

Chapter 5

PORT DEVELOPMENT

This chapter covers container port throughput for developing countries, improving port performance, institutional changes in ports, and security and safety issues.

A. CONTAINER PORT TRAFFIC

Table 42 gives the latest available figures on reported world container port traffic in developing countries and territories for the period from 2002 to 2004. The world growth rate for container port throughput (number of movements measured in TEUs) increased by an impressive 12.6 per cent in 2004. This is an increase of about half over the growth of the previous year, which reached 8.2 per cent, and reflects the continuing expansion of liner traffic during 2004. The throughput for 2004 reached 336.9 million TEUs, an annual increase of 37.6 million TEUs, from the level reached in 2003 of 299.3 million TEUs.

The rate of growth for developing countries and territories was 12.8 per cent with a throughput of 137.0 million TEUs, which corresponds to 40.7 per cent of world total throughput. The rate of growth was lower than that reached in 2003 — a remarkable 15.5 per cent — when developing countries' throughput was 121.5 million TEUs. There were 20 countries with double-digit growth in 2004 and 2003 out of a total of 56 with annual throughputs over 100,000 TEUs. Those countries were Malaysia, the United Arab Emirates, Brazil, Thailand, Saudi Arabia, Oman, Panama, Sri Lanka, Argentina, the Islamic Republic of Iran, the Bahamas, Pakistan,

Guatemala, Honduras, Uruguay, Kenya, the United Republic of Tanzania, Sudan, Qatar and Togo. The growth rate in developing countries is uneven from year to year, owing sometimes to strong trade fluctuations, as is the case with trans-shipment, and sometimes owing to improved reporting of data or lack of data for some years.

Preliminary figures for 2005 are available for the leading 20 ports of the world handling containers, and the results are set out in table 43. Container throughput in those ports reached 186.1 million TEUs after recording double-digit growth rate in the previous two years. There were 14 ports of developing countries and territories and socialist countries of Asia on the list, with the remaining six located in market-economy countries. Of the latter, 3 were in Europe and 3 in the United States. Fourteen ports were located in Asia, 8 in China, 4 in South-East Asia and 1 in East and West Asia, respectively. Chinese ports accounted for 47 per cent of 2005 world throughput.

Singapore regained the top position after six years with a good 8.2 per cent growth rate, while Hong Kong (China) was displaced into second position on account of its modest 2.3 per cent growth rate increase. Mainland Chinese ports continued to record particularly good results: Shanghai and Shenzhen recorded outstanding

Table 42

Container port traffic of 56 developing countries and territories in 2004, 2003 and 2002
(TEUs)

Country or territory	2004	2003	2002	Percentage change 2004–2003	Percentage change 2003–2002
Hong Kong (China)	21 984 000	20 449 000	19 144 000	7.5	6.8
Singapore	21 311 000	18 441 000	16 986 010	15.6	8.6
Republic of Korea	14 299 364	13 049 534	11 719 502	9.6	11.3
Malaysia	11 264 389	10 210 145	8 751 567	10.3	16.7
United Arab Emirates	8 661 636	6 955 202	5 872 244	24.5	18.4
Indonesia	5 566 596	5 176 982	4 539 884	7.5	14.0
Brazil	5 058 622	4 230 474	3 570 255	19.6	18.5
Thailand	4 855 827	4 232 685	3 799 093	14.7	11.4
India	4 266 910	3 916 814	3 208 384	8.9	22.1
Philippines	3 673 301	3 468 471	3 324 796	5.9	4.3
Saudi Arabia	3 185 699	2 440 327	1 958 566	30.5	24.6
Oman	2 515 546	2 264 826	1 415 498	11.1	60.0
Panama	2 428 762	1 991 659	1 344 785	21.9	48.1
Sri Lanka	2 220 573	1 959 354	1 764 717	13.3	11.0
Mexico	1 905 944	1 693 791	1 564 541	12.5	8.3
Malta	1 515 423	1 347 539	1 288 775	12.5	4.6
Chile	1 473 542	1 250 126	1 167 876	17.9	7.0
Egypt	1 422 236	1 579 530	1 336 044	-10.0	18.2
Jamaica	1 360 623	1 137 798	1 065 000	19.6	6.8
Argentina	1 251 895	1 025 055	554 796	22.1	84.8
Iran (Islamic Republic of)	1 220 700	1 090 212	805 864	12.0	35.3
Bahamas	1 184 800	1 057 879	860 000	12.0	23.0
Pakistan	1 101 535	787 559	227 000	39.9	246.9
Colombia	1 073 081	995 203	960 723	7.8	3.6
Venezuela	920 884	582 769	780 657	58.0	-25.3
Guatemala	817 260	713 181	360 161	14.6	98.0
Costa Rica	734 088	669 259	602 568	9.7	11.1
Peru	695 577	627 011	631 757	10.9	-0.8
Côte d'Ivoire	670 000	612 546	579 055	9.4	5.8
Ecuador	564 093	521 550	500 471	8.2	4.2
Morocco	560 682	517 549	n.a.	8.3	n.a.
Honduras	555 489	470 567	413 843	18.0	13.7
Dominican Republic	537 317	480 650	541 932	11.8	-11.3
Nigeria	512 610	588 478	n.a.	-12.9	n.a.
Uruguay	423 343	333 871	292 962	26.8	14.0
Kenya	404 352	330 748	278 059	22.3	18.9
Lebanon	389 876	305 933	298 876	27.4	2.4
Ghana	383 020	391 113	n.a.	-2.1	n.a.
Jordan	358 723	302 927	277 307	18.4	9.2
Senegal	331 191	281 330	n.a.	17.7	n.a.

