SEA TECHNOLOGY EUROPE

PROGRAMME

18–19 OCT '83 BRUSSELS

SPONSORED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES

1 DAY MORNING — High Technology and the European Maritime Industries

0905 : **Conference Welcome**
H. von Moltke
Head of Cabinet to
Mr. K.H. Narjes, Commissioner

0910 : **High Technology Transfer — the Survival of the Fittest**
Viscount E. Davignon
Vice President
Commission of the European Communities
Commissioner for Industrial Affairs, Energy and Research

0940 : **Conference Introduction**
M. Carpentier
Director-General
Task Force
Information Technologies
Commission of the European Communities

SESSION THEME: **European Ports Data Processing Association (EVHA)**

SESSION CHAIRMAN: R. Vleugels,
Chairman of EVHA

1000 : **EVHA Policy**
R. Vleugels
Director General
Port of Antwerp

1020 : Coffee Break

1040 **Pilot Network, Contents and Experiences**
R. Russell
Director and General Manager
Clydeport Data Management
Clydeport, Glasgow

1115 : **Dangerous Substances — Problems and Solutions**
Captain E. Stender
Port of Bremen

1125 : **Final Network — Objectives, Scope, Benefits**
Dr. W. Sobotta
ERNO Consortium
Bremen

1200 : **Panel Discussion on EVHA**
Panel Chairman: A. Smith
Secretary
British Ports Association

1230 : Drinks and Lunch

1 JOUR MATIN — Technologie de pointe et Industries Maritimes Européennes

0905 **Discours de bienvenue à la Conférence**
H. von Moltke
Chef de Cabinet de M. K.H. Narjes,
Membre de la Commission

0910 **Transfert de technologie de pointe — Une sélection naturelle**
Vicomte E. Davignon
Vice-Président
Commission de la CEE
Chargé des Affaires Industrielles
(Energie et Recherche)

0940 **Introduction à la Conférence**
M. Carpentier
Directeur Général
Techniques Informatiques
Moyens de Personnel
Commission de la CEE

Thème de la session : **L'Association pour le Traitement des Données des Ports Européens (EVHA)**

Président de session : R. Vleugels
Président de EVHA

1000 **Stratégie de EVHA**
R. Vleugels
Directeur Général
Port d'Anvers

1020 Pause

1040 **Réseau pilote — Contenu et expériences**
R. Russell
Président Directeur Général
Clydeport Data Management
Clydeport, Glasgow

1115 **Substances dangereuses — Problèmes et solutions**
Capitaine E. Stender
Port de Brême

1125 **Réseau final — Objectifs, nature et avantages**
Dr. W. Sobotta
Consortium ERNO
Brême

1200 **Discussion sur EVHA**
Président : A. Smith
Secrétaire
British Ports Association

1230 Apéritifs et déjeuner

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A SYMPOSIUM ON TECHNOLOGY IN EUROPEAN PORTS AND SH

1 DAY

AFTERNOON

European Community Maritime Research and Development

SESSION CHAIRMAN: J.R. Steele
Director-General
Directorate General for
Transport, DG VII

1430 : **An Introduction to COST 301 — Shore-Based Marine Traffic Assistance System and Procedures**
R. Salvarani
COST 301 Project Manager
DG VII

1450 : **Criteria for Standard Identification of Critical Areas for Marine Traffic**
C.C. Glansdorp
Head of Navigational Research
Netherlands Maritime Institute (MARIN)
Rotterdam

1510 : **Inventory and Harmonisation of Vessel Traffic Services and Procedures**
J. Prunieras
Secretary General,
International Association of Lighthouses
Paris

1530 : Tea

1550 : **Identification, Location and Tracking of Vessels**
J. Reynolds
National Maritime Institute, U.K.

1610 : **Ship-to-Shore Communication**
H. Kuhlbrodt
Ministry of Transport, Koblenz
West Germany

1630 : **Movement of Ships in Confined Areas**
Dr. J. Sukselainen
Ship Laboratories (VTT)
Technical Research Centre of Finland

1650 : **Forum on COST 301**
R. Salvarani

1740 : **Determining the Most Suitable Fleet Characteristics as a Function of Costs and Energy Requirements**
Dr. G. Giacomazzi
EEC Joint Research Centre
Ispra, Italy

1805 : QUESTIONS

1830 : **Conference concludes for Day One.**

1900: Reception at the Brussels Town Hall for delegates, speakers and guests to SEA TECHNOLOGY EUROPE; welcome by Mr. A. Andreopoulos, Director-General, DGXI

1 JOUR

APRES-MIDI

Recherche et Développement Maritime de la CEE

Président de session : J.R. Steele
Directeur Général
Direction Générale des
Transports DG VII

1430 **Introduction au COST 301 — Procédures et Systèmes d'Assistance au Trafic Maritime basés à terre**
R. Salvarani
Chef de Projet COST 301 DG VII

1450 **Critères pour Identification de Standards de Zones Critiques pour le Trafic Maritime**
C.C. Glansdorp
Chef de la Recherche en Navigation
Netherlands Maritime Institute (MARIN), Rotterdam

1510 **Inventaire et Harmonisation des Procédures et Services de Trafic Maritime**
J. Prunieras
Secrétaire Général
Association Internationale des Phares, Paris

1530 Pause

1550 **Identification, Localisation et Repérage des Navires**
J. Reynolds National Maritime Institute, U.K.

1610 **Communications entre Navires et Terre**
H. Kuhlbrodt
Ministère des Transport, Coblence
Allemagne Fédérale

1630 **Mouvements des Navires dans les espaces restreints**
Dr. J. Sukselainen
Ship Laboratories (VTT)
Technical Research Centre of Finland

1650 **Forum sur COST 301**
R. Salvarani

1740 **Détermination des Caractéristiques de Flotte les mieux appropriées en fonction des critères de coût et d'énergie**
Dr. G. Giacomazzi
Joint Research Centre, CEE Ispra, Italie

1805 QUESTIONS

1830 **Fin de la première journée de conférence**

1900: Réception à l'Hotel de Ville de Bruxelles pour tous les délégués, conférenciers et invités participant à TECHNOLOGIE MARITIME EN EUROPE. Accueil assuré par M. A. Andreopoulos, Directeur Général, DG XI

EA
OLOGY
ROPE

PPING : PALAIS DES CONGRES : BRUSSELS : BELGIUM

DAY 2 MORNING

Shipping and The Community

SESSION CHAIRMAN: J. Saverys, Director
Compagnie Maritime Belge
Board Member of CAACE
(European Shipowners' Association)

0905 : **Ports and Shipping — Tele-Informatic Solutions to Future Maritime Problems.**
A. Sarich
Project Manager EVHA & EASI
Director Informatica Ltd.

0935 : **An Introduction to the EASI Project**
F. Gunschera
Sloman Neptun, Bremen
EASI Chairman

0950 : **Voyage Calculation System**
Z. Kornfeind
Lloyd Triestino, Trieste

1005 : **Vessel and Port Performance System**
C. Vordokas
Trade Management Services, Piraeus

1025 : Coffee

1045 : **Fleet Scheduling System**
R.J. Ouwerkerk
Unigas International, Rotterdam

1100 : **Container Control System**
B. Schierbeck
Hamburg-Süd

1130 : **Optimal Vessel Operations System**
P. Montenez
Compagnie Maritime Belge
Antwerp

1200 : **Panel Discussion on EASI**
Panel Chairman: F. Gunschera
Sloman Neptun, Bremen
EASI Chairman

1230 : Drinks and Lunch

2 JOUR MATIN

Le Frêt Maritime et la Communauté

Président de session : J. Saverys, Directeur
Compagnie Maritime Belge
Membre Comité de Direction
de la CAACE (Association
des Armateurs Européens)

0905 **Ports et Frêt — Solution de Télé-Informatique aux Problèmes Maritimes Futurs**
A. Sarich
Chef de Projet EVHA & EASI
Directeur, Euromatica Ltd.

0935 **Une Introduction au Projet EASI**
F. Gunschera
Sloman Neptun, Brême
Président de EASI

0950 **Système de Calcul de Voyage**
Z. Kornfeind
Lloyd Triestino, Trieste

1005 **Systèmes d'Optimisation des Ports et Navires**
C. Vordokas
Services Commerciaux, Le Pirée

1025 Pause

1045 **Système de Programmation de la Flotte**
R.J. Ouwerkerk
Unigas International, Rotterdam

1100 **Système de Contrôle des Conteneurs**
B. Schierbeck
Hamburg-Süd

1130 **Système d'Exploitation Optimale des Navires**
P. Montenez
Compagnie Maritime Belge
Anvers

1200 **Discussion sur EASI**
Président de table ronde: F. Gunschera
Sloman Neptun, Brême
Président de EASI

1230 **Apéritifs et déjeuner**

SEA TECHNOLOGY EUROPE

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DAY 2

AFTERNOON

The Marine Environment

SESSION CHAIRMAN: A.J. Fairclough
Director
DG XI
Environment, Consumer Protection & Nuclear Safety

1430 : **The European Community and Marine Pollution**
A. Andreopoulos
Director-General
DG XI
Environment, Consumer Protection & Nuclear Safety

1450 : **New Methods of Controlling Oil Pollution**
V. Mandl
DG XI
Protection & Management of Water

1510 : **Use of EEC Information Systems in the Control of Pollution**
A. Barisich
Commission of the European Communities

1530 : Tea

1550 : **Marine Environmental Research Programmes of the Community**
P. Bourdeau
Director
Directorate General for Science, Research and Development, DG XII

1615 : **Panel Discussion on the Marine Environment**
Chairman: A. Fairclough

CONCLUDING THEME: INFORMATION TECHNOLOGY AND THE MARITIME COMMUNITY

1635 : **Data Provision for an Integrated Marine Information System**
Dr. E.A. Muller and J.R. Hughes
Joint Chief Executives
Lloyd's Shipping Information Services (LSIS)

1705 : QUESTIONS

1725 : **The Developing Role of the Commission in Applying Information Technology to Community Ports and Shipping**
M. Carpentier
Director-General
Special Task Force
Information Technologies
Commission of the European Communities

1750 : Conference concludes

JOUR 2

APRES-MIDI

L'Environnement Marin

Président de session : A.J. Fairclough, Directeur, DG XI
Protection de l'Environnement et des Consommateurs, Sûreté Nucléaire

1430 **La Communauté Européenne et la Pollution des Mers**
A. Andréopoulos, Directeur Général DG XI
Protection de l'Environnement et des Consommateurs, Sûreté Nucléaire

1450 **Nouvelles Méthodes de Contrôle de la Pollution par le Pétrole**
V. Mandl, DG XI
Protection et Gestion des Eaux

1510 **Utilisation des Systèmes d'Information de la CEE dans la Lutte contre la Pollution**
A. Barisich
Commission des Communautés Européennes

1530 Pause

1550 **Programmes de Recherche sur l'Environnement Marin de la Communauté**
P. Bourdeau, Directeur
Direction Générale des Sciences, Recherche et Développement, DG XII

1615 **Discussion sur l'Environnement Marin**
Président : A.J. Fairclough

THEME FINAL : LA TECHNOLOGIE INFORMATIQUE ET LA COMMUNAUTE MARITIME

1635 **Constitution de Données pour un Système Intégré de Traitement des Données Maritimes**
Dr. E.A. Muller et J.R. Hughes
Directeurs Associés
Lloyd's Shipping Information Services (LSIS)

1705 QUESTIONS

1725 **Le rôle croissant de la Commission dans l'Application des Techniques Informatiques aux Ports et au Commerce Maritime de la Communauté**
M. Carpentier, Directeur Général
Techniques Informatiques, Moyens de Personnel
Commission des Communautés Européennes

1750 Clôture de la Conférence

SEA TECHNOLOGY EUROPE
Organised for the Commission of the European Communities by Business Briefings Ltd, 565 Fulham Road, London SW6 1ES

