales' Botany and Kembla have successively launched the privatization process.

Table 2-6 Australia Port Operation

Operator	Port	Terminal	Type	Share (%)
HPH	Brisbane port	Berth 11 and 12	Container	100
	Botany port	Berth 3		100%
DP world	Brisbane port	FICT terminal		25%
	Fremantle	North Quay Inner Harbor terminal		25%
	Melbourne	West Swanson Berths		25%
	Botany port	Botany terminal		25%
	Adelaide	DPW- Adelaide		15%
CMHI	Newcastle Port	Newcastle Port	Coal	Unknown
ICTSI	Melbourne	Berth 3	Container	

Source: Drewry, sorted by SISI.

China Merchants Group and Australia's Hastings Funds Management recently won the bid for a 98-year lease of the Newcastle Port in Australia at the price of \$1.62 billion, during which they will have the right of charging management including port dues and of land leasing. As the main coal export port in Australia, the purchase turned a new chapter on global terminal operators focusing on Australia. In addition, ICTSI obtained a 26-year operating contract for the Webb Dock in Melbourne, the largest container port of Australia, for \$508 million this quarter, DP World acquired 25% stakes in a container terminal in Brisbane with the through capacity of 900,000 TEU, and both HPH and CMHI plan to bid for a container terminal at the Melbourne port that is expected to involve an investment of \$4.69 billion for the lease of 40 years.

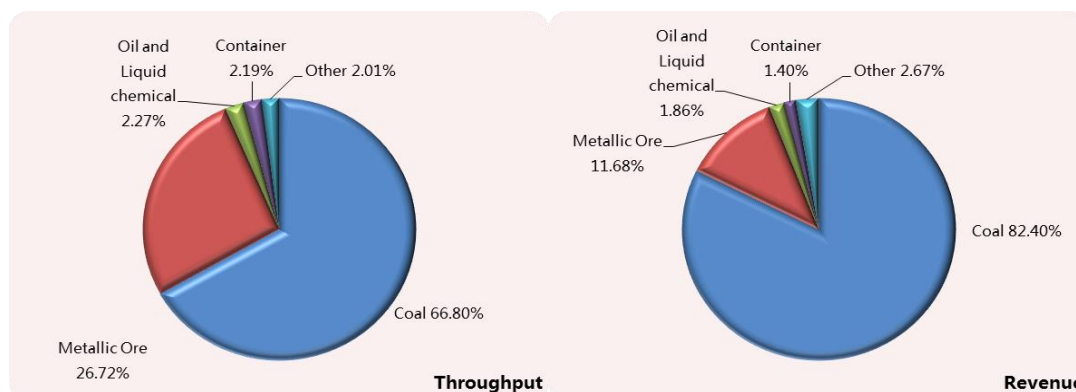
Special topic 3: Deepened integration of Chinese ports in regional economy

The overlapped hinterlands and increasingly fiercer competition among ports in a region have affected the reasonable allocation of shoreline, land and other scarce resources, and caused the decline of port profits. Ever since the beginning of the new century, coastal ports in China have gone through several rounds of integration, which, however, is mostly superficial without addressing the core issues under government leadership, and port resources are merely "physically combined" rather than take any "chemical reaction". As all ports have more urgent needs for transformation and upgrade in recent years, a new round of capital-based port resource integration is in store.

◆ Bohai Port Investment Company integrates port construction resources

The Qinhuangdao port and Tianjin port recently signed the *Joint Venture Operation Contract* to co-found the Bohai Port Investment Company with a 50:50 equity ratio, which is responsible for the investment and development of port projects in Tianjin and Hebei areas. Located in the Dongjiang bonded area in Tianjin, the new company is fully entitled to the preferential policies in the bonded area. The port investment joint venture indicates that Tianjin and Qinhuangdao and even other ports around the Bohai Bay will be more coordinated in capital construction investment.