Table 42 (continued)

Country or territory	2004	2003	2002	Percentage change 2004–2003	Percentage change 2003–2002
Yemen	318 901	155 717	388 436	104.8	-59.9
Cyprus	298 109	255 021	233 400	16.9	9.3
Mauritius	290 118	381 474	198 177	-23.9	92.5
United Republic of Tanzania	260 000	204 000	178 154	27.5	14.5
Cuba	259 328	216 587	214 760	19.7	0.9
Angola	235 411	210 031	n.a.	12.1	n.a.
Sudan	205 511	156 607	129 093	31.2	21.3
Bahrain	193 112	175 870	155 037	9.8	13.4
Reunion	193 008	170 092	162 636	13.5	4.6
Qatar	190 286	164 137	118 183	15.9	38.9
Togo	184 998	166 441	84 783	11.1	96.3
Djibouti	159 359	244 287	178 405	-34.8	36.9
Slovenia	153 347	126 237	114 863	21.5	9.9
Guam	140 803	148 158	140 990	-5.0	5.1
Guadeloupe	116 042	110 073	118 013	5.4	-6.7
Madagascar	105 100	94 867	n.a.	10.8	n.a.
Total	136 963 942	121 460 246	105 202 498	12.8	15.5
Other reported^a	698 709	2 591 745	1 861 831	-73.0	39.2
Total reported^b	137 662 651	124 051 991	107 064 329	11.0	15.9
World total	336 858 116	299 280 432	276 552 859	12.6	8.2

Source: Derived from information contained in *Containerisation International Yearbook 2006* and from information obtained by the UNCTAD secretariat directly from terminal operators and port authorities.

^a Comprises developing countries and territories where less than 95,000 TEUs per year were reported or where a substantial lack of data was noted.

^b Certain ports did not respond to the background survey. While they were not among the largest ports, total omissions can be estimated at 5 to 10 per cent.

increases of 23.8 and 18.7 per cent respectively. The three following ports managed to keep their positions in the list after posting mixed results for traffic growth: Busan, which recorded a modest increase; Kaoshiung, which recorded a drop; and Rotterdam, which recorded a double-digit increase. Hamburg and Dubai overtook Los Angeles, which moved from 8th to 10th position on account of its meagre 2.2 per cent traffic growth compared with the double-digit traffic growth recorded by the other two ports. Of the 10 remaining ports, Ningbo and Tianjin recorded advances of two places each, while Long Beach and Qingdao moved upwards by one place each. Other ports went down on the list — Tanjung Pelepas (down by three places), New York (by

two places) and Antwerp, Port Klang and Laem Chabang (by one place each). The new entry, Guangzhou, moved straight up to 18th place.

These top 20 ports accounted for 49.4 per cent of world container port traffic for 2004 (48.1 per cent in 2003).

B. IMPROVING PORT PERFORMANCE

For 2005, major world ports reported record traffic throughputs. Shanghai reported 443 million tons of cargo, overtaking Singapore, which reached 423 million tons. The latter, however, retained the top position for shipping tonnage with 1.15 billion GT after an annual increase of

Table 43

Top 20 container terminals and their throughput, 2005–2003

(Millions of TEUs and percentage change)