SEA TECHNOLOGY EUROPE

A SYMPOSIUM ON HIGH TECHNOLOGY IN EUROPEAN PORTS AND SHIPPING

PALAIS DES CONGRES, BRUSSELS, BELGIUM

18TH-19TH OCTOBER 1983

SPONSORED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES

A LIST OF DELEGATES ATTENDING

NAME	TITLE	APPOINTMENT	COMPANY/ORGANISATION	COUNTRY
Abadie, Dominique	Mr	Head of Department Maritime and Harbor Activities	STERIA	France
Ahlberg, Sten H	Mr	Nav. Arch.	Trans Consultants AB	Sweden
Altschuler, S	Mr	Resident Manager - London Office	Mardata	UK
Anastassiou, A	Mr	Executive Vice President	Heracles International S.A.	Greece
Andreopoulos, A	Mr	Director-General DGXI	Commission of the European Communities	Belgium
Baker, R.	Mr	Research Officer	MIMAC	UK
Barisch, A	Mr	-	Commission of the European Communities	Belgium
Berg, Jorgen	Captain	Superintendent	J. Lauritzen A/S	Denmark
Binns, N	Mr	Calc. & Controlling Superv.	MTC Maritime Transport Overseas GmbH	Germany
Bond, Stephen	Mr	Managing Director	Videotel Marine International	UK
Bordeau, P	Mr	Director DGXII	Commission of the European Communities	Belgium
Boyd, T M	Mr	Engineer-in-Chief	Commissioners of Irish Lights	Ireland
Bruun, Peer Eske	Mr	N/K	Danish Information Systems A/S	Denmark
Carnell, A	Mr	Commercial Director	Decca Electronics Ltd	UK
Carpentier, M	Mr	Director-General Task Force	Commission of the European Communities	Belgium
Claus, Jurgen	Mr	Product Manager	Krupp Atlas Elektronik GmbH	Germany
Clausen, Henning	Mr	EDP Coordinator	East Asiatic Company	Denmark
Clingan, I C	Mr	Director	AGA Navigation Aids Limited	UK
Coldwell, Terrence G	Dr	N/K	Centre for Maritime Transport & Operations	UK
Cooper, D E O	Mr	General Manager	CONSEP Limited	UK
Coppieters, Hugo	Mr	Beheerder-direkteur	Ahlers Shipping N.V.	Belgium
Corckhill, Michael	Mr	The Editor	Hazardous Cargo Bulletin	UK
Cotterill, Ken	Mr	Journalist	Freelance	UK
Cowins, Kenneth	Mr	Manager Business Development International	Eaton Corporation A.I.L. Division	USA
Cremer, D G B	Mr	Assistant Sales Manager	Marconi Radar Systems Ltd	UK
Curran, P M T	Mr	Senior Engineer	Decca Electronics Ltd	UK

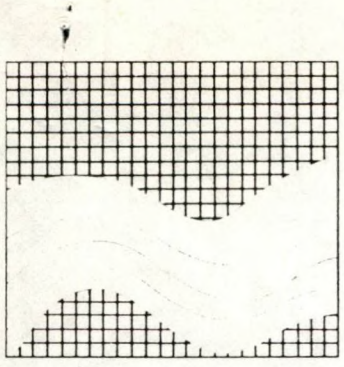
NAME	TITLE	APPOINTMENT	COMPANY/ORGANISATION	COUNTRY
de Borst, J.R.P.	Mr	Managing Director	CMG Havenrekencentrum	Netherlands
de Dietriech, P	Mr	Official	Comité Central des Armateurs de France	France
de Nie, J	Drs	N/K	Port of Rotterdam	Netherlands
den Hollander, G J	Mr	Consultant	Neddata B.V.	Netherlands
der Dievre, Aline	Miss	Journalist	Journal of Navigation	UK
Dagblad, -	-	The Editor	Dagblad Scheepvaart	Netherlands
Davignon, E	Viscount	Vice President	Commission of the European Communities	Belgium
Davy, D W	Mr	Director in Charge	Racal Positioning Systems Ltd	UK
DAHA, -	-	The Editor	Dock & Harbour Authority	UK
De Baets, Raymond	Mr	President	USRL	Belgium
De Blende, Gaston	Mr	Secretary-General	European Maritime Pilots' Association	Belgium
De Wilde, André	Mr	Port Commander	Port Authorities	Belgium
Decort, S S	Mr	Advisor	Maatschappij van de Burgue Zeevaartinzichtingen	Belgium
Della Loggia, Bruno	Mr	Head of Hydrodinamic Dept.	Cetena S.p.A.	Italy
Dijks, J H	Mr	-	Haven Vervoerschool	Belgium
Drewery, Geoffrey B	Mr	Assistant Harbour Master	Port of Vancouver	Canada
Du Mesnil, Hubert	Mr	Directeur Exploitation Générale	Port Autonome De Marseille	France
Edmundson, John	Mr	The Editor	Marine Policy	UK
Ellen, Rolland G.	Mr	N/k	Lloyd's Shipping Information Services	UK
Emerson, Nick	Mr	N/K	National Board for Science & Technology, Ireland	Ireland
Evelyn, John L	Mr	Chief Executive	Ipswich Port Authority	UK
Fairclough, A J	Mr	Director	Commission of the European Communities	Belgium
Finkelstein, David	Mr	Director - International Marketing	CENTI - Ingénierie Informatique	France
Fletcher, A D	Mr	Manager Maritime Projects	Easams Limited	UK
Friday, B J	Mr	Head of Planning & Development	Port of London Authority	UK
Frouws, J W	Mr	Naval Architect	Dow Chemical (Nederland) B.V.	Netherlands
Fuller, K L	Mr	Technical Director	Decca Electronics Ltd	UK

NAME	TITLE	APPOINTMENT	COMPANY/ORGANISATION	COUNTRY
Gazels, R.H.A.	Mr	Liaison Officer	European Association of Classification Societies	Belgium
Giacomazzi, G	Dr	-	EEC Joint Research Centre	Italy
Gill, Walter	Mr	Dipl-Phys	GST Gesellschaft für System-technik mbH	Germany
Glansdorp, C C	Mr	Head of Navigational Research	Netherlands Maritime Institute	Netherlands
Gray, Michael	Mr	Journalist	Fairplay Publications Limited	UK
Greenlee, H N	Captain	Inspector of Lights & Marine Superintendent	Commissioners of Irish Lights	Ireland
Guest, Andrew	Mr	Journalist	Lloyd's Ship Manager	UK
Gunschera, F	Mr	-	Sloman Neptun	Germany
Haldane, R	Mr	Services Planning Officer	BP Petroleum Development Ltd	UK
Hangen, Ludwig	Prof	Dipl. Ing.	Hochschule Bremerhaven	Germany
Hansford, R F	Mr	Senior Manager	Decca Electronics Ltd	UK
HANSA, -	-	The Editor	HANSA	Germany
Hoeve, J	Mr	Manager Consultancy	Neddata B.V.	Netherlands
Hofstee, Robert	Mr	Empa Officer	European Maritime Pilots' Association	Belgium
Hughes, J R	Mr	Joint Chief Executive	Lloyd's Shipping Information Services	UK
Inttra, -	-	The Editor	International Transport Journal	Switzerland
Jaumotte, Roger	Mr	The Editor	Lloyd Anversois S A	Belgium
Jeffries, J R	Captain	Consultant	Racal-Decca Electronics	UK
Johansen, Hans	Mr	N/K	Kampsax International A/S	Denmark
Katgerman, J	Drs	N/K	Port of Rotterdam	Netherlands
Kieselhorst, W H	Mr	Product Manager	HPC Hamburg Port Consulting GmbH	Germany
Koburger, Jr, C W	Captain	N/K	City of London Poly	UK
Koppers, W.N.J.	Mr	Managing Director	CMG Havenrekencentrum	Netherlands
Kornfeind, Z	Mr	-	Lloyd Triestino	Italy
Kruger, -	Mr	Operating Supervisor	MTC Maritime Transport Overseas GmbH	Germany
Kuhlbrodt, H	Mr	-	Ministry of Transport	Germany
Kunst, J R	Mr	Marketing Manager, Systems	Sperry Ltd, Electronic Systems	UK
Kyriazi, Vicky	Mrs	N/K	Hellenic Marine Environment	Greece

NAME	TITLE	APPOINTMENT	COMPANY/ORGANISATION	COUNTRY
Lawless, C.J.	Captain	Harbour Master	Dublin Port & Docks Board	Ireland
Leussink, G J	Mr	Head, Performance Monitoring	Shell Tankers B.V. DFMI	Netherlands
Lewell, R M	Mr	N/K	Lloyds Shipping Information Services	UK
Littlejohn, David	Mr	Business Manager	Lloyd's Shipping Information Services	UK
MacFarlan, C A	Mr	Secretary	Commissioners of Irish Lights	Ireland
Magner, Jorgen	Mr	Head of Section	National Agency of Environmental Protection	Denmark
Mandl, V	Mr	-	Commission of the European Communities	Belgium
Marking, Tim	Mr	Official	Comité des Association d'Armateurs des Communautés Européennes	Belgium
McDiarmid, Hugh S	Mr	Lecturer in Computing	Leith Nautical College	UK
Micco, Monica	Sra	Head of Office	Cetena S.p.A.	Italy
Millar, I.C.	Mr	Principal Scientific Officer	Department of Industry	UK
Mitsatsos, Dimitris C	Mr	Secretary General	HELMEPA	Greece
Moelbach, Ben	Mr	Contracts Manager	Norcontrol	Norway
Montenez, P	Mr	-	Compagnie Maritime	Belgium
Morrison, James	Mr	Manager, Engineering Department	British Ship Research Association	UK
Muller, E A	Dr	Joint Chief Executive	Lloyd's Shipping Information Services	UK
Mundy, Mike	Mr	Journalist	CSP Publications Limited	UK
Murtagh, Thomas	Mr	Researcher	Humberside College of Higher Education	UK
Mwilwijk, C	Captain	Harbour Master	Gemeente Lyk Haven Bedrijk	Netherlands
Ottmuller, Otto A	Mr	Partner & General Manager	Otto A. Muller GmbH	Germany
Ouwerkerk, R J	Mr	-	Unigas International	Netherlands
Parry, R H	Mr	Senior Marine Officer	Marine Department	Hong Kong
Peugniez, Dominique	Mr	Secretary-General	Comité des Association d'Armateurs des Communautés Européennes	Belgium
Pike, Dag	Mr	Journalist	Freelance	UK
Pohl, Hans-Heinrich	Mr	Dipl. Kaufmann	Bremer Lagerhaus-Gesellschaft	Germany
Prunieras, J	Mr	Secretary General	International Association of Lighthouses	France

NAME	TITLE	APPOINTMENT	COMPANY/ORGANISATION	COUNTRY
Raat, J	Mr	Director	National Foundation for the Coordination of Maritime Research	Netherlands
Ratcliffe, S.	Mr	Consultant	-	UK
Rawson, Anthony J	Captain	N/K	School of Maritime Studies (Wales)	UK
Reynolds, J	Mr	-	National Maritime Institute	UK
Ribadeau Dumas, Louis	M.	Ingénieur	Organisation et Amenagement	France
Richardson, M L	Mr	Group Chief	Marconi Radar Systems Ltd	UK
Rijsdijk, M.H.	Mr	Associate Director	CMG Havenrekencentrum	Netherlands
Robisn, Luc	Mr	N/K	Sesa-Benelux	Belgium
Roos, J	Mr	Managing Director	Nautical College Noorder Hoaks	Holland
Rother, Detlef	Mr	Dipl. Okonom	Institut fur Seeverkehrswirtschaft	Germany
Rougier, Gilles	Mr	Chartering Manager	Cetrag P.A.	France
Roussel, Michel	Mr	Journalist	Journal de la Marine Marchande	France
Roze, René	Mr	Marine Superintendent	T.V. Zeebouw	Belgium
Russell, R	Mr	Director & General Manager	Clydeport Data Management	UK
Salfner, Alois	Mr	Marketing Manager	BEBEG GMBH	Germany
Salvarani, R	Mr	Cost 301 Project Manager	Commission of the European Communities	Belgium
Sarich, A	Mr	Project Manager EVHA & EASI	Commission of the European Communities	Belgium
Saverys, J	Mr	Director	Compagnie Maritime Belge	Belgium
Schierbeck, B	Mr	-	Hamburg-Sud	Germany
Shmukler, Vladimir	Mr	Managing Director	Naviguide Ltd	Israel
Skaarup, Kim	Mr	Manager, EIP Department	J. Lauritzen A/S	Denmark
Sobotta, W	Dr	-	ERNO Consortium	Germany
Sonneveldt, A C	Mr	Chief Radio Dep.	Radio Holland BV	Netherlands
Spaas, J P M	Mr	President	Antwerp Freight Forwarders Association	Belgium
Speidel, Volker	Prof. Dr.	N/K	Hochschule Bremerhaven	Germany
Stecher, Wilfried	Captain	N/K	Verband Deutscher Reeder	Germany
Steele, J R	Mr	Director-General	Directorate General for Transport, EEC Commission	Belgium
Stender, E	Captain	Captain	Port of Bremen	Germany
Stuer, Jos	Captain	National Secretary	CVD	Belgium
Stuurman, S M	Mr	Civil Engineer	D G S M	Holland
Sukselainen, J	Dr	-	Technical Research Centre	Finland

