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- **World Seaborne Trade and World Port Traffic**

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WORLD OUTPUT GROWTH KEEPS DECREASING

Overview

In 2016, world merchandise trade recorded its lowest growth rate in volume terms since the financial crisis of 2008, with an increase of just 1.3 per cent, as measured by the average of exports and imports. This low level of expansion was half as strong as the 2.6 per cent increase recorded in 2015 and well below the 4.7 per cent average annual rate since 1980.

The weakness of trade reflected deeper structural changes in the relationship between trade and economic growth. The most trade-intensive components of global demand were particularly weak in 2016.

Dismal world trade growth in 2016 came along with weak real GDP growth of 2.3%, down from 2.7% in the previous year and also below the 2.8% cent average annual rate since 1980. In general, trade development is much more volatile than GDP growth at the global level although both tend to develop in parallel.

Although world merchandise trade increased slightly in volume throughout 2016, it declined in value terms due to falling export and import prices. World merchandise exports went down 3.3% in 2016 to US$ 15.46 trillion. All regions recorded declines in merchandise exports in 2016, with the smallest decline registered by Europe (-0.3%) and the largest (mostly caused by the embargo) by the CIS (-16.2%). On the import side, the EU saw a small increase (0.2 %) while all other regions recorded declines.

The discrepancy between trade growth in terms of volume and value in 2016 largely reflect declines in commodity prices and the appreciation of the US dollar.

However, these price changes were not as significant in 2016 as they were in 2015. Commodity prices fell by around 10% in 2016 as the WTO shows in its latest report – compared to a plunge of 35% during 2015. The continuing decline of revenues led to economic difficulties in many countries exporting raw materials such as Venezuela.

The unusually low growth rate of 1.3% in the volume of world merchandise trade in 2016 was the result of several factors that had an impact on imports of both developed and developing economies, although the latter were more strongly affected.

Based on the WTO, developing economies suffered a sharp 3 % decline in imports in early 2016, equivalent to an annual drop of 11.6 per cent, but growth resumed in the second quarter and by the end of the year imports had returned to their previous level. Meanwhile, imports of developed economies continued to grow but at a reduced pace.

World trade and economic growth in early 2017

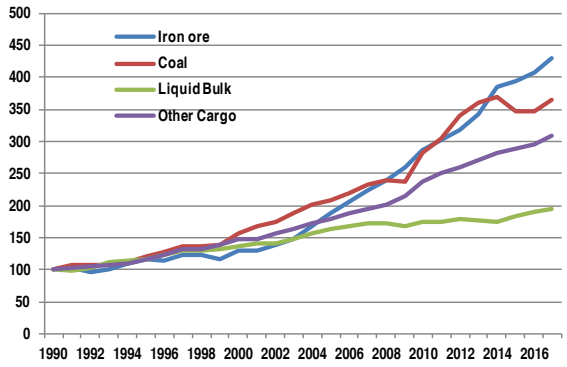
Leading indicators of trade were generally positive in the early months of 2017. This suggests a strengthening of trade at the start of this year. For example, container throughput of major ports is recovering from its slump of 2015-16 to reach a record high level. The first nine month of 2017 saw a cumulated growth of 6.3% when

Tab. 1: Intra- and inter-regional merchandise trade, 2016 (Billion dollars)

		Destination					
		Developing economies					
Origin	World	Total	*Africa*	*America*	*Asia and Oceania*	Economies in transition	Developed economies
Value							
World	**15940.0**	**6563.0**	***502.0***	***900.0***	***5161.0***	**361.0**	**9016.0**
Total developing	**6969.0**	3969.0	*287.0*	*352.0*	*3330.0*	109.0	2891.0
Africa	***350.0***	178.0	*62.0*	*8.0*	*108.0*	2.0	170.0
America	***883.0***	324.0	*16.0*	*146.0*	*162.0*	7.0	552.0
Asia and Oceania	***5735.0***	3468.0	*208.0*	*198.0*	*3061.0*	100.0	2167.0
Economies in transition	**452.0**	135.0	*16.0*	*6.0*	*113.0*	81.0	236.0
Developed economies	**8519.0**	2458.0	*199.0*	*541.0*	*1718.0*	171.0	5890.0

Source: ISL, based on WTO, World Trade Statistical Review 2017

Fig. 1: Development of seaborne trade by major cargo aggregates 1990 - 2016 (index 1990=100)

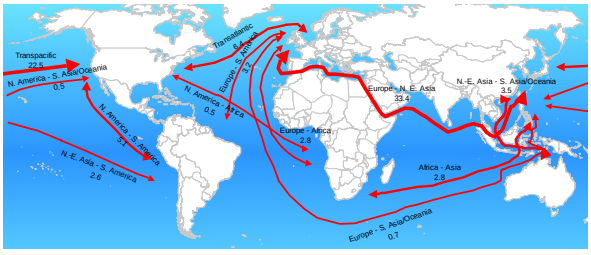


Tab. 2: Average annual growth rates of seaborne trade by commodity 2004 - 2016 and trade volume in 2016 (in% and mill. tonnes)

Commodity group	Total 2016	%share of total	% change 2015/2016	average growth '04-'08	'08-'12	'12-'16	2017 est.
Crude Oil	1949	17.5	4.1	1.5	-0.8	0.6	*2003*
Oil Products	1067	9.6	4.4	6.8	4.6	2.8	*1096*
Iron ore	1418	12.7	4.0	10.7	7.9	6.8	*1493*
Coal	1141	10.2	-0.3	5.4	6.9	3.4	*1199*
Grain	480	4.3	4.6	3.4	3.2	7.5	*511*
Bauxite & Alumina	125	1.1	-0.8	8.8	7.8	2.8	*131*
Other Cargo	4956	44.5	2.4	4.6	6.7	3.3	*5171*
Total Trade	11136	**100.0**	**2.9**	**4.9**	**4.6**	**3.3**	*11604*

ISL 2017; Note: Bulk and oil trades as per Clarksons "Dry Bulk Trade Outlook" and "Oil & Tanker Trade Outlook", respectively. LPG trade covers OECD only. Grain includes soybeans.

Fig. 2: Main Container Routes 2016 (million TEU)



comparing the Container traffic of leading ports with their results one year earlier (see *Table 6.2 on page 71*).

SLIGHT PICK-UP OF SEABORNE TRADE

Depending on the source of information, world seaborne trade grew by around 2.6% (UNCTAD; Review of Maritime Transport 2017) or 2.9% (Clarksons Research Services Limited; World Fleet Monitor December 2017) in 2016. Following both sources, growth is around one per cent higher growth than in 2015.

According to Clarksons, world seaborne trade increased to 11.14 billion tonnes in 2016 and is expected to accelerate growth in 2017 to 4.2%.

According to estimates from CRSL, unlike the last few years, seaborne trade grew in line with shipping tonnage. The latter is showing a year-on-year growth of 3.3% in 2016 and 3.7% in 2017. Focussing exclusively on dry bulk, tanker and container shipping, this imbalance would be much bigger, but the figures are narrowing.

Port figures show that on the export side especially the ore, grain and crude oil exporting countries and on the import side emerging market economies are driving seaborne trade growth. Among others especially southeastern and southwestern Asia exhibited the fastest trade growth in 2016 with an increase of 4.2% and 9.7%, respectively. Huge amounts of raw materials are transported to East Asia from Australia, India and South America.

Bulk commodities still dominate seaborne trade

Out of the total of 11.1 billion tonnes of seaborne trade, about 32.8% are crude oil, mineral oil products and gas. 27.2% are major dry bulks (Iron ore, Coal, Grain, Bauxite and Phosphate Rock), 16.7% are minor bulks and the remaining 23.3% are general cargo, break bulk, ro/ro and container shipments. According to the Review of Maritime Transport and other sources, containerised cargo had a share of about 15.5% in total seaborne trade in 2016 in terms of volume. During 2016, the development of transported volumes of all commodity groups was more or less homogenous though in the case of dry bulk, coal trade showed decreasing volumes (see *Table 4*). The mentioned commodity groups grew by 3.0% (liquid bulk), 2.7% (dry bulk) and 3.4% (general cargo) from 2015 to 2016.

Seaborne trade developments during 2016 can be summarised as follows:

- The seaborne trade of dry bulk commodities picked up momentum in 2016 after the standstill experienced in 2015. According to recent Clarksons estimates, trade volumes increased by 1.3 per cent, reaching 4.9 billion tons in 2016. The revived iron ore trade (+3.4 per cent) contributed a great deal to this growth especially since Brazilian exporters gained market share and thus ton-mile demand grew noticeably faster. It is worth mentioning that according Clarksons, China now is the first country to ever have imported one billion tons of a single dry bulk commodity in a given year, namely iron

Fig. 3: World Seaborne Trade 2016 by Main Importing and Exporting Regions (Volume %-share)

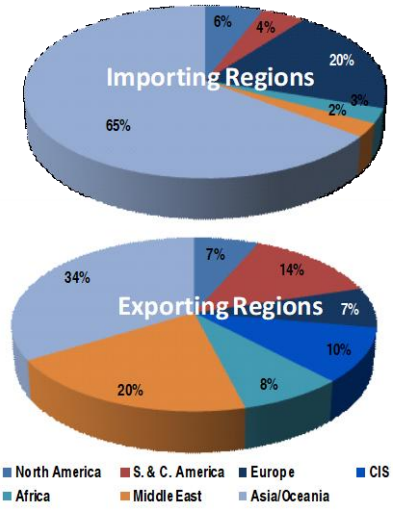
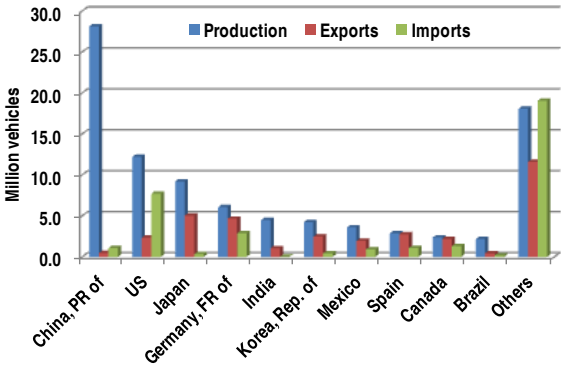
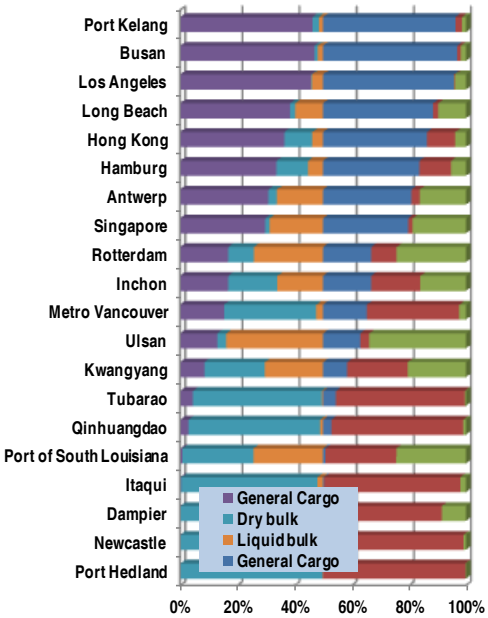


Fig. 4: Global car production and trade 2016



Source: International Organization of Motor Vehicle Manufacturers; own calculations

Fig. 5: Distribution of Cargo Types for Selected Ports (per cent of total cargo traffic 2016)



ore.