Port	Millions of TEUs			Percentage change	
	2005	2004	2003	2005/2004	2004/2003
Singapore	23.19	21.33	18.41	8.72	15.86
Hong Kong (China)	22.43	21.93	20.82	2.28	5.33
Shanghai	18.04	14.57	11.37	23.82	28.14
Shenzhen	16.20	13.65	10.70	18.68	27.57
Busan	11.84	11.43	10.37	3.59	10.22
Kaoshiung	9.47	9.71	8.81	-2.47	10.22
Rotterdam	9.30	8.30	7.10	12.05	16.90
Hamburg	8.05	7.03	6.14	14.51	14.50
Dubai	7.62	6.43	5.15	18.51	24.85
Los Angeles	7.48	7.32	6.61	2.19	10.74
Long Beach	6.71	5.78	4.66	16.09	24.03
Antwerp	6.48	6.06	5.44	6.93	11.40
Quingdao	6.31	5.14	4.24	22.76	21.23
Port Klang	5.54	5.24	4.80	5.73	9.17
Ningbo	5.19	4.00	2.77	29.75	44.40
Tianjin	4.81	3.81	3.01	26.25	26.58
New York	4.80	4.45	4.04	7.87	10.15
Guangzhou	4.68	3.31	2.76	41.39	19.93
Tanjung Pelepas	4.17	4.02	3.50	3.73	14.86
Laem Chabang	3.81	3.62	3.18	5.25	13.84
Total top 20	186.12	167.13	143.88	11.36	16.16

Source: *Containerisation International*, March 2006, p. 67.

10.5 per cent. In Europe, Rotterdam posted a 5 per cent increase in cargo traffic to 369 million tons and the 46 Spanish public ports reported a record 440.8 million tons. Also during the year, productivity records were reported in Busan (Republic of Korea) at one HPH-managed container terminal. In June, 182 boxes per hour were handled on a vessel using four cranes and twin-lifting devices, and a new record was reported in October when 260 boxes per hour handled on the *KMTC Shanghai*.

The drive for better productivity was responsible for the use of automated straddle carriers at the Fisherman Island container terminal in Brisbane (Australia). The terminal operator, Patrick, and the equipment manufacturer, Kalmar, had been testing the system since 2000, and it was finally commissioned in December 2005. The 25-

hectare terminal, encompassing three berths, operates permanently with 14 unmanned straddle carriers in all weather conditions. Striving for better productivity involved changing commercial practices and regulations in the Russian Federation. Domestic rail tariffs applicable to cargoes moving to seaports on the Baltic were increased in line with those tariffs applicable to cargo going across borders to ports of the Baltic States. It was also decided to eliminate some taxes affecting cargo-handling services provided in Russian ports as well as to make allowances for leasing out terminals on long-term basis. Dealing with vested interests and reorganizing the port system of the country were deemed necessary by Indonesian authorities in search of improved port performance. After it had been calculated that illegal fees doubled the exporting costs per container in the main port of the country, Tanjung Priok, it was decided that

publishing the names of those to blame was the first step to be taken, with remedial measures to follow. Also, 25 hub ports were designated to cater for international trade under the management of commercial companies (i.e. Pelindo) with a large number of national and regional ports, under the jurisdiction of local authorities, focusing on domestic traffic.

During 2005 measures were taken in several ports that by and large successfully precluded a repetition of the congestion they had experienced during the previous year. Employers at the ports of Los Angeles and Long Beach agreed, in consultation with the International Longshore and Warehouse Union (ILWU), to hire up to 5,000 casual workers to work in terminals of those ports. Also, the availability of an 18,000-strong roster of persons interested in doing dock work instilled confidence that terminals would be able to serve shipping adequately. Operational measures implemented in those ports during the second half of the year were the reduction of free transit storage time for import containers from five to four days and for export containers from seven to six days, as well as the setting up of the PierPass system whereby about 40 per cent of port-related road traffic would be conducted during the night and at weekends.

The measures included land transport too. One large trucking company with operations in several ports of the US West Coast addressed the scarcity of truck drivers due to the prevalence of low wages by offering health benefits and hiring unionized drivers — the first time in 24 years that the Teamsters union had reached a collective bargaining agreement. Moreover, the two major railroads, Union Pacific and Burlington Northern Santa Fe, deployed additional rolling stock and personnel to serve the main ports of the West Coast.

On the US East Coast, a complementary measure to increase space availability in terminal yards in Hampton Roads was adopted; this reduced the considerable terminal space taken up by chassis belonging to individual sea-carriers by forcing them to set up a chassis pool. The sharing of chassis by sea-carriers reduced inventories and contributed to reducing truck turnaround and maintenance, and also resulted in greater utilization of equipment.

In Southampton (United Kingdom) a mandatory vehicle booking scheme reduced vehicle dwell-time at the terminal to less than 30 minutes. The scheme comprises a \$2 booking fee, waived in the case of transports made during off-peak hours, and a \$47 penalty for lorry late-

arrival. Extending the surface and providing additional equipment improved the terminal layout in this port. In another UK port, Felixstowe, about 400 additional workers were added soon after the commissioning of new facilities. An industry-wide effort was made in the United Kingdom to produce a Best Practice Guide describing how each party involved in the movements of goods from ships to destination could adopt operational measures that counter congestion. The Guide, however, clearly recognized that those measures were not intended to replace the additional port capacity required by the country in the medium term.