NAME	TITLE	APPOINTMENT	COMPANY/ORGANISATION	COUNTRY
Thomas, B.E.M.	Mr	Project Manager	MIMAC	UK
Thooll, J	Mr	N/K	D G S M	Holland
Trafford, D	Mr	Director - EDP	SITPRO	UK
Vancraeynest, R	Mr	Director-General	Belgian Maritime Administration	Belgium
Veng, Carl	Mr	Ass. General Manager	Port of Copenhagen Authority	Denmark
Vink, Wim	Mr	Chief Consultant	I/S Datacentralen AF 1959	Denmark
Vleugels, R	Mr	Director General	Port of Antwerp	Belgium
Vollmers, Claus	Mr	Marketing Manager Logistics	DATAPOINT Deutschland GmbH	Germany
Von Moltke, H	Mr	Head of Cabinet to Mr K.H.Narjes	Commission of the European Communities	Belgium
Vordokas, C	Mr	-	Trade Management Services	Greece
Wallace, Donald J	Mr	Chief Accountant	Ipswich Port Authority	UK
Ward, N	Mr	PTO II	Trinity House	UK
Weeda, J	Mr	N/K	Hollandse Signaal Apparaten BV	Netherlands
Weeks, F F	Captain	Maritime Consultant	Language Management	UK
Welch, Walter	Mr	Director (Marine)	General Council of British Shipping	UK
White, Ian C.	Dr	Asst. to Managing Director	International Tanker Owners Pollution Federation Limited	UK
Willmore, Richard H.	Mr	N/k	Lloyd's Shipping Information Services	UK
Wright, David	Mr	Service Development Officer	INMARSAT	UK
Yiannoutos, Theodore	Mr	Official	Comité des Association d'Armateurs des Communautés Européennes	Belgium
Ziese, Rolf	Mr	Product Manager	Krupp Elektronik GmbH	Germany
Zouppas, E	Mr	N/K	N/K	Greece
Zwaenepoel, Fred	Mr	Section Manager, Hydraulic Works	Tractionel SA	Belgium



SEA TECHNOLOGY EUROPE
18th - 19th OCTOBER, 1983

A SYMPOSIUM ON HIGH TECHNOLOGY IN EUROPEAN PORTS AND SHIPPING.
PALAIS DE CONGRES, BRUSSELS, BELGIUM.

SPONSORED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES

THEME : European Community Maritime Research and Development

DATE : Tuesday. 18th October, 1983

1510 : Inventory and Harmonisation of Vessel Traffic Services and Procedures

By

J. Prunieras
International Association of Lighthouses, Paris

Inventory of VTS Procedures and their harmonization

by J. Pruniéras, Secretary General, IALA

I Introduction

Due to the importance of the task assigned to the participants in Action COST 301, it was decided, as you know, to share the studies between several working groups.

The International Association of Lighthouse Auhtorities, which is particularly interested in the whole subject, participates more actively in the two studies entitled:

- Inventory of shore-based marine traffic systems in Western Europe (item n°3)
- Harmonization of the procedures of traffic services (item n°7).

Today, I intend to speak about these two items.

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II Inventory of Vessel Traffic Services

The need for such an inventory was obvious as soon as VTS became developed and discussions started on the subject, at international level, particularly under the aegis of the Institutes of Navigation.

The study published in 1978 by Y. Fujii and H. Yamamouchi (Japan) contains the first details about the equipment of vessel traffic services collected in 1976 and 1977. It constituted the first source of information available on the subject at international level.

At that time, 68 marine traffic management systems had been listed, fitted with 145 radars, 70 of which were established in pilotage stations.

In 1980, when the International Association of Lighthouse Authorities asked its specialised Technical Committee to study the harmonization of Vessel Traffic Services procedures, it was recognised that there was a need for more information, particularly on the operational aspect of Vessel Traffic Services.

Early in 1981, the International Association of Ports and Harbours decided to combine its efforts with those of IALA.

IAPH and IALA jointly drafted a questionnaire which was circulated to the members of these two organisations (86 IALA members and 200 IAPH members).

This questionnaire is attached as Annex 1.

It is divided into 7 groups of questions:

i) general information about the objectives of and areas covered by VTS,

ii) nature of information exchanged and operational means involved for this purpose,

iii) traffic regulations, objectives,

iv) navigational assistance, objectives,

v) operation of VTS and particularly level of staff qualifications,

vi) other objectives,

vii) comments.

The essential aim was to obtain information about VTS objectives and organisation rather than details of their technical aspects.

Due to the heavy response to the questionnaire, it was decided to ask the Maritime Research Institute, Netherlands, to carry out an analysis of the replies.

Captain Tresfon and his team carried out the work and produced a very exhaustive report, which is available for participants wishing to read it in detail.

I shall therefore restrict my comments to a brief summary of the answers to the seven groups of questions.

II-1 General information about the objective of and areas covered by VTS.

160 answers were received.

They decribe very different systems. In the simplest situations they consist of radio stations for the exchange of information between shore and ships.

The information itself may be limited for example to the communications concerning one single port service, mostly the pilotage service.

On the contrary, there is a significant number of systems where the movements of vessels are continuously monitored and organised by radar in conjunction with data processing systems and with means of vessel identification and communications.

Most of these traffic systems (48%) are funded by governments. 36% of them are funded by port authorities. The governments themselves operate 43% of VTS whereas 44% are operated by port authorities.

The answers to the questionnaire show that the main objectives of VTS are as follows:

- evaluation of traffic and environmental safety (95% of the answers)
- efficiency of traffic flow (91%)
- aid to navigation (86%)

But the answers also show that many VTS are used to improve the quality of the services offered by port authorities to the vessels (towage, inshore pilotage, berthing) and that they may also be used for communication in case of urgency (search and rescue, marine pollution, etc..).

Areas covered by VTS differ largely .

The preferred ares are berthing areas (85%) and access channels to ports and estuaries (81%) but 40% of the answers show that VTS may also cover coastal waters, either inside or outside the limit of territorial waters.

The answers to questions concerning VTS tasks are directly limited to those concerning the VTS objectives. Several answers show that VTS gives information and advice but does not direct the maoeuvres.

Finally, it should be noted that 92% of the answers mention a 24hr continuous VTS service.

II-2 Information (acquisition of traffic data ashore end transmission of information to vessels)

The answers to the questionnnaire show that the methods for the acquisition of the traffic data are very different. These answers also show that there is an urgent need for the harmonization of procedures.

The information required by shore-based stations comprises information about position and route, estimated time of arrival, characteristics of the vessel and nature of cargoes.

The messages use many types of format: some have been drawn up internationally but many others have been designed locally and duplication of information is not exceptional.

As regards traffic surveillance from shore-based stations, the answers show that:

- direct visual observation from the centre or from patrol craft is still important;
- surveillance radars with total or partial coverage and radio-direction finders are developing;
- the number of cases where transponders are used or special receivers placed on board is very low (4% in each case).

The need for an exchange of information between VTS and other parties in the traffic flow is clearly underlined. Information provided by others is used in 36% of the cases; that issued by port services is used in 58% of the cases and 29% of the time a diffuse mixture of information received from various sources is used.

With regard to the way in which information is circulated among vessels, the answers show that visual means are still favoured (29% of the cases).

The interest in HF (11%) and MF (22%) radiocommunications is rather strong but we think it tends to decrease.

The use of VHF (100%) is definitely general. The use of simplex communications is the most frequent. The importance of telex is also underlined.

An important proportion of VTS issue regular bulletins. But the answers stress the need for harmonization of bulletin formats; which will lead to drawing up an exhaustive list of data likely to be transmitted. The questionnaire shows the importance

for VTS of meteorological data (41%), aids to navigation (52%), traffic characteristics (48%) and particularly the situation covering hampered vessels or vessels carrying dangerous goods (51%).

Finally, under the same item ii), the questionnaire sought information about the language(s) used. Though the details given are not always of the required precision, we can assume that nearly all VTS use the English language, 50% of them also using their national language.

The answers to the questions on the use of the IMO Standard Vocabulary are not totally convincing; 54% of them say that it is used; only 30% of them say that the IMO Standard Messages are used.

It should also be said that a significant proportion of answers mention that non-programmed messages are used when an accident occurs (91%), in case of a new danger (90%), a dangerous manoeuvre of a vessel (78%), a contravention of navigation rules (19%) or on request by a particular vessel (88%).

Once again, it is evident that there is a need for a common language and adequat procedures.

II-3 Traffic regulations

The questionnaire was aimed at identifying the requirements covered by the expression "traffic regulation".

The answers show a large number of cases (76%) where VTS is charged with enforcing certain rules relating to traffic flow, either applicable to all vessels, or to particular classes of vessels (especially oil tankers or vessels carrying dangerous goods).

The principal purpose of the rules is to specify the conditions under which movements are authorized (76%). They may also prescribe speed limits (35%) as well as times to pass given points (41%). Recommendations on the speed (39%) and on the distance between ships (32%) are less often mentioned.

II-4 Navigational assistance

As already mentioned, most of the centres (76%) provide for navigational assistance and the answers received have permitted the establishment of an exhaustive list of information provided. They underline the fact that, in slightly more than 50% of the cases, information is provided at the request of vessels.

The same group of questions is concerned with information about the role of operators of surveillance centres and on their relations with pilots.

The analysis shows, in numerical form, the various points of view about the relationship between pilots and VTS operators and also the difficulties in harmonizing the actions of services having common objectives.

Less than a third of answers mention that pilots play the role of VTS operators and/or that they are present in the centres.

In several cases, VTS operators and pilots share the VTS operation. The pilots take the place of the operators during low

visibility and bad weather periods.

As an aside, it may be noted that one reply asked for an adequate definition of "VTS operator".

II-5 VTS operation

A large majority of the answers confirm the information already given about continuous watch in VTS.

And the answers concerning the staff show that the number of personnel on continuous watch varies widely around 10 persons.

But the most important item in the 5th group of questions was the initial qualification and training of VTS operational staff.

This subject is controversial and we have noted, through the answers, a large variety of situations.

However, some consensus emerges along the following lines:

The traffic surveillance on one hand and the traffic regulation and navigational assistance on the other hand, are different tasks, the latter requiring professional qualification of higher level than the former. Training periods for the second kind of task are, on the whole, longer than those for the first.

A large majority thinks that in both cases, a prior experience of at least 10 years at sea is necessary. However, some think that personnel without any experience at sea but with proper training in VTS operation are able to operate such systems. They justify their opinion by the example of air traffic control.

This important subject, without doubt, will give rise to further discussions.

II-6 Miscellaneous

The main objective of the questions raised in the penultimate group was to determine whether VTS is able to play roles other than the essential ones of traffic surveillance, traffic regulation and aid to navigation.

The answers received confirm and detail those related to the first group of questions.