- Looking ahead, CRSL's latest estimate for 2016/2017 the growth of seaborne dry bulk stood at 2.5 %.
- Between 2012 and 2016, the seaborne trade volume of crude oil increased by only 1.0 per cent on average per year, whereas shipments of oil products gained around 3.7 per cent on average during the same period.
- In 2016, the most important export regions for coal shipments were Indonesia and Australia, which together account for two thirds of the global coal exports, followed by South Africa, and North America at a distance. Together, these four countries/regions accounted for 85% of the total world seaborne coal exports. On the import side, Asian countries held the lion's share, namely three quarters of the total world seaborne coal imports.
- Iron ore exports originate mainly from Australia and Brazil, which had a share of 55.6% and 25.9% in 2016, respectively. Similar to the coal trade, iron ore is to a large extent destined for Asia. 1.3 billion tons of the global iron ore imports end up in Asian furnaces, around 1.1 billion tons alone in China. The country's imports increased on average by 10.9% p.a. between 2012 and 2016 and 8% from 2015 to 2016, while all other Asian imports increased by 5% on average during the same period.

VEHICLE TRADE AND TRANSPORT

Global production of cars continued to increase noticeably, thanks to a robust sales growth in China and Europe, but the growth was mostly covered by domestic production. Though China is by far the largest vehicles producing country with more than 28 million cars built in 2016 (while the first time China produced more than one million cars per year was in 2002), it only exported 710,000 units and imported nearly one million cars according to figures of the China Association of Automobile Manufacturers. China's import taxes on cars may be one reason for the rather low import numbers and have recently been criticized by the U.S. administration (see 'China's Taxes on Imported Cars Feed Trade Tensions With U.S.', New York Times, 20 March 2017).

Consequently the seaborne trade of automobiles does not keep pace with the production, as it only showed an annual growth of 3 to 4%. Moreover, trade with China as origin or destination decreased in 2016 for the second year in a row and demonstrates the trend towards assembling cars close to the market.

As if to underline this, a Chinese company is building Central Africa's first car manufacturing plant in Cameroon. It is planned to produce cars under the brand name "Star of Africa". The production plant will be established next to the deep sea port in Kribi in southern Cameroon, also to be financed by Chinese companies.

Chinese auto companies like FAW Group, ChangAn Automobile, and SAIC Motor have been targeting African countries for a while because car penetration is

Tab. 3: Total cargo traffic and container traffic by port regions 2007 – 2016

		Total cargo traffic			Container traffic in TEU			
	No of	Mill t	average yearly growth in %		TEU-% share	Mill TEU	average yearly growth in %	
Port regions (a)	Port	2016	'07-'16	'15-'16	2016	2016	'07-'16	'15-'16
America	**115**	**3412**	**0.9**	**1.5**	**14.9**	**92.4**	**2.0**	**-0.1**
N. America Atlantic	43	1443	-0.6	-0.1	4.5	28.1	2.2	0.9
N. America Pacific	12	595	0.0	0.8	4.8	29.7	0.0	-0.8
Central America	21	291	3.4	3.9	2.6	16.3	5.2	2.1
S. America Atlantic	22	946	3.0	3.5	1.9	12.0	2.5	-5.5
S. America Pacific	17	137	4.8	3.1	1.0	6.4	4.1	2.9
Asia	**107**	**9488**	**2.9**	**2.7**	**61.9**	**384.3**	**4.2**	**3.1**
North East Asia	32	5981	2.5	1.8	36.9	229.2	3.9	2.1
South East Asia	40	2434	3.4	5.8	17.4	107.9	4.5	3.9
Western Asia	35	1074	4.4	1.0	7.6	47.3	5.1	6.5
Europe	**139**	**3747**	**0.1**	**0.2**	**16.5**	**102.3**	**1.7**	**4.0**
North Europe	38	1724	0.0	-0.8	8.7	54.2	0.7	1.7
Baltic Sea	53	767	0.3	1.3	1.6	9.7	2.5	9.6
South Europe	48	1257	0.3	1.1	6.2	38.4	2.9	6.1
Other Regions	**86**	**2277**	**5.2**	**1.6**	**6.7**	**41.5**	**4.9**	**3.5**
Oceania	32	1405	6.3	2.5	1.8	11.0	3.0	2.3
Africa	54	872	3.7	0.1	4.9	30.5	5.6	3.9
World	**447**	**18925**	**2.2**	**1.8**	**100.0**	**620.6**	**3.5**	**2.8**

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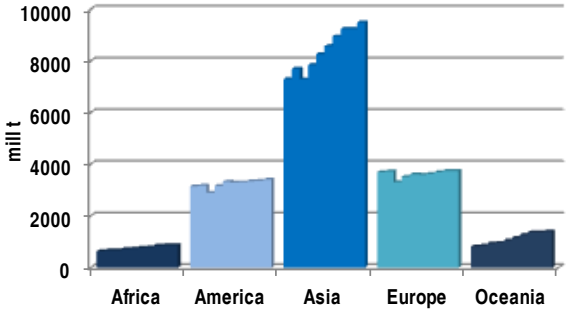
Fig. 6: Development of cargo traffic of major seaports grouped according to continents 2007-2016



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Tab. 4: Total cargo traffic - the ten fastest growing and declining ports 2015 and 2016

Port	Country	Total traffic in mill t 2015	2016	% change over prev. year
Ports with highest growth				
Daesan	Korea, Rep. of	69.3	85.9	24.0
Itaqui	Brazil	146.6	179.9	22.7
Paradip	India	75.8	89.0	17.4
Xiamen	China, PR of	200.5	234.2	16.8
Bandar Abbas	Iran	67.7	78.0	15.1
Guangzhou	China, PR of	475.5	544.4	14.5
Colombo	Sri Lanka	73.7	82.2	11.5
New York / New Jerse	US	73.6	79.8	8.5
Primorsk	Russia	59.6	64.4	8.1
Visakhapatnam	India	57.0	61.3	7.6
Ports with strongest setback				
Qinhuangdao	China, PR of	246.6	179.7	-27.1
Corpus Christi	US	93.9	85.5	-8.9
Jubail	Saudi Arabia	72.4	66.1	-8.7
Hay Point	Australia	115.8	106.5	-8.0
Grimsby and Immingh	UK	59.1	54.4	-8.0
Saldanha Bay	South Africa	72.0	66.5	-7.6
Tanjung Pelepas	Malaysia	136.3	127.2	-6.7
Santos	Brazil	119.9	113.8	-5.1
Yokohama	Japan	114.7	109.1	-4.9
Le Havre	France	68.3	65.4	-4.2

Note: Including ports with at least 50 million tonnes of cargo traffic
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still relatively low. On average across the continent there are only 42 vehicles per 1,000 people, compared to the global average of 182, according to the International Organisation for Motor Vehicle Manufacturers.

The same tendencies can be seen on the Indian subcontinent, where one quarter of the world population lives. In 2016-17, India exported 602,000 passenger cars, up 13 per cent from 532,000 units in the previous year. Utility vehicles (comprising MUVs, SUVs and multipurpose vehicles) saw a 30 per cent jump in exports to 154,000 units.

In this context, a number of Indian ports are undertaking efforts to brush up their facilities for handling vehicles such as the port of Chennai. A change in the production strategy of Hyundai's plant in India led to a substantial fall in export volumes at the Chennai port. Nissan and Ford shifted to the nearby Kamarajar port. Currently, Kamarajar handles more than 200,000 vehicles a year, while Chennai exports have fallen below 150,000 units.

WORLD PORT TRAFFIC GROWTH

The first half of the current decade is affected by shrinking growth rates, both in total cargo traffic and in container traffic, but more apparent in the latter. Total cargo throughput of the nearly 450 ports covered ISL's Port Data Base grew by 1.8% in 2016 after a very slight decrease in 2015. Again, port throughput in Asia and South America made up for the limited growth of North American and European ports.

World container port traffic developed in line with economic progress: slowly. Figures of the ISL Port Data Base show a growth of 2.8% (reaching 620.6 million TEU), the weakest growth since the global economic crisis in 2008. ISL's Port Data Base covers more than 95 per cent of the world container port traffic.

After speeding up on average during 2016, the handling demand growth in the top 20 container ports is showing a mixed picture. In some cases the growth accelerated, in others it decelerated. Singapore and Hongkong continued to underperform (see *Table 5*) as lines continued to eradicate transhipment moves from their networks wherever possible. Already in 2015, there has been a noticeable discrepancy between the industry estimates for container lift growth and container trade growth.

Data from ISL's Port Data Base indicates that container traffic of 357 individually observed ports with a total volume of 620.6 million TEU in 2016.