Port users were willing to try alternatives to avoid congestion. In the United States, MOL was doubling terminal capacity in Oakland, on the West Coast, as well as building a terminal in Jacksonville, on the East Coast, for developing “all-water” services to Asia. Savannah, located further north along the East Coast, reported steady traffic increases during the year as a result of Asian imports flowing into the distribution centres of major US retailers, which are located around the port. Across the Atlantic Ocean, the innovative but largely unused Ceres-Paragon terminal, in Amsterdam, finally secured two service strings of the Grand Alliance, with NYK ships calling twice a week.

Strikes impaired the ability of some ports to improve their performance. During the first half of the year night and weekend work was disrupted in Le Havre by staff concerned over their collective agreement. In late September a 12-day strike affected Marseille, causing the cancellation of 155 ship calls with 1,750 workers laid off. The estimated losses for 1,200 companies amounted to at \$150 million. The status of the crane drivers, currently port authority staff, which is being called into question by those container terminal operators building new terminals in those two ports, figured prominently in the background to this industrial action. Also in September, concerns about privatization plans resulted in a one-day strike at Peruvian ports. In November, terminals in Sydney and Melbourne closed for a shift amid protests by workers against proposed industrial relations legislation. In the Republic of Korea, ports closed for half a day over the proposed government plan to end the monopoly of dock work held by the union.

Industrial action by others also affected performance in several ports during 2005. In May, truck drivers in Mombasa (Kenya) blockaded the port gates to oppose a regulation instructing them to book their loading days in advance so that no more than 210 trucks were serviced

per day. In June, about 1,500 workers employed by road transporters in charge of moving containers between the yard and the container freight station in Mumbai (India) stopped work. They were seeking to protect their jobs by modifying tender conditions issued by the port authority for leasing out that operation to a single company. The following month, a 6-week strike by about 1,000 independent truck owners and 46 trucking companies paralysed the port of Vancouver (Canada). Protesters were seeking higher revenues to offset increased fuel bills. In August, Customs officers in Santos (Brazil) reduced their work-time by half over a four-week period to oppose their proposed merger with other federal officers.

The operational performance of some ports was badly hit by natural disasters. The 2005 hurricane season in the Caribbean was exceptionally destructive, with hurricanes Katrina and Rita battering cities and ports in the Gulf of Mexico. Damage sustained by the port of New Orleans as a result of Katrina was severe, and surveys carried out soon after the disaster indicated that to recover 75 per cent of the port capacity would take three to four months. Immediate rehabilitation measures focused on supplying generators and lodging workers and their families on vessels. Next came the issuance of cleaning and rehabilitation contracts. Several shipper logistics chains were totally disrupted by the devastation wrought by Katrina to several ports — 20 per cent of the reefer containers for carrying bananas were stuck in badly hit Gulfport. Reconstruction costs were estimated at \$1,700 million by the US Maritime Administration. Traffic was diverted to other ports and preparedness was heightened in Houston and other Texan ports when hurricane Rita approached a few weeks later. It hit Beaumont, Port Arthur and Lake Charles and caused severe outages in Houston. The damage sustained by transport infrastructure was dwarfed by that estimated for the offshore oil industry — \$5 billion was estimated for Katrina and \$3 billion for Rita. Some weeks later hurricane Beta battered port facilities along the Caribbean coast of Nicaragua. The TT Club suggested insurance premium increases of around 25 per cent and increased reliance on reserves for hurricane-prone facilities. Elsewhere, poor visibility caused by extensive forest fires in Indonesia led to temporary suspension of activities in Port Klang (Malaysia) and heavy rain caused the collapse of a berth loaded with salt in Cochin (India).

During the year decisions were taken to continue to increase capacity in the Le Havre–Hamburg port range. In March, the Dutch authorities finally approved the

deepening of the Scheldt. This will allow dredging to proceed from 2007 so that 13.1 metres draft, independent of the tides, will be available for shipping heading to Antwerp. Another investment to improve the connectivity of this port to the Ruhr area — the Iron Rhine (a railway line crossing Dutch territory) — is still under consideration. The importance of railways for having access to the hinterland was underlined by Bremen's alarm at the negotiations for DB (the German national railway company) to have a stake in HHLA, the operator of the port of Hamburg. In that port the global operator Eurogate received approval for developing a 1.4 million TEU/year terminal from 2006. In July, a new 1.4 million TEU/year terminal at Deuganckdock in Antwerp (left bank of Scheldt) was commissioned. This terminal operated by Antwerp Gateway, with P&O Nedlloyds as the leading shareholder, would have a final capacity of 3.5 million TEU/year when completed at a cost of more than \$600 million. Another section of the same dock operated by PSA was commissioned at the end of the year. Eventually, Deuganckdock will double Antwerp's container handling capacity from 6 to 13 million TEU/year.