We shall not detail here the other tasks given by some administrations or ports to their VTS. But we can conclude that VTS, in most cases, is not only considered as aiming at improving traffic and environment safety and optimizing the service offered to vessels, but as the element with which a number of services with the same objectives can unite.

The trend is therefore to ask VTS to play a federal role.

II-7 Comments

The aim of this last group of questions was to give administrations and services an opportunity to express their opinions without any fixed framework.

The views expressed show that a large majority (66% of the answers) is in favour of making the system of information reports compulsory, as well as the VHF watch.

The need for the submission of a sailing plan is questioned (32% for, 32% against).

A considerable number of comments were added to the answers concerning the training of VTS operators. 42% in favour of previous training at sea; 21% are against it. Only 27% of the answers are in favour of experience in pilotage, 35% against.

Finally some comments were made on VTS equipment (opportunity of having communications recorded; development of associated computer systems).

To sum up, the answers to the joint IALA/IAPH questionnaire returned by governmental and port authorities have provided a great deal of information. The analysis made by MARIN has permitted the views to be quantified. It emphasizes the work done on an international level.

This work has confirmed and made clearer the somewhat obscure impression that there was a need for strong action aimed at harmonizing the VTS operation procedures.

However, within the framework of the COST 301 action, it seemed essential to ascertain how much and what sort of information is collected by different VTS for processing and to find out the techniques used.

Thus COST 301 working group in charge of the programmes, inventory and harmonization, has decided, jointly with other COST 301 groups, to circulate a supplementary questionnaire to all services operating VTS.

This second questionnaire is attached. It is also divided into 7 parts as follows:

- area covered
- traffic data
- navigational data
- communications between ships and VTS
- information exchange between VTS centres
- identification
- detection, location, tracking.

It does not seem necessary here to comment on questions of the first three groups, the aim here being to go further into the nature and the scope of the needs.

On the contrary, the following groups of questions were designed to call for new concepts and consequently future developments of:

- sensors of parameters characterising the movements of vessels and the environment
- transmission systems adapted to data transfer either between vessels or some given measurement points and VTS centre or between VTS centres,
- systems for data processing and displaying to users the information processed.

Within the framework, a group of questions is devoted to the problem of identification, the primary importance of which

is therefore recognised for the future evolution of VTS objectives.

Answers to this questionnaire are now being studied, and combined with the answers to the first questionnaire, they will hopefully provide a very good basis for future work.

*
* *

III Procedures harmonization

I shall now deal with the harmonization of VTS procedures.

It is certainly a difficult question. The controversial opinions mentioned in the MARIN report furnish proof of this, if it were needed.

Therefore it is a subject on which comparison of opinions at international level is particularly desirable.

In such a situation, three types of action have been undertaken.

The first one is of general nature. It consists of trying to promote discussions, at international level, particularly within IMO, aiming at a definition of the role of VTS and of the general principles of their operation.

The second has a more restricted objective. It deals with the establishment of a coherent system for the use of the English language in specific VTS communication. The hope is to gain an almost immediate improvement of the quality of the VTS service.

IALA and IAPH took the initiative of the first of these actions. Three other international organisations,(IMPA, IFSMA, IYRU) have cooperated and contributed largely to the work of the first two associations.

The result of the work is a document entitled "Recommended Guidelines for VTS" which has been submitted to IMO by IAPH, IALA, IMPA and IFSMA.

These associations do hope that during the forthcoming discussions within the Sub Committee on Safety of Navigation, their proposals will be accepted as a working document summing up the views of those members of the international maritime community who are the most directly involved in the matter.

The text of this document is also attached.

It is entitled "Recommended Guidelines for VTS" and has been kept fairly short in spite on the large scope of the subject. In addition to a covering note, it contains a preamble and the following 7 parts:

- objectives of VTS
- VTS authorities
- elements of a VTS
- functions of VTS
- procedures
- personnel.

An annex gives some information concerning the planning of VTS.

I do not intend to paraphrase the document which in fact is self explanatory.

However, I would like to stress the following points:

Covering note:

This note stresses our hope that the document will be helpful during future discussions, particularly within the Sub Committee on Safety of Navigation.

The common wish of the organisations is to submit the results of their work with the hope that new views will emerge.

On the other hand, the covering note underlines two points:

- legal implications of the implementation and operation of VTS have not been thoroughly considered and are not mentioned in the Guidelines;
- problems raised by personnel qualification, particularly VTS operators qualification, are not solved (1)

Document:

Point 4.2: The assertion that the decisions concerning the navigation and manœuvring of the vessel remain with the Master, is for the working group one of the main principles on which the concept of VTS is based.

Point 4.4: the importance of a common language is to be noted.

Point 5: The Guidelines list two types of functions which are characterized as passive and active respectively, but does not give an explicit definition of these two objectives.

The working group which has selected these two words thought:

- that it was impossible and without practical interest to draw up exhaustive lists of VTS functions. These systems are still in the course of development. Therefore it is wise not to be bounded by lists that are too fixed,
- that, for the same reasons, the qualification of VTS tasks should be left somewhat flexible
- that, however, it would be interesting, at least with a view to the definition of qualifications of VTS operators, to keep in mind the various levels of training relating to the words active and passive.

Point 6: The importance given to this paragraph is justified by the need of general lines along which VTS procedures may be harmonized, such a need being clearly evident from the answers to the questionnaire.

point 7: The divergence of opinions underlined by the words in square brackets "based on navigational experience" is to be noted.

Point 8: The subject of this paragraph is to draw attention to the need for a sufficiently detailed publication for the users, such a need is often unknown.

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(1) Divergence of opinions on this subject has been mentioned above

The second of the actions mentioned above was taken on the initiative of both the CEE (within the framework of COST 301 Action) and the International Association of Lighthouse Authorities.

I think it useful to give you some additional information on this action called "Seaspeak for VTS".

For years, English has been used in maritime communications worldwide. But it is only recently that it became essential for navigators of all countries to gain a sufficient knowledge of English as a tool for day to day communications.

The Standard Vocabulary established under the aegis of IMO, constitutes a remarkable first step towards such training. But it is essentially a document containing lists of sentences.

The limits of this kind of tool are well known, particularly the difficulties encountered by the user when he has to build by himself messages on items not covered by the document (for example pollution and pilotage) and above all when he has to use common sentences that could not be included in the Vocabulary.

In such a situation, the British Government (Department of Industry) and Pergamon Press Ltd. decided to fund an important research programme which was granted to "Language Management Ltd.", in London, the research team being based at "Bell Educational Trust", Cambridge and at the Faculty of Maritime Studies, Plymouth Polytechnic.

The research programme Seaspeak, including trials at sea, was completed in April 1983. The result, which we continue to call "Seaspeak" is a reference manual detailing procedures of a simple and concise nature and utilising a sub set of English language for maritime communication.

The originality of SEaspeak lies mainly in the strictly objective presentation of the conditions under which specialised terms and procedures are to be used. The whole work is within the understanding of any officer of normal intellectual level and having some command of the English language.

In addition, it stresses the differences, when they exist, between the rules of Seaspeak and those in common use. Finally it gives samples of procedures and sentences.

At the beginning, Seaspeak had been designed with a view to facilitating the general needs of ships officers for their communications. Though the project team tried to make Seaspeak compatible with maritime communication systems, this document does not take into account the specific procedures used for communication between ships and VTS, particularly for the monitoring of navigation and assistance to it.

The action carried out by the European Community, within the COST 301 project, in co-operation with the governments of France, Italy, Netherlands and Sweden, consists of an extension of the basic Seaspeak particularly designed for use by VTS. IALA supervises the carrying out of this project.

More precisely, the objectives of Seaspeak for VTS are as follows:

- to draw up a list of ways to express in English, precisely and without ambiguity, the needs of VTS as they may be predicted at present. The same methods of selection as used for the basic SEaspeak will be followed;

- to suggest, in agreement with international regulations or with the present rules now in use internationally clear and precise procedures well adapted to VTS. These procedures should be totally compatible with SEaspeak procedures in order to avoid any discontinuity in the communication exchanged between vessels on their passage from the open sea to areas covered by VTS;
- to constitute, for those whose English is not their mother language, a motive to learning English with more chance of success than would be the case with a vague intention or wide ambition;
- to arrange for an agreement on a standard and simple use of English, suitable for both those whose English is their mother tongue and to all others, if and when the international maritime community decides to use English in VTS communications;
- the final result of SEaspeak for VTS will be, as for basic Seaspeak, a reference manual whose contents and presentation will be the same with the necessary changes.

At the time of writing this paper, Seaspeak for VTS is not completed.

Captain Weeks has given me the following details as regards the method adopted by his team:

First, as the objective is not limited to a list of words and sentences, but includes the way to build and transmit messages, it was felt necessary to consider thoroughly:

- the list of VTS communications
- the operational background of these communications.

It has thus been possible to define the subjects of these communications and to classify them from a linguistic point of view.

It became obvious, due to the extreme diversity of technical means used in VTS, that it was not possible and further without interest to make an axhaustive list of all possible communications and then to classify them again and put them right.

On the contrary, it was thought that, having listed the needs for VTS communications and procedures and gathered a sufficient number of data on common usage, particularly on the way the most significant operations are dealt with, it will be possible to put forward proposals for expressions and/or procedures, able to cover all situations and compatible with the equipment used.

These proposals will be tested in situ and hopefully finalized.

So that we have reached the point where operational general principles have already been thoroughly considered at international level, their study to continue in the future.

The situation is therefore propitious to a detailed survey of a general proposal aiming at a harmonization of the VTS objectives and procedures. This is the third action to which I referred some time ago.

But it is now too early for conclusions to be drawn from this action. We are just preparing a programme of work and have to wait for the answers to the second questionnaire mentioned above.

CONCLUSION

I hope I have presented to you a faithful summary of the progress made at various international levels, and more particularly within the framework of the COST 301 project on:

- the inventory of VTS systems
- the harmonization of VTS procedures.

I am sure you will be convinced of the scope of the work.

But I would like to share my optimism with you.

The COST 301 team deserve high praise, they have worked relentlessly to interest everyone in VTS problems. Probably without realising it they have created the conditions for enthusiasm.

It is a fact that collective enthusiasm exists today, and in my view, this creates the best conditions for our future success.

APPENDIX

PLANNING A VTS

The safety of maritime traffic in a VTS is necessarily a co-operative activity between those ashore and those at sea. It is therefore important, wherever a VTS is being planned, and designed that amongst others the mariner's views on the need for and operation of the service are taken into account. The level of need should also be considered. This will assist in the effective implementation of VTS and facilitate the co-operation and the confidence of all the future participants in procedures to followed.

When planning a VTS, the VTS Authority should be guided by criteria such as:

- the general risk of marine accidents and their possible consequences, and the density of traffic in the area.
- the need to protect the public and safety of the environment, particularly where dangerous cargoes are handled,
- the operation and economic impact on users of the system and the Marine Industry as a whole, as well as the availability of technical equipment, preferably based on a cost/effective analysis,
- existing or planned vessel traffic services in adjacent waters, and the need for co-operation between neighbouring states,
- existing or proposed traffic patterns or routeing systems in the area, including the presence of fishing grounds and the volume of small craft,
- existing or foreseeable changes in the traffic pattern resulting from port or offshore terminal developments or offshore exploration in the area,
- the adequacy of existing communication systems and aids to navigation in the area,
- meteorological factors such as weather and ice conditions,
- hydrological factors such as tides, tidal ranges and currents,
- narrow channels, port configuration, bridges and similar areas where the progress of vessels may be restricted.

A VTS area can be divided into sectors but these should be as few as possible. The boundaries should be indicated in appropriate nautical documents.

Area and sector boundaries should not be in places where vessels normally alter course or manoeuvre or where they are approaching convergence areas, route junctions, or where there is crossing traffic.

VTS Centres in an area or sector should use a name identifier.

Reporting points should be clearly identified for example by number, sector, name and a geographical position or description. They should be kept to a minimum and as widely separated as possible.

