

IAPH Officers

(1999 - 2001)

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Jean Smagghe

Executive Vice-President

International Affairs of

Association of French

Ports (UPACCIM)

France

Secretary General

Satoshi Inoue

IAPH Head Office

Tokyo

Japan



THE Port of Quebec is stamped with history. In fact, its vocation dates back quite a few centuries and it is the oldest port in Canada. It is at the root of colonisation and the development of Quebec city and it has always adapted to realities of time. Today, the port plays an important role in regional commercial activities. Related article on page 24.

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IAPH ANNOUNCEMENTS AND NEWS

Marseilles to Host the Mid-Term Meetings of IAPH Board & Committees May 12-18, 2000

RECENTLY, Secretary General Inoue communicated with the Board members to call for the Mid-term meeting of the Board of Directors to take place in Marseilles from May 12 to 18, 2000, in the Hotel Sofitel Marseille Vieux Port.

The Secretary General's letter dated February 15, 2000, addressed to the following members, is reproduced below.

Members of the Board of Directors
Vice Presidents, and Immediate Past President
Executive Committee Members
Legal Counselors
IAPH/IMO Interface Group Chairman and Members
Chairmen of Internal Committees

- Finance
- Constitution & By-Laws

Chairman and Members of Permanent

- Long Range Planning/Review Committee

Chairmen of the Sustainment & Growth Group of Committees

- Membership
- Communication & Networking
- Human Resources Development

Chairmen of the Technical Affairs Group of Committees

- Port Safety, Environment & Marine Operations
- Dredging Task Force
- Legal Protection
- Trade Facilitation

Chairmen of the Port Industry Research & Analysis Group of Committees

- Cargo Operations
- Ship Trends
- Combined Transport & Distribution
- Port Planning & Construction
- Trade Policy

IAPH Liaison Officers with

- ECOSOC
- UNCTAD
- IMO
- UNEP
- African Affairs
- WCO (CCC)
- PIANC
- ILO

Dear Ladies and Gentlemen:

Re: Call for and Invitation to the Mid-Term Board Meeting May 12 - 18, 2000, in Marseilles, France

On behalf of President Taddeo, this is to announce the provisional agenda/program of the mid-term meeting of the Board of Directors of IAPH scheduled to be held from May 12 to 18, 2000, at the Sofitel Marseilles Vieux Port, Marseilles, France, generously hosted by the Port Authority of

Marseilles.

Emphasizing the fact that this is the first mid-term Board Meeting as a result of the decision taken at the KL Conference as an essential measure for further development of the Association, I most sincerely request your attendance at the mid-term Board Marseilles Meeting. Also, by the same token, you are kindly requested to ask your Alternate Director to attend the meeting if you yourself will not be attending.

Now, with my most sincere appreciation to Mr. Eric Brassart, Chief Executive Director, Port Authority of Marseilles, the Host, I would like to convey the most cordial invitation issued by the Port of Marseilles.

- IAPH has chosen Marseilles for the Mid-term Board Meeting. The Port Authority of Marseilles is happy to welcome you in Provence from May 12 to 18, 2000.
- Marseilles offers the legendary conviviality of its inhabitants, the charm of sunny Provence and the authenticity of 2,600 years of history and international experience.
- Marseilles proposed the performance of the foremost center for industry and services of the south of France, together with its dynamic scientific community and its extensive city planning projects.



Marseilles City Hall on the Waterfront (Photo Credit: The Port of Marseilles)

• The Port Authority of Marseilles is very honored to present this wealth to the members of IAPH at the Mid-term Board Meeting.

The provisional agenda/program is as per the attachment. I would like to add to note the following points:

The Board Meeting is scheduled to be held for two full days on Tuesday and Wednesday (May 16 and 17), including the individual meetings of the Regional Board of Directors.

Meetings of the Internal Committees (Finance and Constitution & By-Laws with the Legal Counselors present), the Permanent Committee (Long Range Planning/Review) and the IAPH/IMO Interface Group are programmed as an integral part of the Board Meeting.

Meetings of the Sustainment & Growth Group of Committees (Membership Committee and Communication & Networking) are integrated into the Board Meeting.

As to the other Committee meetings, please be advised of the following points:

Meetings of the Technical Group of Committees: The Port Safety, Environment & Marine Operations Committee will meet jointly with the Dredging Task Force. The Legal Protection Committee will also meet. Furthermore, the Trade Facilitation Committee has decided to meet on Friday, May 12.

Meetings of Port Industry Research & Analysis Group of Committees: The Committees of the Ship Trends, Cargo Operations, Combined Transport & Distribution, Port Planning & Construction, and Trade Policy will meet.

Thursday, May 18, will be devoted to the technical tour of the Port and City of Marseilles.

Please advise the Host's Agency - Rial Evénements- by fax, e-mail or letter and the Sofitel Marseilles Vieux Port by e-mail as well at the address below.

It is our sincere hope that we all meet in Marseilles next May.

Best regards,

Satoshi Inoue
Secretary General of IAPH



Eric Brassart
Chief Executive
Director

Determination and Confidence: The Plan for the Third Millennium

ON the threshold of the third millennium, the Port of Marseilles Authority is pursuing its policies with renewed energy. The year 2000 will be: a year of change, of achievement and initiative, while also pointing the way to tomorrow's developments; and a year of intense deliberation about our collective goals, centered around the main strategic project of making 2,600-year-old Marseilles Europe's "global port" on the Mediterranean.

The business plan, an integral part of the port charter, has defined objectives as well as realistic targets for their accomplishment.

The new Government Region agreement is in preparation, taking into account the needs of the port and port-industrial activities.

The City of Marseilles has opened its Euromediterranean shipyard.

All the local and regional authorities are lending their weight through direct investment as well as developmental support for infrastructure and equipment, which creates wealth and jobs.

We can thus look forward with confidence and determination to the future of the Port of Marseilles both within its European context and through its access to the world's great markets.

(More information on the Port of Marseilles on page 30)



Claude Cardella
Chairman of
the Board

Host's Agency: Rial Evénements.

Atten: Ms. Valérie Miron
7, rue Alfred Curtel, 13010 Marseilles, France
Tel: 33-4-9178-2020
Fax: 33-4-9178-7800
E-mail: rial-event@pacwan.fr

HOTEL SOFITEL MARSEILLE VIEUX PORT
36 Boulevard de Livon 13284 Marseille Cedex 07
Tel: 33 4 9115 5900
Fax: 33 4 9115 5950
E-mail: HO542@accor-hotels.com
Booking Office:
Fax: 33-4-9115-5955



Old Harbour and Eastern Harbour Area (Photo Credit: The Port of Marseilles)

**Provisional Program of the IAPH Mid-term Board Meeting in Marseilles
Hotel Sofitel Marseilles Viewx Port**

May 12-18, 2000

Friday, May 12

Delegates arrive
0900/1600 **Trade Facilitation** (Tentative.)

Saturday, May 13

Delegates arrive

Sunday, May 14

Delegates arrive
1000/1230 Communication & Networking Committee
1400/1700 Legal Protection
1400/1700 Port Safety & Environment and Marine
Operations jointly with the Dredging
Task Force (First Session)
1400/1700 Port Planning & Construction
1600/1700 Officers' Meeting

Monday, May 15

0830/0900 Constitution & By-Laws jointly with
Legal Counselors
0900/1200 Ship Trends
0900/1200 Port Safety & Environment and Marine
Operations, jointly with the Dredging Task
Force (Second Session)
0900/1200 Cargo Operations
0900/1030 Joint meeting of the Membership and Finance
1030/1045 Coffee Break
1045/1215 Long Range Planning/Review
1215/1400 Business Lunch (delegates only)
1400/1630 Combined Transport & Distribution
1400/1500 Communication and Networking
1500/1515 Coffee Break
1515/1630 IAPH/IMO Interface Group
1630/1700 Meetings of Vice Presidents responsible for 3
groups of committees
1900 Welcome Reception by the Port of Marseilles
at Sofitel Hotel (All are invited)

Note: A press conference will be organized from 1030 to 1100 to be attended by the IAPH President as well as the PAM President and Chief Executive Director.

Tuesday, May 16

BOARD MEETING - DAY 1

0830/0900 Officers' Morning Meeting
0900/1030 BOARD Meeting
1030/1045 Coffee Break
1045/1200 BOARD Meeting
1200/1400 Business Lunch (delegates only)
1400/1530 BOARD Meeting
1530/1545 Coffee Break
1545/1700 Regional Board Meetings of "African/European",
"American" and "Asian/Oceania" region
Free Evening

"In Search of Provence 1" - A Special program for the delegates' partners (0900/1700)
The partners will be able to visit Les Baux de Provence and St Rémy de Provence. They can discover the charm of sunny Provence and also such places as museums and castles. For lunch, they will enjoy Provincial food.

Wednesday, May 17

BOARD MEETING - DAY 2

0830/0900 Officers' Morning Meeting
0900/1030 BOARD Meeting
1030/1045 Coffee Break
1045/1200 BOARD Meeting

1200/1400 Lunch (delegates only)
1400/1530 BOARD Meeting
1530/1545 Coffee Break
1545/1700 BOARD Meeting
1900 Dinner by the Chamber of Commerce at
Palais de la Bourse (All are invited.)

"In Search of Provence 2" - A special program for the delegates' partners (0900/1700)

The partners will travel to Aix-en-Provence. They will visit Provincial arts and crafts companies and savor local products. For lunch, the partners will enjoy Provincial food.

Thursday, May 18

BOARD MEETING - DAY 3*

0900/1000 Presentation by PAM
1000/1130 Technical Visit to the Port of Marseilles by boat
1130/1700 Observation tour of the City (Lunch served)

*: All are invited to join.

Post-Conference and weekend suggestions

- Weekend in Provence-Alpes - Côte d'Azur. There are a few proposals from the Agency for a weekend in Nice, Monaco, Cannes, Camargues or Nimes. Information on such proposals will be forwarded to all separately in due course of time.

**Hotel Reservation and Travel
Information**

1. Accommodation and Conference Venue

HOTEL SOFITEL MARSEILLE VIEUX PORT

36 Boulevard de Livon 13284 Marseille Cedex 07

Tel: 33 4 9115 5900

Fax: 33 4 9115 5950

E-mail: HO542@accor-hotels.com

Booking Office:

Fax: 33-4-9115-5955

Room with a view of the Vieux Port	1,190 FF	US\$181.41
Room with a view of the court	990 FF	US\$159.92
Room with terrace	1,350 FF	US\$205.81
Breakfast and tourist tax	10 FF + 7FF	US\$16.77 + US\$1.07
Supplement for a second person	100 FF	US\$ 15.24

- The figures in US dollars are for reference only as they are subject to daily fluctuation.
- The Port Authority of Marseilles is provisionally reserving 80 bedrooms. Booking must be confirmed **by April 14, 2000**.
- For cancellations between May 7 and May 12, 50% of the total price of the stay will be charged, and 100% for "no shows".
- For all bookings a deposit for at least one night must be made in advance.

2. Access

- International Marseilles Provence Airport: Third largest Airport in France, with 26 national and international airline services and direct connections with more than 80 cities worldwide, and 44 daily flights between Marseilles and Paris, including Air France shuttles.
- South-East TGV: 8 trains a day from Paris
- Motorways: Marseilles is at the crossroads of 3 motorways connecting Spain and Italy to Northern Europe.

White House congratulates IAPH's effort on Y2K Conversion

FOLLOWING the letter of appreciation received from the US Coast Guard (USCG) appearing in page one of the previous issue, the IAPH Head Office, via Mr. Alex Smith in London, has received the following letter from the President's Council on Year 2000 Conversion.



PRESIDENT'S COUNCIL ON YEAR 2000 CONVERSION

February 14, 2000

CHAIR

International Association of Ports and Harbors
c/o Mr. Alex Smith British Ports Association
64/78 Kingsway
London, WC2 6AH
UK

Dear Mr. Smith,

Thank you for your important contribution to our efforts to minimize the effects of potential problems associated with the Year 2000 date change. Your role in helping to prepare your industry for the century rollover was critical to the success of the nation's overall Y2K readiness effort.

Thanks to an unprecedented team effort, we met head-on - with resounding success - what I believe was the most significant management challenge the world has faced in the last 50 years. While tremendous resources were marshaled for Y2K, none was more important than the people who so generously gave of their time and expertise. The accolades about the smooth transition to the new millennium belong to everyone who played a leadership role in this effort.

I know that you share my pride in the dedicated work done by countless thousands of professionals whose individual achievements contributed to greater Y2K readiness around the world. Congratulations to a wonderful team !!

Best wishes for the New Year and the new millennium.

Sincerely,

John A. Koskinen

New Appointments:

Mike Compton becomes IAPH Liaison Officer with ILO

IAPH has been informed by the ILO secretariat that IAPH was admitted to the ILO's Special List of Non-Governmental International Organizations. In her letter dated January 4, 2000, Maria Angéla Ducci, Director for External Relations and Partnerships, International Labour Organization (ILO) comments, "In admitting IAPH to the Special List, the ILO is convinced that a closer working relationship will result in fruitful collaboration in areas of mutual concern."



To serve as IAPH Liaison Officer with the ILO, Mr. Mike Compton, PSO Limited, London, has recently been appointed by President Taddeo. Mr. Compton has been active in the IAPH theater as a member of the Committee on Port Safety & Environment, and more recently as the producer of "Port Health and Safety News", a newsletter published at four-monthly intervals.

Mr. Compton, in confirming his acceptance of the role, says, "I feel proud to serve as IAPH's liaison officer with the ILO, and will do my best in enhancing the areas in which IAPH and ILO will work closely together for the increased benefit of all in the port community."

Port Safety & Environment Committee: van de Laar of Amsterdam to chair

Mr. F. M. J. van de Laar, Head of the Safety and Environment Department, the Port of Amsterdam Authority, has recently been appointed by



President Taddeo to take over from Mr. Peter van der Kluit as Chairman of the Committee on Port Safety and Environment (PSE). Mr. van der Kluit, in order to concentrate on his new position as IAPH European Representative in Rotterdam, stepped down from the chairmanship of the PSE Committee,

IAPH Bursary Awarded to Dakar's Manager

MR. Goon Kok Loon (PSA Corporation, Singapore), Chairman of the IAPH Committee on Human Resources Development, has approved **Mr. D Amadou Ndjae**, Port Operations Manager, **Port Autonome de Dakar**, Senegal, as a bursary recipient to attend the 16th International Program

for Port Planning and Management (IPPPM), an annual program co-sponsored by the Board of Commissioners of the Port of New Orleans, Louisiana State University National Ports and Waterways Institute and the University of New Orleans. The course was scheduled from March 13 to 24, 2000 in New Orleans.

although he remains as Vice Chairman of the Committee.

Long Range Planning/Review Committee: Gloseclose succeeds Rowland as Chairman

In view of the imminent retirement of Mr. Charles Rowland, Canaveral Port Authority, USA, who was appointed as Chairman of the Committee in Kuala Lumpur in May 1999, President Taddeo has recently appointed Mr. B. S.

Gloseclose, Jr., South Carolina State Ports Authority, USA, Vice Chairman of the Committee, to succeed Mr. Rowland as Chairman.



The new Chairman has expressed his willingness to chair this important committee and is prepared for the Committee meeting which is scheduled to take place on Monday, May 15, 2000 from 1045 in Marseilles.

viously, to examine its Terms of Reference (TOR), following the biennial Conference in order to suggest any appropriate modifications. The present TOR had been fixed following the London Conference in June 1997. The meeting felt that they were still appropriate.

Action: The Chairman would inform the IAPH Secretary General

As far as membership was concerned, the new list of members had been circulated with the Agenda for the meeting. In addition to a few requests for correction in the spelling of names, only one point remained unclear: whether for the Port of Abidjan, the Director General and/or the legal adviser were to be a member. The meeting agreed with the Chairman that it did not matter as long as the Port of Abidjan was represented.

5. Report of the Chairman to the Exco meeting in Montreal on 27 October 1999

The meeting took note of the above report, which had been circulated for information with the agenda.

6. Follow up of the diplomatic conference on ship arrests in Geneva, 7-12 March 1999

The Chairman gave the floor to Mr. van Zoelen. He reported that, although the IAPH delegates had not been able to get an entry regarding the position of ports into the preamble of the Convention, there had been a debate, which was sympathetic to the IAPH cause. This will enable IAPH members to return to their respective Governments and ask for the protection of ports to be incorporated into their national legislation.

The main element of this legislation is that:

At this moment Holland is investigating a change in legislation which will create obligations concerning the nautical order and safety of arrested vessels for the arresting party.

In the ensuing debate, it was noted that in the different legal systems the priority of the forced sale proceedings differed slightly. In France, for example, the Port is paid for the costs of due care of the ship, together with court costs, before all maritime liens. In other countries ranking could be in accordance with the MLM Convention, where ports were ranked 4th in order of priority:

The Committee on Legal Protection (CLP) meets in Paris

16 December 1999

Minutes of the Meeting by **Bruno Vergobbi**, Chairman

Present:

Bruno Vergobbi (Dunkirk), Chairman
Takao Hirota (Tokyo)
Marcel-Yves Le Garrec (Bordeaux)
André Pagès (Bordeaux)
Peter van der Kluit (Rotterdam)
Frans van Zoelen (Rotterdam)
Christine Williams (London)
Jacques Breams (Dunkirk)



new, however, in IAPH circles and therefore needed no introduction. Both were most welcome.

The chairman then turned to the agenda.

Introduction

Apologies for absence / lateness

The chairman received apologies for the absences of Jean Mongeau (Montreal), Geoff Vazey (Auckland), Alex Smith (London), Pieter Struijs (Rotterdam), Hugh Welsh (New York) and Patrick Falvey (New York).

Mr. Le Garrec had tendered apologies for a possible late arrival due to his flight schedule. The chairman welcomed Mrs. Christine Williams from TT Club, UK., a new member of the CLP, who was replacing Mr. Paul Mallon. Mrs. Williams has spent 14 years with TTC. She had set up a new branch office in Spain and had returned to the UK as Director.