Over the year Rotterdam proceeded with plans for developing Maasvlakte 2, which will add 1,000 hectares for containers, chemical industry and distribution activities and add 12 kilometres of berths to the existing port. The investment of about \$2.0 billion is already behind schedule and is expected to take over when current investments in Euromax made by ECT and P&O Nedlloyds, adding 1.5 million TEU/year in the existing port, become saturated around the end of the decade.

Development of new port capacity proceeded unabated in the Far East. In China, the new seaport of Yangshan opened for business in November to serve Shanghai and the Yangtze River Delta region. The port has four berths with a capacity of 2.2 million TEU and is sited on a couple of islands located in the Hangzhou Bay. The seaport is linked to the mainland by a 32-km six-lane causeway and its investors are Shanghai International Port Group (SIPG) and Shanghai Port Container, with the latter being the operator too. Sixteen container-shipment services to Europe operated by Maersk Sealand, OOCL, APL, Hapag Lloyd and CMA CGM were moved from Waigaoqiao river terminals, close to Shanghai, to the new port. Development of river terminals, such as Jiangying in Jiuan Province, could reduce export costs by \$124 per TEU, and these terminals are seen as a complement to the new seaport. The second phase of development, with a similar size and capacity, is estimated to cost \$800 million and be completed by 2007,

with some global operators being invited to participate as investors, namely HPH, APM Terminals and Cosco Pacific. When completed in 2020 this port is expected to have a capacity of 20 million TEUs and to offer full protection from heavy weather and the side-effects of typhoon seasons.

In Hong Kong (China), Modern Terminals invested \$154 million to upgrade its berths to receive 12,500 TEU containerships. In Kaohsiung (Taiwan Province of China), the announced \$2.8 billion expansion plan, for which private investors are expected to contribute half of that amount, would add 2.5 million TEUs/year by 2008. This plan follows the renewals of leases by sea-carriers such as Maersk Sealand, Hyundai Marine and Yang Ming. Further north, Qingdao was contacting investors, among them PSA, to fund the \$3 billion expansion that will be doubling capacity to 12 million TEU/year over the next five years; and Cosco and China Shipping were considering their participation in the \$3.5 billion expansion of Tianjin. The new port of Busan North (Republic Korea) funded by Dubai Port International and Samsung was commissioned in early 2006, two years ahead of schedule to benefit from the booming international and regional trade; it also benefited from tax holidays for cargo passing through it estimated at \$20 per box. This port also issued a tender for a further 4-berth expansion. In southern China, a \$1.2 billion strategic cooperation plan was agreed between Cosco and the provincial island administration of Hainan to create a maritime hub for port, logistics, shipping and ship-repair activities. Further south, ICTSI, a global operator from the Philippines, reported a \$60 million investment in Manila to boost capacity by 0.4 to 2.0 million TEUs in the wake of the recovery by the country's trade from its recent slump.

In India, expansion of container terminal capacity was under way in Jawaharlal Nehru Port Trust (JNP), with Maersk reconverting an old bulk facility into a third container terminal for the harbour area. By mid-2006, this will add 1.5 million TEU/year to the already overstretched terminals of JNP and P&O Ports-operated Nhava Sheva. JNP plans for expansion looked bright after clearance from several administrative instances and firm offers from the Japan Bank of International Cooperation and Citibank. The deepening and widening of the access channel to the port with an estimated budget of \$182 million, a dedicated railway line to New Delhi, an eight-lane highway to the hinterland and the 22.5 km Mumbai Trans Harbour sea bridge figured among the projects. Around a quarter of the latter was to be financed

by the Government, with the balance to be financed by tolls to be collected by the contractor selected to build and operate the facility. Also in the year the Government approved the construction of a second container terminal in Chennai, although the operator of the existing single terminal of the port questioned the need for a second terminal. Elsewhere in the country there were calls for developing the Azhikkal port in Kerala State on the grounds of balanced economic regional developments as well as for sound commercial reasons.