Today, two thirds of global container handlings take place in Asian ports. With an increase of 3.1%, the entire Asian market outperformed the global average in 2016. The weak performance of the American container handling demand requires a more precise analysis. Containers handled in the US ports, for example, accounted for 47 out of the total 89 million TEU handled in "American ports". They have been more or less constant (-0.3%). Latin American box heavyweight Brazil has seen its handling activity decline by 4.3%. And commodity-price battered Venezuela suffered a loss of 40.8%. Other Latin American ports did quite well.

Fig. 7: **Development of container traffic of major seaports grouped according to continents 2007-2016**

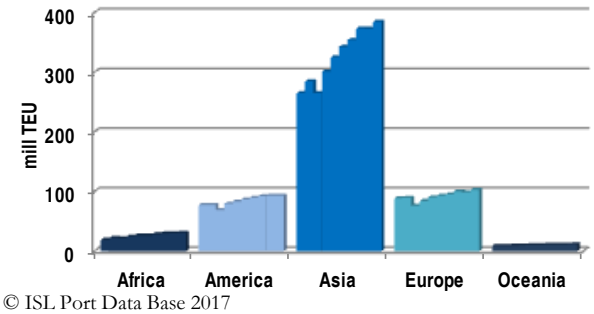

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Fig. 8: **RWI/ISL Container Throughput Index (2010=100)**

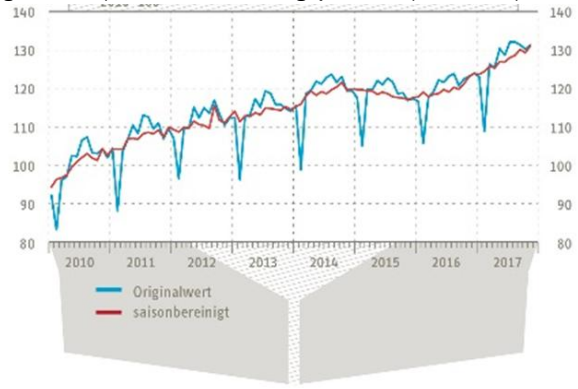

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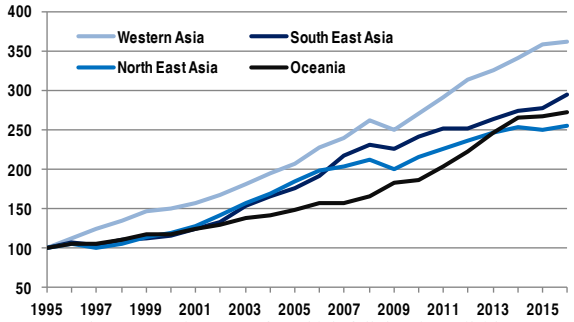
Fig. 9: **Asian ports - cargo traffic of ports according to sub-regions 1995 - 2016 (Index 1995 = 100)**



Note: Based on 103 Asian ports for which full data is available

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Tab. 5: **Cargo traffic of Asian ports by countries 2012 - 2016 (in mill. tons)**

Region	Unit	No of ports	2012	2015	2016	%-change '15/'16	av. growth 12-16
North East Asia							
China	MT	10	3458	3657	3711	**1.5**	**1.8**
South Korea	RT	8	1077	1199	1235	**3.0**	**3.5**
Japan	FT	9	879	887	884	**-0.4**	**0.1**
Taiwan	MT	3	205	208	218	**4.5**	**1.5**
South East Asia							
Singapore	FT	1	538	576	593	**3.0**	**2.5**
Indian subcontinent	MT	14	556	640	702	**9.6**	**6.0**
Malaysia	MT	7	445	497	510	**2.7**	**3.5**
Western Asia	MT	25	511	570	574	**0.6**	**2.9**

Units: MT - metric tons, FT - freight tons; RT - revenue tons

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At the world scale, we can see the same pattern: port growth varies strongly, even within countries. Most ports in the list of fastest growing ports with growth rates above 10% are bulk-orientated as the ports of Daesan/ South Korea (+24%, increasing oil imports for local petro-chemical industry), Itaqui/Brazil (+22.7%) and Paradip/India (+17.4%) illustrate. However, a combined traffic growth of 16.8% up to 234.2 million tons put Xiamen/China fourth in the list of fastest-growing ports. Bandar Abbas/Iran, Guangzhou/China and Colombo/ Sri Lanka complete the list of ports with growth rates of more than 10%.

The list of ports with the strongest setback of cargo traffic includes again one Chinese port, namely the coal-loading port of Qinhuangdao (-27.1%). The port was already on the list of ports with the strongest setback in 2015.

All in all the development of least dynamic ports (see *Table 6*) seems to be the result of national or macroeconomic tendencies. Also, Asian ports are increasingly shaping world port traffic. Among the ports covered in the ISL Port Data Base, their share increased from 39% in 1996 to 45% in 2009 and 50.1% in 2016. In container traffic, the predominance of Asia is even higher: 62% in 2016.

UNEVEN DEVELOPMENTS IN THE MAJOR PORT RANGES

The ISL port traffic analysis allows a detailed appraisal of regional trends by grouping ports according to continents and sub-regions as equivalents for trading areas.

Asia

Total cargo traffic

As mentioned above, Asian port traffic developed disappointingly in 2016. Among the leading countries, nine countries showed growth rates above the continent's average (2.6% in 2016), and 6 countries showed a growth below average, with Japan, UAE and Saudi Arabia showing throughput losses and China and Turkey with disappointing growth of around 1% (see *2.3.1 on page 19*).

China is represented with ten ports in our statistics with a a market share of around 39%. Their average of 1.5% is disappointing and drags down the continent's growth. The ports of Tianjin, Dalian and Qinhuangdao – together handling more than one billion tons – lost 8% of their throughput volumes, particularly in the bulk sector.

When throwing a glance at the port developments in South East Asia, it is obvious that Singapore is losing its leading position in the region, as container traffic as well as bulk traffic growth is slowing compared with the Malaysian and Indonesian competitors.

The Port of Kelang/Malaysia, for example, is going to be a major challenger to Singapore. The port invests heavily, e.g. in new cranes. The port of Kelang is located not far from the country's capital and serves the economic centre of the country. The port surged to 14th worldwide in terms of total cargo traffic in 2016, showing a throughput of 235.5 million tons in 2016 (up 7.1%). In the league of container ports, it ranks 11th with an annual throughput

Tab. 6: Cargo traffic of Top 10 Asian ports 1997 - 2016 (in mill. tons)

		mill tons					average yearly growth			
	Unit	1997	2002	2007	2012	2016	97-02	02-07	07-12	12-16
Shanghai	MT	164	264	492	645	647	10.0	13.3	5.5	0.1
Singapore	FT	328	335	484	538	593	0.5	7.6	2.2	2.5
Guangzhou	MT	75	153	343	451	544	15.3	17.5	5.6	4.8
Ningbo	MT	82	154	344	365	469	13.4	17.4	1.2	6.5
Qingdao	MT	69	122	215	363	444	12.0	12.0	11.1	5.1
Tianjin	MT	68	129	309	477	428	13.7	19.1	9.0	-2.7
Busan	RT	107	166	232	299	350	9.2	7.0	5.2	4.0
Dalian	MT	70	109	223	303	318	9.0	15.5	6.3	1.3
Kwangyang	RT	50	74	198	237	283	8.3	21.6	3.7	4.5
Hong Kong	MT	169	193	245	269	257	2.6	5.0	1.9	-1.2

Unit: MT - metric tons; FT - freight tons; RT - revenue tons

Tab. 7: TEU traffic of top 10 Asian ports 1997- 2016

	mill. TEU					average yearly growth			
Port	1997	2002	2007	2012	2016	96-01	01-06	06-11	11-15
Shanghai	2.5	8.6	26.2	32.5	37.1	27.8	24.9	4.5	3.4
Singapore	14.1	16.9	27.9	31.6	30.9	3.7	10.5	2.5	-0.6
Shenzhen	1.1	7.6	21.1	23.0	23.9	46.0	22.6	1.7	1.1
Ningbo	0.3	1.9	9.4	16.8	21.6	48.6	38.4	12.2	6.5
Hong	14.6	19.1	24.0	23.1	19.8	5.6	4.6	-0.7	-3.8
Busan	4.7	9.4	13.3	17.0	19.2	14.8	7.1	5.1	3.1
Guangzho	0.7	2.2	9.3	14.5	18.3	26.0	33.5	9.4	6.0
Qingdao	1.0	3.4	9.5	14.6	18.0	27.0	22.6	9.1	5.4
Dubai	2.6	4.2	10.7	13.0	15.7	10.0	20.5	4.1	4.9
Tianjin	0.9	2.4	7.1	12.3	14.3	20.8	24.2	11.6	3.8

Tab. 8: Container traffic of Asian ports 2012 - 2016 by countries (in mill. TEU)

Region	Unit	2012	2013	2014	2015	2016	%-change '15/'16	av. growth 12-16
North East Asia	**TEU**	**204.5**	**213.5**	**224.1**	**224.4**	**230.7**	**2.8**	**3.1**
of which								
China, PR of	TEU	152.5	159.2	168.1	169.0	172.9	**2.3**	**3.2**
Korea, Rep. of	TEU	21.6	23.2	23.8	24.7	26.3	**6.6**	**5.0**
Japan	TEU	16.5	17.1	17.1	16.4	16.6	**1.4**	**0.1**
Taiwan	TEU	13.9	14.0	15.1	14.4	14.9	**3.4**	**1.7**
South East Asia	TEU	**92.0**	**98.9**	**99.9**	**105.2**	**104.8**	**-0.4**	**3.3**
of which								
Singapore	TEU	31.6	32.6	33.9	30.9	30.9	**-0.1**	**-0.6**
Malasyia	TEU	20.3	20.6	22.1	23.6	24.3	**3.0**	**4.6**
Indian subcontiner	TEU	11.3	11.3	12.3	12.9	13.9	**8.0**	**5.4**
Viet Nam	TEU	9.4	9.9	12.1	12.6	13.9	**10.4**	**10.4**
Western Asia	TEU	**34.2**	**37.5**	**38.9**	**40.7**	**40.8**	**0.2**	**4.5**
of which								
UAE	TEU	17.0	17.6	19.5	20.0	19.7	**-1.6**	**3.7**
Saudi Arabia	TEU	6.6	6.6	6.3	6.6	6.3	**-4.9**	**-1.3**
Turkey	TEU	5.8	6.8	7.4	7.1	7.1	**1.1**	**5.5**
Total	**TEU**	**355.2**	**367.7**	**384.9**	**382.9**	**384.8**	**0.5**	**2.0**

ISL Port Data Base

The ISL Port Data Base contains structured, comparable data from 1980 onwards for approximately 400 leading world ports.