A second new member to the Committee was Peter van der Kluit, who replaced Alex Smith as the European representative of IAPH. He was not

1. Approval of the Agenda

The agenda was approved with one slight modification concerning times and places of meetings in item 7, where the dates and places were mentioned incorrectly. LEG 80 had effectively taken place in London and the dates were wrong. The agenda was amended accordingly.

2. Approval of the Minutes of the last meeting

The minutes of the last meeting held in Kuala Lumpur on Sunday 16 May 1999 were approved.

3. Matters arising from the minutes

There were no matters arising from the minutes that were not included in the present agenda.

4. CLP: TOR and Membership

The Committee was asked, as pre-

1. Salaries due to the Master and crew
2. Compensation for death or injury
3. Costs for assistance and rescue
4. Port dues and comparable costs
5. Criminal claims bring about ship operations
6. Mortgages

It was noted that where the ship was sub-standard, once the port had been paid for the costs incurred to ensure due care of the ship (in the interest of all claimants), in France situations could arise where there was no money left over to pay the crew. This had led the Port of Dunkirk, for example, to assign part of the moneys received to a special fund for settling at least a part of the wages due to the crew. This action was not legally binding but only charitable.

Following a general debate on the problem, in which everybody agreed that there was a real need to speed up procedures, leading either to early settlement or the forced sale of the ship, the following action should be taken:

Action:

- * Mr. van Zoelen would draft an outline of the provisions required to protect port interests.
- * Mrs. Williams would draft a paper to give exposure of the problem in the media.
- * Lobbying with the membership would focus, of course, on the IAPH Directors. However, since this had not produced satisfactory results on previous occasions, the meeting felt that it might be helpful to extend lobbying to regional and national port associations, subject to the agreement of the IAPH Executive Committee.
- * The Chairman would raise the proposal with Vice President Pieter Struijs.

7. Report by Peter van der Kluit on IAPH/IMO Interface Group meetings on 15 May and 15 October - LEG 80 meeting at IMO, London, 11-15 October 1999 & the Last Trade Facilitation Committee Meeting

Mr. van der Kluit drew attention to the Minutes of the IAPH/IMO Interface Group meeting, which had been circulated.

Mr. van Zoelen reported on the IMO Legal Committee meeting, LEG80.

He stressed that the priority for the Legal Committee as regards a Diplomatic Conference had been

changed to Bunker Spills.

The meeting therefore agreed that the first priority was that the present text of the draft Bunker Convention should be circulated to CLP members to see if further action are needed. Comments would be requested for the next meeting.

Action: Mr. van Zoelen & the Chairman

8. Follow-up of action towards:

MEPC on the control of ballast water

With regard to the IMO Marine Environment Committee (MEPC), Mr. van der Kluit added that priorities were for a Diplomatic Conference on TBT and Ballast Water. The aim in the TBT draft Convention, scheduled for 2001, will be for no further prime coating of TBT on vessels as of 2003 and removal of TBT from hulls from 2008.

There was a need to monitor TBT because it would cause certain problems for ship repair yards and, in addition, was already causing problems since it was being found in dredging material.

As regards ballast water, because the Committee had been unable to make progress, a disparity in the legislation being applied at national level was becoming apparent. There was a need to contact members and to find out whether the intention was to create legislation. If this was the case, it was important that they be urged to follow the international recommendations issued by IMO to avoid further disparities.

At present, there were a number of shipboard solutions being sought, because it was considered too dangerous to change ballast water in mid-ocean. These solutions involved ultra violet or heating treatment, but so far no real satisfactory solution had been found. IMO appeared convinced that shore ballast facilities in ports were not a practical solution, but care was needed to ensure that, in the face of no other satisfactory solution, this possibility was not considered again.

Action: The IMO website address where these recommendations are to be found should be given: <http://www.imo.org/CLP> could then endorse the proposed course of action to be undertaken by the IAPH Port Safety & Environment Committee.

The next meeting of MEPEC intends to examine operational proce-

dures for marine pilots. ICS has suggested to IMO that information should be given 24 hours in advance, but the difficulty is that too many things can change within 24 hours, so that the information is irrelevant and has to be changed. IAPH is working with both the Pilots Association and with the Harbour Masters Association, since they are both ready to endorse the IAPH point of view.

Facilitation Committee on Uniform Rules for Electronic Signatures

The Chairman had been in contact with the Chairman of the IAPH Trade Facilitation Committee, Mr. Arbos (Barcelona), and they had agreed that it would be useful to have a joint meeting to discuss CLP's concerns relating to electronic signatures. The Chairman had made it clear that CLP was not intending to duplicate or intervene in the work being undertaken by that Committee but was concerned only by the legal implications. A joint informal meeting would be arranged in Marseilles with the two chairmen and members interested by this question.

9. "Legal Challenges for Ports in the New Millennium" Captain Peter Heathcoate

The meeting had before it the above-mentioned paper. There was a general discussion on the personal risks and liabilities of Chief Executive Officers. Such problems were serious and would become increasingly difficult to solve.

Mr. Pagès pointed out that, in the Herald of Free Enterprise case, the situation was much worse than described. The Master was involved with two cases of liability, his own and that of the Company. He was ordered to leave with the bow doors open in order to respect the time schedule.

The present case of the Erika finds the Master in jail. Both parts of the vessel have sunk. Pumping has not begun because of bad weather. The refusal of the Port of Nantes-St. Nazaire to take the vessels was also discussed. The risks were too high. The Harbour Master in such circumstances is under the orders of the Prefect, so it is not just a Port Authority decision.

10. Future of CLP Work: how to have a proactive approach & produce added value for all ports.

IAPH 2000 was set up to examine

the added value of Committees such as CLP. There was a general need for a return on the money invested so as to bring more added value. One way would be to have articles in "Ports and Harbors", but is it possible to do more?

It was agreed that work in IMO's Legal Committee was slowing down because of budget restrictions. IMO has basically stopped making regulations and is concentrating more on enforcement of existing legal instruments. In these circumstances there is a need to regard the future work of our Committee.

The representation of general interests of ports is becoming a more important task and needs constantly lobbying for better legislation. There is perhaps added value in helping ports to solve problems that are encountered. But if they are too specific, this would not be a good idea. However, where there are global problems that have an impact on all ports, it is CLP's task. These problems are, however, rare. We actually do not know what members think of the work of CLP.

It might be worthwhile doing a survey among IAPH members on the legal needs and expectations of ports from their CLP.

A survey needs a well-prepared questionnaire of legal problems and solutions because of the complexity of legislation.

A clear analysis on a website of international legislation and regional rules would bring added value. It is not the legislation itself, but the analysis that would be useful. CLP could be used as a form of clearing

house to do this.

For example, with the US carriage of goods by sea legislation, what is relevant for the ports? CLP should have the capacity to analyse, but the first thing would be to start with an enquete.

It would be helpful to know what assistance can be obtained from the Secretariat. Mr. van der Kluit informed the meeting that there were funds available for supporting the technical committee activities.

The use of the existing website. More thought should be given to this matter. The Chairman asked members to consider it and he agreed that CLP should return to the matter at its next meeting.

11. Any other businesses

The Committee's attention was drawn to the IMPACT Report of the Oslo-Paris Commission (OSPAR). Mr. Le Garrec, who had attended the recent meetings, drew attention to the fact that the Commission was repeating an exercise, similar to what had been done on the land with respect to natural habits and conservation areas, in the submarine environment. They were effectively mapping out the seabed. The results would certainly have an impact on ports: the choice of dumping sites for dredging, when and where dredging could take place, possibly even what type of dredging could be used.

Although OSPAR was involved and was essentially only concerned with EU waters, it was still followed for IAPH by ESPO because it was important to note that what happened in OSPAR was frequently mirrored in

other areas, such as the Mediterranean and other enclosed seas. This was why IAPH should be aware of what was going on.

Mr. Le Garrec would submit a copy of his report. It was agreed that it should be circulated to all members appendix 3 as well as to Dr. Geraldine Knatz, who chairs the IAPH Dredging Task Force.

**Action: Mr. M-Y Le Garrec/
Mr. Vergobbi**

With regard to possible articles for IAPH, Mr. Le Garrec drew attention to a paper which he and Mr. Braems had seen presented recently. It was a review of the legal problems in multi-modal transport by Prof. Ralph De Wit, Lecturer at VUB (Vrije University Brussels, Brussels University and Associate, Van Dooselaere Advocaten, Antwerp). Again, the problem was not one that was solely EU-related. This was the sort of paper that could be helpful to all IAPH members and might eventually be worth publishing in "Ports and Harbors", subject to the author's consent. It was agreed that it should be circulated to the members as appendix 4.

Action: Mr. Braems/Mr. Vergobbi

12. Date and Venue of Next Meeting

It was agreed that in principle the next meeting of CLP would be held on Sunday 14 May 2000 in Marseilles. It was tentatively scheduled for 1400.

The Chairman then thanked the members for their participation and declared the meeting closed.

Visitors



On 18 January, Mr. Ahmad Ibnihajar (center), Executive Chairman, Penang Port Sdn., Bhd., Malaysia, visited the Head Office, where he was welcomed by Secretary General Inoue (left) and Deputy Secretary General Kondoh.

ON 26 January, at a Trade Development Seminar organized by the Hong Kong Economic and Trade Office held in a Tokyo Hotel, the main speaker Mr. S.Y. Tsui, J.P., Director of Marine Department, Hong Kong Special Administrative Region, China, introduced the newly implemented Hong Kong Shipping Register. The Seminar was attended by representatives of Japanese and foreign shipowners, shippers and traders. IAPH was represented by Mr. R. Kondoh.

On 28 January, Mr. Luis Ho, Chief Representative, and Ms. Iris Wong, Director, Hong Kong Trade Development Council Tokyo Office, accompanied by Mr. Hideo Yamada,

Senior Analyst, Japan Maritime Research Institute (JAMRI), visited the Head Office and were received by Dr. Satoshi Inoue, Secretary General, and his deputy R. Kondoh.



From left, Kondoh, Wong, Yamada, Inoue and Ho.

More condolences to Mr. Akiyama's family

FOLLOWING the messages of condolence received via the Tokyo Head Office which appeared in the previous issue, the IAPH Head Office has received additional letters from Mr. Howe Yoon Chong, IAPH Honorary Member and former IAPH President (1975-1977) from Singapore, and Dr. Jose Paul, Chairman, Mormugao Port Trust, India, the 1987 recipient of the "Akiyama Prize", the top prize in the IAPH essay contest. Their letters are introduced here.

Mr. Shigeru Akiyama
C/o IAPH

Dear Mr. Shigeru Akiyama

Through the good offices of Mr. Rinnosuke Kondoh of the IAPH Headquarters in Tokyo, I am sending you this letter of condolence with my apology to you and to members of the Akiyama family for being so late in doing so.

You may not know me, but your late honourable father, Mr. Toru Akiyama, first introduced me to the IAPH when I took charge of the Port of Singapore Authority in 1970. Over the years up till 1979 when I retired from the Port Authority, I met with your father on many occasions in relation with IAPH matters.

Like all his friends we hold your father in great esteem and have the highest respect for your father as a person and for his wisdom and intellect. He was most energetic in promoting the IAPH and its ideas to all the world's ports. Without his hard work, the IAPH would not be the respected organization that it is today.

Your father's passing is therefore an irreplaceable loss to the IAPH and to all the friends he brought together for one common cause – i.e. world friendship and understanding through port co-operation. Fortunately the IAPH has grown in strength and stature over the last twenty years under his wise guidance and advice. He has done his work well and can rest in peace, fully assured that the Association he worked so hard to establish is now a thriving international entity, rendering excellent service and bringing greater understanding among the many ports of the world.

Please accept therefore my sincere condolence on your sad loss. May your family continue to be blessed with his wisdom, intellect and energy to be of public service.

Yours sincerely

HOWE YOON CHONG, Singapore
IAPH President (1975-1977)

Mr. Shigeru Akiyama
c/o International Association of Ports and Harbors

Dear Mr. Akiyama-san,

I learnt the sad news of Mr. Toru Akiyama's passing away on the 3rd of January 2000 at the age of 95, from IAPH.

It was in the year 1983 that IAPH resolved to name the first prize in the IAPH Award Scheme (World Essay Contest) as the "Akiyama Prize" in recognition of the outstanding contribution made by Mr. Akiyama, the second Secretary General of IAPH in moulding and shaping a truly international organization in Japan with ports and harbours all over the world as members. Port organizations throughout the world are proud of his initiative, innovative thinking and far-sightedness as they have today a world body to voice their concerns, their suggestions and ideas in many international organisations engaged in shipping, world trade, maritime safety and environmental protection.

I gratefully recall the proud moments of my receiving the 2nd Akiyama award in the World Essay Competition at the hands of Mr. Akiyama on 27th April 1987 in Seoul in Korea when he was still the President of the IAPH Foundation. But for his vision, financial support and initiative it would not have been possible for IAPH to organise the Essay Contest with unfailing regularity. It has helped immensely port professionals working in developing countries to enhance their professional knowledge in port operations and management leading to an improvement in port performance apart from providing an opportunity to secure international recognition and acceptance for their professional capabilities.

Mr. Akiyama's untiring enthusiasm and undying efforts to give a distinct identity and international character to world ports did succeed. The very existence of IAPH itself is a shining example and an eloquent testimony to what an individual could do in institution building to serve the world port community at large. According to the famous Hindu philosopher of India Swami Vivekananda, "Service to the humanity is the highest form of worship." Mr. Akiyama served the humanity through the world port community and accordingly practised the highest form of worship. May his soul rest in peace.

Yours sincerely,

Dr. Jose Paul, Chairman
Mormugao Port Trust, India



Mr. Howe (extreme right) is pictured with Mr. Akiyama (second from left) when the IAPH Officers paid a courtesy call to the Honorable Minister for Communications Mr. Yong Nyuk Lin (3rd from right), Patron of the 9th IAPH Conference held in Singapore in March 1975.



The photo was taken in 1987 during the 1st Plenary Session of the 15th IAPH Conference held on 27 April 1987 in Seoul, Korea. From left, Dr. Paul, Mr. den Toom (the then IAPH President from Amsterdam) and Mr. Akiyama.

The Fifth Generation of Containerisation: A Mixed Outlook

By Dr. Itsuro Watanabe
CONTAINER SYSTEM TECHNOLOGY
Licensed Consulting Engineer

1. Development of Container Systems

It is argued that the container systems integrating road with sea transport which originated with Malcolm McLean in 1956, have now reached maturity and are in their Fifth Generation, based on my analysis of the progress of the systems from the beginning.

The development of the container systems can be chronologically categorised into five generations as summarised in the attached Table.

The container systems were in their infancy in the First Generation. That generation could be regarded as the age of trial and error for further practical development. Coastal container services by Sea-Land, Matson, Seatrain and Alaska Steamship in the United States, as well as Seatainer Service in Australia started in that generation. Containers of 17, 24, or 35 feet long were introduced into service in accordance with the road regulations in their respective territories, because there was no standard for freight containers at all at that time. Ships to carry containers were generally converted from general cargo ships or oil tankers, and their capacities were up to 800 in terms of TEU. Most of them were provided with gantry cranes on board for container-handling. Semi-containerships



were also adopted - based on the conditions of cargo traffic on the respective trades, of course. In that generation, existing cargo-liner berths were used for container terminals

and container-handling between ships and shores mainly depended on ships' gears. However, the quay-side container cranes of A-frame type were firstly erected at Matson's terminals in Alameda and Honolulu in 1960. Forklift trucks or tractor-trailers were used for container-handling in their yards in the early stages of the First Generation, and then straddle carriers were introduced for that purpose by Matson.

After containerisation was proven as a rational and competitive transport system, several American shipping lines made plans to containerise their international trades. The lift-on/lift-off full container ship 'Fairland' of Sea-Land was first pioneered in an international service across the Atlantic in April of 1966. This was the opening of the Second Generation. Transatlantic services were firstly containerised by traditional American and European shipping lines, and then transpacific services were containerised by Matson in 1967 and by Japanese shipping lines in 1968. Most of the industrialised countries at that time, such as the USA, European countries, Australia, Canada and Japan, entered into the containerised age. The international container services in the Second

Generation were mainly operated across oceans like the Atlantic or the Pacific, with the exception of a service between Europe and Australia, which covered several oceans. Most of these container services were supported by the joint groups or consortia of traditional shipping lines in industrialised countries, because inauguration of container services usually required extremely large amounts of initial investment, which it was nearly impossible for an individual shipping line to bear.

At the skeleton of the world standards ISO for freight containers was fortunately established just before the opening of the Second Generation, containers of ISO size, especially 20 and 40 footers, were mainly used for these international services. Aluminum clad containers were the mainstream in the generation as well as those in the First Generation.

In the early of that generation converted container ships and semi-container ships were the mainstream but purpose-built new container ships of both LO/LO and RO/RO types were gradually put into service. The range of their capacities was 500 to 1,500 TEU. In general, no cargo gears were provided on board. Barge carriers called LASH and Seabee, which carry cargoes in barges or lighters in addition to containers, were developed to integrate the ocean transport with river/intrawaterway transport. In this generation, purpose-built container terminals with quay-side container cranes were constructed at the major ports and harbours in containerised countries. Three container-handling systems in marshaling yards used yard-used tractors for containers on chassis. Meanwhile, straddle carriers or rubber tyred gantry cranes (RTG, hereinafter) for grounded containers began to become the mainstream in major container terminals, although there were a variety of operational systems, including those using forklift trucks or side-fork trucks. Computers began to be utilised to support container-handling operations in the terminals.

Around 1971, long-distance international services covering several oceans, such as Europe/Far East or Europe/US West Coast trades, were containerised one after another. Moreover, containerisation was about to penetrate developing countries in East Asia and the Middle East. It was the dawn of the Third Generation. Shipping lines in these territories such as Evergreen,

Note by the IAPH Head Office on the author

DR. Itsuro Watanabe contributed a paper entitled "Containerization enters the Fourth Generation", which appeared in the June 1985 issue of "Ports and Harbors". He recently completed his analysis of containerization based on the statistics of the 1990s and has contributed a paper, which the author notes is a sequel to his 1985 paper.