28 June 1983

RECOMMENDED GUIDELINES FOR VTS

1. PREAMBLE

This document aims at defining guidelines for designing and operating VTS once it has been decided that such a system,whether very simple or highly sophisticated is necessary, and to harmonise them internationally.

It addresses the communication based means used by VTS and takes into account current practices.

It is based on IMO Recommendations and Resolutions on this subject in particular "Ship Reporting Systems".

VTS Authorities or those planning VTS are recommended to follow these guidelines, as appropriate to their needs,in the interests of achieving harmonization internationally and improving maritime safety.

2. OBJECTIVES OF VTS

A Vessel Traffic Service (VTS) is any service implemented by a relevant Authority primarily designed to improve safety and efficiency of traffic and the protection of the environment. It may range from simple information messages, to extensive organisation of the traffic involving national or regional schemes.

2.1 The reasons for establishing a VTS may include:

- Assistance to navigation in appropriate areas,
- Regulation of movements to facilitate an efficient traffic flow in the VTS area,
- Handling of data relating to ships involved,
- Coordination of actions in case of accident,
- Support of allied activities.

2.2 VTS is particularly appropriate in the approaches and access channels of a port and in areas having one or more of the following characteristics:

- high traffic density
- traffic with noxious or dangerous cargoes
- navigational difficulties
- narrow channels
- environmental sensitivity.

3. VTS AUTHORITY

3.1 "VTS Authority" is the Authority operating a VTS. It may be a single port authority, a governmental maritime administration, a pilotage organization or any combination of them.

3.1.1. The Authority establishing a Vessel Traffic Service should delineate its area of coverage, declare it as a Vessel Traffic Service area, and disseminate to mariners full details concerning the service provided and the procedures to be followed (see Section 8).

It should state the classes of ship which are required or recommended to participate in a Vessel Traffic Service and indicate the VTS Centres responsible for the VTS tasks.

3.1.2 The Authority should establish appropriate qualifications and training requirements for the licensing of VTS operators in accordance with section 7.

3.1.3 The VTS Authority should ensure that the effects of vessel traffic services, routeing, aids to navigation, pilotage, etc... are fully interrelated.

3.1.4 When ships are required to participate in a VTS, appropriate legislation should exist or be enacted.

3.1.5 Care should be taken to ensure that traffic regulations do not encroach upon the Master's responsibility for the safe navigation of his vessel, or disturb the tradition relationship between Master and Pilot.

3.1.6 When planning or designing a Vessel Traffic Service, the Authority should take into account the factors and criteria of the Appendix.

4. ELEMENTS OF A VTS

A Vessel Traffic Service consists of the following elements:

- Shore based organization
- Vessels using VTS
- Communications
- Common language

4.1 Shore based organization

4.1.1. The shore based organization should be equipped with communication facilities and may have radar surveillance equipment and other equipment in accordance with the tasks to be performed by the VTS.

Shore based organizations should be equipped with the appropriate frequencies as prescribed in Appendix 18 of the Radio Regulations including the international distress, safety and calling frequencies.

4.1.2. "VTS Centres" are centres from which vessel traffic services are operated.

4.1.3. "VTS Operators" are the persons who perform the functions of the VTS (see section 5).

4.2 Vessels using a VTS

4.2.1. Vessels participating in a VTS are assumed to be fitted with the navigational and communications equipment in accordance with SOLAS chapters IV and V.

4.2.2. The decisions concerning the effective navigation and manoeuvring of the vessel remain with the Master.

Neither the sailing plan (see paragraph 6.3.1) nor requested or instructed changes to the sailing plan can supersede these decisions.

4.2.3 If voluntary or compulsory pilotage exists in the VTS area, the pilot will, in a manner agreed with the Master, take part in the navigation and manoeuvring of the ship.

Pilotage is an important element in a VTS, particularly since the pilot can often be the first person the ship's Master meets before entering the VTS area.

The function of a pilot is to provide:

- the Master with assistance in manoeuvring his vessel
- the Master with local knowledge both concerning navigation and national/local regulations
- assistance with communicating between ship and shore particularly where there are language difficulties

4.3 Communications

Communications between the VTS Centre and the ship must exist and should follow the prescribed communications rules.

These communications generally involve VHF/UHF radio links which however can be duplicated or complemented, for example, with traffic signals. The number of VHF/UHF channels required will depend upon the amount of radio traffic.

4.4 Common language

The language used must enable the VTS Authority and the ship to understand each other clearly .

4.4.1 In international waters communication in a Vessel Traffic Service should take place primarily in the English language.

When in addition to the English language a local language is used to communicate with a specific vessel, navigational information relevant to other vessels should be repeated in English.

4.4.2 In national waters the primary language should be the appropriate working language of the country where the system is established and English should be used where language difficulties exist. Systems established in areas where there are many international ships may designate English as the primary language.

4.4.3 The IMO Standard Marine Navigational Vocabulary should be used where possible.

5. FUNCTIONS OF VTS

The functions of a Vessel Traffic Service may broadly be divided into "passive" and "active". These functions may include those detailed in paragraphs 5.1 and 5.2 below.

5.1 Functions considered as passive:

5.1.1 Maintaining a listening watch on the designated marine safety and distress frequencies.

5.1.2 Monitoring the manoeuvres of ships for compliance with international, national and local requirements and regulations.

5.1.3 Interpreting the total traffic situation and its development.

5.1.4 Broadcasting information about the movements of traffic, visibility or the intentions of other vessels, to assist all vessels including small craft that are only participating in the VTS by listening.

5.1.5 Exchanging information with vessels on all relevant safety matters (notices to mariners, status of aids to navigation, meteorological and hydrological information, etc..).

5.1.6 Exchanging information with vessels on relevant traffic conditions and situations (movements and intentions of approaching traffic or traffic being overtaken).

5.1.7 Obtaining reports ensuring that ships are not defective or deficient with regard to hull, machinery, equipment or manning, or to provide any such ship with appropriate information.

5.1.8 Coordinating the information flow and distributing the relevant messages to the participants or organisations concerned.

5.1.9 Supporting activities allied to those of the VTS Authority such as Pilotage Services, Port Services, Marine Safety, Pollution Control and Search and Rescue.

5.1.10 Collecting information for statistical purposes.

5.2 Functions considered as active

5.2.1 Assisting vessels in difficult navigational or meteorological circumstances or in case of defects or deficiencies.

5.2.2 Warning vessels about hindrances to navigation such as hampered vessels, concentrations of fishing vessels, small craft, other vessels on special operations, and giving information on alternative routeing.

5.2.3 Establishing and/or operating a system of traffic clearance and reports for specific manoeuvres and conditions

5.2.4 Scheduling vessel movements through special areas such as where one-way traffic is established.

5.2.5 Regulating the traffic by means of advice or instructions requiring a vessel to remain in or proceed to a safe position, whenever the safety of life or protection of environment or property warrants it.

5.2.6 Calling upon and requesting action by rescue and emergency services, and if appropriate coordinating and directing the actions of these services.

6. PROCEDURES

6.1 General

Every VTS should follow procedures based on these guidelines to the extent required by its functions and needs.

6.1.1 Reporting procedures should be clear, simple and contain only the information consistent with maintaining to a minimum, the additional bridge duties of masters, officers of the watch and pilots.

6.1.2 When detailed and extensive information has to be exchanged which is not relevant to all ships, the VTS operator may decide to communicate with a ship on an alternative VHF channel.

6.1.3 To avoid an unnecessary repetition of information by the ship, basic information should be reported once, be retained in the system and be complemented or up dated according to the requirements and should be made available to shore services as appropriate.

6.1.4 All classes of ships participating in a vessel traffic service should unless otherwise permitted by the authorities, maintain a continuous listening watch on the appropriate frequency of the VTS. This listening watch shall be carried out from the position from which the ship is navigated.

6.1.5 Status of the Message

Any message to a vessel should make it clear whether it is information, advice or instruction.

6.1.6 Information by VTS

The times for regular bulletins should be clearly published in relevant nautical documents and should take account of transmission times of neighbouring VTS Centres. They should be drawn up in a standard format and only contain essential information (see section 8).

Bulletins in special circumstances should be preannounced in an appropriate way.

Information can also be requested by a vessel.

6.2 Initial contact - Identification

6.2.1 Generally, the ship contacts the VTS Centre by VHF and this is the first direct link between the ship and the VTS Authority.

This initial exchange of data enables the ship to confirm certain preliminary advice, if any (see paragraph 6.2.2). It also enables the ship to request certain specific data from the VTS Authority.

In most cases, a ship, through its dialogue with the VTS Authority provides its identification. This identification may be assisted by technical means such as shore based radar and/or VHF DF.

6.2.2 A vessel's arrival in a port area is normally anticipated as the agent will have given an Estimated Time of Arrival (ETA) and requested a berth or anchorage.

In the case of vessels carrying dangerous subtances, IMO Circular MSC 299 dated December 1980 "Safe transport, handling and storage of dangerous substances in port areas" which recommends notification of specific information, should be followed.

6.3 Application of "Ship Reporting Systems"

Ships participating in a VTS should report, if required, at the designated positions and times and in accordance with the agreed reporting format. The Master should as far as practicabl ensure correct and timely reporting.

Other vessels not required to report but wishing to avail themselves of the services offered by the VTS should follow the relevant procedures.

The types of reports described in the IMO "General Principles for Ship Reporting Systems" should be used as follows within the VTS procedures:

6.3.1 Sailing plan

It should be sent before departure from a berth or entering the area covered by the VTS. The VTS Authority should specify the information required in the sailing plan for all or for special ships according to local circumstances

In exceptional circumstances the sailing plan may on request of the VTS operator be amplified.

6.3.1.1 On account of the traffic situation or of special circumstance the VTS operator may advise changes to the sailing plan.

6.3.1.2 After the sailing plan is accepted by the VTS operator, the vessel may participate in the VTS, and should as far as practicable, try to maintain the plan.

6.3.1.3 If special circumstances so require and for the purpose of the safety of the marine traffic the VTS operator after indicating the reason may request the vessel to follow a changed sailing plan. Such changes should be limited as far as practicable and may include:

- time of passing the next reporting point or another specific point
- extra position reports
- a new destination
- remaining at a specified location
- request not to enter the VTS area
- request to stay alongside the berth
- request to follow a certain route.

6.3.1.4 When special circumstances or the safety of the maritime traffic so requires and when the VTS operator has the authority, a vessel can be instructed to maintain a specific sailing plan or implement changes to the sailing plan in accordance with paragraphs 6.3.1.3 and 4.2.2.

6.3.1.5 If the vessel does not comply with the requested action the reasons should be reported to the VTS operator.

6.3.2 Position report

When there is no automatic tracking after reception of sailing plan and identification of the ship, position reports are necessary to update the movement data of a ship. Ships may be required to send position reports at the prescribed positions.

6.3.3 Deviation report

If the sailing plan cannot be maintained the vessel should send a deviation report to the VTS operator, and an amended sailing plan agreed between the vessel and the VTS operator.

6.3.4 Final report

When leaving the VTS area or arriving at the final destinatio of the sailing plan, the vessel should send a final report.

6.3.5 Any other reports

Any other report prescribed by the VTS Authority should be made in accordance with IMO principles. For example a "deficiency report" is one which should be made to inform the VTS Centre of defects, damage, deficiencies or other limitations.

6.4 Assistance to navigation

When a vessel requests navigational assistance the VTS operator should ensure positive identification and location of the vessel by reliable means and obtain other relevant information.

After the identification and location is established the messages on navigational assistance should be sent at short intervals. These advisory messages need not be acknowledged by the vessel.

When the vessel needs no further navigational assistance, clear notice should be given to the VTS operator.

In open waters navigational assistance will mainly contain a description of surrounding traffic and warnings with respect to the "Closest Point of Approach" (CPA) and "Time of Closest Approach" (TCA) of other ships and, if necessary, advice on course.

In confined waters navigational assistance will usually contain also position data (e.g. distance to "reference line" and to "way point").