Container traffic (55 items)

- **TEU (laden/empty)**
- **Containerised cargo (tons)**
- **Degree of containerisation**
- **Container traffic by continent**

of 13.2 million TEU in 2016.

Nevertheless, Singapore is still number one in the region. In 2016 it handled 30.9 TEU, making it second only to the port of Shanghai at the world scale. ISL data shows that the 2016 figure was more or less on the same level as in 2015 but more over around 3 million TEU behind the record figures in 2013/14 (see *Table 2.2 on page 17*).

Singapore's nearby rivals captured much of the growth in traffic, as their goal is to establish facilities to make Singapore redundant as a hub. They have been upgrading their equipment for the largest mainliner calls, eliminating the need for transhipment via Singapore. China's investment in Indonesia, Thailand and Malaysia through their One Belt One Road (OBOR) initiative could also disrupt Singapore's strategic strength and position.

The second major contender is Indonesia, which accounts for 40% of the region's GDP. The Government plans to invest $3 billion to develop a port and industrial zone West Java Province, 100km from Jakarta. Many global acting companies, like Toyota Motor operate in this region.

The Viet Nam port authority is setting up a $1.06 billion project in the northern part of the country to build a port with twice the depth of the country's current main port in Saigon, allowing ships of all sizes to dock. The project is developed and financed by official assistance of Japanese companies and is scheduled to be partially open as early as 2018.

The Port Authority of Thailand plans to spend over $2.5 billion through a public-private partnership to expand a port in the eastern coastal province of Chonburi, increasing its capacity by 130% until 2022.

Singapore's situation mirrors the experience of the port of Hong Kong in the beginning of this century. The port was the leading maritime gateway to China and the world's top port for container traffic. But it was overtaken by Shanghai in 2007 and now ranks below Shenzhen and Ningbo as more and more mainliners called these ports directly. Transhipment volumes hence lost importance.

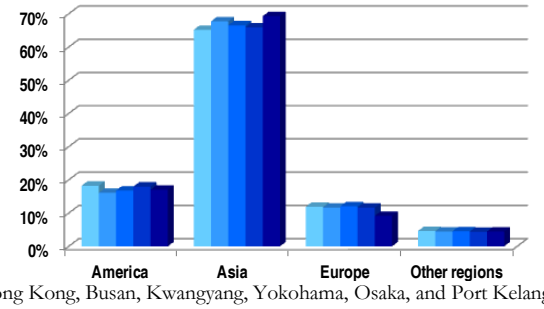
Singapore's answer to the steadily growing competition by other ports in Southeast Asia is an expansion of its own efforts to further improve efficiency. The port has begun work on a central port facility near an industrial park in western Singapore. The cargo capacity is expected to increase by 50% when the first phase is completed in the first half of the 2020s.

The league of major Asian ports is impressive: each of the top ten Asian ports handled more than 250 million tonnes in 2016. Combined, their cargo traffic amounted to 4.33 billion tonnes, up 1.5% compared with 2015 and still a quarter more than all of Europe's ports taken together.

In a long-term perspective, it seems that the times of moving from one record growth rate to another are over. There is a noticeable slowdown of average yearly growth between 2007 and 2016 compared with the early 2000s.

Container traffic

Fig. 10: **Regional spreading of container traffic of selected Far Eastern ports by continent 2012 - 2016 (in mill. TEU)**



Hong Kong, Busan, Kwangyang, Yokohama, Osaka, and Port Kelang
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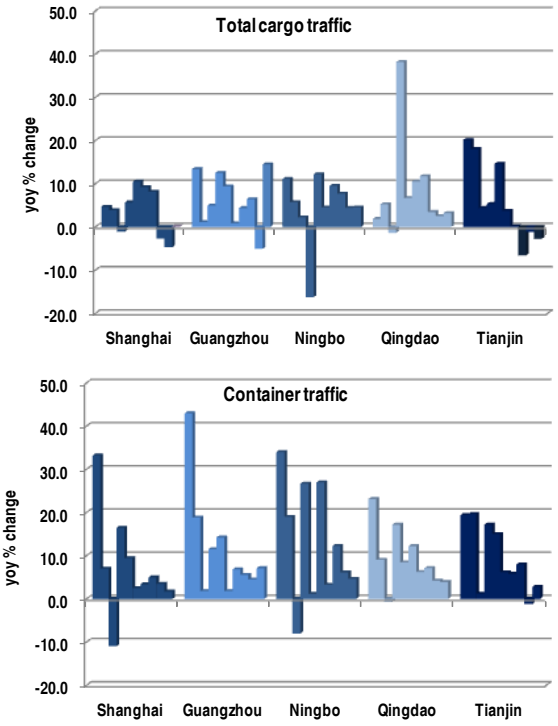
Fig. 11: **Year on year growth rates of the top five Chinese ports 2007 - 2016**



Tab. 9: **Cargo traffic of European ports by loading categories 2012 – 2016 (in mill. tonnes)**

	2012	2013	2014	2015	2016	Av. an. growth 12-16
General cargo	1411	1426	1489	1483	1517	1.2
% growth	-0.2	1.1	4.4	-0.4	2.3	
Dry bulk	724	792	821	797	772	4.5
% growth	2.0	9.4	3.6	-2.8	-3.2	
Liquid bulk	1417	1393	1375	1441	1449	2.2
% growth	-0.3	-1.7	-1.3	4.8	0.5	
Total sample	3552	3610	3685	3722	3738	3.3
% growth	0.2	1.6	2.1	1.0	0.4	

Note: Based on 142 European ports for which full data is available, representing 96 % of total registered European cargo traffic.
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After a stagnation in 2015, container traffic in Asian ports increased slowly (0.5%) to 384.8 million TEU in 2016 (see *Table 5*). As for total cargo traffic, there are noticeable differences between and within the sub-regions. The Indian subcontinent and western Asia performed well, while China, Japan and South Korea developed below average.

Based on country information from our Port Data Base, 27.9% of the world's full container shipments are bound to China, and another 34.2 per cent in the total rest of Asia.

A look at the top 15 Asian container ports reveals that the major transhipment hubs, namely Singapore, Hong Kong, Shenzhen, Dubai and Kaohsiung grew at rates below average during the past years or showed negative results.

Most recent data suggests that even for the success-spoiled Chinese ports, the development of container traffic in 2017 is quite unedifying.

The performance of the top 5 Asian ports during the first nine months of 2017 was much more promising:

- Shanghai: +8.1%
- Singapore: +7.6 per
- Hong Kong: +10.0%
- Shenzhen: +4.6%
- Busan: -4.7%

Backbones of the Chinese industrial production are imports of huge volumes of raw materials such as coal and iron ore, whose predominant origin is Australia. Consequently and similar to the mean developments of Chinese container ports, the Australian bulk ports like Port Hedland and Gladstone show remarkable cargo increases during the first three quarters of 2017.

Europe

Total cargo traffic

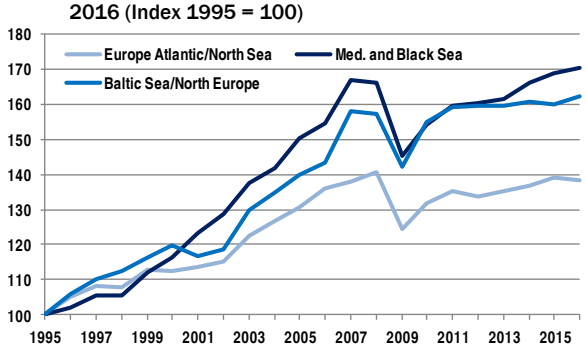
The European ports throughput stagnated overall during 2015/2016. The 138 European ports covered in the ISL Port Data Base showed a traffic increase of 0.3% in 2016. All in all 3.71 billion tons of cargo were shipped to and from these ports (see *Table 8*). The stagnation of the overall volume is the result of positive export results and a decline of imports.

General cargo traffic increased by 2.3%. Dry bulk traffic slumped 3.2%. Liquid bulk traffic figures stagnated, as throughput of liquids in European ports climbed by only 0.5% to 1.44 billion tonnes.

About 38.2% of the mentioned 3.4 billion tons crossed the quays of the ports in the North range, i.e. ports between Le Havre and Hamburg. The port of Rotterdam alone has a share of 13%. A further 19.3% are attributable to the Baltic Sea ports and another 14 percent are shipped through ports in Italy, Greece, Croatia and the French ports in the Mediterranean. The remaining 24 percent are attributable to UK/Irish ports, ports on the Iberian Peninsula, French Atlantic coast ports and Black Sea ports.