Neptune Orient Lines, Malaysian International Shipping Corporation and United Arab Shipping Co. appeared and expanded their services rapidly. In this generation, land-bridge operations combining railways with ocean transport were also organised on trans-Siberian routes and trans-continental services in the United States between the West and Gulf/East coasts.

In the late stage of that generation, 9' or 9'-6" high 40-footers, so-called high-cube containers, were introduced by American shipping lines and they spread over the world by their competitive power and authorised as a size of ISO standards. Steel containers formed a majority of census in the generation. The census of freight containers exceeded four million TEU at the end of the generation in 1983.

There was a clear tendency to increase the capacity of containerships in that generation, and many ships with a capacity of over 2,000 TEU appeared. However, the trend toward high-speed containerships was frustrated by the oil shock in 1973. In order to save fuel-oil consumption, the main engines of large powered steam turbines for high-speed ships began to be replaced with diesel engines at the cost of reducing their speed. The innovation of intermodal transport by barge carriers, such as LASH or Seabee developed in the Second Generation, came to be gradually discarded in the Third Generation, because of restrictions on the operations of lighters or barges in inland seas or rivers of countries other than those in which they were registered due to laws of cabotage. Accordingly, the advantages of using lighters and barges were fewer than expected. Even RO/RO containerships had a tendency to increase the capacity of their portions handled by LO/LO. The total slot capacity for loading, containers for the worldwide fleet or containerships reached about two million TEU at the end of that generation in 1983.

At that time, many public container terminals with quay-side container cranes appeared worldwide in addition to the dedicated container terminals for limited shipping lines or terminal operators in developed countries. Computer systems for supporting container-handling operations became the mainstream in the major terminals, although the actual container-handling was manually operated. Total container port throughput for container ports throughout the world reached about 46 million TEU, handled by nearly 1,000 quay-side container cranes, about 1,500 straddle carriers, about 520 RTGs and about 350

RMGs at the end of the generation in 1983. The Ports of New York, Rotterdam, Kobe and Hong Kong maintained the top positions in the container throughput league throughout the generation.

The Fourth Generation started with the Round The World (RTW) service by 12 Econ ships of United States Lines in 1984. This was immediately followed by Evergreen. China and South America entered the container age in that generation. COSCO and Korean shipping lines such as Hanjin and Hyundai appeared and expanded their services. In addition to the RTW services, the pendulum services connecting Europe, Asia and the

	The First Generation	The Second Generation				
Chronology	Age of domestic and coastal services before 1966	Age of early international services across an ocean since 1966				
Typical Services	Coastal services in the USA and Australia	Transatlantic and transpacific services				
Containerised Territories	USA, Australia	Advanced Countries such as USA, Europe, Japan and Australia				
Remarkable Shipping Lines	Pioneers such as Sea-Land, Matson	Traditional shipping lines in advanced countries Consortia by shipping lines in Europe, such as OCL, ACT, hapag-Lloyd, Nedlloyd				
Containers in Service	Pre-ISO Standard sizes such as 17', 24', 35' long Aluminium clad in mainstream	ISO Standard sizes, but mainly 20' and 40' long Aluminium clad in mainstream Container census : about 0.5 mil. TEU (1970)				
Containerships	Converted geared ships, mainly <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> 'Gateway City' LxBxD in metres 135.6x22x7.7 7,785 DWT with gantry cranes Total 35'-226 Deck 60 (6 rows, 1 tier) Hold 166 (6 rows, 5 tiers) </td> <td style="width: 50%; vertical-align: top;"> 'Hawaiian Citizen' 141.8x21.3x9 10,282 DWT without cranes Total 24'-408 Deck 112 (6r, 2t) Hold 296 (6r, 6t) </td> </tr> </table> Semi-containerships and RO/RO ships also appeared	'Gateway City' LxBxD in metres 135.6x22x7.7 7,785 DWT with gantry cranes Total 35'-226 Deck 60 (6 rows, 1 tier) Hold 166 (6 rows, 5 tiers)	'Hawaiian Citizen' 141.8x21.3x9 10,282 DWT without cranes Total 24'-408 Deck 112 (6r, 2t) Hold 296 (6r, 6t)	Purpose-built ships of 500-1,500 TEU capacity <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> 'America Maru' 175x25x9.5 15,440 DWT Total 716 TEU Deck 228 (8r, 2t) Hold 488 (7r, 6t) </td> <td style="width: 50%; vertical-align: top;"> 'Hakozaki Maru' 212x30x9.5 19,914 DWT Total 1,010 TEU Deck 354 (10r, 2t) Hold 656 (8r, 6t) </td> </tr> </table> LASH Seabee ships appeared Total capacity of ships : abt 200 thou. TEU ('70)	'America Maru' 175x25x9.5 15,440 DWT Total 716 TEU Deck 228 (8r, 2t) Hold 488 (7r, 6t)	'Hakozaki Maru' 212x30x9.5 19,914 DWT Total 1,010 TEU Deck 354 (10r, 2t) Hold 656 (8r, 6t)
'Gateway City' LxBxD in metres 135.6x22x7.7 7,785 DWT with gantry cranes Total 35'-226 Deck 60 (6 rows, 1 tier) Hold 166 (6 rows, 5 tiers)	'Hawaiian Citizen' 141.8x21.3x9 10,282 DWT without cranes Total 24'-408 Deck 112 (6r, 2t) Hold 296 (6r, 6t)					
'America Maru' 175x25x9.5 15,440 DWT Total 716 TEU Deck 228 (8r, 2t) Hold 488 (7r, 6t)	'Hakozaki Maru' 212x30x9.5 19,914 DWT Total 1,010 TEU Deck 354 (10r, 2t) Hold 656 (8r, 6t)					
Container Terminals	Sea-side operation by ships' gear mainly Yard operation by forklifts, straddle carriers and chassis Mainly manual system to support above operations	Sea-side operation by quayside container cranes Yard operation by forklifts, side-forklifts, straddle carriers, RTGs and chassis Adoption of computer system to support above operations				
Container Port Throughput	New York was Mecca of container port.	New York was top of container throughput always				
Quayside Container Cranes	Port : Alameda, Matson Term. Rail gauge (m) : 10.37 Outreach & lift (m) : 27.85, 15.63 H. & tr. speed (m/min) : 30.5, 125 Weight (metric tons) : 350 The first crane was developed by Matson/PACECO in 1960	Kobe, Maya Yokohama, Honmoku D 16 30 33.5 19.5 32, 21 30, 130 36, 160 464 600 Total in 1970 about 150 cranes				
Straddle Carriers	The first SC (1 over 1) of chain drive was developed by Matson/Clark	Type (1 over 1) of chain, shaft and hydraulic drive in mainstream 1 over 2 appeared Total in 1970 abt 250 str. carriers				
Rubber Tyred Gantry Cranes (RTGs)	The RTGs were firstly used in rail yards in the USA.	Type of (1+2) & (1 over 2) was firstly used in ports in New York, Amsterdam and Kobe Total in 1970 abt 40 RTGs				
Rail Mounted Gantry Cranes	The RMGs were firstly used in rail yards in Europe	Most RMGs were used in rail yards. Total in 1970 abt 200 RTGs				
Other Handling Equipment	Large forklift trucks Piggy Packers Yard-use tractors (hostlers) & trailers	top lift trucks Side loaders				
Remarks						

USA, using huge ships which did not depend on the Panama Canal, also started. Thus, the first post-Panamax containerhips were put into service by American President Lines in 1988. The bankruptcy of USL in 1986 due to excessive investment for the RTW service was a notable event symbolising the service competition in container services in that generation. At that time, 45' long containers were introduced into transpacific services by APL. Moreover, this was followed by other American and Asian shipping lines. Of course, 45-footers are not the standard size of containers according to the ISO. Furthermore, con-

tainers of 48' or 53' long, 8'- 6" wide and 9'- 6" high, were standardised for domestic intermodal transport in the USA. Steel containers became the mainstream for types other than refrigerated containers in that generation. The census of freight containers in the services reached 10 million TEU at the end of that generation in 1995.

The age for large containerhips of more than 3,000 TEU capacity, including the post-Panamax type, had come. Furthermore, innovative ships without hatch covers on the top of the respective holds for stacking containers on the double bottoms to a height above the decks

by cell-guides, which are called hatchless ships, appeared, in order to eliminate the troublesome work of lashing by twistlocks for containers on decks of the ordinary type of containerhips. The total slot capacity for loading containers for the worldwide fleet of containerhips reached about 4.4 million TEU at the end of that generation in 1995.

The appearance of automated systems of container handling by automated guided vehicles and automated stacking cranes at ECT in Rotterdam in 1993 was a remarkable event for container terminals in that generation. The container-handling systems at container terminals

The Third Generation	The Fourth Generation	The Fifth Generation
Age of long distance international services through plural oceans since 1971	Age of Round The World service since 1984	Checked age of 'Global Alliance' consortia since 1996
Such services as Europe/East Asia, Europe/US West Coast	Round The World services Progress in North/South services	Pendulum services connecting Europe, East Asia and the USA
Countries in South-East Asia, Middle-East	China and countries in South America	Worldwide
Rise of shipping lines in developing countries such as Evergreen, NOL, MISC	Reorganisation of trunk line services Rise of Chinese and Korea shipping lines Bankruptcy of USL (1986)	Reorganisation of shipping lines, based on Global Alliance Takeover of APL by NOL (1997) Merger of P&OCL/Nedlloyd (1997) and Maersk/Sea-Land (1999)
ISO Standard sizes High cube (9'-6" high) 40-footers appeared. Steel containers increased. Container census : more than 4 mil. TEU (1983)	Deviation from ISO Standard sizes. as 45', 48' long Steel containers in mainstream Container census : nearly 10 mil. TEU (1995)	Rise of high cube 40-footers Decline of 20-footers Steel containers in mainstream Container census : nearly 12 mil. TEU (1998)
Sub-Panamax ships over 2,000 TEU capacity 'Kurobe Maru' 'Frankfurt Express' 258x32.2x10.5 288x32.2x13 32,500 DWT 51,540 DWT Total 1,829 TEU Total 3,045 TEU Deck 850 (12r, 3t) Deck 1,105 (13r, 3t) Hold 979 (9r, 7t) Hold 1,940 (10r, 9t)	Panamax ships over 3,000 TEU capacity ECON' Atlantic' Class 'Sea-Land Lightning' 290x32.2x11.7 292x32.2x13 58,869 DWT 59,840 DWT Total 4,456 TEU Total 4,062 TEU Deck 1992 (13r, 5t) Deck 2,121 (13r, 4t) Hold 2,464 (10r, 8t) Hold 1,941 (10r, 8t)	Post-Panamax ships over 4,000 TEU capacity 'President Adams' 'Sovereign Maersk' 275x39.4x12.5 347x42.8x14.5 54,655 DWT 104,696 DWT Total 4,340 TEU Total 7,060 TEU Deck 2,388 (16r, 5t) Deck 3,344 (17r, 5t) Hold 1,952 (12r, 8t) Hold 3,716 (13r, 9t)
LASH and Seabee ships disappeared Trend to high speed was stagnated by oil-shock in 1973 Total capacity of ships : abt 2 mil. TEU (1983)	Hatch coverless ships appeared. Post-Panamax ships appeared. (1988) Total capacity of ships : abt. 4.4 mil. TEU (1995)	High speed containerhips (Fast ship) appeared. Total capacity of ships : abt 5.9 mil. TEU (1998)
Sea-side operation by quayside container cranes Yard operation by forklifts, straddle carriers. RTGs and chassis Mainly computer system to support above operations	Sea-side operation by quayside container cranes Yard operation by forklifts, straddle carriers. RTGs, RMGs, and chassis Automated system (ECT in Rotterdam) started. (1993)	Sea-side operation by quayside container cranes Yard operation by forklifts, straddle carriers, RTGs, RMGs, OHGs and chassis Development of innovated systems by high technology such as laser, DGPS for operations
About 46 mil. TEU in worldwide container port throughout (1983) New York, Rotterdam, Kobe and Hong Kong in top class for throughput in respective years	About 128 mil. TEU in worldwide container port throughout (1995) Hong Kong, Singapore, Rotterdam, Kaohsiung in top class for throughput in respective years	Hong Kong, Singapore and Kaohsiung in top class for throughput in respective years
Yokohama Honmoku D Brisbane, BATL 30 25.3 36.1, 27 37.3, 29 49, 152 40, 152 640 850 Total in 1983 nearly 1,000 cranes	Rotterdam, ECT Baltimore, Seagirt 35 30.5 50, 30 47.6, 33.5 50, 210 52, 213 1,250 with 2nd tr. & ch. loader with 2nd trolley Total in 1995 nearly 2,000 cranes Post-Panamax cranes appeared in 1984	Kobe, PC 17 Y'hama, Minami-Honm. 30.5 30 50, 34.5 63, 40 70, 210 90, 240 930 Total in 1998 about 2,500 cranes
Type (1 over 2) of chain/shaft drive in mainstream 1 over 3 appeared. Total in 1983 nearly 1,500 st. carriers	Type of electric drive appeared 1 over 3 increased. Total in 1995 abt 2,500 str. carriers	Automated drive is developing Total in 1998 nearly 3,000 st. carriers
Type of (1+6) (1 over 3) in mainstream Hydraulic drive disappeared. Auto steering system was developed. Total in 1983 abt 520 RTGs	Type of (1+6) & (1 over 4) in mainstream Positioning system was developed. Total in 1995 abt 2,200 RTGs	Larger type than (1+6) & (1 over 4) increased. Total in 1998 abt. 3,000 RTGs
RMGs appeared in marine container terminals Total in 1983 abt 350 RTGs	RMGs for automated operation appeared in ECT. Total in 1995 abt 780 RTGs	RMGs in mainstream for automated operations Total in 1998 nearly 800 RTGs
Side lift trucks for empty cont's and RO/RO oper. Reach stackers	Multi-trailer system Automated guided vehicles (AGV)	
Feeder service networks. Land-bridge operations	Swap bodies in Europe	EDI network based on EDIFACT

using straddle carriers and RTGs became the mainstream at those in Europe and East Asia, respectively. Container-handling at container terminals in the USA was carried out by a variety of grounded systems using straddle carriers or RTGs, and of wheeled systems with yard-use tractors.

The post-Panamax type of quay-side container cranes with enough outreach and lift dealing with post-Panamax containerships appeared in 1984. The use of straddle carriers of the one over three type which first appeared in the Third Generation increased gradually. RTGs of the (1+6) and one over four type became the mainstream, although those of one over three lift were the mainstream in the Third Generation.

Total container port throughput for container ports throughout the world reached about 128 million TEU by nearly 2,000 quay-side container cranes, about 2,500 straddle carriers, about 2,200 RTGs and about 780 RMGs at the end of that generation in 1995. The growth of East Asian ports was remarkable in that generation, with the ports of Hong Kong, Singapore and Kaohsiung always comprising the top group in the league of container port throughput. Among ports and harbours other than those in East Asia, only Rotterdam was able to stay ranked in the top class in the league.

2. Perspective on the Fifth Generation

As a result of severe competition among shipping lines putting mammoth ships into their trunk-line services in the late Fourth Generation, extraordinary large amounts of investment were required by the respective lines. The first 'Global Alliance' consortium to cope with the problem was formed by MOL, OOCL, APL and Nedlloyd in 1996. This was the opening of the Fifth Generation, which is an age of global alliance consortia and of takeovers based on the law of the jungle, with mixed prospects. The following shows the major events of takeover/merger among shipping lines:

APL by NOL in 1997
 P & OCL and Nedlloyd in 1997
 Sea-Land by Maersk in 1999

Accordingly, the major trunk-line services in the world are now governed by the following six groups, as a result of alliances and break-ups among the shipping lines:

The New World Alliance consisting

of MOL, NOL/APL and Hyundai
 The Grand Alliance consisting of NYK, Hapag-Lloyd, P & O Nedlloyd and OOCL
 (MISC for Europe/East Asia service only)
 Maersk/Sea-Land
 The United Alliance consisting of Hanjin, Choyang, DSR-Senator and UASC
 K-Line/Yang Ming/COSCO
 Evergreen

The global alliances among the major shipping lines are aimed at:

- 1) spreading the risks from the huge investment in having operations performed by fleets of post-Panamax ships over the respective members of the alliance;
- 2) upgrading the container services with multiple service routes operated by large fleets;
- 3) cost reductions in operations arising from the higher productivity of the integrated container terminals in the respective ports of call, and from information supplied by the integrated networks of computer systems; and
- 4) increasing their ability to expand the market with their respective specialties based on their experience.

Post-Panamax containerships first appeared in the last generation and they expanded continuously to account for a 12.6% share of total slot capacity of containerships throughout the world at the end of 1999. However, the post-Panamax containerships reached real maturity in the Fifth Generation, because post-Panamax ships of over 6,000 TEU capacity first appeared in 1996, the first year of the Fifth Generation, although there were no post-Panamax ships of over 5,000 TEU capacity in the last generation. At the end of 1999, 23 ships among the existing 120 post-Panamax containerships and 31 ships among the 89 post-Panamax ships to be delivered in 2000-2002 are super post-Panamax of over 6,000 TEU capacity.

The background to the rapid deployment of fleets of post-Panamax containerships described above can be analysed as follows:

- 1) Clearly, the transport cost per TEU slot of ships is reduced by the up-sizing of ships in the case of fully loaded conditions.
- 2) The weight of the Panama Canal in sea transport has been greatly reduced by the introduction of DSG

(Double Stack Trains) into the railway landbridge in North America.

- 3) A considerable expansion of sea trade was expected due to the high economic growth in East Asia and the buoyant economy in the USA from the late '80s to the '90s.
- 4) The facilities for accommodating post-Panamax containerships, including quay-side cranes in major ports and harbours on the trunk lines, were rapidly provided.
- 5) It was possible to diversify the risk from the huge initial investment in building a fleet of post-Panamax ships through the global alliance of shipping lines.
- 6) The design of Panamax containerships, where the breadth against the length was limited by the restrictions of the Panama Canal, which was built to cope with the passage of large battleships as the first priority, has been completely improved upon in the post-Panamax ships, which are not affected by such restrictions.