6.5 Traffic rules

In certain places traffic rules may be needed. Such rules may cover the movement of special ships, limitations in a channel or passing or overtaking situations.

Where such rules exist, the VTS operator may need to issue instructions to ensure that these traffic rules are complied with.

7. PERSONNEL

It should be ensured that VTS operators authorized to issue traffic instructions and to give navigational assistance have appropriate specialised training, [based on navigational experience]*, and meet the language requirements as mentioned in paragraph 4.4.

The other personnel should have qualifications appropriate to their functions.

8. VTS PUBLICATION FOR USERS

This publication should state the rules and regulations in force, detail the services offered and the area concerned.

Where possible the publication should include chartlets showing area and sector boundaries, general navigational information about the area together with procedures radio frequencies or channels, reporting lines and reporting points.

Comprehensive publications, available to all users, should be produced to cover all VTS.

* The words in between square brackets represent the views of IMPA and IFSMA.

RECOMMENDED GUIDELINES FOR VESSEL TRAFFIC SERVICES

Note by the International Association of Lighthouse Authorities (IALA)
the International Association of Ports and Harbours (IAPH)
the International Maritime Pilots' Association (IMPA)
the International Federation of Ship Masters'Association (IFSMA)

I - Introduction

IALA and IAPH having recognised that there was an urgent need to harmonise VTS procedures for their members and, that between them they represented virtually all VTS operators world-wide, decided that they should establish Technical Committees and jointly prepare Guidelines for VTS. As the Maritime Safety Committee has now instructed the Sub-Committee on Safety of Navigation to study VTS, IALA and IAPH wish to make the results of their work to date available to the Sub-Committee.

This note describes the method of working in preparing the text, 'Recommended Guidelines" and the Annex is the draft that the Sub-Committee may wish to use as a first draft in its work.

Some aspects such as Personnel Qualifications need further consideration. It is to be emphasized that the attached Guidelines on VTS are principally dealing with technical and procedural matters and are not addressing their legal implications, although it is recognised that these matters need to be considered.

2 - The IALA-IAPH Technical Studies

The joint IALA-IAPH technical studies comprised participants from the international organisations IMPA, IFSMA, ICS, IAIN , International Yacht Racing Union (IYRU), national administrations and port administrations.

As a first step a questionnaire was circulated to all members of IALA and IAPH . One hundred and sixty authorities already operating VTS from forty six countries returned a completed questionnaire. These replies were analysed in detail by the Maritime Research Institute Netherlands (MARIN).

3 - The Drafting of VTS Recommended Guidelines

A joint IALA-IAPH working group when preparing the draft IALA-IAPH Recommended Guidelines for VTS based its work on :

a) Existing relevant IMO documents

b) Existing common practice as disclosed by the questionnaire and analysis

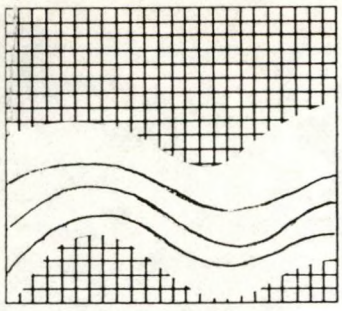
c) The conclusions reached by IAIN 3 yearly symposia.

.../....

A first draft document was discussed by IALA and IAPH members and modified in the light of these discussions. The Guidelines attached therefore represent the views of a wide cross section of Authorities operating VTS, and users both at national and international levels.

4 - Conclusions

IALA and IAPH together with IFSMA, IMPA and IYRU submit these Recommended Guidelines for VTS for use as a significant working document by the Sub-Committee in its deliberations on the internationally harmonised guidelines for VTS as instructed by the Committee (Report of the 48th session of the Maritime Safety Committee).



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THEME : High Technology and the European Maritime Industries

DATE : Tuesday, 18th October, 1983

1125 : Final Network - Objectives, Scope, Benefits

By

Dr. W. Sobotta
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Final Network Study - Objectives, Scope, Benefits

Dr. W. Sobotta, MBB/ERNO Consortium, Bremen

1. Introduction

The Final Network Study was a continuation of the EVHA-Data Processing and Communication System Programme as presented in the previous papers. The contract was given in July 1982 to a consortium of four European companies:

- MBB/ERNO, Germany (Prime Contractor)
- KAMPSAX INTERNATIONAL, Denmark
- CAPTEC, Computer Applied Techniques LTD, Ireland
- KLM, Royal Dutch Airlines, Netherlands.

The five main tasks specified in the contract were comprising

1) Assessment of situation in ports to derive specific user and system requirements (problem identification)

2) Survey of suitable technical means and methods to satisfy user needs (technical possibilities)

3) Functional & system level technical specifications of feasible data processing and communication systems (system definition)

4) Consideration of policy implications on strategy for management, funding and organization of system development and operation (financial & managerial strategy)

5) Specification of means to achieve a complete turnkey data processing and communication system (final implementation plan)

The study results are represented in a Final Report consisting of an Executive Summary and four extensive appendices containing the management plan, the questionnaire and the detailed work package results.

2. Objectives

The basic objective of the EVHA Data Processing and Communication System in its first implementation stage is:

> To promote inter-port information exchange related to vessel's voyage and port calls in order to enhance the effectiveness of port authorities and improve their services.

This will be realized by creating an information exchange system which will supply dynamic and static data describing vessels, their cargoes and voyages and make these data available to all departments within participating ports. As result of an extensive questionnaire with 21 of the most important European ports the following detailed port authority functions have been specified, which could be improved by the data communicated and processed in the system:

1) Berth Request Validation and Planning

   The system will allow data to be exchanged between port authorities (and possibly, between vessels at sea and port authorities) in order to improve the accuracy and timely availability of data required for berth request validation and planning. Also the network should enable port authorities to supply useful data to ship operators and cargo handlers so that their tasks of supplying data are simplified.

2) Dangerous Substances Control and Checking

The network will provide data which enable port authorities to check incoming dangerous substances announcements for compatibility with port regulations, initiate permission (where required) and acquire and store information regarding dangerous substances while in port.

3) Vessel Traffic Control

The system will support the shore based activities within the port which are responsible for ensuring the safe and expeditious flow of vessels in the port.

4) Vessel Arrival/Departure Reporting

The network will collect, process, store and disseminate supplemental information relevant to vessel's arrival and departure (including shifting of vessels within the port), preparatory to the ship's entry into the ports navigational area.

5) Resource Allocation

The system will provide data from the previous ports visited by each vessel which ensures the availability of the resources required for the safe and expeditious handling of each ship.

6) Port Services Accounting and Management Support

The network will provide general statistical data regarding vessel characteristics and movements.

7) Emergency Action Co-ordination

In the event of an emergency, the system will allow access by appropriate ports to information on the vessel and cargo (including dangerous substances) plus relevant databases (chemical/physical properties, handling requirements, safety instructions and emergency measures).

The system will have such flexibility and growth potential to support in the next implementation stage an enlarged group of intra-port end users like customs/immigration authorities, emergency services, shipping agents/companies, freight forwarders, chambers of commerce, environmental bodies, traffic control services, governmental bodies, port services, stevedoring/warehousing and terminal operators, port security and shipping intelligence.

A further long-term objective is to expand the system to alow access to and from users and/or maritime systems in other parts of the world.

3. System Concept & Architecture

Most information about a vessel, her voyage, and cargo is basically already available in the first port of loading. Currently these data - static and dynamic - are exchanged between the ports by port users (normally the agent or shipping companies) and then reported to the local port authority.

These data have to be communicated repetitively so many times as ports are called on a voyage, although only transient data relative to the voyage progress would be subject to updates.

A common information system between ports shall make respective data available to the member ports as soon as they are known in one port. This would enhance the timely availability as well as improve the accuracy of the information content. Such a system will also provide a centralized service by continuously updating and completing the data according to voyage progress or movement of cargo (especially dangerous) within the ports in order to minimize the input and transmission effort.

Fig. 1 represents the practical way. Dynamic voyate data and dynamic dangerous cargo data are input to the system and processed into the relevant files. These data can be accessed in conjunction with relevant static file data via a report writer as part of the software system.

The report writer can be used in two operational modes:

- to supply the user with output reports and/or VDU-pages ready for operation

- to supply the user with data strings which he can use in conjunction with his internal data within the port EDP facilities to generate reports and/or VDU-pages ready for operation.

A third mode in the system development should be

- to provide direct data bank access in a dialog mode

This third mode is especially of importance for ports which already use multi-purpose computer systems for daily operations.

To realize these three modes of operations a portable software package will be developed compatible with the following operating system:

IBM : DOS, DOS/VS, DOS/VSE
OS/MFT, OS/MVT
SVS, MVS
VM/CMS

Siemens: BS 1000, BS 2000

DEC : RSX-11, IAS

The system requirements shall be accomplished by the design of a dedicated multi-user transaction processing system consisting of the following elements:

- user (port) terminals
- data networks
- data bases
- EVHA Service Center (ESC)

Fig. 2 is a graphical representation of the information exchange system.

The basic structure of the overall system architecture is proposed to be the ISO-Seven Layer Reference Model for Open System Interconnection as represented in Fig. 3. This model provides a common basis for the coordination of open systems interconnection and allows existing standards to be placed into perspective within the overall Reference Model. The Reference Model allows sufficient flexibility so that, as technology and user demands expand, the Reference Model can accommodate such advancements. This flexibility is also intended to allow the phased transition from existing implementations to Open Systems Interconnection standards.

The model reflects systems comprising terminals, computers and associated devices and the means for transferring information between them also via long distance telecommunication interconnection media.

"Openness" implies that not particular systems implementation, technology or interconnection means are prescribed, but rather refers to the mutual recognition and support of the standardized information exchange procedures.

Great effort has been spent by the Commission of the European Community to bring order into the uncontrolled growth of the Standardization Jungle for Informatics.In May 1982, DG III-B-1 published the Working

Document WGS N114 "OCS-Catalogue of Standards related to ISO-Open System Interconnection", which will be used as the main planning and reference guide for all standardization purposes within the EVHA-project.

4. Development and Implementation Planning

Based on the user requirements analysis and frequent discussions with EVHA the consortium identified the following main strategic goals to be achieved for successful implementation of the system:

- a sufficiently large number of potential system users (initially confined to Port Authorities) must be attracted and united by taking account of their specific requirements prior to initiation of the Design, Development & Test phase of the project

- an EVHA Systems Management organization has to be established which is effective but flexible enough to allow for uninterrupted adaption to the changing requirements between development phase and operational phase as well as for the expected system growth

- the development, procurement and installation of system components must be carefully sequenced and timed in order to minimize the respective funding requirements and hence the financial risk.

Proper phasing of the EVHA project proceedings is therefore essential, the more as EVHA as a non-profit organization is dependent on external funding at least for the design and development phase of the project.

An additional project phase needs to be inserted into the programme as soon as possible ending with a firm commitment by all interested ports to start the system design, development and test phase.

This intermediate time period can be characterized as the "Definition Phase" where both EVHA and contractor continue - on the basis of the study results - to define the unique, expressed requirements of each port for system services in terms of

- data to be received and delivered
- input/output formats
- transmission standards
- communication interface equipment
- anticipated data traffic
- data security/protection.

In the definition phase the orientation of work is to confirm the requirements specification, establish the system parameters, prepare detailed implementation plans for staffing and tasks and prepare for procurement of equipment and software. The objective is to perform tasks essential to the system development and achieve a maximum state of readiness so that when the go-ahead decision is given to proceed with development of the system there will be a minimum delay in the effective startup.

Also polices should be agreed upon for charging of system usage and membership fees and for managerial and organizational schemes to be applied.

This leads to a high level of confidence for the more demanding design, development and test phase.

During this phase all aspects of the system will be designed, implemented and tested and handed over to EVHA System Management to run on a day to day basis. The methodology adopted will be typical for a system of this complexity and will result in full documentation of designs and specifications and operating instructions as well as the physical equipment and software to operate the Service Center.

The operational phase begins with initial system installation serving as a test environment in which the EVHA System may be operated by users and the experience gained taken into account in the finalization of the operational system. When the system is released participating ports are taken on until the system is fully operational.