Five of the top ten European ports are located in the

Fig. 12: Total cargo traffic of European ports by region 1995 – 2016 (Index 1995 = 100)



Note: Based on 144 European ports.
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Tab. 10: Cargo traffic of major European ports 1997 - 2016 (in mill. tonnes)

	mill tonnes						% change	average yearly	
Ports	1997	2002	2007	2012	2015	2016	15/16	02-07	07-16
Rotterdam	303.4	320.9	401.2	441.5	466.4	461.2	-1.1	4.6	1.6
Antwerp	111.9	131.6	182.9	184.1	208.4	214.2	2.8	6.8	1.8
Hamburg	76.5	98.3	140.9	130.9	137.8	138.2	0.3	7.5	-0.2
Algeciras	37.3	51.3	69.5	83.0	92.0	96.9	5.3	6.3	3.8
Amsterdam	56.5	70.4	87.8	94.3	98.8	96.0	-2.8	4.5	1.0
Ust-Luga	-	-	-	46.8	87.9	93.4	6.3	...	...
Marseilles	94.3	92.3	96.3	80.6	81.9	80.6	-1.6	0.9	-2.0
Novorossisk	44.3	63.3	79.3	83.0	73.3	77.1	5.2	4.6	-0.3
Bremen/Bhv	34.0	46.5	69.1	84.0	73.4	75.2	2.3	8.2	0.9
Valencia	18.0	32.8	53.3	65.7	69.6	71.0	2.0	10.2	3.2
Total Top 10	**776.2**	**907.3**	**1180.2**	**1294.0**	**1389.5**	**1403.7**	**1.0**	**5.4**	**1.9**

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Tab. 11: Top 10 European container ports 1997 - 2016 (in 1000 TEU)

	Mill. TEU						% Change	average yearly	
Ports	1997	2002	2007	2012	2015	2016	15/16	02-07	07-16
Rotterdam	5.53	6.53	10.79	11.87	12.23	12.39	1.2	10.6	1.5
Hamburg	2.97	4.78	8.18	8.64	9.65	10.04	4.0	11.3	2.3
Antwerp	3.35	5.40	9.92	8.89	8.82	8.91	1.0	12.9	-1.2
Bremen/Bhv	1.71	3.03	4.89	6.12	5.55	5.52	-0.5	10.0	1.3
Algeciras	0.83	1.82	3.04	4.47	4.62	5.22	13.2	10.8	6.2
Valencia	1.54	2.23	3.42	4.11	4.52	4.78	5.9	8.9	3.8
Felixstowe	2.31	2.68	3.34	3.37	3.68	3.63	-1.1	4.5	0.9
Gioia Tauro	1.45	2.88	3.46	3.73	3.51	3.83	9.1	3.7	1.1
Marsaxlokk	0.68	1.40	1.37	2.82	3.36	3.74	11.2	-0.5	11.8
Le Havre	1.18	1.72	2.66	2.30	2.56	2.56	0.1	9.1	-0.4
Total top 10	**21.56**	**32.48**	**51.07**	**56.30**	**58.49**	**60.61**	**3.6**	**9.5**	**1.9**

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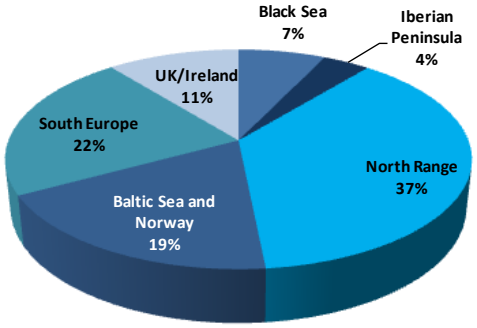
Fig. 13: Cargo traffic of European ports by region 2015 (% share of total throughput)



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North Range: Netherlands, Belgium, France/Atlantic, Germany/North Sea ports; Black Sea: Bulgaria, Romania, Urkraine, Russia; South Europe: Italy, Croatia, Greece, Slovenia.

continental North Range stretching from Le Havre to Hamburg. Together, they handled almost 985 million tonnes of cargo. An ever-increasing portion of this traffic is container traffic, which is subject to competition between the ports – especially the transhipment traffic. Since the 2008 economic crisis, capacity utilisation is low, so market shares are changing frequently.

Antwerp confirmed its position as the second-largest container port and will also hold it in 2017 while the previous number two – the port of Hamburg – is anxiously waiting for approval of the river Elbe deepening. Market leader Rotterdam is heading towards a 10% increase in 2017. Le Havre even shows a higher growth (+13.6% during the first nine months of 2017 compared with the same period 2016).

A look at ISL's Monthly Container Port Monitor shows the success of new players in the top league like Wilhelmshaven and Gdansk. After opening a new deep water berth in late 2016, the port of Gdansk recorded a 15.4% growth over the first month of 2017. After heavy losses in the first quarter of 2017, when only around 75,000 TEU where moved the Jade-Weser Ports is back in line and will probably top his last year's result of around 415,000 TEU – nonetheless it is a long way to go to reach its annual capacity of 2.7 million TEU.

America

Cargo traffic

Weal and woe of North American ports actually depends on the type of cargo a port is specialised in, and on the geographic trade relations each port is connected with. In anticipating the modernization of the Panama Canal, which enables 87% of the world merchant fleet including container vessels up to 14,000 TEU to pass the Isthmus, especially the North American west coast ports try to tread a new path and step up cooperation between ports in a range.

The more bulk-related ports in North America are mostly located on the east coast, in the Gulf region (liquid bulk) or in the Great Lakes region (iron ore, coal and grain). Dry bulk as well as liquid bulk ports mostly suffered with regard to the years 2015 and 2016. Consequently no such port is to find in the list of ports with the highest increase in America. Moreover, Philadelphia is the only US port that shows an increase of more than 10% in 2016. Worth mentioning are the traffic increases of the ports of Montreal and Quebec, showing throughput increases of 10.4% and 18.1%, respectively.

The Atlantic coast container ports' development is rather uneven. Some ports benefit from the economic pickup situation in some European countries and show container traffic increases (e.g. Port of Virginia, +6.5%), some others stagnated or showed decreases (e.g. New York/New Jersey, -1.9%) (please see *Tab. 2.3.2.3 on page 22*). The port of New York/New Jersey as number one container port on America's Atlantic coast showed a container throughput of 6.25 million TEU in 2016.

The pacific coast ports are predominantly general cargo/container ports with the exception of Metro

Tab. 12: Container traffic of major North European ports with Asia 2012 – 2016 (in 1000 TEU)

Port	2012	2015	2016	%-change over prev. Year	av. an. % growth 12-16	% share of ports total TEU
Hamburg	4699	4874	4922	1.0	1.2	55.3
Rotterdam	5755	5460	5698	4.4	-0.2	46.0
Antwerp	3276	3163	3013	-4.8	-2.1	30.0
Felixstowe	2052	2828	2765	-2.2	7.7	76.1
Bremen/Bhv	1837	1543	1539	-0.2	-4.3	27.9
Southampton	1124	1311	1306	-0.4	3.8	53.1
Total	**18742**	**19179**	**19242**	**0.3**	**0.7**	**44.8**

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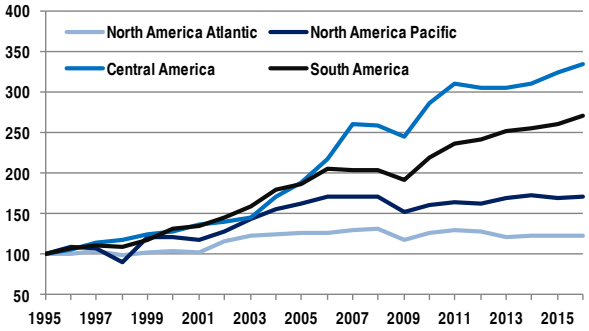
Fig. 14: Cargo traffic of major American ports by regions 1995 - 2016 (Index 1995=100)



Note: Based on 115 American ports.
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Tab. 13: Cargo traffic of top five South-, Central- and North American ports 2012 - 2016 (in mill. tons)

North America	2007	2012	2015	2016	%-change 2015/2016	av. yearly growth 07-'16	av. yearly growth 12-'16
Port of South Louisiana, USA	234.1	253.0	265.6	267.5	0.7	1.5	1.4
Houston, USA	247.2	246.9	230.5	224.5	-2.6	-1.1	-2.3
Los Angeles, USA	189.2	175.2	176.7	182.8	3.5	-0.4	1.1
Metro Vancouver, Canada	82.7	123.9	138.2	135.5	-1.9	5.6	2.3
Corpus Christi, USA	81.0	71.5	93.9	85.5	-8.9	0.6	4.6
Total top five ports	**834.3**	**870.4**	**904.8**	**895.9**	**-1.0**	**0.8**	**0.7**
Central America / Carribean							
Manzanillo, MX, Mexico	21.2	27.3	28.0	29.2	4.3	3.6	1.7
Dos Bocas, Mexico	13.6	8.6	22.5	29.2	29.7	8.8	35.8
Coatzacoalcos, Mexico	28.8	32.4	30.2	27.9	-7.6	-0.3	-3.6
Lazaro Cardenas, Mexico	17.1	30.7	26.4	27.1	2.5	5.2	-3.1
Veracruz, Mexico	17.4	22.0	23.1	24.5	5.9	3.9	2.7
Total top five ports	**98.2**	**120.9**	**130.3**	**137.9**	**5.8**	**3.9**	**3.3**
South America							
Itaqui, Brazil	98.8	133.5	146.6	179.9	22.7	6.9	7.7
Tubarao, Brazil	130.3	133.6	137.3	133.8	-2.5	0.3	0.0
Santos, Brazil	80.8	101.1	119.9	113.8	-5.1	3.9	3.0
Itaguai, Brazil	87.7	103.8	110.4	112.4	1.8	2.8	2.0
Sao Sebastiao, Brazil	50.3	51.4	49.5	47.1	-5.0	-0.7	-2.2
Total top five ports	**448.0**	**523.3**	**563.8**	**587.0**	**4.1**	**3.0**	**2.9**

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Statistical details "Monthly Container Port Monitor"
- Monthly container traffic by major ports p. 51-58

Statistical details " World port development"
- Port traffic league by total cargo traffic p. 30
- Port traffic league by total container traffic p. 31
- Asian ports - port traffic growth by major countries p. 32
- Comparison of the most and least dynamic ports p. 32
- Cargo traffic by major Asian ports by sub region p. 33

Vancouver and Prince Rupert. They are now mostly bound to developments at the other side of the Pacific Ocean, where the economic situation is not so good everywhere. The twin ports of Los Angeles and Long Beach together handled 15.61 million TEU in 2016, equal to a growth of only 1.8% compared with one year before. The two ports' TEU traffic climbed 2.5% on average during the last five years.

Central American ports add another 22.4% to the total container port traffic in the Americas. Next to the hubs on both sides of the Panama Canal, fruit exports in reefer containers are of great importance. Similar to ports at the isthmus of the Americas, the share of container throughput of South American ports is around 22%, equal to 17.1 million TEU.