On the decks of Panamax ships, containers are stacked in 13 rows abreast; however, 15 - 17 rows of containers abreast are accommodated on the decks of post-Panamax ships. For the time being, there are no post-Panamax ships including those on order to stack containers on the deck in 18 or more rows, which requires the breadth of the ships to be about 45m or more, although there are many quay-side cranes with enough outreach to handle containers in 18 or more rows on decks in major ports and harbours.

Two special features are evident in the recent design of post-Panamax containerships. One is the large stowing capacity for refrigerated containers. Many ships have a capacity for 700 or more refrigerated containers. It should be noted that this capacity for refrigerated cargoes by containers is much larger than the whole capacity of a traditional reefer cargo ship. The other is the trend to increase the speed to 26 knots. This may be indispensable for keeping their voyages on schedule even in cases when added container handling hours are sometimes required for the increased volume of containers at the respective ports of call.

In 1988, the total slot capacity for containers transport for the worldwide fleet of containerships reached about 5.9 million TEU. The plan for a FASTSHIP with a 1,360-container capacity and a speed of 40-plus knots for transatlantic trade should be carefully watched.

In mid-1998, the census of freight containers reached 11.7 million TEU, which consisted of 4.5 million TEU 20-footers, 7 million TEU 40-footers and 0.2 million TEU containers of sizes other than 20 and 40 feet. Attention is drawn to the fact that the percentage of 20-footers declined to 38.3% and of 40-footers greatly rose to 59.8% in TEU. The growth of high-cube (9'-6" high) 40-footers which occupy 16.21% of the total was also especially noticeable.

In the field of automated container terminals, only Pasir Pajang Terminal in Singapore followed ECT, for the time being. Pasir Pajang Terminal is a long plan with four phases over 30 years, and Phase 1 with eight berths of 2,730m and 129ha area opened in 1998. Phase 2, consisting of 18 berths, will be completed in 2009. The whole plan will be for 50 berths with a total length of 17,000m. In Phase 1, partially automated post-Panamax cranes for shipside operations and fully automated (no drivers in their cabs) rail-mounted and overhead cranes for yard operations are provided. However, automated guided vehicles are not in use for the time being, but are in the experimental stage. Instead, ordinary yard-use tractors/trailers are used to shift containers in the yard.

On the other hand, many innovative systems applying high technologies such as laser, radar, DGSP and OCR have been adopted for container-handling operations, including the identification and position detection of containers for the automatic driving and steering of handling equipment in the yards and for the gate operations in Europe, the USA and East Asia.

Total port throughput of containers in the world reached about 180 million TEU by nearly 2,500 quay-side container cranes, about 3,000 straddle carriers, about 3,000 RTGs and about 800 RMGs in 1998. Rotterdam and the East Asian ports of Hong Kong, Singapore and Kaohsiung have continued to comprise the top group in the league of port container throughput. As the networks of container services combining the trunk lines with feeder lines have been efficiently organised by the major shipping lines since the last generation, only the ports ranked as the hub-centres which are key points for transshipping containers have been able to keep their top ranking in the leagues of port container throughput.

EDI networks based on EDIFACT by the United Nations began to be established in order to integrate all the information with the actual dealing of trades and procedures for shipment and opera-

tions at terminals.

Lastly, taking into consideration the severe competition among shipping lines by huge ships in the late Fourth Generation, a perspective on the Fifth Generation follows:

Firstly, containerships will surely maintain the trend to upsize their capacity for major trunk-line services in order to reduce transport costs per container by mass-transport. The philosophy behind the upsizing of containerships is analysed as follows.

Although the capacity (Ap in TEU) and the estimated total transport cost (Cp) for an upsized ship under the plan are respectively larger than those (Ao and Co) of an existing ship, the total transport cost per TEU (Cp/Ap) for the upsized ships is clearly smaller than that (Co/Ao) of the existing ship. However, this result is usually acknowledged only when both ships in fully loaded condition are compared.

Therefore, the marginal quantity of containers on the upsized ship (A') which makes the cost per TEU for the upsized ship equal to that for the existing ship is obtained from the equation $Co/Ao = Cp/A'$, that is $A' = CpAo/Co$. In conclusion, the upsized ship is able to compete with the existing ship in transport cost by collecting only A' containers and not Ap containers.

According to the trial calculation in 'Post-Panamax Containerships - 6,000 TEU and Beyond' by Drewry Shipping Consultants, the annual costs for ships of 6,000 TEU and 4,000 TEU respectively are estimated as \$9,890,000 and \$8,350,000. In this case, the marginal quantity of containers on the upsized ship (A') is calculated as only 4,736 TEU. The new upsized 6,000 TEU ships are analysed as being easily able to compete with the existing 4,000 TEU ships because only 4,736 TEU containers (A') and not 6,000 TEU are required to keep the advantage in transport costs. This is the philosophy behind the endless trend to upsize containerships by shipping lines.

The biggest restriction against ship upsizing in future will be the huge investments involved by the large-scale civil engineering required, including the deep dredging of ports and harbours due to the upsized length and draft of ships. The reduction in transport costs by the upsized ships will be unable to compensate for the increased port charges incurred by these huge investments for ports and harbours.

Secondly, returning to the original principle of container services, as clearly indicated in 'The Key to Low Cost

Transport' by McKinley, the trunk-line services by large ships based on the theory of hub and spokes will surely be selective regarding their ports of call, which should be supported by well-organised networks of feeder services to the utmost limit. The selection of ports of call on the trunk-line services will surely invite very severe competition among ports and harbours in the vicinity. In order to survive in the struggle for existence, every container terminal will have to do its best to provide efficient, punctual and cost-effective container-handling. Finally, the severe competition may lead to automated container-handling systems for terminals, workforce reductions, fool-proof operations and productivity upgrading.

Lastly, most countries in the world will be containerised in this generation, and the age of real global containerisation will be with us. However, new and severe competition, including coexistence and conflicts between existing container operators as carriers and NVOCCs as forwarders, may occur. And the three-dimensional intermodal transport system integrating surface with air transport may be finally realised.

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1999-2000

WORLD PORT NEWS

INTERTANKO Seminar on FPSO Liability Issue

A well-attended INTERTANKO seminar on FPSO liability issues was arranged at the Baltic Exchange in London on Friday, January 28, 2000. A good cross-section of industry interests, including both FPSO operators and industry associations, were present and contributed to the discussions.

INTERTANKO's Capt. Bob Bishop gave a brief introduction to the work of INTERTANKO's shuttle tanker committee and its participation in inter-industry efforts to promote safety guidelines for shuttle tanker operations.

Dr John Campbell, International Association of Oil and Gas Producers, gave an overview of current FPSO operations world wide and explained the various forms of floating production and storage units in operation. His presentation provided a very good foundation for the discussions having given an introduction to the nature of the world of FPSO operations.

Mr. Rupert Mosley, SBM Production Contractors Inc., outlined the major liability issues FPSO operators face, both in terms of contractual liabilities and liabilities imposed by national and international laws. He expressed concern that the recent discussions in the IOPC Fund Assembly had revealed potential problems in relation to the CLC and Fund Conventions' applicability to FPSOs and encouraged the industry to undertake efforts to achieve further clarity with regard to this issue. Mr Mosley's presentation pinpointed the concerns existing among FPSO operators, which had led INTERTANKO to arrange the seminar.

Mr Colin De la Rue, Ince Co., spoke about the CLC and Fund Conventions and their applicability to FPSO operations. In his legal analysis of the convention texts he pointed to a few problematic areas in relation to the conventions' application to FPSOs which had been covered in discussions in the IOPC Fund. He also indicated additional liability issues which perhaps should be addressed and particularly pointed to liability which FPSO operators assumed by contract and liability exposures in

areas where no national or international law provide for the right to limit liability. Mr De la Rue also highlighted a few potential initiatives which could be considered by industry when approaching this issue.

Mr Roger Sigal of the Offshore Pollution Association Ltd. (OPAL) introduced OPAL and the way it provides cover for pollution resulting from offshore operations.

A lively and constructive discussion, which provided good input for compiling an action plan on liability issues for FPSOs, followed the presentations. INTERTANKO will in co-operation with individual FPSO operators examine the possibility for giving further constructive input to the IOPC Fund. The possibility of extending the scope or geographical coverage of existing industry schemes and the establishment of new voluntary schemes which were mentioned will also be discussed and perhaps pursued in co-operation with other industry groups.

We are grateful to the individual FPSO operators and the associations that were present for their support. From INTERTANKO, Dagfinn Lunde, Svein Ringbakken and Bob Bishop were present. Please direct any questions or comments to Svein Ringbakken <mailto:svein.ringbakken@intertanko.com>

High Demolition Continues This Year

CONTINUED high demolition activity throughout this year," says P.F. Bassoe Shipbrokers, who asks whether the improvement in rates end-January, "is a short-lived party for the owners."

Bassoe sees a possible change of mentality among owners of VLCCs built in the mid-70s. Adverse market conditions, combined with prohibitive bunker prices, have stimulated demolition activity. The abundance of tonnage has resulted in charterers not preferring HBL tankers.

Bassoe says that the "ERIK" pollution incident off the French coast has further highlighted the oil companies' inherent public relations risk in connec-

tion with the chartering of old tankers. The French government has put pressure on French oil companies to employ tankers of 15 years of age and below, with national flag only. The request to only charter national flag vessels seems to be unachievable given the traditional corporate structure of international shipping. But an age limitation is in line with the stricter chartering requirements now being introduced by other oil majors. Exxon Mobil has now introduced an "SBT rule" as a very strong preference when chartering tankers. If applied rigorously, the rule will cut out large numbers of 70s-built tonnage. BP Amoco has already introduced a new rule for vessels without a CAP rating: For tankers up to 100,000 dwt an age limitation of 25 years applied.

For vessels in excess of 100,000 dwt a 20 years' limitation applies. This rule is excluding a large part of the old Suezmax fleet, but is leaving older Aframax. The rule, however, also applies to vessels loading or discharging at BP Amoco terminals, irrespective of the charterers involved. KPC is firming up its requirement for a maximum vessel age of 20 years for loading in Kuwait, irrespective of CAP class or not. Bassoe questions, however, whether age alone is a relevant measure of quality. They say that early 90s-built tonnage is approaching 10 years of age, and was in many instances built according to an inferior specification, compared to 70s-built units, but oil company scrutiny of older tankers will increase further. From a trading point of view, size, speed and consumption are becoming more important than ever.

It will be increasingly difficult to find employment for old VLCCs irrespective of prevailing rate levels. Bassoe, therefore, foresees continued high demolition activity this year.

Looking at the balance between new deliveries this year and the age profile, the following figures spring to mind. There are 38 scheduled VLCC deliveries and the number of vessels 25 years or above will reach 74 within this year. Assuming an average scrapping age of 25 years, it is evident that the VLCC market is not over-contracted, especially in the medium term. Even if demolition does not reach this level, Bassoe

INTERNATIONAL MARITIME INFORMATION

believes it will continue at a level sufficient to improve the market balance in favor of the owners. As rates increase, owners' propensity to hold on to their vessels will increase as well. Bassoe does not doubt that a strong improvement in rate levels will induce oil companies to change their policy with regard

to HBL acceptance. But the bottom line is that the decision to scrap old VLCCs is likely to become less dependent on prevailing charter rates, as outside pressure to enforce stricter age restrictions increases.

Taking into account an expected increase in VLCC demand, on the back

of increased US and Asian oil consumption, as well as a gradual relaxation of OPEC quotas, Bassoe concludes that this month's positive rate adjustment is a pre-warning of a gradual market strengthening throughout this year.

Source: P.F. Bassoe Shipbrokers (Oslo) via INTERTANKO

36th International Seminar on Port Management, IHE Delft

May 2 - June 9, 2000

Week 1

Monday, May 1	Registration
Tuesday - Wednesday, May 2 - 3	Lectures on port management
Thursday, May 4	Lectures on containerization aspects & container terminals
Friday, May 5	Free day (liberation day)

Week 2

Monday - Tuesday, May 8 - 9	Workshop Europort management simulation
Wednesday, May 10	Lectures on developments in port planning and design, and port pavements
Thursday - Friday, May 11 - 12	Observation period in Port of Amsterdam including lectures on decision-making in real estate, port tours, visits to various terminals (VCK multipurpose terminal, all-weather Waterland terminal, ultramodern container terminal, operated by Ceres Container Inc.), African harbours under construction, Passenger Terminal Amsterdam (PTA) for cruise ships, Amsterdam West Point Transit terminals, Seaport Ijmuiden, Wijsmuller harbour towage, Ijmuiden marina.
Saturday morning, May 13	Lectures on port reform and port strategy

Week 3

Monday - Wednesday, May 15 - 17	Lectures on port logistics, port marketing, maintenance dredging, aids to navigation, visit to ICCHA exhibition in Rotterdam
Thursday, May 18	Port of Flushing
Friday, May 19	Port of Antwerp

Week 4

Monday, May 22	Study tours of inland container terminals & Port of Duisburg (inland port)
Tuesday, May 23	Port of Bremerhaven
Wednesday, May 24	Port of Hamburg
Thursday, May 25	Port of Lübeck
Friday, May 26	Port of Kiel & Kiel Canal (North - Eastsea Canal)

Week 5

Monday, May 29	Lectures on port tariffs, hinterland connections, bulk handling, participants' statements
Tuesday - Wednesday, May 30 - 31	Observation period in Port of Rotterdam/Europort, including boattour, visit to ship simulator, bulkterminal (EMO), etc.
Thursday, June 1	Free day (ascension day)
Friday, June 2	Visit to the Rotterdam Port and Transport College/IMTA, ECT-Delta container terminal and Slufter disposal area.

Week 6

Monday - Wednesday, June 5 - 7	Workshop resource control management; participants' statements, visit to Damen Shipyards
Thursday, June 8	Seminar on port privatization
Friday, June 9	Lectures on vessel traffic management (VTM) systems, visit to STENA-Line terminal at Hook of Holland and RISC safety training centre; closing & farewell dinner

THE 6-week port seminar has been organized annually since 1964 in close cooperation with the Amsterdam Port Authority and the Municipal Port Management of Rotterdam. More than 1,000 participants from no less than 100 countries attended these seminars. The formula of a good mix of port visits, lectures and workshops attracted many port directors, senior staff members of port organizations, terminal managers, etc.

The objective of the seminar is to familiarize participants with 'state-of-the-art' know-how and experience of modern port management and operations. Emphasis is placed on topics such as port reform processes, including privatization, port strategy, aspects of containers, etc. The various visits to ports and terminals do make the programme very attractive and show the application of port management principles. New developments in the ports of Rotterdam, Amsterdam, Flushing and Antwerp will be discussed. A highlight of the seminar is the study tour of Germany (ports of Duisburg, Bremen, Hamburg, Lübeck and Kiel).

The theoretical part, which is given at IHE - Delft, consists of lectures, workshops and 'participants' statements.' The workshops will provide the participants with 'hands-on' experience.

The 'participants' statements' are proof to be a good platform to discuss the various home situations. Interactive participation is the key word.

Participants will gain the necessary knowledge and skills required for the efficient management of a port, thus enabling them to develop and evaluate port policies with a thorough understanding of a port's importance to the national economy and international trade.

The seminar on port management is offered this year as an integral module of the curriculum to the participants of the International Masters Programme in Port Engineering & Development (October 1999 - September 2000) as well.

The fee for the seminar is Dfl.6,000

(± euro 2,800). This fee includes tuition fee, travel costs during all visits and lodging during the study tour outside the Netherlands.

Accommodation at the IHE-hostel, if available, will cost another Dfl.2,000 (± euro 930). Hotel accommodation in Delf for a three star hotel costs about Dfl.140 per night.

Scholarships of the Netherlands Fellowship Programme (NFP) are available for nationals of developing countries (maximum age 45).

International Institute for Infrastructural, Hydraulic and Environmental Engineering

IHE, the International Institute for Infrastructural, Hydraulic and Environmental Engineering, established in 1957 by the famous Delft university of Technology, amongst other, offers international postgraduate education in the field of engineering, principally to developing countries. Today IHE belongs to the major international edu-

cation institutes in the Netherlands and enjoys a worldwide reputation for its achievements in postgraduate training in hydraulic and environmental engineering. IHE is located in the centre of Delft, an internationally-renowned centre of excellence in engineering.

The Municipal Port Management of Rotterdam is in charge of the largest port of the world (since 1962) with throughputs of more than 300 million tons annually.

The Amsterdam Port Authority/North Sea Canal Area handles over 55 million tonnes of seaborne goods annually (6th port in Europe). Both ports are landlord ports; their terminals are run by private enterprises.

Address for further information and application forms:

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E-mail: ihe@ihe.nl
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Assistance is also available with visas, onward travel, on-site flight reconfirmations and travel insurance.

TOC 2000 in Rotterdam, May 16-18

PLUS! The 5th Fruit Handling & Logistics Conference!

Speakers include:

- **Kavin Bragg**, president, PACIFIC FRUIT COMPANY, Belgium
- **Tony Baldock**, development manager, TESCO, UK
- **Johan Claes**, commercial director, fruit and food division, SEA-INVEST, Belgium
- **Tony Fissette**, managing director, ENZA FRUIT NEW ZEALAND (Continent) NV, Belgium
- **Michel Jansen**, president and managing director, CITRONAS BV and president, CIMO, Belgium
- **Guy Mason**, supply chain information services manager, CHEP, UK
- **Rob Meredith**, operations director, CAPESPAN, UK
- **John Rowland**, senior vice president, LAURITZEN REEFERS, Denmark

As in previous years, TOC will also include a special fruit handling and logistics track. Understanding the logistical processes that can 'make or break' the fresh produce chain is vital for specialist reefer operators, terminal, warehouse and packaging service providers. Meeting the stringent criteria for low

cost and high quality distribution will be the central theme of the 5th Fruit Handling and Logistics Conference which forms part of TOC but can be attended separately.