Fig. 4 represents a possible schedule with the major project milestones.

5. Benefits

Benefits deriving from the EVHA system as it has been considered in the final network study are wide ranging in their effect on modern port management.

As well as having a direct beneficial effect on the effectiveness of the Port Authority in managing the individual ports the system contributes to a level of cooperation between ports which is exemplary in European industrial activity.

It further opens the prospect of streamlining the flow of information concerning transport from all the participants in the movement of goods and commodities. These include shipping agents, shipping companies, freight forwarders, stevedores, customs and other involved organisations.

Of particular interest is the compatibility of the goals of the system with the policies of the European Community.

The implementation of a system such as EVHA makes better use of the scientific and technical resources of the Community. It is intended to utilize up to date technology in the area of online system development, data communications networks, online data bases and modern equipment.

The system development method will contribute significantly to the promotion of standardisation actions in use of high level protocols for system interactions and the concepts for networking such as the ISO seven layer model. A major requirement for the system is its ability to be compatible with a wide range of input and output means.

In the process of bringing the system to fruition the stimulus is provided to further the level of cooperation throughout the port industry.

When operational the benefits derived from the system will contribute to improving the industrial competitiveness of the European companies involved in respect of export potential and greater volume of business.

Within the ports and in the related maritime activities the system provides facilities which will directly bear on the Living and Working Conditions of the people involved. Safety improvement will be possible in relation to navigation and handling of dangerous substances. A job enhancement is anticipated from the userfriendly high order software language (fourth generation), easy to be understood and/or handled by the operational personnel without EDP education.

In particular the use of the EVHA system in a port will contribute to four general port responsibilities/functions

- Safety of ship movements and personnel in a port
- Improved ability to control movements in relation to port regulations
- Operational activities
- Management in relation to effectiveness of staff, planning information and cost reduction.

Detailed benefits with respect to the upper port responsibilities/ functions are summarized in Table 1, to support the decision of those ports, which are not yet cooperating with EVHA.