Expansion of container port capacity was also under way in Malaysia and Oman. In Klang, Westport operator completed its ninth berth to serve vessels with sizes in the range of 8,000 to 9,000 TEUs and added 1 million TEU/year to reach a total capacity of 5 million TEU/year. In Tanjung, construction by Pelepas of two more berths for completion in 2006, to reach a total of ten, was under way. In Salalah approval for building two additional 18-metre draft berths together with a 2.85 km breakwater was given. Construction was to start immediately on this \$262 million joint-venture investment, which will increase port capacity by 1 million TEU/year to 4 million TEU/year by 2008. A complementary investment of \$94 million was to be made by the port operator for procurement of equipment. In Sohar, the second phase of this industrial port was under way. This included a refinery to produce 340,000 tons of propylene, power and desalination plants, a steel mill and plant to produce 1.2 million tons of urea per year. The infrastructure provided by the Government, namely breakwaters, entrance channel and harbour basin with a draft of 16 m and 1.8 km of quay-wall, was already completed.

Investment in hub ports was also significant. CMA CGM, the operator of Malta Freeport, decided to speed up its \$47 million investment in equipment to accommodate ships of up to 12,000 TEUs in size, including 4 gantry cranes able to reach 22 boxes across; an additional pavement of 7 ha and a new gate were also included in the plan. Freeport (Bahamas) is already deep enough to receive the largest vessels afloat and aims to become a distribution centre too — it agreed to lease 20 ha to a Chinese group for which goods could be stocked and showcased. In Panama, HPH was investing \$200 million for the expansion of Cristobal and Balboa at both ends of the Panama Canal, with 16-metre draft berths to be provided at both ports. Plans for a mega-hub to be located on the Pacific coast of Panama not far from the entrance of the Canal were unveiled by the Government. The largest alternative would provide 7.5 million TEU terminal capacity for an investment of \$947 million,

which will include a 112 hectare land reclamation. Lesser alternatives, such as the one providing 4.6 million TEU capacity, offer minor savings of about \$50 million in the total investment. The plan calls for private investors to undertake the project, with the Government providing land access and transport links. Elsewhere, a call for serving Scandinavia and Baltic countries from a hub to be developed in Scapa Flow (Orkney Islands, Scotland) was made, and, more specifically, the port of Gdansk (Poland) obtained \$217 million to develop a 0.5 million TEU container terminal in addition to the 0.2 million TEU one being built by HPH in the neighbouring port of Gdynia. In this port Baltic Container Terminal is already in operation and poised to expand capacity by up to 0.8 million TEU.

In South America the bulk of the investments came from Brazil, triggered by the “Reporto” law enacted at the end of 2004. This law temporarily suspended taxes on manufactured products, provided that they are imported into the country before end 2007. By mid-2005 about \$100 million worth of port equipment had been ordered by port authorities and operators. Two operators in Santos accounted for \$32 million and procurement by operators based in Suape, Rio Grande do Sul and Paranagua was estimated at \$16 million each. In a separate development, private investors — the local group Batistella and the sea-carrier Hamburg Sud — decided to build the port of Itapoa in São Francisco do Sul Bay to cater for shipments of reefer cargo such as meat, poultry and fruit mainly from the states of Parana and Santa Catarina. Currently, these cargoes are exported from the ports of São Francisco do Sul and also Itajai, where Maersk Sealand bought a 50 per cent stake in the container terminal Teconvi. Investment in the new port of Itapoa, which will be ready by mid-2006 with a 16 m draft and 0.3 million TEU/year capacity, was \$100 million, with the Inter-American Development Bank having a share of 50 per cent. A 30 km road to connect the port with the Brazilian network was built by the state of Santa Catarina. In Buenos Aires (Argentina), two operators — Exolgan and P&O-owned TRP — commissioned post-Panamax gantry cranes during the second half of the year, but the first 5,500 TEU vessel to arrive in that port was able to call only at the latter.

C. INSTITUTIONAL CHANGE

During the year countries adopted different institutional arrangements for commercial ports. In Port of Spain (Trinidad) bids for a 5-year contract for managing the container terminal were received during the second half

of the year and in early 2006 Portia, a subsidiary of Mersey — the operator of Liverpool — was awarded the contract. In Taomasina (Madagascar) the 20-year contract to operate and develop the Easter section of the port was won by ICTSI. In Mersin (Turkey), PSA together with a local group paid \$755 million to win the tender for operating the port for 36 years. In Progreso (Mexico) a Spanish operator from Barcelona started to operate in the port under a 20-year concession. In Callao (Peru) the tender for building and operating the first container terminal at the south end of the port was issued. In Israel, the national port authority was replaced by a company in charge of port assets and their development. The company owns real estate of Eliat, Ashod and Haifa ports, where separate operating companies were established. In Colombia, implementation of the landlord model in Buenaventura, Barranquilla and Santa Marta was heralded by the opening of discussions with the large number of operators active in these ports for the purpose of generating further investments. The operating model was retained in South Africa, where plans for attracting private companies to operate terminals in Durban and Coega were shelved.