The key issues TOC will address include:

- Shipping and port policies
- E-commerce
- Regional port investment strategies in Europe and Latin America
- Global port management
- Terminal efficiency
- How to compare and evaluate IT systems in terminals
- Operational experience
- Technical expertise
- The potential for innovation

Hear more about it at TOC 2000 in Rotterdam!

Conference fee for TOC 2000 individual delegates is:

	Delegate Fee	Delegate fee +VAT (17.5%)
All tracks	£795.00	£934.13
Track 1		
Shipping & Port Management	£495.00	£581.63
Track 2		
Terminal Management & Operations	£495.00	£581.63
Track 3		
Fruit Handling & Logistics	£495.00	£581.63

Dredging in the 20th Century

(The article reproduced from "WORLD DREDGING Mining & Construction, January 2000" by "Mort Richardson, Publisher.")

Introduction

Relying on the advice of leading members of the dredging industry combined with data in our own library of Dredging Projects and Technology, we have selected 10 major accomplishments in each of two categories:

Dredging Projects & Dredge Technology

We considered the historical development of dredging during the 2nd Millennium but the primary improvements did not appear to begin until the 1800s. The replacement of man and horse-drawn dredges by bag and bucket ladder dredges with steam engine power in the early 1800s, was the dawn

of mechanized dredging.

References are provided wherever available for substantiation of total quantities of volume and technical developments plus other particulars relating to a project's qualifications.

In selecting the top 10 dredging projects of the 1900s, we decided upon using the criterion of total volume dredged.

In some cases this required a linkage of projects that were conducted to complete a major goal of dredging and reclamation for a particular project or geographical area.

However, we made an exception not to include Maintenance Dredging, or, Dredge Mining. This was necessary since both are continuing programs in specific areas.

The next differentiation producing some questions involved the construction aspect of major dredging projects. This included bridges, tunnels, locks and dams as a part of a dredging project that need to be considered in weighing its importance.

We have sought a listing of candidates for the most significant developments in Dredge Technology. Some are so prominent as to leave little room for controversy but others may overlap.

Major 20th Century Dredging Projects

1. Industrial Land Reclamation in Japan

1952-1980: 1.8 billion m³ (2.36 billion yd³) by dredging and reclaiming over 80,000 ac. of new land for industrial development within Tokyo Bay. A program initiated by the government after WWII established an incentive basis for companies providing the dredging with cost sharing from the sale of the land. Reclamation of coastal land by dredging actually began in the early 1900s to a lesser degree, with the acquisition of steam-powered dredges.¹

2. Panama Canal

1905-1970: 376 million m³ (493 million yd³); 1905-14, 266 million m³ (348 million yd³); 1915-70, 110 million m³ (145 million yd³).

Dredging including the original canal and subsequent expansion. The sale of the Panama Canal project by the French to the U.S. in 1905, includes six bucket ladder (BL) dredges that were built in France and one from Scotland. The latter was the largest BL dredge in history using buckets of 54 ft².²

3. Suez Canal Expansion, Egypt

1970-70s: 559 million m³ (732 million yd³), widening and deepening of the

canal to accommodate the new super tankers being planned and built.³

4. Port of Antwerp, Belgium

Post WWII: 500 million m³ (655 million yd³). Dredged for reconstruction and to deepen, widen and expand industrial land for development.⁴

5. Port of Rotterdam, The Netherlands

1948-71: 453 million m³ (593 million yd³). Reconstruction after WWII plus expansion to accommodate larger vessels.⁵

6. Jubail, Saudi Arabia

1970-s-80s: 336 million m³ (440 million yd³), dredging to produce reclamation of new industrial complex and port.⁶

7. Jurong, Singapore

1990s: 332 million m³ (435 million yd³). Dredging and reclamation of new land continuing into year 2000.⁴

8. Hong Kong Airport, China

1990s: 238 million m³ (312 million yd³). Dredging and reclamation of new land for a major airport.

The project was completed with dredges from participating companies in Japan, China, Hong Kong, Russia, UK, USA, Italy, the Netherlands and Belgium. At its peak 16 of the 18 largest trailing suction hopper (TH) dredges plus several medium-sized and smaller TH dredges were employed.^{7,20}

Installed on hopper (TH) dredge *Amsterdam III* in 1960. Retrofits on many CS dredges in Europe in the 1960s; followed in the 1970s in the U.S.¹¹

5. DGPS Satellite Guidance & Reference System

Developed jointly by the U.S. Army and Navy in the late 1960s to early 1970s. Initiated to develop programs for timing and space-based navigation. The Differential Global Positioning System (DGPS) is the first and only global, three-dimensional radio navigation system providing continuous operational service today.

The US Air Force currently finances and operates the basic system of over 24 satellites and associated ground monitoring stations. This service is provided for the benefit of users in countries around the world as well as for the US government; essentially without charge. The dredging industry and its customers have gained immeasurably by improving accuracy in all aspects relating to dredging and reclamation.¹³

6. Portable Dredge (CS/A)

In 1971 the *Mudcat* was designed in Florida, an auger suction dredge (CS/A) for inland ponds and small canals. Over 500 have been sold and other manufacturers of small dredges emerged. First invented to dredge the hyacinth plants that were choking the small canals in Florida, they are now widely used for canals, ponds and lakes for environmental cleanup.^{9,15}

7. Automation of Hydraulic Dredges

The process of automating cutter suction (CS) and hopper (TH) dredges began in the 1970s and was reported on by two different engineers in the first WODCON conference; one from a builder's point of view and the other from the COE. Further progress in this area has shown the decided advantages of dredge automation using electronic and computer developments including GPS.^{16,17}

8. Dredged Material Research Program (DMRP)

Research program initiated by the COE at the Waterways Experiment Station (WES), Vicksburg, MS in 1973. Initially funded at US\$35M, by its end in 1990 had reached a total of US\$100M.

Contracts were awarded to over 100 private and academic institutions to conduct research and experimentation in Beneficial Uses of Dredged Materials and environmental effects of dredging.¹⁸

9. Bucket wheel Suction (BWS) Dredge

An adaptation of the giant surface mining systems used for coal and iron ore mining, dredge builders such as Ellicott Int'l, IHC Holland and O&K began producing them. Applications most successful were in mineral mining such as rutile, cassiterite (tin), and mineral sands.¹⁵

10. Water Jet Technologies for Dragheads

Water jet systems applied to dragheads include some of the following applications. *Jetflowhead* was developed to improve efficiency in pipeline landfall and offshore trenching.

Jetplough was a development of sweep-beam technology with a large number of water jets placed along the cutting edge. Creates a "sliding surface" reducing the effort required to pull the material away.

Designed as a bed-leveling device. The power and precision with which it can be deployed ensures an accurate surface level within very small tolerances.

Dracula is a system (Dredging Assisted Cutting by Liquid Action),

based on high pressure jetting that allows hopper suction to work more effectively in stiff soils. Using high pressure up to 400 Bar, it has shown its effectiveness involving stiff soils such as cemented sand, hard or compacted, in addition to stiff clays.¹⁹

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New Publications

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Foreword

Welcome to the 18th edition of Lloyd's Ports of the World to be published by LLP Limited.

The directory remains the most comprehensive single source of port information available, listing ports and their facilities alphabetically by continent and country name, complemented by a comprehensive index towards the back of the book.

We wish to extend a very big thanks to all the port authorities around the world who took the time and trouble to return our questionnaire, and to the network of Lloyd's agents whose names and contact listing appear at the end of each listing. They have helped us continue our policy of expansion, including new port data, updating current entries and providing additional information on key locations. This comprehensive

coverage has been a continuous feature of Ports of the World and has seen more and more services included in each preceding issue. This year has seen a record number of additions to entries.

The International Harbour Masters' Association and the International Association of Ports and Harbours, organisations which are pleased to be associated with LLP, have continued to support the Lloyd's Ports of the World. We have again included their review of world port developments and comments.

This year, we have included for the first time in the 65-page atlas section, major roads, railways and airports.

We are continuously seeking to improve the accuracy of Ports of the World so if you wish to update your entry or provide latest intelligence on world port development, please do not hesitate to contact me.

Kim Marks
Managing Editor

Middle East Container Ports and Shipping

New competition, old choices: Re-defining the market from Suez to the Subcontinent

THE dynamics of the Middle East container market is being re-defined in developments which have repercussions from Suez to the Subcontinent. Aden and Salalah have, not surprisingly, been stealing the headlines as they meet challenges from the established UAE hubs such as Dubai, Khor Fakkan and Fujairah, but a whole lot more is happening.

Growth Prospects

Drewry's new report on the Middle East container port market indicates that container traffic handled in the ports of the Mid-East Gulf and Red Sea regions totalled an estimated 7.0 million teu in 1998. This included empty containers and transshipment traffic and compares with a total throughput in 1990 of only 2.9 million teu. Looking ahead, container port traffic levels are forecast to reach 16.1 million teu by 2015, of which just over half is expected to be transshipment activity. The rise in oil prices will underpin resilient local demand, too.

Underlying this is the fact that new opportunities for investment and private sector involvement in ports are

opening up as the region embraces global trends. Meanwhile the Indian Subcontinent, the biggest single focus of population in the region and a traditional feeder market, is being affected by port developments in India which are enhancing the attractiveness of direct services. Elsewhere, Iran and Iraq remain well placed to act as gateways to Central Asia (as well as being great economic imponderables in themselves), and their massive potential on both fronts is just beginning to manifest itself.

The development of Aden and Salalah is largely responsible for the projected increase in regional container port capacity of almost 50% by 2003. However, despite the substantial additional capacity being brought to the market, this will need to be supplemented further in the long run as Table shows. Depending on the average level of utilisation in the region, between 3.6 and 10.3 million teu of extra capacity will be needed in the period 2004-2015. Average container port utilisation levels in the region are estimated to be around 62% at the current time, although within this transshipment capacity is more heavily utilised.

New Threats, Old Guard

Drewry's report looks in detail at the relative merits of the existing hub ports versus the new threats posed by Salalah and Aden. Whilst the report indicates that the new ports will have an impact on the market all the way from Jeddah in the west to Colombo in the east, the Drewry analysis clearly shows that no one port is best positioned to serve all markets.

A key observation demonstrated by the Drewry costing exercise is that the substantial amount of cargo for the region destined for or originating in Dubai has a strong bearing in terms of the economics of the alternatives. Whilst Salalah and Aden clearly have very significant attractions, in particular due to their locations, Dubai certainly has not lost all of its advantages. The indications of Dubai's remaining competitive strength are borne out by analysing Dubai's reported throughput figures for 1999 which suggest that volumes have been maintained since 1998. Aden and Salalah have effectively absorbed the growth in traffic which might otherwise have been expected, as well as generating completely new port activity within the region. Clearly it is early days in terms of the influence of Salalah and Aden, but the effects so far have certainly not been as catastrophic

Projected Middle East container port capacity to 2015

	Estimated Container Port Capacity (Million teu p.a.)	Projected Capacity Increase (%)
Estimated 1998 total	11.2	
Projected additions by 2003	5.3	47.3%
Sub-total	16.5	
Required additions 2004-2015:		
At 80% utilisation *	3.6	21.8%
At 80% utilisation *	6.5	39.4%
At 80% utilisation *	10.3	62.4%

* Across the region, on average.

Source: Drewry Shipping Consultants Ltd.

for Dubai as some observers forewarned. In addition, the Dubai Port Authority's investment in Jeddah can be seen as a means of protecting its market share and spreading risk.

The Transshipment Dilemma

The strongest selling point of the new developments is that they offer savings in sailing time for mainline vessels due to their geographic locations. However such savings appeal mainly to "passing" east-west carriers that currently include the Mid-East Gulf as part of their Europe/Far East linehaul schedules. The report's analysis of the economics of transshipment indicates that benefits to dedicated end-to-end Gulf services are less significant, primarily due to the additional cost of feeder from Aden/Salalah which would be incurred. This is especially true for carriers with a large market share and suggests that direct calls will continue to be a competitive alternative to the new transshipment options.

However, what is also clear is that Salalah in particular has generated entirely new transshipment business in the Middle East, both through the relocation of traffic from Colombo and by Maersk Sealand linking together overlapping deep-sea services as it integrates Salalah into the global network. The creation of Salalah has made possible certain transshipment practices which were not feasible before.

"Middle East Container Ports and Shipping: New Competition, Old Choices: Re-defining the Market from Suez to the Subcontinent", 154pp, is published by Drewry Shipping Consultants Ltd. Individual copies of the report are priced at UK£450 post-paid to anywhere in the world. For further information regarding **"Middle East Container Ports and Shipping"** New Competition, Old Choices: Re-defining the Market from Suez to the Subcontinent, or any enquiries regarding the report, please contact Paula Puszet at the address below.

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Port Organisation & Management

in Developing Countries

Publication International Maritime Transport Academy (IMTA) - Rotterdam

Editor's foreword

Since 1983 the International Maritime Transport Academy (IMTA) in Den Helder (The Netherlands)* has conducted a course in shipping and port organisation, mainly for selected young staff members from developing countries. In that period every year some 15 young men and women from Africa, Asia, Latin America, the Caribbean, etc. met each other and lived together for ± 10 months in a small provincial town on the cold and not very hospital North Sea. They joined and exchanged experiences from their own culture, they tried to make comparisons from their different port and work situation backgrounds and they struggled with the gaps between the theories, technology and practices in the Western industrialised port systems and their own home situation. Last but not least they had among themselves and towards their teachers to come to grips with cultural differences and language obstacles. At the end of their course they were asked to write a script on a subject related to their own country out of the different subjects treated in the course.

The material, on which this publica-

tion has been based, is taken from the ± 40 scripts on the subjects of port organisation and management. These scripts for the greater part have no scientific or academic aspirations though a number of them served to obtain an MBA degree at the technical university of Delft. They represent the impact and reactions of mainly young middle-management staff members from less developed regions and countries, on the confrontation with external ideas.

So, the objective of this publication is to provide to other students and young managers in this field some of the results and scriptures of their fellow-students and managers - to broaden their frame of reference and comparison and to stir the confidence and self-esteem of a generation of new port managers. A generation with a double task to develop a sufficient knowledge and insight into the facilities and problems of modern port organisation and management on one hand, and the transfer of these potentialities into their own situations which may be different as to the cultural, economic and technological aspects. I have tried to preserve as much as possible the original contributions of the authors of the basic material. Hence the content of this publication is mainly based on the material of the scripts used. However, to present a somewhat more complete and up-to-date picture of the developments, I have inserted some other material. Having been a team member of upgrading projects in a number of the ports here described, I have also used some of that material. Some material dates from the initial upgrading period from the 1970s and 1980s (Nedeco/Imecon projects), as well as from my participation in projects from the 1990s. During the period 1992-1995 in collaboration with the consultancy firm Dynamar in Alkmaar (The Netherlands) and the consulting group APC (Amsterdam Port Consultants), I was invited to participate in some consulting activities in Russia and the Baltics. This enabled me to make some comparisons between the historical and current developments and their organisational impact in these countries and the IMTA case studies.

Dr. H. Coltof

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The Americas

Record cargo volumes at Fraser Port

NEW Westminster, February 17, 2000 – Shipments through Fraser Port in 1999 reached a record 25,606,428 tonnes, compared to the 1998 total of 23,811,475 tonnes. Volumes include a 28% increase in container shipments which totaled 31,921 TEUs.

Ship arrivals increased to 564 from 529 due in part to the added regular weekly service by Matson.

Pulp, automobiles and steel continued to be a significant part of the international shipments which totaled 2,199,408 tonnes. Domestic traffic volumes climbed to 23,407,020 tonnes from 21,445,271 in 1998.

Fraser Port is administered by the

International Cargo Five Year Summary

Fraser Port International Export Cargo (Tonnes)

	1995	1996	1997	1998	1999
Autos	2,194	1,022	392	906	1,641
Bulk (NOS)	0	0	33,000	0	15,000
Cement	121,315	93,993	128,978	49,355	78,252
Chemicals	31,817	10,260	12,220	23,923	14,200
Gen. cargo	94,776	69,253	123,040	91,627	102,937
Heavy equipment	3,282	3,787	825	2,078	2,414
Lumber	900,125	572,377	696,183	554,365	408,657
Metal (non-ferr.)	7,610	1,794	1,250	36	201
Others	8,906	26,067	500	21,680	61,668
Paper	42,156	36,018	89,875	114,685	91,421
Pulp	393,017	460,388	293,209	293,868	331,209
Steel	902	53,985	105,986	96,933	9,220
Wood products	87,987	42,687	63,161	38,485	15,290
Total Export	1,694,087	1,371,631	1,548,619	1,287,941	1,132,110

Fraser Port International Import Cargo (Tonnes)

	1995	1996	1997	1998	1999
Autos	164,708	198,890	258,828	259,360	296,579
Gen. cargo	94,040	49,094	133,785	137,312	92,799
Heavy equipment	1,533	10,786	3,491	9,152	10,261
Metal (non-ferr.)	10,768	409	3,157	3,300	0
Others	25,314	21,950	17,808	29,314	40,888
Steel	356,787	388,492	568,143	638,841	616,818
Wood products	6,429	1,736	1,125	984	9,953
Total Import	659,579	671,357	986,340	1,078,263	1,067,298
Total Int'l Cargo	2,353,666	2,042,988	2,534,204	2,366,204	2,199,408
Container (TEU)	24,624	13,343	24,911	24,911	31,921
Ship Arrivals	385	360	488	529	564

Domestic Cargo Five Year Summary

Fraser Port Domestic Cargo Outbound (in Tonnes)

	1995	1996	1997	1998	1999
Aggregate	529,944	635,431	411,995	387,200	233,101
Cement	185,415	618,072	143,718	122,133	160,586
Wood chips	2,137,591	2,478,112	2,059,684	2,474,752	3,316,243
Gen. cargo	1,145,431	3,723,614	1,844,975	2,761,031	2,571,093
Hogfuel	497,837	428,782	277,370	228,516	489,707
Logs	3,225,078	3,068,955	2,864,654	3,415,309	3,554,430
Lumber	27,775	22,834	23,206	7,099	11,500
Others	57,069	0	23,702	6,059	3,600
Pulp	16,000	7,800	10,000	5,040	6,018
Steel	173,853	130,893	87,448	50,663	174,818
Wood products	103,800	67,796	15,200	65,025	161,207
Total Export	8,099,793	11,182,289	7,761,952	9,522,827	10,682,303

Fraser Port Domestic Cargo Inbound (in Tonnes)

	1995	1996	1997	1998	1999
Aggregate	2,112,989	2,482,150	2,663,412	3,020,992	2,340,572
Wood chips	243,480	234,142	230,550	239,956	245,313
Gen. cargo	841,352	776,766	566,928	1,390,965	1,214,752
Gypsum	137,238	174,245	209,521	208,932	230,101
Limestone	1,401,434	1,109,941	1,392,816	1,158,530	1,579,301
Logs	7,446,663	6,204,428	6,343,863	5,496,302	6,645,695
Lumber	111,700	57,988	61,535	38,936	25,700
Others	1,650	8,951	1,990	50,440	61,963
Paper	160,173	125,112	140,843	0	250,300
Pulp	92,199	70,340	94,249	103,986	97,540
Steel	52,000	80,197	219,055	213,405	33,480
Total	12,600,878	11,323,260	11,924,762	11,922,444	12,724,717
Total Domestic Cargo	20,700,671	22,505,549	19,686,714	21,445,271	23,407,020

Fraser River Port Authority.