Total cargo traffic as well as container traffic is (not surprisingly) four times higher in South America than in Central America. The biggest three Brazilian dry bulk ports, namely Tubarao, Itaqui and Sepetiba, shipped 390 million tons of cargo in total, some 50 million tons more than all ports between Colombia and Mexico. Exports of raw materials are especially depending on the economic situation in the import countries. Recently the conditions especially for Brazilian ports are bleak as the country suffers from a slackening demand both in South America and in Asia, the main importers of Brazil's raw materials.

Based on data from the Economic Commission for Latin America and the Caribbean (ECLAC), the container throughput in the ports of Latin America and the Caribbean fell by 0.9% in 2016. The downswing in 2016 was mainly determined by a decline of total cargo traffic in Panama (-5.7%), Uruguay (-1.1%), and Venezuela (-16.6%). These losses were mitigated by the huge increases in Ecuador (+17.1%), Mexico (+5.7%), Peru (+13.8%), Costa Rica (+9.1%) and the Dominican Republic (+6.8%).

In 2016, the east coast of South America overall declined (around -3.5%) due to stagnation recorded in the ports of Brazil and Argentina. Meanwhile, the west coast shows a rebound especially in container activity (4.5%) when compared with 2015, due to the positive developments of ports in Chile (4.8%), Peru (8.4%) and Ecuador (4.5%).

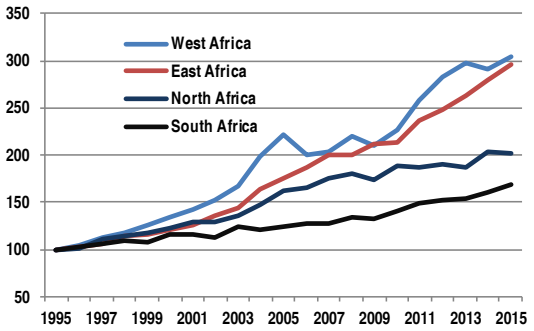
The drivers of growth in individual ports vary. For example, the ports of Callao in Peru (8.1%), Guayaquil in Ecuador (17.1%), Caucedo in the Dominican Republic (11.1%), and San Antonio (10.0%) and Lirquén (60.1%) in Chile. Modernisation and extension projects in these ports mostly focus on container handling facilities and channel deepening. The sharpest declines in TEU volume were recorded by Buenos Aires/Argentina (-5.7%), Kingston/Jamaica (-5.2%), Santos/Brazil (-6.9%), Cartagena in Colombia (-4.0%), and Balboa (-9.2%) in Panama.

ISL Editorial team

Tab. 14: Container traffic of top five South-, Central- and North American ports 2007 - 2016 (in mill. TEU)

North America	2007	2012	2015	2016	%-change 2015/2016	av. yearly growth 07-'16	av. yearly growth 12-'16
Los Angeles, USA	8.36	8.08	8.16	8.39	2.8	0.0	1.0
Long Beach, USA	7.31	5.86	7.19	6.78	-5.8	-0.8	3.7
New York / New Jersey, USA	5.30	5.53	6.37	6.25	-1.9	1.9	3.1
Savannah, USA	2.60	2.95	3.74	3.64	-2.5	3.8	5.4
Seattle/Tacoma Alliance, USA	3.90	3.58	3.53	3.56	0.9	-1.0	-0.1
Total top five ports	**27.47**	**25.99**	**28.99**	**28.63**	**-1.3**	**0.5**	**2.4**
Central America / Carribean							
Balboa, Panama	1.83	3.25	3.08	2.83	-8.0	4.9	-3.4
Manzanillo, MX, Mexico	1.41	1.93	2.46	2.58	5.0	6.9	7.5
Manzanillo, Panama	1.28	2.06	1.82	1.84	1.1	4.1	-2.8
Kingston, Jamaica	1.95	1.75	1.58	1.41	-10.7	-3.6	-5.3
San Juan, Puerto Rico	1.70	1.52	1.21	1.23	1.7	-3.5	-5.1
Total top five ports	**8.17**	**10.51**	**10.14**	**9.89**	**-2.5**	**2.1**	**-1.5**
SouthAmerica							
Santos, Brazil	2.53	3.17	3.78	3.56	-5.7	3.9	3.0
Cartagena, Colombia	0.80	2.02	2.44	2.34	-3.9	12.8	3.7
Callao, Peru	0.82	1.82	1.90	2.05	8.1	10.7	3.1
San Antonio, Chile	0.65	0.74	1.17	1.29	10.0	7.9	14.8
Guayaquil, Ecuador	0.60	0.97	1.13	1.26	12.2	8.6	6.8
Total top five ports	**5.40**	**8.73**	**10.41**	**10.51**	**1.0**	**7.7**	**4.8**

Fig. 15: African ports - cargo traffic of ports according to sub-regions 1995 - 2015 (Index 1995 = 100)



Statistical details "Port traffic development by region"

- Cargo traffic of selected ports by regions p. 24-38
- Selected world dry bulk ports p. 35
- Selected world liquid bulk ports p. 36
- World container port traffic of selected ports p. 47
- European ports - port traffic growth by major countries p. 31
- Comparison of the most and least dynamic ports p. 31
- Cargo traffic by major European ports by sub region p. 32
- American ports - port traffic growth by major countries p. 37
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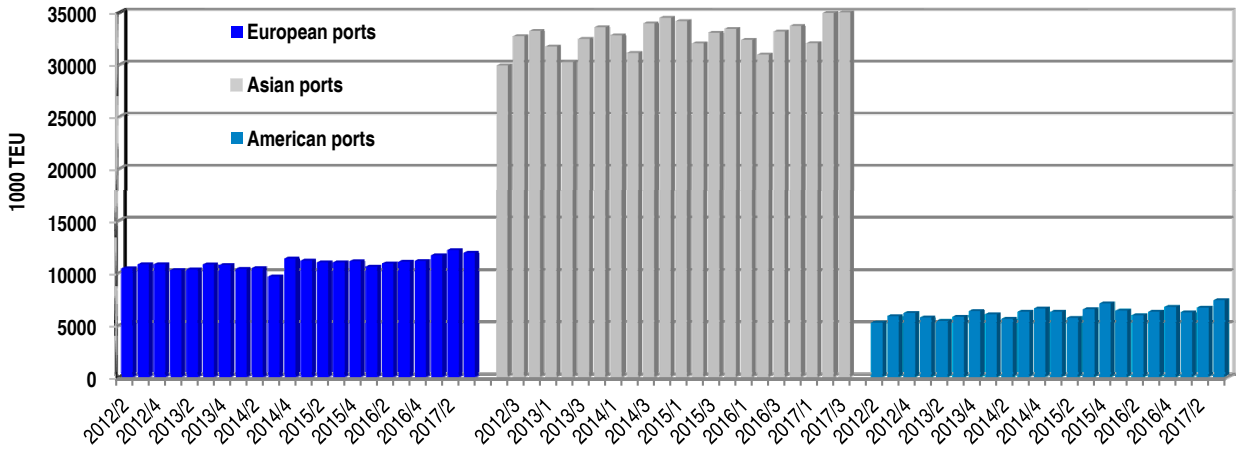
- Cargo traffic by major European ports by sub region p. 38

6 Development of major world ports

	Unit	3rd quarter	4th quarter	2016 1st quarter	2nd quarter	3rd quarter	4rd quarter	2017 1st quarter	2nd quarter	3rd quarter	% change over prev. period	% change over same period prev. year
6.1 Total cargo traffic	1000 t											
German Ports												
Hamburg		33768	33175	34751	32074	38080	33295	35359	34639	34334	-0.9	-9.8
Bremen/Bremerhaven		19142	17735	18329	19117	18817	17894	18246	19200	17040	-11.3	-9.4
Wilhelmshaven		7365	6872	4701	6082	7292	6399	6865	7305	...	7.3	...
Other European Ports												
Rotterdam		115289	114892	116939	112181	115542	116515	119275	118707	113522	-4.4	-1.7
Antwerp		51987	51910	53266	55052	53354	52386	54324	57061	55764	-2.3	4.5
Marseilles		20409	21248	20170	18959	21011	20760	20259	19644	...	-3.0	...
World Ports												
Singapore		145490	138922	142132	152695	145166	152489	152023	157713	155669	-1.3	7.2
Shanghai		131851	126181	119606	129003	131616	134031	133468	145993	143263	-1.9	8.8
Hong Kong		63785	55991	55642	62755	67345	64661	66171	68277	69716	2.1	3.5
South Lousiana		65992	65203	63137	61631	69569	73204	76334	74853	68120	-9.0	-2.1
Busan		86896	89290	85576	87833	88870	87986	88074	103715	94567	-8.8	6.4
Long Beach		44115	40385	36220	40689	42372	38564	38172	41224	48663	18.0	14.8
Port Hedland		115696	113334	111237	120140	124980	128153	116026	131758	126283	-4.2	1.0
6.2 Total container traffic	1000 TEU											
German Ports												
Hamburg		2220	2002	2231	2224	2270	2183	2216	2232	2304	3.2	1.5
Bremen/Bremerhaven		1476	1334	1405	1439	1365	1291	1393	1312	1333	1.6	-2.3
Other North Range Ports												
Rotterdam		3066	3085	3005	3089	3172	3276	3498	3390	3538	4.3	11.5
Antwerp		2429	2388	2460	2588	2509	2481	2746	3156	2655	-15.9	5.8
Le Havre		698	651	678	621	641	572	718	823	774	-5.9	20.7
World Ports												
Singapore		7508	7417	7390	7791	7851	7872	7612	8536	8624	1.0	9.9
Hong Kong		5160	4810	4383	4833	4918	5229	4939	5250	5347	1.8	8.7
Shanghai		9366	9144	8538	9353	9720	9521	9363	10215	10271	0.5	5.7
Shenzen		6540	6153	5560	5920	6356	6112	5448	6112	7089	16.0	11.5
Busan		4836	4813	4808	4815	4836	4419	4658	4812	4443	-7.7	-8.1
Los Angeles		2216	2041	2031	2103	2235	2489	2241	2242	2408	7.4	7.8
Long Beach		2050	1836	1562	1743	1825	1665	1586	1865	2114	13.4	15.9
New York/New Jersey		1733	1545	1496	1545	1688	1603	1533	1620	1794	10.7	6.3
Santos		1035	933	825	861	968	910	844	917	1033	12.7	6.7
Valencia		1187	1111	1099	1274	1163	1186	1088	1248	1280	2.6	10.0