Controversies between port authorities and global terminal operators cropped up or disappeared at different times in different countries. Early in the year the Tariff Authority for Major Ports (TAMP), which regulates major ports in India, ruled that revenues earned by private terminal operators be brought into line with revenues earned by similar State-operated facilities. This affected one operator that five years ago had been authorized to charge tariffs 16 per cent higher than those of the State-run facility. By mid-year, the shipping ministry of India had formulated draft guidelines that would allow domestic companies to participate in tenders for container terminals and quote up to 5 per cent below the highest bid to match that bid. The guidelines also defined an Indian entity as a company in which Indian residents have a majority shareholding and requested that winning bidders retain the shareholder pattern for the duration of the contract. At the end of the year, two Chinese global operators were banned from bidding for a terminal in Mumbai for security reasons. In Panama, pending issues were solved with HPH, with this company agreeing to compensate the Government for fixed rental payments not paid during the last three years, owing to a controversial decree enacted by the previous administration, and to pay \$102 million for infrastructure received under the 50-year lease. For the future, HPH would pay a \$9 per TEU fee, similar to the one in force with two other operators.

Merger and acquisitions activity of global terminal operators proceeded unabated. As a result, the 2004 list of the top four global operators — HPH, PSA, APM Terminals and P&O Ports, with a combined throughput of 135 million TEU, about one third of world traffic — is set to change owing to events in late 2005. DP World, a global terminal operator from Dubai, pursued its aggressive expansion plan in November by offering \$5.7 billion to purchase P&O Ports. A few weeks later some of the investors making the offer together with DP World reduced their bid exposure, and Temasek, the parent company of PSA, was reported to be increasing its share ownership in P&O Ports. Temasek made an offer for P&O Ports about 6 per cent higher than that of DP World, but the latter further raised its bid by almost 11 per cent and, in late January 2006, finally took over P&O Ports for \$6.8 billion. In February there was strong opposition to the transaction in the United States because of security concerns, since about twenty P&O Port terminals were located on the US mainland. The opposition subsided when DP World indicated its willingness to transfer those terminals to a US entity.

The following weeks witnessed separate developments in several countries. In the United Kingdom, Australian investors made a \$554 million offer for PD Ports, the owner of Tees port, and another investor, Peel, made an unspecified offer for Mersey Docks and Harbour Co., the owner of Liverpool and other, lesser UK ports. In Australia, terminal operator Patrick was acquired by Toll Holdings for \$4.2 billion; the latter is a logistics conglomerate, the largest in Australia, with interests in South-East Asia. In late April came the most remarkable transaction — PSA purchased 20 per cent of HPH worldwide assets for \$4.4 billion.

In addition to the outright merger and acquisition activity, these global operators also entered into agreements concerning specific ports, which might also involve shipping lines. In June 2005, HPH confirmed that it had sold a 20 per cent stake in HIT terminal in Hong Kong (China) to PSA for \$925 million. A month later and in the same port a spillover agreement between DP World with HPH and Wharf Group, another operator, entered into force. Under the agreement excess DP World traffic could be handled in facilities operated by the other companies.

Agreements of global operators with shipping lines concerned stakes in the terminals or service agreements stating the services to be rendered to vessels in the terminals. An example of the former is the 10 per cent

stake of CMA CGM in Antwerp Gateway ceded by Cosco and P&O Nedlloyds, which were left with 20 per cent each, with the ownership balance being for P&O Ports and Duisport with 42.5 and 7.5 per cent respectively. The winning consortium for the Tangier Mediterranean Terminal announced in October provides another example. In this case, the operator Eurogate/Contship sided with sea-carriers MSC and CMA CGM, with a minority stake kept for a local company. Service agreements sought by sea-carriers seemed to become more significant in time and coverage — K Line was on record as seeking a 20-year service agreement with PSA spanning all its world terminals. This seemed to be an alternative to the dedicated terminal model pursued by other carriers: during the year MSC secured dedicated terminals in Valencia (Spain) and set up a joint venture with PSA to operate a 3-berth terminal in Singapore. The former Prime Minister of Singapore said that ports were not longer competing against other ports but against port/shipping alliances.