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Capt. Gudkov Wins Gold-Headed Cane

MONTREAL, January 4, 2000 – The president and chief executive officer of the Montreal Port Authority, Mr. Dominic J. Taddeo, officially marked the beginning of a new year and new century of activity at the Port of Montreal today by presenting the Gold-Headed Cane to Captain Volodymyr Gudkov, master of the m.v. Aqua Stoli.

The Honourable Martin Cauchon, Minister of National Revenue and Secretary of State (Economic Development Agency of Canada for the Regions of Quebec), and numerous guests and representatives of the business and port communities were on hand for the presentation.

Captain Gudkov won the famous trophy for the first time when his ship crossed the Port of Montreal's limits at Sorel at 12:34 a.m. on January 1, 2000.

The Aqua Stoli, registered in Malta, arrived from the Port of Nuevitas near Antilla in Cuba carrying more than 8,600 tonnes of molasses for yeast producer Lallemand Inc. of Montreal.

The ship is owned by Aquachart Sia



Mr. Dominic J. Taddeo (right), president and chief executive officer, Montreal Port Authority, and Captain Volodymyr Gudkov, master of the Aqua Stoli, with the Gold-Headed Cane.



M.V. Aqua Stoli docked at the Port of Montreal on the morning of January 1, 2000.

of Riga, Latvia. It was chartered by importer UM Canada, represented in Montreal by Colley Motorships Ltd.

The Aqua Stoli is scheduled to leave Thursday, January 6, for Havana.

The master of the vessel, Captain Gudkov, was born in Mogilev, Belarus, in 1937. He started sailing at age 19 while he was a cadet at the Marine School of Leningrad in Russia. He attained the rank of captain in 1965. Captain Gudkov and his wife became

Ukrainian citizens in 1964. They live in the port city of Mariopol.

Captain Gudkov won the Gold-Headed Cane on his second voyage to Montreal. His first was about a month ago, also from Cuba.

The Montreal Port Authority also paid tribute today to the pilots of the Corporation des Pilotes du Saint Laurent Central who brought the Aqua Stoli safely into port. The port authority presented clocks bearing commemora-

tive inscriptions to pilots Pierre Audette and Michel Simard.

The tradition of the Gold-Headed Cane dates back to 1840. A spring tradition for many years, it became a New Year's tradition when the Danish vessel Helga Dan inaugurated year-round navigation at the Port of Montreal on January 4, 1964.

The Montreal Port Authority has at least three good reasons for perpetuating the tradition of the Gold-Headed Cane, Mr. Taddeo said.

In addition to honouring the captain of the first oceangoing vessel of the year, it serves as a reminder to exporters, importers, manufacturers and distributors here and abroad that the Port of Montreal is active all year long despite the rigours of winter.

It also provides an opportunity for the entire shipping community to celebrate the beginning of a new year of port activity – activity that creates more than 17,000 direct and indirect jobs and generates revenues of more than \$1.7 billion annually.

The Port of Montreal handles some 20 million tonnes of highly-diversified cargo annually.

Port of Quebec strengthens its position in North America with capital projects

Message from the President and CEO

In order to satisfy and even surpass users' expectations, Port Management has set itself the goal of offering its customers the most competitive transit prices and of constantly strengthening the Port's position in North America. To this end, Management is banking on both the obvious strategic advantages of the harbor as well as the dynamism of Quebec maritime shipping industry stakeholders.

The Port has substantial assets that will enable it to play an increasingly important role on the North American scene. Indeed, with its water depth of 51 feet, access to two transcontinental railway systems and geographical location, the Port of Quebec is a true continental gateway for cargo moving between North America's industrial and agricultural heartland and the rest of the world.



In recent years, Management initiated many capital projects in the port. With these investments, users now have access to new state-of-the-art, high-performance equipment and storage terminals. Management also intends to continue in the same direction by investing large sums of money to upgrade its facilities.

Port Management also ensures that Quebec's shipping industry is always well represented among the players from the many business sectors using the Port. Therefore, it is working actively with its customers and partners to coordinate various actions so that the whole industry will move in the same direction.

I firmly believe that the role of Port Management is to remain in touch with the needs of users and provide them

with top-notch service. Our goal is to ensure that the Port's many assets will benefit its customers and provide them with efficient access to overseas markets. Lastly, I would like to assure our customers that we are making every effort to enhance our competitive edge and seize upon business opportunities to make the Port of Quebec a true continental gateway to North America.

Ross Gaudreault

Positive cargo trend

The year 1999 should be excellent for the Port of Quebec. The Port recorded growth of slightly more than 2 per cent over 1998 in tonnages handled between January and July – as shown in the table opposite.

Various dry-bulk cargos, such as minerals, concentrates and others, are increasing, except for grains shipments. The bulk terminal operator, St. Lawrence Stevedoring (a division of Compagnie d'Arrimage de Quebec Inc.) is at the centre of overall bulk operations (iron ore, nickel, bauxite, clinker, manganese, scrap metal, salt, etc.)

The Port is also planning other pro-

Port of Quebec: Jan.-July traffic

	1999	1998
Solid bulk		
Grain	962,273	1,139,000
Minerals & concentrates	1,148,108	918,678
Others	516,257	629,973
Sub-total	2,626,638	2,67,651
Liquid bulk		
Petroleum products	5,565,771	5,416,060
Chemicals	203,663	122,076
Others	19,253	10,038
Sub-total	5,788,687	5,548,174
General cargo		
Sub-total	32,688	26,683
TOTAL TONNAGE	8,448,013	8,262,508



St. Lawrence Stevedoring recently acquired tow gantry cranes

PF-8 – Canadian Sailings – Monday, September 20th, 1999



Dry-bulk cargo showing increased activity

These have all been major issues, and the Port handled itself well in terms of business operations as shown in current projects.

In recent years, the Beauport Flats sector has seen many developments, such as the construction of the Falconbridge nickel terminal and the construction of a huge shed for the storage of high-value dry-bulk – both completed in 1998. Other major projects were also undertaken or completed in 1999.

On May 31, the St. Lawrence Stevedoring Company, a division of the Compagnie D'Arrimage de Quebec Inc., acquired two new gantry cranes from Montreal. These cranes will increase the performance of the dry-bulk terminal located in the Beauport Flats. This multi-million dollar investment will strengthen the role of the Port of Quebec as a hub for dry-bulk movements on the St. Lawrence.

Port infrastructures being upgraded

Work on the restoration of infrastructures began last June and recently the Hon. Martin Cauchon, Secretary of State for Economic Development Canada,

launched a restructuring program for the infrastructures of the oldest port in Canada.

The government of Canada has provided \$18.5 million to the Port of Quebec to restore wharves that require immediate attention – i.e., wharves 14, 17, located at the Estuary Sector, and 103, located at the Anse au Foulon Sector. The Port will add \$8 million, bringing the total investment to \$26.5 million.

Midatlantic Minerals Inc. a Quebec corporation, is expected to complete the construction of a terminal to receive and process limestone at the Anse au Foulon Sector by the end of 1999.

Located at Wharf 108 in the Anse au Foulon Sector, the terminal will receive products by belt conveyor self-unloader vessels, and will process the limestone for various industrial uses.

All these projects will promote the Port of Quebec's position in future years for the benefit of forwarders.

A major project to enhance cruise business

The Quebec Port Authority is continuing its initiatives to create a passenger terminal at the Port of Quebec. Indeed, the results of a feasibility study conducted by Bruno-Elias & Associates Inc., sponsored by Bruno-Elias & Associates Inc., sponsored by Economic Development Canada, have recently been submitted.

This study had the following four key objectives:

jects in the Beauport Flats, including two with Alcan – the aluminum giant. The Port of Quebec Authority has recently signed a 15-year service agreement with Alcan, under which the Port will unload 270,000 tonnes of alumina from ships annually, store it, and load it onto railcars for shipment to the Shawinigan and Beauhanis plants.

At an estimated cost of \$15 million, the terminal will be equipped with a pneumatic ship-unloading system, a tank, as well as a railcar loading station connected to one another with closed conveyor systems. The terminal should be operational on April 1, 2001.

Many projects carried out in past year

The Port of Quebec has many projects on hand. The Port of Quebec has faced many challenges and issues such as the new Canada Marine Act, the Canadian Coast Guard cost recovery, a labor dispute, etc. during the last five years.



Infrastructure improvements are being undertaken at wharves in the Estuary Sector and the Anse au Foulon Sector

- To determine the probable increase in cruise traffic based on past trends, the Port's potential, and the industry's outlook.
- To establish the types of cruises with the greatest chance of success.
- To identify the concept and design of the facilities required to meet the planned increase.
- To estimate costs and benefits for the Port and the regional economy.

Positive results based on careful and realistic assumptions clearly show that Quebec has the potential to position itself strategically in this market. From then on, the region could join the major leagues in this industry, with ship calls taking place in the summer and fall.

The proposed investment plan includes three phases. The first (1999-2001) consists of adapting the Vieux-Port Shed with modern facilities capable of meeting market demands. That consists essentially of supplying pontoons to counteract the tides, mobile gangways that can be adjusted to various ships, covered passenger gangways linking the ships to the terminal, bus canopies, and additional parking spaces.

This first phase requires \$19.6 million,

the financial aspects should be in place soon.

The 1999 cruise season showing big promise

The Port is currently negotiating with a cruise company to attract it to the St. Lawrence on a regular basis during the 2000 season, in cooperation with the St. Lawrence International Cruise



Cruise ships are calling in increasing numbers
Committee, made up of major players

Passengers and vessel calls at the Port of Quebec 1994-1998					
	1994	1995	1996	1997	1998
Passengers	36,401	38,991	21,334	35,475	44,000
Vessel calls	80	82	55	61	68



The Port of Quebec is working actively to repositing general cargo traffic in cooperation with terminal operators

and the second (2003-2004) and third phases (2009-2010) would be carried out in line with the overall traffic increase.

The Quebec Port Authority clearly cannot provide the required investments by itself for these projects, which pave the way for a new sustainable economic development axis for the region.

Therefore, the Port is currently in negotiations with potential partners concerning this structuring project, and

from Montreal and Quebec.

Meanwhile, since October 1998, a committee has been developing a cruise product that would make Quebec the loading port for cruises on the St. Lawrence River down to Labrador.

The committee was created by the Chambre de Commerce et d'Industrie du Québec Métropolitain, and several parties financed its canvassing and marketing operations, including the

Quebec government - through the regional fund for tourist development - Economic Development Canada, and the Quebec Port Authority, as well as the Jean-Lesage International Airport. Legislative restrictions for coastal shipping are among the main issues limiting this type of ecotourism cruise development.

The committee recently submitted a coastal shipping licence request to Revenue Canada to support the cruise projects of the American Canadian Caribbean Line from Québec to Newfoundland.

Giant floating platform soon departing

Very soon, the major lessee at Wharf 29 will be leaving the Port of Quebec.

On August 31, the giant platform, Spirit of Columbus, was baptized and renamed Petrobras 36, and will leave Quebec on September 29 for Sept-Iles, where stabilization tests will be performed.

A sensitive and major transportation operation will then be required. Six tugs will escort the platform under the high-voltage lines near Isle d'Orleans.

It should be noted that Petrobras 36 is the second largest floating platform in the world, and arrived at the Port of Quebec on August 30, 1997 to undergo major changes and be equipped with state-of-the-art technology for oil pumping.

technology for oil pumping.

Built a few years ago, the platform was originally designed for exploration drilling, and could also pump up to 100,000 barrels a day.

The changes that have now been made will increase the daily pumping production capacity to 180,000 barrels.

Some 1,000 workers were hired at the peak of this project.

Petrobras 36 should begin pumping operations off the Brazilian coast in early 2000.



The future Petrobras 36 is destined to begin pumping operations off the Brazilian coast in 2000

Y2K Was A-OK at Port of Los Angeles

WHEN the Year 2000 rolled in, it did so very peacefully at the Port of Los Angeles with no major problems reported. The Port was at the ready for any kind of emergency, but fortunately, those emergencies did not arise.

The Port was ready with a core group of employees staffing the Department Operations Center (DOC) at the Port Plaza from 6 p.m. on Dec. 31. The group was represented by the Port's senior management; information systems; Port Police; engineering; construction and maintenance; and the port's emergency preparedness coordinator. The DOC was shared with other agencies including the L.A. Police Department, L.A. Fire Department, U.S. Coast Guard, California Highway Patrol, Department of Housing and the Department of Transportation. In addition, the Port's construction and maintenance crew reviewed container cranes, bridges, infrastructure and various facilities over the weekend.

During the New Year's weekend, there was heightened security throughout the Port as part of the Port Police commitment to safety. The Port Police were prepared after an early December training day dedicated to mobile field force tactics and response to potential problems that might arise. All Port activities were coordinated with the City's Emergency Operations Center downtown.

Increased Vessel Traffic at LA/Long Beach

THE Marine Exchange of Los Angeles/Long Beach Harbor, a nonprofit trade organization that has monitored and recorded all vessel traffic statistics for the Port of Los Angeles and the Port of Long Beach since 1923, has reported a significant increase in arrivals of commercial vessels calling into the LA/LB Harbor complex during 1999.

For the first time since 1992, the LA/LB Harbor complex has recorded more than 5,500 arrivals. The 1999 vessel arrival count stands at 5,593, a 7% increase over the 1998 totals (5,240). Leading the gains were increased calls by container vessels, tankers, dry bulk vessels, and pure car carriers. Other increases were noted for cargo barges

(principally lumber products), repair calls, and storing/crew exchange visits. There were slight decreases in arrivals of passenger ships, reefer ships, and general cargo vessels. The one outstanding decline was in "bunker only" calls, which dropped from 302 in 1998 to only 216 calls in 1999, a 28% decrease. The loss of bunker business for the LA/LB Harbor reflects the global competition in the sale of fuel oil throughout the Pacific Rim.

In comparing the two ports, Los Angeles recorded 2,630 arrivals for 1999 (up 9% over 1998), with 2,963 arrivals logged for the Port of Long Beach (up 5% over 1998). The latter enjoys the advantage of receiving all "bunker only" calls, due to the availability of inside anchorages on that side of the harbor complex - which accounts for much of the difference between the two ports.

"Overall, we are very pleased with

the figures for 1999," said Capt. Manny Aschemeyer, Executive Director for the Marine Exchange. "It's very encouraging to see an increase in total vessel arrivals for our two ports, where, with the exception of 1996, we have seen a steady decline in vessel arrivals going back to 1987." Captain Aschemeyer further noted that with the improved economic conditions in the Asian economies, and with the addition of several new lines serving the Pacific Rim, the future looks bright for even more vessel arrivals to be recorded in 2000. "Although we have been experiencing a steady decline in vessel arrivals since 1987, there's a paradox over the same time frame that can not be ignored - steadily increasing cargo tonnages, annual container counts going off the charts, customs collections skyrocketing each year, and all other indicators continuing to show the Ports of Los Angeles and Long Beach grow-

The "Top 10" 1999 vessel arrival statistics for LA/LB Harbor (by vessel type) are as follows:

VESSEL TYPE	1998 ARRIVALS	1999 ARRIVALS	CHANGE
1. Containerships	2,446	2,716	+11%
2. Tankers	705	792	+12%
3. Dry bulk vessels	604	638	+7%
4. Pure car carriers	275	350	+27%
5. Passenger ships	326	303	-7%
6. "Bunker Only"	302	216	-28%
7. Cargo barges	185	205	+11%
8. Reefer ships	190	179	-6%
9. General cargo ships	116	112	-3%
10. Ro/Ro vessels	69	53	-12%

Regarding vessel arrivals by flag, those recorded with 100 or more calls were as follows:

COUNTRY	1998 ARRIVALS	1999 ARRIVALS	CHANGE
1. Panama	1197	1317	+10%
2. United States of America	972	930	-15%
3. Liberia	730	810	+11%
4. Bahamas	238	305	+28%
5. Germany	238	274	+15%
6. Cyprus	162	197	+22%
7. Denmark	237	188	-20%
8. Singapore	146	183	+25%
9. Norway	158	161	+2%
10. Antigua/Barbados	28	110	+292%
11. Greece	109	106	-3%
12. Israel	104	103	Nil

Panama account for 25% of all arrivals by flag for 1999, with the USA trailing at 17%, and Liberia coming in at 14%.