Quarterly TEU traffic of major world ports by region 2012 - 2017

in 1000 TEU



European ports including: Hamburg, Bremen/Bremerhaven, Rotterdam, Antwerp, Le Havre, Valencia
Asian ports including: Singapore, Hong Kong, Shanghai, Shenzen, Busan
American ports including: Los Angeles, Long Beach, New York/New Jersey, Santos/Brazil

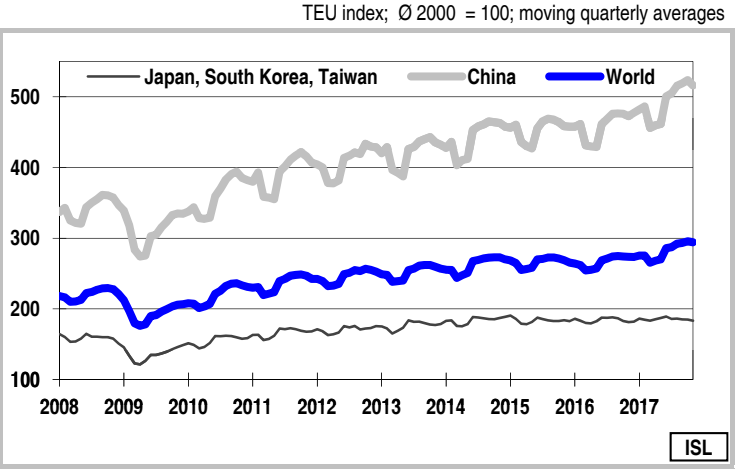
ISL 2017

(Source: ISL Port Data Base 2017)

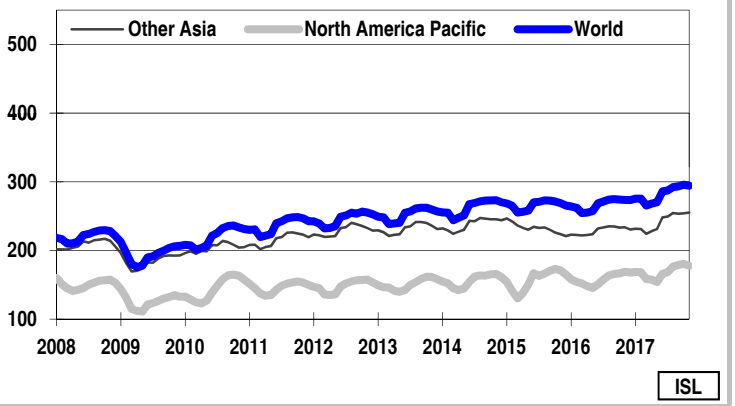
6.3 ISL Monthly Container Port Traffic Indices 2015 - 2017

TEU index; Ø 2000 = 100; moving quarterly averages

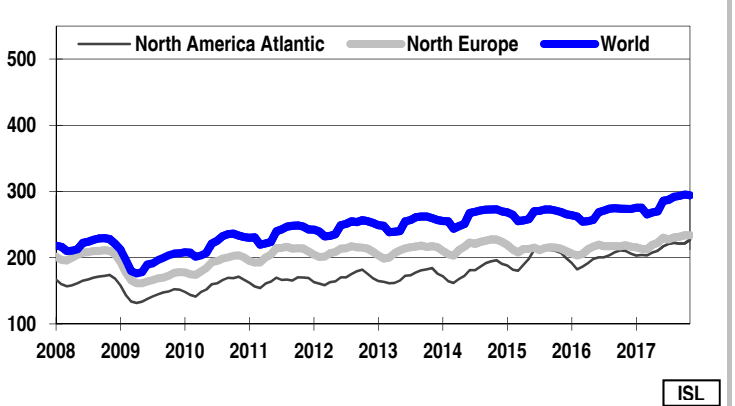
	Japan, South Korea, Taiwan			China		
Month	2015	2016	2017	2015	2016	2017
Jan.	190.5	186.0	186.3	456.3	457.8	482.0
Feb.	185.8	183.4	184.8	460.4	461.7	486.6
March	179.1	180.2	183.3	435.9	431.2	456.2
April	178.3	179.5	185.5	430.2	429.7	459.8
May	181.4	182.4	187.2	427.0	429.0	461.7
June	187.8	187.8	189.2	455.4	461.3	500.4
July	185.7	187.5	185.9	465.5	468.8	504.8
Aug.	183.9	188.2	186.2	469.1	476.0	515.7
Sep.	183.0	186.8	185.1	468.0	476.5	519.1
Oct.	182.9	182.9	185.0	464.2	476.0	523.5
Nov.	184.1	181.3	183.4	458.5	472.5	516.2
Dec.	182.8	181.9		457.7	477.5	
Average	**183.8**	**184.0**	**185.6**	**442.6**	**454.0**	**493.3**



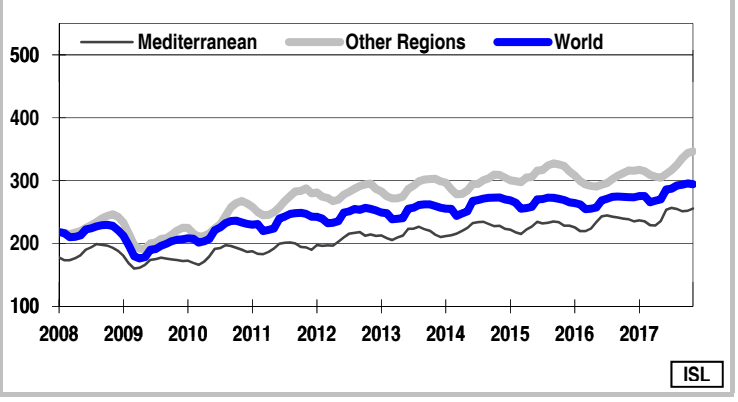
	Other Asia			North America Pacific		
Month	2015	2016	2017	2015	2016	2017
Jan.	244.9	221.5	231.5	154.0	157.7	168.7
Feb.	240.8	221.1	231.1	140.9	154.2	168.2
March	235.0	220.4	224.1	130.4	151.9	158.4
April	231.5	221.4	228.2	138.2	148.1	157.6
May	229.0	222.5	231.1	150.5	145.5	154.0
June	233.1	230.9	248.2	166.9	150.7	165.8
July	231.5	232.2	249.5	162.9	157.5	168.4
Aug.	232.2	233.9	254.5	166.1	163.5	176.3
Sep.	228.7	233.6	253.6	170.4	165.7	178.9
Oct.	224.1	232.0	254.0	173.0	166.6	180.7
Nov.	221.6	232.2	255.3	171.0	169.0	177.6
Dec.	219.0	229.1		164.9	167.7	
Average	**232.7**	**231.0**	**241.9**	**156.7**	**157.4**	**168.6**



	North America Atlantic			North Europe		
Month	2015	2016	2017	2015	2016	2017
Jan.	188.2	191.8	203.1	219.1	206.1	215.5
Feb.	181.9	182.5	204.1	212.1	203.2	213.4
March	180.1	186.5	203.4	207.8	205.3	212.2
April	189.5	191.8	207.8	213.0	212.6	219.3
May	198.2	198.1	210.4	213.1	216.5	222.6
June	212.1	200.4	217.3	215.1	219.6	230.0
July	212.1	200.5	220.9	211.1	216.8	227.4
Aug.	214.5	203.6	222.5	214.5	216.7	230.6
Sep.	211.6	208.3	221.2	214.1	217.0	231.6
Oct.	210.3	210.9	221.5	213.6	217.1	233.9
Nov.	207.4	210.2	227.0	211.9	218.7	233.8
Dec.	199.1	206.1		209.6	216.5	
Average	**180.1**	**200.4**	**214.5**	**218.2**	**212.9**	**224.6**



	Mediterranean			Other Regions		
Month	2015	2016	2017	2015	2016	2017
Jan.	222.0	225.6	236.7	300.4	315.6	317.1
Feb.	216.2	220.2	235.1	295.5	306.7	315.0
March	213.0	218.8	229.2	290.7	300.9	309.0
April	219.3	223.1	228.6	294.1	298.5	306.3
May	223.6	232.6	235.8	294.9	297.5	304.5
June	229.2	243.0	253.6	305.9	300.5	310.5
July	225.6	244.1	256.6	307.2	303.1	316.6
Aug.	226.2	242.8	254.9	315.0	309.5	325.0
Sep.	228.2	243.0	251.3	318.1	315.1	335.5
Oct.	227.3	242.6	252.1	316.6	319.3	343.9
Nov.	223.2	240.4	255.6	313.7	323.9	346.5
Dec.	223.2	236.3		305.5	322.9	
Average	**240.7**	**223.1**	**244.5**	**257.1**	**304.8**	**320.9**



Note: For further information, e.g. definition of port regions, please see Definitions.