Some saw merit in the merging or cooperation of neighbouring port authorities. In Canada there was a call for Vancouver to be merged with four other ports. In the Strait of Gibraltar closer cooperation between Algeciras, Gibraltar and Tangier was advocated. The challenge facing individual port authorities when dealing with sea-carriers was illustrated elsewhere. The Piraeus Port Authority was deemed to have abused its dominant position by giving a 10-year contract to a large sea-carrier that had squeezed a lesser one out of business, the latter having eventually gone bankrupt. As a result, the port authority was given a fine equivalent to 3 per cent of its annual turnover by the Competition Commission. The Port of Los Angeles settled a claim by sea-carrier China Shipping by paying \$22.2 million. The claim covered delays in commissioning a terminal in time and retrofitting the vessels to use shore-side electricity instead of diesel engines when docked. Environmental issues were at the root of this: the delays stemmed from legal action started by environmental groups that argued that all environmental audits had to be completed before construction was authorized, while the use of shore-side electricity was a measure to reduce air pollution in the urban area.

In countries of Western Europe, there was a widespread feeling that delays and costs related to the planning and approval process for port development were excessive. The Maasvlakte 2 expansion in Rotterdam would be delayed for at least 18 months because of questions raised in an administrative court about the environmental impact

of the project. Similarly, the cost of the planning process — that is, the cost of public inquiries, official planning submissions and legal fees — for twelve projects in several countries amounted to \$700 million, with the bill for the Dibden Bay project (United Kingdom) alone being \$82 million. The delays and costs were badly affecting the provision of additional capacity in the next few years, which was badly needed as it was estimated that the occupancy rate for container terminals in the region was already well above 70 per cent. A prominent shipowner made a forceful appeal to industry representatives to become more visible and convince authorities of the need for further and speedy investment. In Germany, the port of Hamburg submitted a proposal that deadlines be set for the legal proceedings to be filed by interested parties, and that the number of authorities concerned with the approval process be reduced.

Against the background of increased urgency for additional container capacity in Europe, the UK procedure for approving port development schemes showed strain. With the rejection of the ABP scheme for Dibden Bay on environmental grounds, there were three schemes left for consideration: HPH-sponsored developments of phase 3 in Felixstowe and Bathside Bay, and in Harwich, and the London Gateway promoted by P&O Ports. These schemes would add 6.8 million TEUs per year to the existing port capacity. The London Gateway was given preliminary approval in September 2005, and the other schemes received approval during the first months of 2006. There were controversial points in this ad hoc process of approval. Some parties stressed the uncomfortable position of all these schemes when compared with those in other European ports benefiting from government funds for developing infrastructure. Others questioned the wisdom of southern-biased development schemes to the detriment of poorer northern UK regions. Still others noted the difficulty in asking operators to fund rail and road infrastructure to make their port schemes viable if beneficiaries of such infrastructure would also be third parties. In the meantime, the ports of Liverpool, Teeside and Bristol were preparing their own development plans. The latter plan was particularly ambitious in calling for an investment of \$543 million to service 12,000 TEU containerships in a 1.5 million TEU per year facility. The port policy review started by the Government in 2005 was due to be completed during 2006 after exhaustive consultation with the parties concerned.

During most of 2005 the Transport Commission of the EU Parliament and interested industry bodies scrutinized the proposed EU directive on port services. There were complaints that this second version of the proposed directive had been prepared without taking stock of the rebuttal of the previous one in 2003, and efforts were made to prepare an amended version that overcome objections to the main controversial points: the right of self-handling by shipowners and the tendering procedures for facilities were among them. In November, an amended version was put to vote in the Transport Commission, although some wondered whether it would be better to withdraw it; after a confused vote it was decided to refer the un-amended version to the plenary of the Parliament. The proposed directive on port services was finally rejected by an overwhelming majority of the EU Parliament in January 2006.

The issue of government funding for infrastructure was given consideration in Canada. The amendments to the 1998 Marine Act paved the way for direct funding by the Federal Government for major infrastructure projects. In October a contribution of \$492 million was announced for the elimination of road, rail and border bottlenecks caused by expanded Asian trade through the port of Vancouver. In the United States, the lack of funding led to the proposal by California of a \$30 fee per TEU to improve rail infrastructure, air quality and port security, but this was postponed indefinitely because of strong opposition to trade replacing the public sector in providing investments. In Germany the bill for constructing the JadeWaser port increased by 22 per cent owing to the higher cost of steel and other materials.

D. SECURITY CHARGES IN PORTS

Security charges continued to be levied in several ports during 2005. For instance, Patrick Corp., an Australian port operator applied a levy of \$3.70 per container, starting on 1 January 2005, to pay for extra guards, fencing, lighting and closed circuit TV cameras. In March, three terminal operators in Shenzhen (China) started to apply a \$6 per laden TEU security charge; later, Modern Terminals, one of the operators in Hong Kong (China), announced a levy of \$6.40 per laden container as from May 2005. A \$2.50 security levy per 20' box passing through Chinese ports was announced in mid-2006. The levy is to be uniform for all ports and last for three years.