The two founding ports will not only take regional competition into account when building docks, but will also be more flexible in capital and construction arrangement. On the other hand, port construction joint venture is an indirect form of cross-shareholding and profit sharing, whereby Qinhuangdao port can accelerate the development of its container business by drawing on Tianjin port's advantages in port logistics and line resources, while Tianjin port can further consolidate its market position and evolve into a transshipment hub.



Source: 2013 Annual Report of Qinhuangdao

Figure 2-13 Cargo Throughput and benefit share in 2013

◆ **“Equity integration +business restructuring” results in Hubei Port Group**

Ports in Hubei province are faced with a string of problems, including small and scattered size, low centralization, regional division, irrational functional layout, sporadic operation and serious vicious competition. The Wuhan New Port was established in 2008 in order to integrate resources and make holistic plans. When the State Council issued the *Opinion on Accelerating Water Transportation Development on Yangtze River and Other Inland Rivers*, which elevated inland water transportation to be a national strategy, Hubei province seized the opportunity to intensify the construction of a shipping center in the middle reaches of Yangtze River, and moved faster to integrate port resources along the river in a step-by-step approach of “equity integration +business restructuring”. According to this concept, the Hubei Port Group will be founded first through equity integration, and then all businesses will be integrated according to port and shipping business sectors under the centralized management and operation of the Port Group. This will notably improve the port and shipping status quo in Hubei province and facilitate the formation of a shipping resource concentration center in Wuhan. At the moment, only state-owned assets are integrated, but according to the plan, both foreign and private capitals will be incorporated into the new platform in the form of equity stake in order to make operation more flexible.

◆ **Port integration is intensified in China**

The State Council approved the establishment of Shanghai Port Cluster in 1997, which marked the beginning of integration of coastal port resources in China. At first, port resource integration was more an administrative measure. For instance, the Shanghai Port Cluster played a very limited role because it could only make overall planning coordination, while the integration of Ningbo-Zhoushan port was more about form than realistic importance as it was focused on statistical indicators. However, port integration today is quite different in that real capital is injected and interests are shared. Under the market economy, the closest cooperation between enterprises is to share both profit and loss with capital as the bond, which can effectively turn the

originally fragmented competitive relation into a cooperative relation aiming for common development.

Besides, to maximize profits, cooperative ports can also promote each other through functional complementarity, enhanced overall advantage, closer cooperation in resource development, and higher utilization rate of port facilities. By learning advanced production and management experiences through mutual exchange, they can perform better jointly than separately.

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III. Overview of Construction Progress of Global Ports in Q2

- Mexico increases investment in ports due to insufficient capacity.
- Pivotal ports in Middle East expand capacity.
- “Fast Net Concept” a breakthrough on traditional bridge crane.
- Smart Grip and remote control system popular in all ports.

3.1 Terminal construction progress of global ports

1. Mexico increases port construction investment

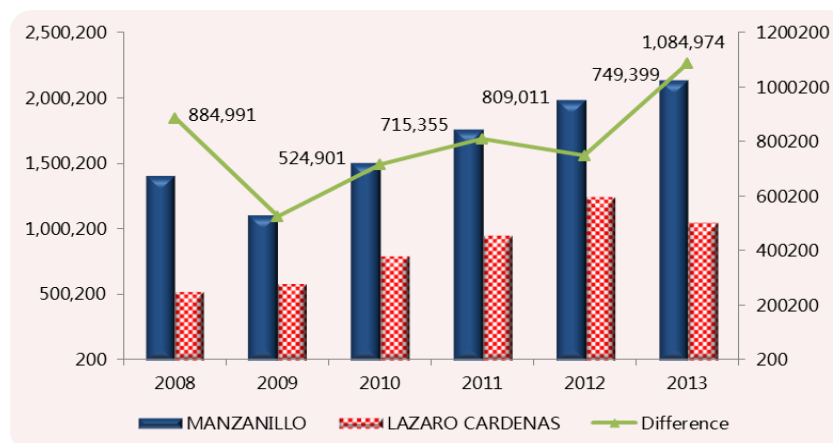
Growing shipping demand boosts port construction. As Mexico shifts its focus of foreign trade from Europe and the U.S. to Asia and the Pacific region, container volumes at Mexico’s west coast ports take a rising proportion in its total container throughput year by year from less than 50% in 2004 to 68.58% in 2013. From 2010 to 2012, container throughput at the six main ports along the west coast grew 33.68%, 16.27% and 19.06% respectively, but they all registered “zero growth” last year under the double pressure of slower trade growth and port construction. Regarding specific ports, Manzanillo continued a high-speed container growth, while some container shipment at the other ports moved to the emerging Guaymas port, which in a way reflected Mexico’s need for port construction.