The "TOP 20" for 1999 vessel arrivals at LA/LB Harbor (as recorded for vessel operator and/or their agents) are:

1. Inchcape Shipping Services	998	11. American Ship Management (APL)	186
2. Transmarine Navigation Corp.	395	12. Sause Brothers towing	169
3. Sunrise Shipping Agency	340	13. Carnival Cruises	151
4. General Steamship Corp.	279	14. Kerr Norton Marine	149
5. Evergreen America Corp.	244	15. COSCO	142
6. Sea-Land Service	231	16. ZIM Container Line	135
7. Maersk Line Agency	206	17. Royal Caribbean Cruises	123
8. "K" Line America	204	18. Hanjin Shipping	118
9. Barwil Oceanic Agency	190	19. FESCO	117
10. Matson Navigation Company	188	20. Hyundai Merchant Marine	89

ing substantially for the foreseeable future."

In addition to keeping close track of all vessel activities for the LA/LB Harbor complex, the Marine Exchange has operated the "Vessel Traffic Information Service" (VTIS), since 1994, in partnership with the US Coast Guard, the State of California and the two port authorities. The designation "VTIS" has recently been changed to "VTS" (Vessel Traffic Service) to reflect the same ongoing high quality professional services that are provided in like manner at other ports throughout the country and around the world. The Marine Exchange, now in its 77th year of operation, recently completed a major building expansion project for their Vessel Traffic Center facility in San Pedro, California.

"We invite all mariners, port captains, agents, operations managers, shipper/exporters, shipowners and other interested parties to come visit our Vessel Traffic Center whenever they are in the area," said Capt. Aschemeyer. "We are very proud of our newly-expanded facility, our state-of-the-art equipment, and our well trained, dedicated personnel that make our Vessel Traffic Service, as well as our Maritime Information System, second-to-none, world wide."

Booming Bay Area Building Trade

THE booming Bay Area building trades and construction industry, combined with the improving Asian economy, combined to propel the Port of Redwood City on target for its first one million tonnage mark in more than 25 years, Commissioner Vice Chairman Larry Aikins reports.

Tonnage for the first quarter of the 1999-2000 fiscal year was 242,758 tons, a whopping 38.9 percent higher than the opening quarter of the previous FY. The Port for the FY that ended June 30 recorded 817,753 metric tons, among the highest of the decade. The Port specializes in bulk commodities.

The tonnage figures denote that the construction boom in the private and public sectors continues to be strong. "This results in a heavy demand for construction materials that are being shipped through the Port of Redwood City," Aikins said.

In addition, the improved Asian economy has resulted in stronger exports of recycled scrap metals from the Port to



Ships like the one on the right are making more and more frequent calls to the Port of Redwood City. The public can view Port operations from several public viewing areas, walking paths and benches at the Port. (Photo by Glenn D. Sandul).

Far East destinations. First quarter exports of scrap metal by Sims Metals America were 60,454 tons, up 89 percent.

All commodities except gypsum registered increases, and the only reason gypsum dipped to 61,665 tons, compared to 86,111 tons for the comparable first quarter, is because of ship scheduling. Executive Director Michael J. Giari said that gypsum demand remains strong by the customers of Pabco Gypsum, which manufactures wall-

board from the gypsum imported from Mexico.

Cement, sand and aggregate imports, all of which are vital materials for the construction industry, more than doubled to 120,000 tons in the first quarter.

One of the Port tenants that imports sand and aggregates, Harbor Sand & Gravel, credits a new sand dredge and its new tripper conveyer designed to more efficiently unload sand and gravel from the barges arriving at the Port for the increased business.

Africa/Europe

Antwerp Box Trade Pursues Growth

ONCE again the container trade was the hottest mover in Antwerp in 1999. Compared to 1998, container tonnage rose by 11.5% to 39.4 million tonnes, while there was a 10.7% rise in TEU. The standardised cargo container already accounts for 65.4% of all general cargo traffic, which of course has had an impact on the conventional general cargo business.

The maritime success of the container has of course had an immediate effect on communications with the hinterland, with all parties being confronted with the ongoing mobility problem, particularly on the roads. For this reason the Antwerp Port Federation (AGHA) charts every year the choice of mode used for transport to and from the hin-

terland.

This is done by carrying out an annual survey of the container operators.

Significantly greater numbers of containers are counted at the gates of the terminals than those recorded in the maritime statistics. The explanation lies in various factors, including the exchange of containers with other ports, Rotterdam and Zeebrugge in particular, in quay transfers, movements to different depots, etc.

This annual compilation of easily comparable information makes it possible to reveal major trends. In 1999, for

Modal split of Antwerp container trade in 1999

(in 1,000 TEU)

	Unloaded	Loaded	Total
Transshipment	249	249	498
Waterways	653	650	1,303
Rail	207	228	435
Road	1,434	1,498	2,932
Total	2,543	2,625	5,168

Source: AGHA-SEA Survey

example, a total of 9.5%, or 449,000 TEU, more containers were counted at the gates of the various terminals than in the year before. All traffic modes shared in this rise.

Ship-to-ship transfers of containers improved by 124,000 TEU to 498,000 TEU, a rise of roughly thirty percent. This is an indication of Antwerp's growing role in the transshipment trade. Of course these containers are not to be found in the statistics for communications with the hinterland.

Barge container traffic grew by 101,000 TEU in 1999, with a significantly large increase in the number of empty containers carried by barge in 1999.

The railways did very well, chalking up a rise of 97,000 TEU (28.7%). The improvement can be largely attributed to the growth in rail traffic between ports.

Finally the roads again showed a rise in container traffic. The increase came to 127,000 TEU in absolute terms, although in percentage terms this was

the smallest increase of all, coming to only 4.5%. Road haulage benefits from the enormous geographical scattering of container traffic, with over 1,700 relatively nearby destinations being served every week.

The records for the last 5 years make it possible to point to major trends. In 1995 the road haulers' share in carrying containers to and from the hinterland still came to 72.1%. Five years later this share has been reduced to 62.8%. Both the waterways and the railways have been able to improve their market share in the same period, with an increase of 5.2% for the waterways and 4.1% for the railways.

This trend would not have emerged without a major effort by all concerned, including the respective transport modes, various authorities and port interests. If no such effort had been made to influence the choice of transport mode since 1995, an additional 435,000 TEU would have travelled the roads in 1999.

Sisterport Agreement with Dalian Signed

A Sisterport Agreement between Antwerp and Dalian was signed during a ceremony at the Port House. The photograph shows Yuan Fu Xiu, Director-General of the

Chinese port and Baron Leo Delwaide, Chairman of the Antwerp Port Authority, during the signing of the protocol.

Reference was made in the formal speeches to the role played by APEC (Antwerp/Flanders Port Training Center) in the training of numerous



executives from the port of Dalian, Mr. Yuan Fu Xiu himself had participated in an APEC course.

The ceremony was attended by representatives of port companies involved in the maritime traffic between the two ports.

Larnaka develops into passenger/cruise hub

THE Government of the Republic of Cyprus is calling for expression of interest for the development of Larnaka. The project entails the extension of the existing port by the construction of breakwaters, additional berths and new passenger facilities and terminals as well as the development of 42 hectares of port-land with facilities for leisure activities, shopping centres, apartments, offices, restaurants, etc. This development will also connect the port to the adjacent marina and to Larnaka town centre which is only 1.5 km away.

Firms interested to invest in, manage and operate passenger, cruise and leisure facilities at Larnaka Port are invited to submit their expression of interest to the Ministry of Communications and Works by Friday, April 21, 2000.

Interested parties have the flexibility to propose their own development program, entity to undertake the design-development-management-operation, and extent of services to be provided, that will achieve the stated purpose of the project which is to turn Larnaka into a state-of-the-art specialised passenger port and the main passenger port of Cyprus.

Although Cyprus ports are already on the itineraries of many cruise lines sailing in the eastern Mediterranean, we





from the Larnaka International Airport, will make it a "Cruise Hub" for the area and increase the number of cruise calls, in particular those with a full turnaround of passengers.

Larnaka town is a tourist attraction by itself with the recently developed waterfront promenade and plaza



believe that the enhanced facilities at the port and its distance, only 8 km

and it is connected with all other towns of Cyprus by a four-lane motor way.

Marseilles Global Port

ON the threshold of the third millennium, the Port of Marseilles confirms its intention to be "the Global Port of Europe on the Mediterranean." This major ambition requires a fundamental change of strategy, with the port being re-launched to boost not only the economy and jobs but also France's overseas trade.

Two complementary processes make this ambition evident:

- The Port Charter. This aims to create a participating port culture by 'developing activity and jobs between now and the year 2000, based on the common goals and competitiveness of the port community in synergy with its environment.
- The Business Plan of the PMA. This, together with the charter, defines the objectives and actions of the PMA to ensure more effectiveness in its public service goals, its operational viability and its position concerning trade.

1998 was marked by the completion and expansion of the Port Charter, which was ratified on 15 December by the CIADT (inter-ministerial committee on territorial development), and by the preparation of the Business Plan which was adopted by the Board of Directors in July and approved by the CIADT within the context of the charter.

- Deliberations about the port's strategic repositioning focused around three issues:
 - Its position as a generator of traffic
 - Its vocation as an industrial developer

- Its role as a promoter of services

The "Global Port" ambition is built around these three issues. The concept "Global" applies as much to a specific quality, namely the versatility of France's N° 1 port, as to the PMA's strategic priorities and the collective willpower of all the players and partners of the port community.

Beyond the simple declarations of intent, these procedures fix clear and consistent objectives and specified fulfillment dates. This is to mobilise the port and economic environments and strongly involve the local authorities: PACA Regional Council, Bouches-du Rhone Department, and the Council of Municipalities grouped around the city of Marseilles.

The Port for the 21st Century

The profound changes projected by the Business Plan and the actions stated in the Port Charter involve the whole port community and all the local author-

ities. The imminent new government-region agreement cannot neglect the port - a driving force of the regional economy, a centre of jobs and a major instrument of France's overseas trade. Simultaneously, the city of Marseilles has started to bring its ambitious Euromediterranean project to fruition. All these elements point to a renaissance in the 21st century.

The Business Plan, with its realistic objectives shored up by credible forecasts and programmed in three precise phases, is a pragmatic process for organising the long-term means for achieving this ambition.

The Port is already the first, if not the only, in Europe to achieve ISO 9002 norms for all ship reception facilities: the pilot service, boatage service, tug service and Harbour Master's office.

1998 marked a break with the past, steering the port authority's public enterprise resolutely towards modernisation and the future. For, beyond the investment programme and the transformation of the enterprise into "Marseilles Global Port", it is all a question of changing eras, it is all about making the N° 1 port of France and the Mediterranean enter the 3rd millennium in the fittest possible condition.



Cork Port benefits from cruise passengers and development plans

FINANCIAL BONANZA FROM VISITING CRUISE PASSENGERS

OVER a five-day period in late July/early August, Ireland's South West region enjoyed a commercial spin off of close on £1 million from over 3,000 visiting cruise passengers. On the Thursday prior to the popular August bank holiday weekend, Norwegian Cruise Line's s.s. *Norway* – the longest cruise vessel in the world – berthed at Whitegate Oil Refinery. The 76,000-tonne vessel measuring 316 metres in overall length had almost 2,000 guests on board. She was on a special ten-day charter cruise organised by a Norwegian company and arrived directly from Oslo. On departure, the vessel sailed for Guernsey.

The Port played host to a cruise liner on each day of the festive weekend. On the Saturday, Seabourn Cruise Line's *Seabourn Pride* paid a return visit to Cork and berthed at the North Custom House Quay near the city centre. The 10,000-tonne, five-star ship was on a fourteen-day cruise of Britain and Ireland.

August Sunday was marked by the arrival of one of the most attractive and prestigious cruise vessels operating in Europe when Cunard/Seabourn Cruise's *Royal Viking Sun* made a welcome return to the Port of Cork. With approximately 750 passengers and 800 crew, this 38,000-tonne five-star super liner – awarded the accolade of the world's most popular cruise ship on numerous occasions – was on a 14-day cruise entitled "Bagpipes and Shamrocks". The cruise commenced in Dover and, on leaving Cork, the vessel proceeded up the Irish Sea to Dublin and onwards to ports on both the west and east coasts of Scotland before finishing the cruise in Copenhagen.

On August Monday, the 7,500-tonne *Vistamar* made her maiden call to the Port of Cork. Built in Spain in 1989 and refurbished in 1996, the *Vistamar* had 300 cruise guests who arrived overnight from Dublin and, on leaving the Port of Cork, sailed for Cowes in the Isle of Wight.

STRATEGIC STUDY UNDERWAY

In late autumn 1999 the Port of Cork Company commissioned international consultants Posford Duvivier to under-

take a strategic development study which in turn will lead to the production of a medium and long-term strategic development plan. In preparing the stage one report, Posford Duvivier were assisted in their work by KPMG Consulting, MDS Transmodal, Parman and Cunnane Stratton Reynolds. In addition, Posford Duvivier have retained the services of Port Management Consulting, Arthur Cox and Malachy Walsh & Partners. The stage one study, which was undertaken under the direction of and in close consultation with a Port of Cork steering group, was submitted in December 1999. Its main objectives were as follows:-

- To undertake a trade forecast for all five modes of cargo passing through the port, identifying existing and future trade demands;
- To review shipping trends as to type and size of vessel;
- Review existing infrastructure, equipment, facilities and properties and to calculate existing capacity;
- Identify potential improvements to existing capacity;
- Consultation with key internal stakeholders;
- Establish requirements for additional or alternative facilities.

The strategic development plan will be a blueprint for the future operation and development of the port to meet anticipated needs of port users. In addition, as with the Cork Harbour Development Plan of 1972, it is proposed that this plan be integrated into both regional and national development plans.

Göteborg sees strong port expansion

One terminal ready, on to the next

THE strong port expansion scheme at Göteborg was well illustrated recently, when one new terminal was inaugurated and, on the same day, the first sod was cut for another.

The terminal inaugurated was the Paper Terminal, built for the Sweden-to-Continent paper flow of forest product giant Stora Enso. The terminal project now getting the go-ahead was the

Arendal expansion, which will have two new ro/ro berths ready by the end of 2000.

The terminals cost US\$23 million each, and both are geared for roll on/roll off handling. The Paper Terminal was purpose-built, while the Arendal Terminal will be a common-user ro/ro facility.

- The terminals are proof of the Port of Göteborg ambition to support Nordic trade and industry, said Mr Gunnar Nygren, president, Port Göteborg AB.

- We foresee a possible 100-percent increase in unit-loads shipped via the port before 2010, and part of our strategy is to have the facilities and adaptations ready just-in-time for the actual needs.

Unique roll on/roll off terminal commissioned

A unique roll on/roll off terminal was inaugurated at the Port of Göteborg, Sweden, on February 4th. It serves a heavy (in the double sense of the word) cargo flow of paper, and an independent trailer flow as well.

The Paper Terminal features some unique solutions, all caused by the special characteristics of the cargo units involved. These are huge intermodal, weather-protected cassettes with a possible total weight of 90 tonnes and the volume of four containers TEU.

The terminal features a concrete handling area of 57,000 m² (asphalt being too soft for the wheel pressures involved), a three-fold stern land-ramp system, special heavy-duty straddle carriers for rail wagon-to-terminal shifting, and extra-wide, extra-strong terminal tractors.

The intermodal quality of the cargo units (Stora Enso Cargo Unit, or SECU) makes it possible to stuff the SECU at the mill, forward it by rail to the port, shift it to a vessel and strip the unit at the destination. In Sweden, railway tunnels have been widened and track beds strengthened to make five round-trips a week between Göteborg and Zeebrugge, Belgium, the Continental bridgehead of the system.

Cobelfret of Belgium has been awarded the contract to fill the onboard volume not used for the base cargo of paper and boards.

Some key figures from the construction of the Paper Terminal:

About 20,000 m³ have been dredged. 150 concrete piles support the quay and the land ramp. A total of 16,000 m³ of concrete has been used, of which 12,000 for the creation of the 57,000 m²



The new Paper Terminal at Göteborg's Älvsborg Harbour is dedicated to the flow of paper from Stora Enso mills in Sweden to Continental Europe markets. Volume not taken up by paper is being used by Cobelfret for Göteborg-Zeebrugge v.v. Shipment. Note the special box and the heavy-duty equipment used to handle the 90-tonne boxes.

handling area. Six-hundred metres of railway tracks have been built.

Roll on/roll off terminal being built on shipyard land

A new common-user ro/ro terminal is being built on former shipyard land at Arendal in the westernmost part of the Port of Göteborg.

The construction work involves the creation of a handling and storage area of 87,000 m² and two roll on/roll off berths. Some 80,000 m³ will have to be dredged to reach the 8.1-metre depth that will be offered.

The Arendal Terminal is being built to ease the pressure on existing ro/ro terminals at Göteborg, but also to offer facilities for additional traffic. Prospects for a positive unit-load import and

export development at Göteborg are good, according to independent investigators: the potential is a 100-percent increase in ten years.

One customer is known already for the Arendal Terminal: P&O Ferrymasters' twice-weekly ro/ro service between Middlesbrough (UK) and Göteborg.

The ro/ro terminal now being built at Arendal is the first of two steps. According to plans, the new terminal will eventually connect to the adjacent Älvsborg roll on/roll off harbor and share cargo-handling resources with that harbor.

PS: Arendal, or Götaverken Arendal, is a name well known in the shipbuilding and shipowning world. From 1960 to the mid-80's it produced vessels, mostly

tankers, according to a method where the ship was built indoors and pushed out on a slipway as it was being completed. The Port of Göteborg now owns half of the former dock-side area, and it is here that the two ro/ro berths are being built.

20-percent container boost

The Port of Göteborg recorded a 20-percent boost in container traffic in 1999, compared to 1998. Total unit-load traffic via the Port of Göteborg reached one million TEU for the first time.

Container traffic at Göteborg, Scandinavia's leading port, reached 583,000 TEU in 1999. If cassettes are included, the figure is 624,000 TEU. Total unit-load traffic reached 1,039,000 units, passing the one-million mark for the first time.

Part of the increase can be accredited to the re-vitalization of some Asian economies between 1998 and 1999. That effect left aside, there still was a considerable increase in container traffic at Göteborg last year.

The number of cars shipped via the port rose by nine percent to 279,000. The figure includes Swedish Volvo, SAAB and Scania vehicles as well as European, American and Asian imports.