(Source: ISL Monthly Container Port Monitor 2017)

ISL Monthly Container Port Traffic Indices 2015 - 2017 (Table 6.3)

ISL's Monthly Container Port Traffic Index is based on monthly container traffic of the world's top container ports. In total, the ports reflected in the index handled approx. 440 mill TEU in 2016, equalling 70 per cent of world container traffic. The monthly TEU volumes per port are available since 2000. The different regions are represented by the following ports:

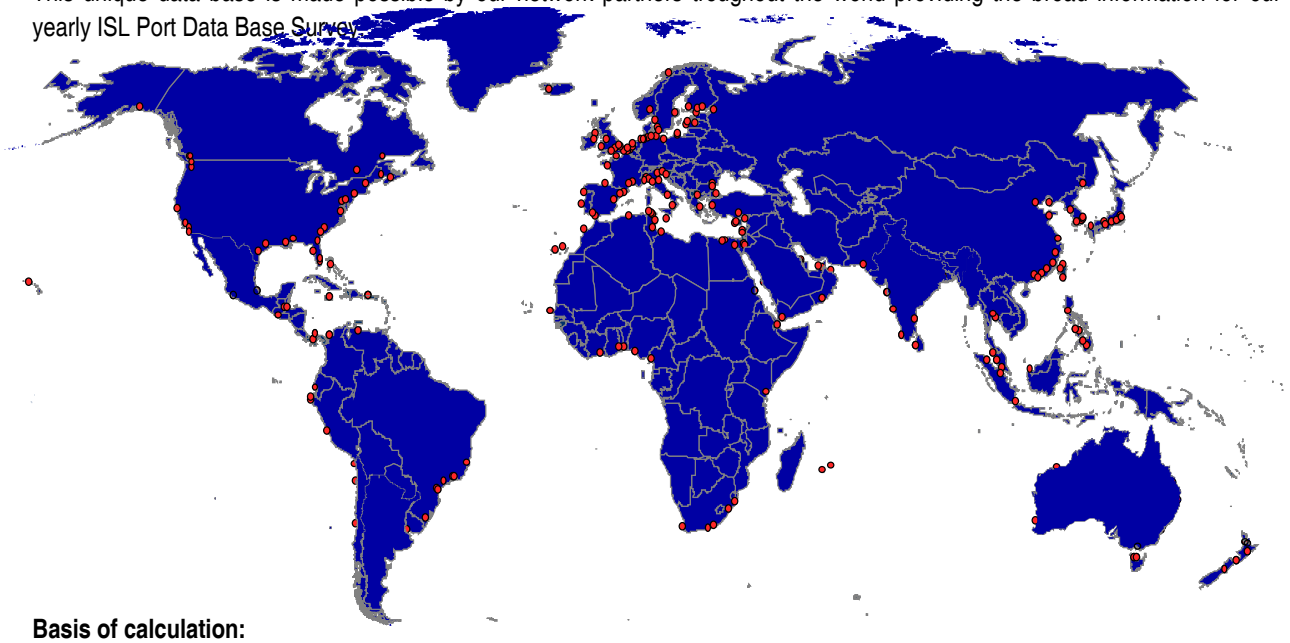
Japan, S. Korea,	Busan, Gwangyang, Incheon, Kaohsiung, Keelung, Kobe, Nagoya, Osaka, Taichung, Tokyo, Yokohama
China:	Guangzhou, Hong Kong, Ningbo, Qingdao, Shanghai, Shenzhen, Tianjin, Xiamen
Other Asia:	Bandar Abbas, Bangkok, Chennai, Colombo, Dammam, Jeddah, Laem Chabang, Nhava Sheva, Singapore, Salalah, Nhava Sheva
North-America Pacific:	Long Beach, Los Angeles, Oakland, Seattle, Tacoma, Vancouver
North-America Atlantic:	Charleston, Houston, Montreal, New York/ New Jersey, Port of Virginia, Savannah
North Europe:	Antwerp, Bremen / Bremerhaven, Dublin, Gdansk, Hamburg, Helsinki, Klaipeda, Kotka, Le Havre, Lissabon, Rotterdam, St Petersburg, Tallinn, Zeebrugge
Mediterranean:	Alexandria, Ambarli, Ashdod, Algeciras-La Linea, Barcelona, Beirut, Genoa, Haifa, Marseilles, Mersin, Port Said, Valencia
Other Regions:	Balboa Panama, Brisbane, Buenaventura S.A., Buenos Aires, Callao, Cape Town, Durban, Guayaquil, Itajai, Kingston, Lazardo Cardena, Manzanillo Mx, MIT Panama, Melbourne, Montevideo, Ngqura (South Africa), Paranagua, San Antonio, Santos, Sydney, Valparaiso, Veracruz Mx

(Source: ISL Port Data Base 2017)

The ISL Port Data Base

the most comprehensive data base in port traffic

The ISL Port Data Base contains structured, comparable data on shipping, cargo and container traffic for more than 400 leading world ports since 1980. The data is constantly updated and completed, including today about 200 items per port and per year. This unique data base is made possible by our network partners troughout the world providing the broad information for our yearly ISL Port Data Base Survey.



Basis of calculation:

Our basis for customised extracts from the Port Data Base is as follows: € 80 - basic fee, plus € 0.60 per item.

The basic fee includes the setting up of a suited layout, the addition of the necessary explanatory remarks and footnotes as well as the transmission of the data by E-Mail or by fax. By subscribing to a specified analysis on a yearly basis, you will save the basic fee and get an additional 20 per cent off the other costs starting the second year. Apart from customised database extracts, we provide standardised port profiles and rankings. Please contact us for contractual information.

Contact and Enquiries:

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Phone +49/4 21/2 20 96-33
eMail portbase@isl.org
Web http://www.isl.org/

Fleet and New Construction Data

Country of registration and country of control
Country of registration indicates the country of the port of registry of a country (flag). The country of control is defined as the "Real Nationality", i.e. the home country of the interests behind the primary reference company. None of the information regarding ownership is intended to confirm or otherwise the legal status of the companies or the ships associated with them

Denmark includes Faeroes, Greenland.

France includes New Caledonia, French Polynesia, Réunion, Wallis and Futuna Islands.

Netherlands includes Netherlands Antilles, Curacao.

Portugal includes Madeira.

Spain includes Canary Islands.

UK includes Isle of Man and Falkland Island.

US includes Puerto Rico.

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Broken-up Tonnage

includes ships sold for breaking. Figures on broken-up tonnage are not revised if vessels reported for breaking are trading again.

Merchant Ship Type Structures

Based on „An International Classification of Ships by Type" (ICST (1994)

Definition of terms used in merchant ship structures type classification.

Tankers: Single-deck vessel constructed and arranged for the carriage of liquid cargoes in tanks integral to the hull and include crude oil or non-hazardous (IMO code) refined products.

Chemical tankers: Vessel constructed and arranged for carrying hazardous (IMO code) cargoes in special tanks.

Liquid gas tankers: Vessel constructed and arranged for the carriage of liquefied gases either in integral tanks or independent
tanks under pressure or refrigerated.

Dry Bulk carriers: Dry cargo vessel. One deck, machinery aft with topside tanks capable of carrying a variety of self-trimming cargoes.

Ore Carriers (Bulk Carriers): Dry cargo vessel, one deck, strengthening for ore cargoes.

Ore/Bulk/Oil Carriers (OBO): Bulk carrier arranged for the carriage of either bulk dry cargoes or liquid cargoes in the same cargo spaces but not simultaneously.

General Cargo ships: Single or multi-deck general dry cargo vessel with facilities for loading/ discharging cargo.

Specialised Carriers (Special Ships): Dry cargo vessel specially designed for the carriage of particular cargoes, incl. car-carriers.

Reefer ships: Specialised dry cargo vessel with 80 % or more insulated cargo space.

Ro/Ro Cargo Ro/Ro Passenger ships: Vessel arranged for Roll-on Roll-off loading / discharging of vehicles (road and/or rail) as cargo and / or passenger conveyances.

Container Ships (Fully Cellular Container Ships): Vessel fitted throughout with fixed or portable cell guides for the carriage of containers above and below the weather deck.

Passenger ships: Vessel which carries more than 12 fare paying passengers whether berthed or unberthed (ferries).

Basic Ship Type Structure and ISL Ship Type Aggregates

MERCHANT SHIP		STRUCTURES	ISL SHIP TYPES Special Fleet Report	 Broken-up tonnage etc.
LIQUID	**Oil tankers**	- Crude oil tankers - Crude oil and product tankers - Product tankers	Oil tankers " "	Tankers " ""
	Oil / Chemical tankers	- Oil chemical tankers - Chemical tankers - Other tankers	Oil / Chemical tankers " "	Tankers "
	Liquid gas tankers	- LNG carriers - LPG carriers - Other liquid gas carriers	Liquid gas tankers " "	Tankers " "
DRY BULK	**Bulk carriers**	- Bulk carriers - Other bulk carriers incl. ore carriers - Ore/bulk/oil carriers - Ore/oil carriers - Bulk/oil carriers	Bulk carriers "	Bulk carriers " " " " "
OTHER DRY CARGO	**General cargo ships**	*of which* - Conventional Cargo ships - Special ships - Pure car carriers - Reefer ships - Ro/Ro cargo ships	General cargo ships, *of which* Conventional Cargo ships Special ships Pure car carriers Reefer ships Ro/Ro cargo ships	General cargo ships, *of which* Conventional Cargo ships (a) (a) (a)
	Container ships	- Fully cellular container ships	Container ships	Container ships
	Passenger and passenger cargo ships (b)	*of which* - Passenger ships/Cruise ships - Ro/Ro cargo passenger ships	Passenger and cargo passenger ships, *of which* Passenger ships Ro/Ro cargo passenger ships	Passenger ships " "

(a) Included in General Cargo Ships.
(b) Including ships (berthed and unberthed) for passenger transport and passenger carrying vessels like general cargo passenger ships, ro/ro passenger ships (ferries).

For further explanation (**e.g. Trade and Traffic Statistics**) please visit: www.isl.org/infoline

ISL Institute of Shipping Economics and Logistics

The ISL - Institute of Shipping Economics and Logistics founded in Bremen in 1954 combines tradition with modern science; we have since positioned ourselves as one of Europe's leading institutes in the area of maritime logistics research, consulting and knowledge transfer. On behalf of our project partners from the public and private sector, both on national and international level, we ensure that innovative ideas become solutions with practical applicability. At our offices in Bremen and Bremerhaven, we handle projects from all over the world in interdisciplinary teams.

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Furthermore, the portal of the ISL InfoLine offers various databases used for market analyses, statistical publications, information services and customers' enquiries. The focus here is on the ISL Port Database.

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ISL SEABASE functions both as a catalog of the ISL Library as well as a literature database. The catalog represents round about 125,000 bibliographic records (January 2016) of the ISL Library and is an important knowledge source for maritime industry as well as research and education. ISL SEABASE research offers a systematic access to current maritime and logistic knowledge. Besides reference books also market studies, research and conference reports, economy statistics as well as business and annual reports are included. Contributions from about 200 national and international professional journals are evaluated selectively after relevance.

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