Table 3-1 Container Throughput of Major Ports along Mexico's West Coast

Year	Container Throughput /TEU						West coast share (%)
	Ensenada	Guaymas	Mazatlan	Manzanillo	Lazaro Cardenas	Puerto Chiapas	
2008	110,423	0	27,668	1,409,782	524,791	4,714	62.68
2009	110,952	0	29,322	1,110,350	585,449	13,141	64.25
2010	135,364	4	25,795	1,511,378	796,023	3,488	67.12
2011	132,727	2	22,744	1,762,508	953,497	2,746	68.10
2012	140,468	4,412	39,263	1,992,176	1,242,777	3,026	70.15
2013	131,054	8,370	28,094	2,136,157	1,051,183	762	68.58

Source: Mexico's Transport and Communications Ministry.

Two major ports on west coast in fierce competition and picked up speed in port construction. In 2013, the container throughput at Manzanillo port and Lazaro Cardenas port accounted for 50.55% and 21.55% of Mexico’s total container throughput respectively. As the two ports are only 200km from each other and their economic hinterlands are largely overlapped, liner companies have much freedom in choosing between them. Therefore, efficiency based on infrastructure and unblocked transportation channels are key to their competition. In recent years, the 16.45% average container throughput growth achieved by Lazaro Cardenas port driven by investment is higher than Manzanillo port’s 10.35%, but the latter also begins to invest in capital construction in order to catch up, and plans to lengthen the dock depth from 110 to 150 meters and dredge the main incoming channel to 16 meters underwater.



Source: Mexico's Transport and Communications Ministry

Figure 3-1 Container Throughput of Manzanillo Port and Lazaro Cardenas Port (Unit:1,000TEU)

◆ Port construction in full swing

Among the main Mexican ports with trade ties with Asia, Manzanillo port's through capacity is almost saturated, Lazaro Cardenas port has poor working capacity, and Salina Cruz port and Mazatlan port are to be upgraded for their lack of sound infrastructure. At present, the \$250 million container terminal at Manzanillo port constructed and operated by ICTSI is under construction, which is expected to increase the port's handling capacity by two million TEU. In contrast, the Vera Cruz port, the largest port in Mexico with 12 docks, is in serious shortage of through capacity and cannot accept ultra-large container ships. Therefore, the Mexican government plans to build 10 new docks to increase its handling capacity to 116 million tons. Besides, the Mexican Ministry of Communications and Transportation (SCT) also plans to spend \$454 million on expanding the Altamira port, Tampico port and Matamoros port along the east coast of Mexico. When the expansion of Panama Canal is completed in 2015, the increasing transshipped cargo brought by large ships will aggravate the competition between ports of the Caribbean and those of the Gulf of Mexico.

◆ Collection and distribution construction at ports draws attention

In Mexico's comprehensive transportation system, both road and railway are bottlenecks that restrain port development. On the one hand, road transportation companies usually have to bear extra cost because of traffic congestion. On the other hand, railway within the port area usually causes slow cargo flow and affects the dock's efficiency because of monopoly operation and the absence of dispatching zone to arrange delivery between the railway station and the dock. Therefore, the government launched a new round of investment in port-related road and railway.