Oil traffic constitutes more than half of the total cargo turnover at the Port of Göteborg. Last year, oil was down by four percent, compared to 1998. An important factor here was the planned maintenance closing-down for several months of two refineries at Göteborg.

The total traffic figure suffered from the results in the oil traffic and reached 30.4 million tonnes, a figure one per cent below that of 1998.

A little more than 12,500 vessels called at the Port of Göteborg last year, slightly more than the year before.

Rotterdam Briefs

Record Car Handling

1999 imports of Japanese and Korean cars via the Port of Rotterdam rose to 170,000 units, twenty percent more than in 1998 (140,000). This year Rotterdam Car Terminal expects further growth. Sister company Rotterdam Car Center (PDI inspections, etc) handled 85,000 cars, a rise of seventy percent compared to 1998 (50,000 cars). This growth is mainly caused by incoming Volkswagens and Audis for the Dutch market. They are transported by train from Germany, Spain and Slovakia.



The Arendal project will result in two ro/ro berths to be ready for use by the end of 2000. This phase of the project comprises an 87,000m² handling area and the dredging of 80,000m³. The Arendal Terminal is being built on former shipyard land.

Forum Forest Products

Last week a large commercial and governmental delegation from the Russian regions of Saint Petersburg and Archangelsk visited the Port of Rotterdam. They participated in a forum together with Dutch logistical service providers and port authorities to stimulate the flow of forest products between Russian and Dutch ports. This is part of a program of the United Nations Economic Commission for Europe Trade Division to improve trade finance and investment prospects for the Russian timber sector. Rotterdam Municipal Port Management (via its TEMPO department) acts on behalf of all Dutch ports. A specific project which seems promising is the export of biomass for Dutch power stations. The biomass should partly replace coal in order to reduce CO₂ emissions and meet the Kyoto standards. If the parties involved manage to tie things together a market of several million tons of biomass can be developed.

Schenker Builds Bigger

The Schenker Integrated Logistic Center Rotterdam will be over twice as large as originally planned: 28,000 instead of 12,000 m². Investments rise from 15 to 35 million guilders. Main reason for this adjustment of plans is the acquisition of a new customer. Some fifty percent of the now planned space will be dedicated to that customer. The other fifty percent is for public warehousing and consolidation. The latter activity will grow fast since Rotterdam will be one of Schenker's European gateways for LCL exports. Schenker is very optimistic about further growth of its warehousing activities in Rotterdam. Present demand, especially from the USA, is reported to be very large and it is expected that the market will grow further when the economies of the Far East really pick up. Schenker officials estimate an overall fifteen percent growth of the market. Therefore it has an option for another 40,000 m² of terrain. It is likely that barges will transport containers between the terminals at Maasvlakte and the barge terminal adjacent to the logistic center. Volume is estimated between 6,000 and 9,000 TEU per annum.

Algerian Trade Center

Last week the Algerian Trade Center (ATC) was opened. ATC provides services to Algerian and European companies interested in export of products and services, joint ventures, transfer of technologies, etc. It is established in Euro

Trade Park, amidst the Trade and Distribution Centers (TDCs) of eight more countries of which Oman opened its center late 1999. Countries such as Bangladesh, Pakistan, Sri Lanka, Mongolia and Egypt have shown interest in establishing a foothold as well.

Ports in Southwest Netherlands Converge

During a Lloyd List conference on cooperation of ports, the Port of Rotterdam strongly pleaded for a fast cooperation between the six ports in the southwest of the Netherlands. According to Rotterdam, such a step is necessary to respond to demands of the market, corresponds with government policy, offers commercial and operational advantages and is a logical continuation of older and recent bilateral activities. For some years there has been a cooperation between the Port of Rotterdam and the Port of Flushing (Port Scaldia) as well as between Rotterdam and the Port of Moerdijk. Some time ago Flushing merged with the Port of Terneuzen and recently Rotterdam and Flushing announced closer cooperation and the ports of Dordrecht and Moerdijk announced a joint venture to develop the port area of Dordrecht.

Kerr-McGee Chemical to Rotterdam

Kerr-McGee Chemical has made its entry in the Port of Rotterdam. The Americans bought the Botlek facilities of Kemira Oy from Finland. The plant pro-

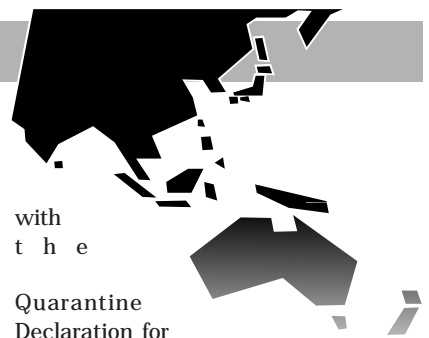
duces pigments for whitening products, such as toothpaste and wallpaint. Kerr-McGee also bought other pigment factories of Kemira with a joint value of four hundred million euro.

Interesting Response on Maasvlakte Consultation

Some hundred parties have responded to the consultation of the Dutch Ministry of Transport and Public Works on creating a second Maasvlakte. A comprehensive reaction on the possibilities of public-private partnership was given by fifty of them. The reactions are used to make a program of requirements which the project must meet. The Dutch Cabinet will send this program to Parliament before summer. Afterwards a tender procedure will start. The ministry calls the response high and interesting. It was given by users (23 percent), such as chemical companies and operators of container terminals, financial institutes (10 percent), construction companies (23 percent), syndicates (14 percent) of some twenty companies and "various" (30 percent) such as engineering bureaus, real estate developers and port authorities. The ministry expects a limited number of the syndicates to tender. More information: Ministry of Transport, Robert Wester, 31 70 351 7343. General information on Second Maasvlakte on our internet site.

More information: Minco van Heezen, press officer. Tel 10 31 252 1429

Asia/Oceania



AQIS's Ballast Water Exchange Verification Process

UNDER the current Australian Ballast Water Management Guidelines, it is voluntary to exchange ballast tanks in mid-ocean en-route to Australia. The Australian Government has recently announced that it will move to implement mandatory ballast water management arrangements by mid-2001.

Currently ballast water management activities are recorded (a mandatory requirement since October 1, 1998) on the AQIS Ballast Water Reporting Form (BWRF) which is submitted, together

with
the

Quarantine Declaration for Vessels, prior to a vessel's arrival in Australia. The ballast water exchange verification process has been developed to verify that vessels that have reported exchange on the BWRF have exchanged in accordance with the details provided.

Verification checks will be conducted on a relatively small number of vessels - 400 during a 12-month period. The 400-vessel sample group will consist of



Kobe visits

A delegation from the Port of Kobe visited the Port of Brisbane recently to discuss marine transportation with Corporation executives and tour port facilities on fisherman Islands.

check for an increase in kW or Amp loading on generators, or use of extra generators at the stated time of ballast water exchange can also be made.

When a vessel has been randomly selected for a verification check, the following documentation will be required by the AQIS officer (at the time of inspection):

- deck logbook
- engine logbook
- ballast water management plan.

The vessel Master (or delegated officer) will also need to be available to answer questions in relation to the ballast water exchange. Completion of the checklist should take between 30 minutes to 1 hour.

The implementation of the ballast water exchange verification process will be under constant review during the first 12-month reporting period. Relevant documentation and the verification methodology will be updated as required.

Further information can be obtained from AQIS in Canberra by contacting the Ballast Water Management Program on (02) 6271 6637 or the Seaports Program on (02) 6272 5700 or through the AQIS Shipping Officer in your region.

Helen Gannon
Manager
Seaports Program

January 2000

Port Road Project gets green light

THE new port road, to be known as the Port of Brisbane Motorway, will become a reality within three years, after the State and Federal governments gave the go-ahead on 20 November.

Minister for Transport and Main Roads Steve Breadhauer and his Federal counterpart John Anderson signed an agreement to begin construction of the \$111 million project.

"This exciting project will mean a smoother link between the Gateway Motorway and the Port of Brisbane, further improving the efficiency of doing business through the port," Port of Brisbane corporation chief executive officer Graham Mulligan said.

"It is part of an overall transport strategy for the port, which has also

the following numbers:

- 100 bulk carriers
- 100 tankers
- 100 container vessels
- 100 others (this category includes all other vessels that are capable of carrying ballast).

Vessels will be selected at random by AQIS's Vessel Monitoring System (a computerised database that is used to manage and assess the quarantine status of all vessels arriving in Australia). The verification process will commence on March 1, 2000. Verification checks will be performed on vessels as part of the normal quarantine inspection - there will be no additional AQIS charges for vessels that are randomly selected for verification.

The main objectives of the verification method are to:

- collect information on the level of compliance of ships with the BWRP requirements, in particular, the requirement for true and accurate reporting
- educate the shipping industry regarding the Australian Ballast Water Guidelines and how to meet Australia's quarantine requirements for ballast water management
- assist in management, decision-

making and policy development.

The verification method is not a form of regulation as at this time ballast water exchange is not mandatory. The exchange verification method will however serve an important regulatory role when Australia introduces mandatory ballast water management arrangements for all international shipping in 2001.

The verification method (which has been designed by ships' engineers) is based on a simple 'audit' of information from the ships' deck and engine room logbooks. Using the ship's records of energy consumption and pumping details an estimate can be made about the amount of ballast water pumped in and out or through the tanks. This can then be compared with the details provided on the BWRP.

A verification checklist will be completed by the AQIS officer conducting the quarantine inspection of the vessel. The checklist asks questions about a number of issues including:

- volumes of ballast water exchanged
- amperage of generators
- length of time spent exchanging.

After the information has been collected, calculations are then made to determine the volume of ballast water exchanged according to the logbooks. A

included the upgrade of the standard-gauge rail line in 1996.”

“Work on the road is due to start late next year with the least possible disturbance to our operations.”

The motorway will provide heavy commercial vehicles with improved access to the port from the Gateway Motorway, improving productivity and reducing costs for associated industry. It will also ease road congestion for nearby residents and industry with a major upgrade of Lytton Road at

Murarrie and Hemmant.

The motorway's first stage will follow a route to the south of Lytton Road, from a new interchange on the Gateway Arterial, across Bulimba Creek, to link with Lytton Road at the Lindum Road intersection.

A later stage of the project will extend the road along an alignment to the south of Lytton Road to link with Port Drive – the feeder road to the port area.

The Federal Government will pay up

to \$44.6 million of the \$111 million overall cost of the Stage 1 of the project, with the State Government funding the remaining 60 per cent through the Port of Brisbane Corporation and Department of Main Roads.

Mr Mulligan said the improvement was another step ahead for the Port of Brisbane and the Australia TradeCoast, Australia's only gateway offering fully integrated air, sea, rail and road freight interchange facilities to connect domestic and overseas markets.

Penang to be reborn as tourism center

By Jimmy Yeow

IF San Francisco has its Fishermen's Wharf, Sydney its Darling Harbor and Singapore the Boat and Clarke quays as renowned waterfronts, Penang may soon have something to shout about with its very own Swettenham Pier and Weld Quay.

To Penang Port executive chairman Ahmad Ibnihajjar, the Swettenham Pier and Weld Quay are its facilities located on the island side of the state which have the potential of becoming a “must visit” place for anyone who is in Penang.

“Besides its core business in cargo handling, I look at Penang Port with tourism potential – the redevelopment of Swettenham Pier and Weld Quay as a heritage waterfront area,” he said in an interview with Business Times.

“That vision can be achieved within three years, if I get support from the authorities and funds for its development,” he said.

The Penang State Government has voiced its support for the port to be redeveloped.

Ahmad said as most of the port's cargo handling activities are now concentrated at the Butterworth terminals there is currently little activity at Swettenham Pier and Weld Quay.

Besides some cruise ships, barter trade boats, junks, tuna boats utilising the area with old godowns, there is “no life” after dark at the Swettenham Pier and Weld Quay.

“Penang brings in some RM2 billion in tourist money a year but very little of that is generated by tourism activities at the port, except for the ferry services,” Ahmad said.

He pointed that it will be a loss to Penang Port and the state, if Swettenham Pier and the ferry terminals at Georgetown and Butterworth, located at prime waterfront areas are not developed.

“Most of the tourists arrive by air, stay in the numerous hotels and go about visiting other parts of the island.

“There are hardly any tourism activities at Swettenham Pier and Weld Quay but we can get the tourists to come

when we redevelop it,” he said.

The heritage buildings in these areas will be maintained and turned into shops selling local products, restaurants, hotels

and others for night life activities, he said.

The cost of redeveloping Swettenham Pier and Weld Quay is estimated at RM50 million while that of the ferry terminal is RM1.5 million.

Part of the cost will be from the company's fund, borrowings and the rest may be a soft loan from the Government.

Ahmad said he has spoken to senior officials from the Prime Minister's Department, Transport Ministry and Culture, Arts and Tourism Minister Datuk Abdul Kadir Sheikh Fadzir for funds to redevelop the Swettenham Pier and Weld Quay.

The Penang Port executive chairman's first priority is to improve the loss-making ferry services provided by the port.

Describing the present ferry services as deplorable and “poorly manned”, Ahmad said the company plans to acquire two new catamarans and two new vehicular ferries.

The port currently operates five vehicular ferries at a loss of RM4 million to RM5 million yearly.

Each new ferry costs approximately RM15 million while the catamaran is



Ahmad Ibnihajjar
Executive Chairman
Penang Port Sdn. Bhd.



An aerial view of Swettenham Pier

WORLD PORT NEWS

NUMBER OF VESSELS CALLING AT THE PORT

Year	Number	% Growth	GRT (mil.tons)
1991	5,801	+4.94	17.5
1992	6,266	+8.02	18.1
1993	6,043	-3.56	19.7
1994	6,219	+2.91	25.4
1995	6,465	+3.95	27.3
1996	6,556	+1.40	29.2
1997	7,071	+7.85	30.8
1998	7,625	+7.83	31.2
1999	7,357	-3.51	29.5

PORT PERFORMANCE CARGO HANDLED AT PENANG PORT (In million freight tonnes)

Year	Import	Export	Total	% Growth
1991	7.28 (60%)	4.78 (40%)	12.06	+11.1
1992	8.04 (61%)	5.17 (39%)	13.21	+9.5
1993	8.82 (61%)	5.54 (39%)	14.36	+8.7
1994	8.61 (57%)	6.52 (43%)	15.13	+5.4
1995	9.96 (60%)	6.71 (40%)	16.67	+10.2
1996	10.83 (62%)	6.67 (38%)	17.50	+5.0
1997	12.44 (63%)	7.25 (37%)	19.69	+12.5
1998	9.19 (56%)	7.29 (44%)	16.48	-16.3
1999	10.42 (56%)	8.34 (44%)	18.76	+13.8

RM5 million per vessel.

"There are lots of complaints about the current services being slow and ferries which are about 20 years. The ramp at the Pengkalan Sultan Abdul Halim which collapsed in 1998 has yet to be repaired," he pointed out.

Many people and motorists like to use the ferry as it connects Georgetown and Butterworth. About 10,000 passengers commute by ferry between Penang and Butterworth daily.

The port wants to repair and beautify both the Pengkalan Raja Tun Uda (Georgetown) and Pengkalan Sultan Abdul Halim (Butterworth) terminals.

The new ferries will help reduce the waiting time by 40 per cent for passengers, motorists and motorcyclists who opt to commute between Georgetown and Butterworth.

"These investments in the ferry services will cost us money but if we can reduce the losses then it is some savings for the port.

Ahmad said Penang Port also hopes to attract more international cruises to call at Swettenham Pier after the redevelopment.

"We can get more cruise vessels to call at the port and also provide cruises around the island to places such as Tanjung Tokong and Pulau Jerejak," he said.

*(Shipping Times /
Monday, October 25, 1999)*

TYPES OF CARGO HANDLED (In million freight tonnes)

Year	General Cargo	Dry Bulk	Liquid Bulk	Containerised	Total
1991	2.09	2.31	2.94	4.79	12.06
1992	1.99	2.46	3.14	5.63	13.22
1993	1.96	2.90	3.28	6.22	14.36
1994	1.93	2.60	3.31	7.29	15.13
1995	2.11	2.99	3.46	8.11	16.67
1996	2.11	3.20	3.52	8.67	17.50
1997	2.59	3.37	4.11	9.62	19.69
1998	1.67	2.24	3.87	8.70	16.48
1999	1.84	2.77	4.00	10.15	18.76

CONTAINER TRAFFIC (In TEUs)

Year	Import	Export	Total	% Growth
1991	110,786	141,063	251,849	+13.2
1992	138,148	165,219	303,367	+20.5
1993	147,915	183,007	330,922	+9.1
1994	173,868	212,314	386,182	+16.7
1995	192,893	240,581	433,474	+12.2
1996	209,421	245,344	454,765	+5.0
1997	231,409	275,454	506,863	+11.5
1998	232,151	278,156	510,307	+0.68
1999	263,747	302,662	566,409	+11.0

CONTAINERISED CARGO TRAFFIC (In million freight tonnes)

Year	Import	Export	Total	% Growth
1991	1.68	3.11	4.79	+24.1
1992	1.98	3.65	5.63	+17.5
1993	2.19	4.03	6.22	+10.5
1994	2.50	4.79	7.29	+17.2
1995	2.88	5.23	8.11	+11.2
1996	3.29	5.38	8.67	+7.0
1997	3.58	6.04	9.62	+10.9
1998	2.76	5.94	8.70	-9.56
1999	3.39	6.26	9.68	+11.3

Launch of Tokyo News Service's Website

Tokyo News Service, Ltd. has posted its website "S&TN OnLine" on the Internet. Provided on this homepage for easy reference are liner shipping schedules and related data extracted from Shipping and Trade News and Sea Sprite.

With use of the website initially being offered free of charge, we would like to invite you to sign up to access the latest updates on the homepage by first entering the information requested on the registration page.



URL: <http://www.tokyonews.co.jp/marine>

Information posted: 1. Sailing schedules a. Liner shipping schedules (export/import) to and from Japan b. Liner schedules (export) from Asian countries other than Japan c. Feeder schedules to and from Singapore
2. Ship details 3. Telephone and fax numbers of shipping firms and agents 4. Surcharges 5. News (in preparation)

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