2. Pivotal container ports in the Middle East expand capacity

Located among Asia, Africa and Europe, the Middle East boasts an advantageous pivotal position because of the Suez Canal, known as the golden waterway, but port facilities and conditions in the Middle East are insufficient due to the more prominent impacts of shipping alliances and ship scale-up. On the other hand, in order to lower the cost and shorten the handling cycle, shipping companies hope to split cargoes into smaller ships at intermediate ports and then ship them to the final destination. Therefore, the needs for cargo transshipment will further increase port businesses.

Seeing the tremendous business opportunities brought by transshipment demand, terminal operators in the Middle East have all enlarged their investment to improve the port's through

capacity and modern facilities, waging a new surge of investment in pivotal transshipment ports.

Table 3-2 Port Container Demand in the Middle East (Unit: Million TEU)

Region	2011	2012	2013	2014	2015	2020	2025
Arabian Gulf and Gulf of Oman	23.57	25.1	26.39	28.04	29.86	39.53	49.4
Gateway demand	13.23	13.96	14.85	15.81	16.83	22.14	27.36
Transshipment	10.34	11.14	11.54	12.23	13.02	17.39	22.04
Arabian Sea and Gulf of Aden	4.08	4.64	4.82	5.08	5.38	6.96	8.57
Gateway demand	0.58	0.71	0.78	0.83	0.89	1.2	1.55
Transshipment	3.51	3.93	4.04	4.25	4.49	5.76	7.01
Red Sea	5.77	6.57	6.93	7.39	7.89	10.87	14.02
Gateway demand	4.07	4.48	4.75	5.07	5.42	7.5	9.68
Transshipment	1.7	2.09	2.17	2.31	2.47	3.36	4.34
Total	33.42	36.31	38.13	40.51	43.13	57.35	71.98
Gateway demand	17.88	19.15	20.38	21.72	23.15	30.84	38.59
Transshipment	15.55	17.16	17.75	18.79	19.98	26.51	33.39

Source: Ocean Shipping Consultants

Table 3-3 Container Throughput of Major Ports in the Middle East (Unit:1,000TEU)

port	2008	2009	2010	2011	2012
Dubai	11827	11124	11600	13000	13270
Jeddah	3325	3091	3830	4040	4738
KHOR FAKKAN	2501	2750	3022	3229	3996
Said	3202	3300	3474	4269	3631
Salalah	3068	3490	3485	3200	3620
Ambarli	2262	1836	2540	2700	3097
Abbas	2000	2206	2592	2839	2317
Dammam	1247	1227	1333	1597	1622
Alexander	548	799	808	1490	1500
Haifa	1262	1140	1263	1235	1372
Mersin	854	843	1024	1140	1263
Total	32096	31806	34971	38739	40426
Global	509440	472273	540816	580022	601772
Share	6.30%	6.73%	6.47%	6.68%	6.72%

Source: Middle East Top Ports

The No.3 container terminal of Jebel Ali port with a total investment of \$850 million from Dubai will be completed and put into operation soon, which will increase the port's total capacity by four million TEU to 19 million TEU. Besides, trade demand in the Middle East also increases rapidly. Shipping trade between China and Israel exceeded \$5 trillion, and China Harbor Engineering Company Ltd. (CHEC) plans to invest \$1 billion to build a one-million-TEU dock in the Mediterranean area in Israel to expand the China-Israel trade cooperation. Meanwhile, North America Western Asia Holdings (NAWAH) plan to build a modern container terminal at Basra port in Iraq, partly to upgrade the infrastructure and lower operating cost and partly to relieve the capacity bottleneck and improve local economy. Egypt also plans to expand the Adabiya port to realize a new storage capacity of two million tons in order to reduce the cost of food import such as wheat.

3.2 Global port technology and application

1. “Fast Net Concept” a breakthrough on traditional bridge crane

Under the trend of ship scale-up, handling efficiency becomes one of the key means to deal with large ships and increase port throughput. As improvement of traditional bridge crane is limited to single machinery, Maersk Group independently developed a new type of bridge crane combination that arranges all hoists on the same stand so they can operate alternatively. The new process makes it easy to have multiple hoists serve one ship at the same time, which not only solves the problem that large ships have too many containers and take too long a handling time, but also makes resource utilization more efficient and reduces ship’s length of stay by over 50%.

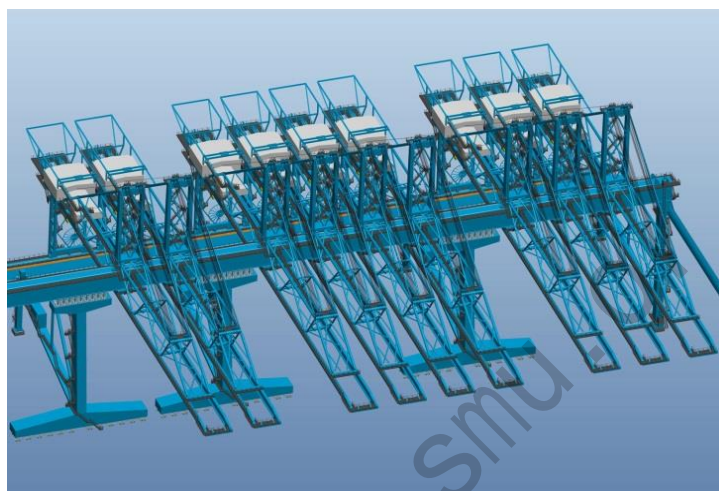


Figure 3-2 “Fast Net Concept” shore container crane concept map

2. “Smart Grip”

The utilization rate of crane grab at ports is related with several factors, such as grabbing angle and grain density of the materials. Data show that the average utilization rate of all grabs used by port machinery around the world is 70%, leaving room for improvement. Unlike the traditional process optimization and equipment upgrade, the latest “Smart Grip” realizes automatic and intelligent grab, hence the word “smart”.

(1) Intelligent grabbing. In addition to the grab type and size, “Smart Grip” can automatically adjust its working status according to the density, degree of compression and granularity of materials, ensuring the maximal grabbing ratio.

(2) Overload identification. Traditional manual grabbing usually causes overload operation of the grab, which, if frequent, will shorten the machinery’s life cycle and result in safety hazard. “Smart Grip” can automatically shut down according to the load and effectively avoid this situation.

(3) High working efficiency. Working efficiency depends on the machinery’s performance, operator’s skills and the grabbed materials. Based on the average grabbing ratio of 70%, “Smart Grip”, by optimizing the hoisting machinery’s parameters, can not only improve the handling efficiency by over 30%, but also sharply reduce the handling error.

(4) Better grab adaptation. Usually a grab is only applicable for a limited scope of materials, so bulk cargo docks have to prepare different types of grabs to deal with materials in various forms, which increases the port’s purchase of grab, working cost, time of change and storage facilities. “Smart Grip” can adapt to special materials by adjusting the grabbing ratio, thus

improving the grab's adaptability.

Moreover, "Smart Grip" also enables operators to grab a designated quantity of materials.

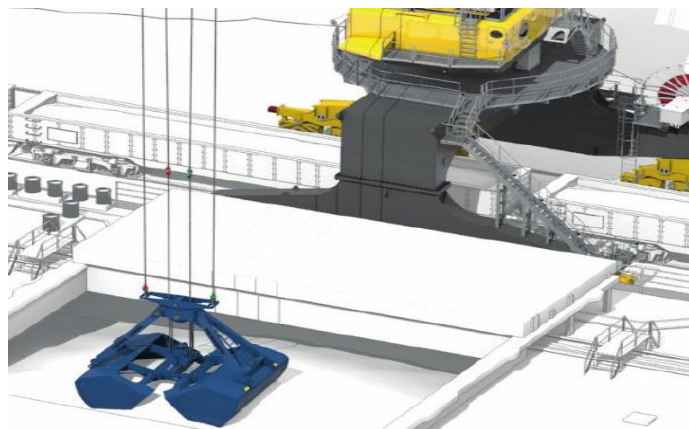


Figure 3-3 Ongoing operation "Smart Grip" grab

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