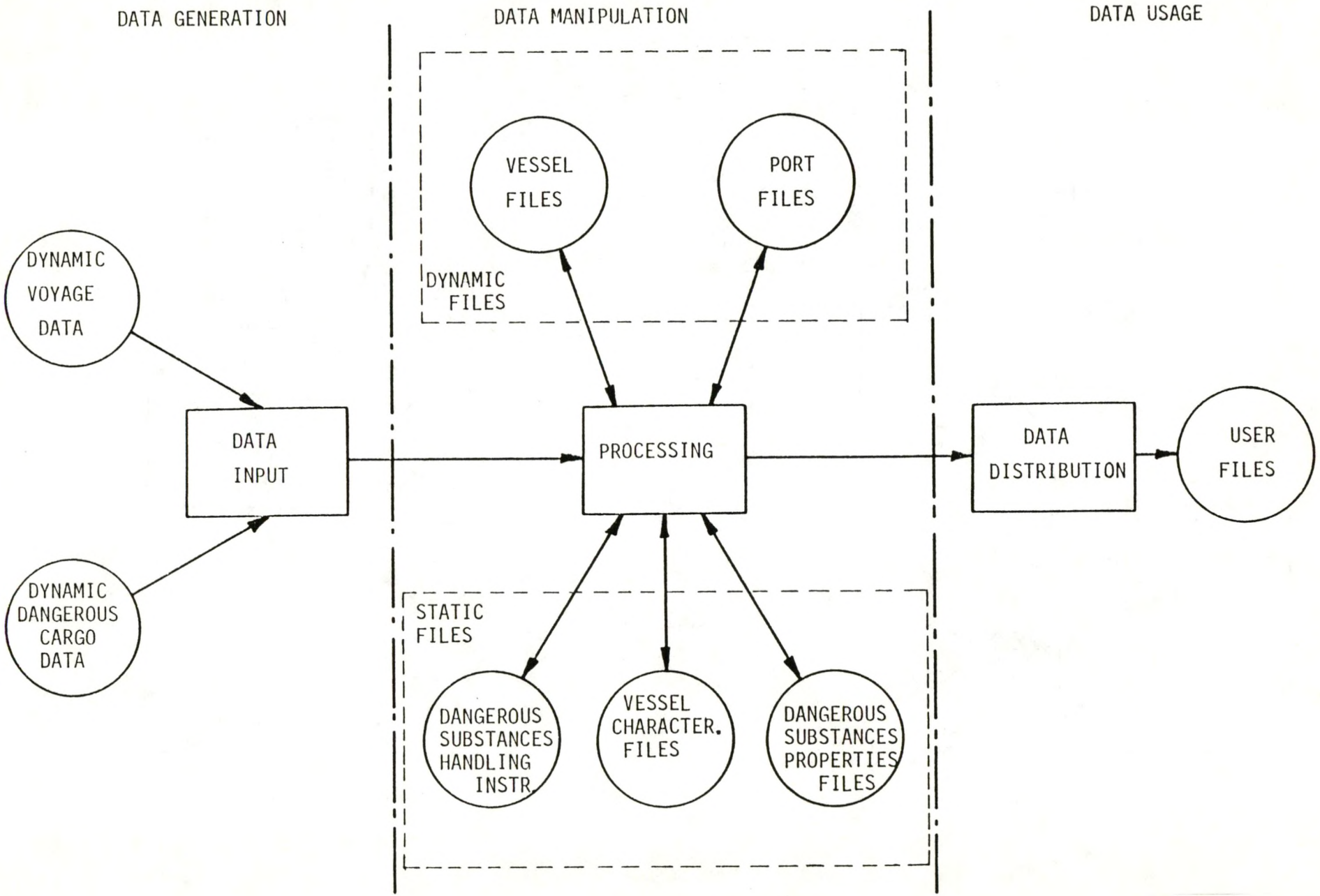


Fig. 1: EVHA SYSTEM CONCEPT

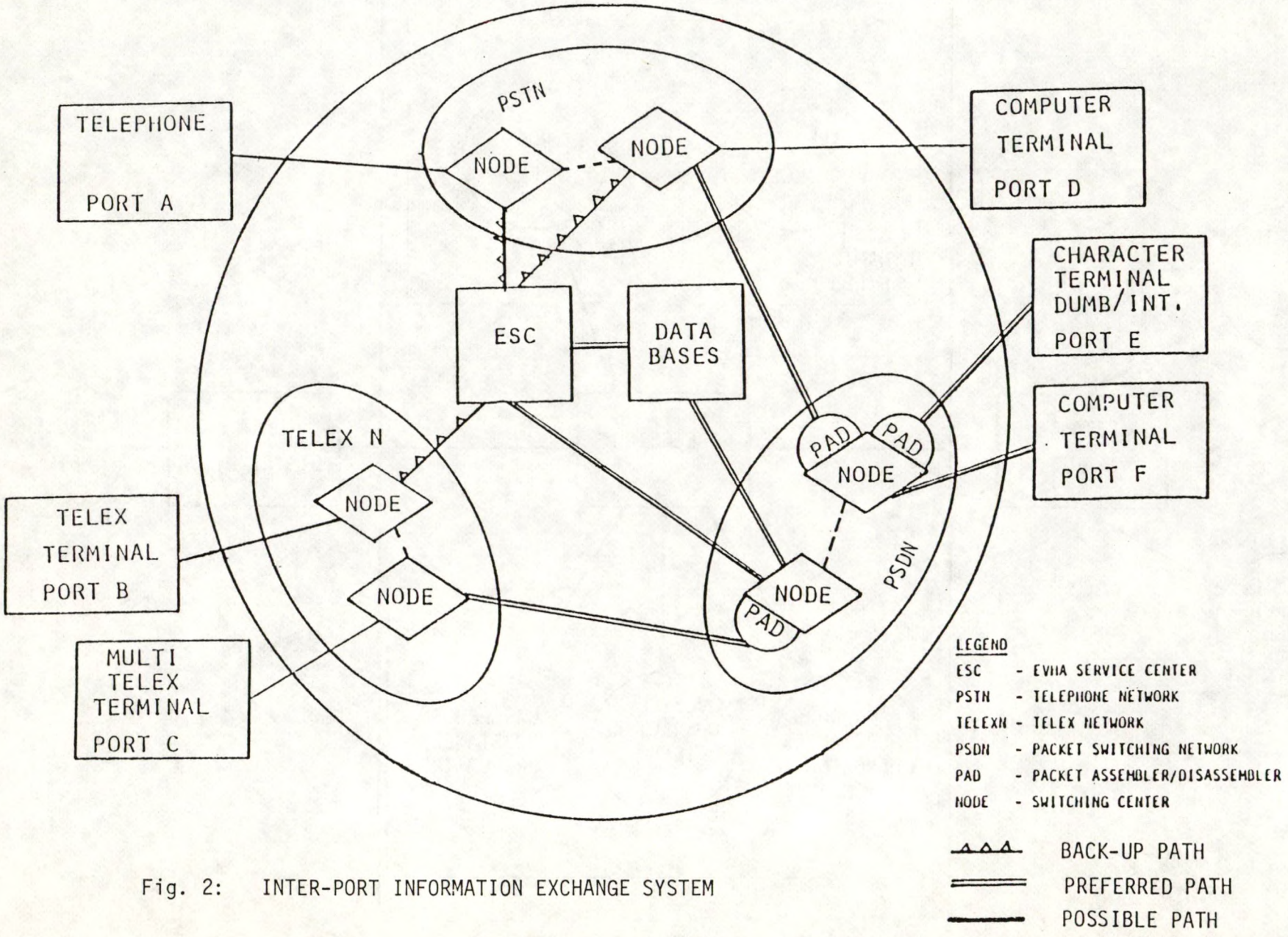


Fig. 2: INTER-PORT INFORMATION EXCHANGE SYSTEM

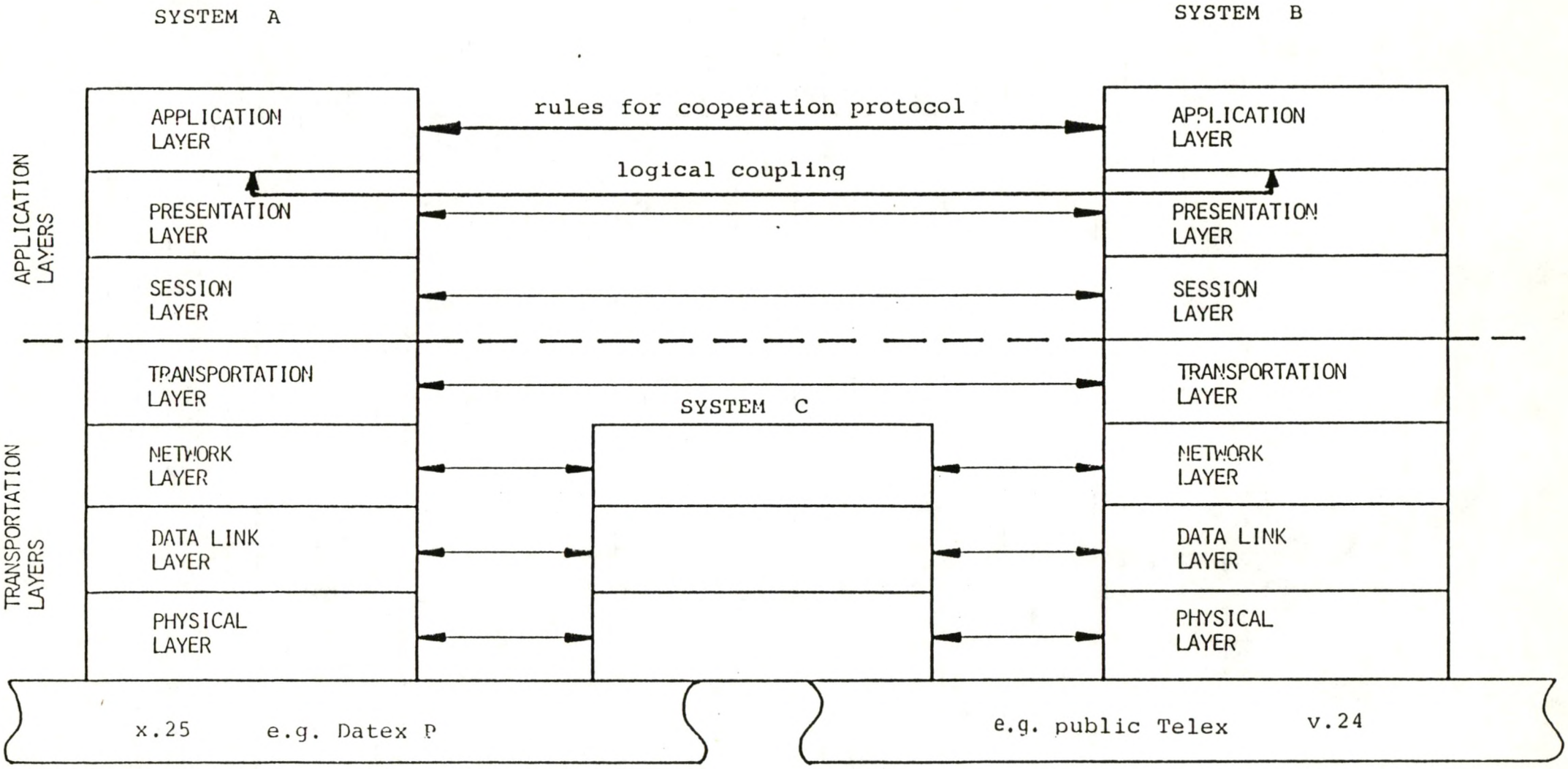


Fig. 3: ISO - SEVEN LAYER REFERENCE MODEL
FOR OPEN SYSTEM INTERCONNECTIONS

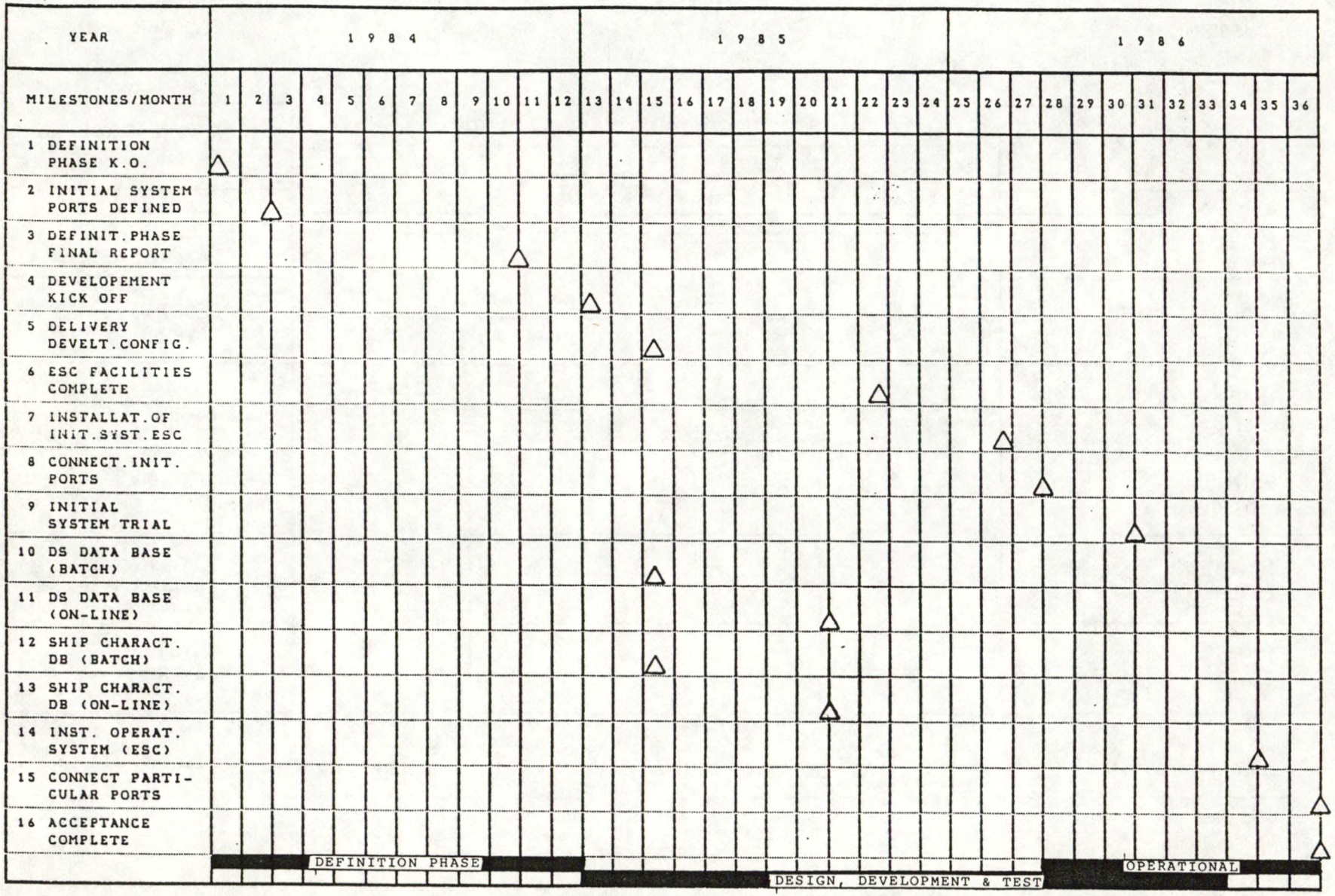
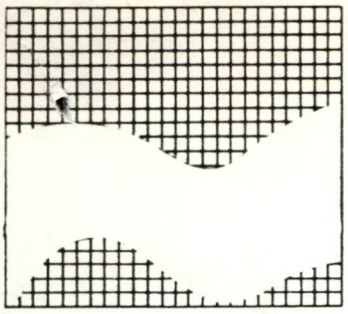


Fig. 4: MAJOR PROJECT MILESTONES

SAFETY	CONTROL	OPERATIONS	MANAGEMENT and COST
INFORMATION QUALITY - COMPLETENESS - ACCURACY TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES ON - CALL ACCESS TO STATIC AND DYNAMIC DATA BASES ACCESS TO INCIDENT INFORMATION IMPROVED CAPABILITIES TO RESPOND TO DANGEROUS SUBSTANCES INCIDENTS IMPROVED HANDLING OF DANGEROUS SUBSTANCES DUE TO MORE PRECISE INFORMATION	INFORMATION QUALITY - COMPLETENESS - ACCURACY TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES IMPROVEMENT OF DATA ACQUISITION ACCESS TO INCIDENT INFORMATION IMPROVED MEANS OF ESTABLISHING COMPATIBILITY OF DANGEROUS SUBSTANCE SHIPMENTS WITH PORT REGULATIONS	INFORMATION QUALITY - COMPLETENESS - ACCURACY PRESENTATION QUALITY - STANDARDISATION OF MESSAGE CONTENT, FORMAT, DISPLAY TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES REDUCTION OF MANUAL DATA HANDLING - MINIMIZING TRANSCRIPTION/FILING - AVOIDANCE OF REPETITIVE INPUT PROCESSING IMPROVEMENT OF DATA ACQUISITION IMPROVEMENT OF DATA AVAILABILITY TO PORT AUTHORITY PERSONNEL DEPENDING ON APPLICATION USE AND LOCATION OF TERMINALS EFFICIENCY IMPROVEMENT - JOB EXECUTION INTER PERSON COMMUNICATION, SHIP TURN-AROUND ON - CALL ACCESS TO STATIC AND DYNAMIK DATA BASES UP TO DATE MOVEMENT INFORMATION - CENTRALIZED DEPARTURE REPORTING SUBSTITUTION OF OTHER PURCHASED INFORMATION SOURCES	TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES REDUCTION OF MANUAL DATA HANDLING - MINIMIZING TRANSCRIPTION/FILING - AVOIDANCE OF REPETITIVE INPUT PROCESSING PORT STAFF JOB ENHANCEMENT - REDUCTION IN CLERICAL WORK LEAVING MORE OPPORTUNITY FOR RESPONSIBLE ACTIVITIES REDUCED INTER PERSON COMMUNICATION COST AVAILABILITY OF BETTER STATISTICS ON - CALL ACCESS TO STATIC AND DYNAMIK DATA BASES INFORMATION VALUE AS A SALEABLE RESOURCE SUBSTITUTION OF OTHER PURCHASED INFORMATION SOURCES (SHIPPING INTELLIGENCE) OPTIMIZATION OF INVESTMENTS - ONE STANDARD EVHA INTERFACE TO SUPPORT ALL PORT FUNCTIONS WITH EXTERNAL/INTERNAL COMMUNICATIONS, WHICH ARE MOST LIKELY TO REQUIRE COMPUTERIZATION IN THE NEAR FUTURE

Table 1 : Benefits - detailed with respect to port functions



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THEME : European Community Maritime Research and Development

DATE : Tuesday, 18th October, 1983

1610 : Ship-to-Shore Communication

By

H. Kuhlbrodt
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SHIP-TO-SHORE COMMUNICATION

1. Definition

When talking about communication it must firstly be defined how far communication is related to COST 301. Communication means literally speaking "making common" that is sharing of thoughts, ideas or knowledge by two or more people. In relation to COST 301 this means the exchange of information which is necessary to guarantee safe and easy flowing traffic.

Such information of course, ist not only given from ship to shore - as abbreviated in the headline of the programme agenda - but also from shore to ship and from ship to ship.

Why do I mention ship-to-ship communication? Although COST 301 is dealing with shore-based traffic assistance we have to consider what communication media and procedures are used between ships. New ideas for communication links between ship and shore, probably in connection with identifying and tracking methods may lead to onboard equipment which is not yet mandatory.

As the efficiency of any traffic measure depends greatly on how many of the traffic participants are able to communicate, this question must be paid attention to.

Finally,considering the harmonisation fo the procedures of traffic services we have to look also at communication links between VTS-Centres and other shore-based stations.

Thus communication related to COST 301 may be visulized as shown on Fig. 1.

2. Range and coverage

The objectives as given in the COST 301 project plan aim at the coverage of all sea areas beyond a distance of about 100 nautical miles offshore resp. the zones of economic interest, where applicable.

These areas do not necessarily cover all European sea areas. However, in general they cover the main shipping routes and especially those with the highest traffic densities. In the progress of COST 301 activities it may become evident to define the areas of interest more precisely. This depends highly upon the output from programme 2, that is to say, where problem areas will be found out.

Restricting the area of interest as stated before, means of communication are well established and are using VHF and MF radio. COST 301 of course has to look at new developments in the field of satellite communication. However, as these are mainly of interest for world-wide communication and pursued by other organizations we can only refer to them and see whether or not they are applicable for COST 301 intentions.

3. Mandatory equipment

In connection with paragraph 2 above, a fundamental difference between programme 6 and all other COST 301 programmes may be pointed out: All other programmes are dealing with matters not exactly specified on an international basis. In the contrary technical properties and the use of radio communication are laid down by regulations of the ITU and special onboard radio equipment is made mandatory by the SOLAS convention.

This fact is limiting the ambitions on one hand but on the other hand presents already certain uniform standards which are not obvious for the other COST 301 matters.

4. Common Language

Since the amount of communication in the maritime field has increased (because of various reasons) and more and more non native speakers of English are involved it has become evident, that guidance is needed for voice communication.

As for the communication from ship-to-ship, the IMO Standard Marine Navigational Vocabulary and/or the proposed Seaspeak Manual are giving such guidance.

As for the communication ship-to-shore and vice versa a combined IALA/ IAPH paper presented to IMO contains recommended guidelines for VTS as follows:

- in international waters communication in a VTS should take place primarily in the English language. When a local language is used to communicate with a specific vessel, navigational information relevant to other vessels shoud be repeated in English.
- In national waters the primary language should be the appropriate working language of the country where the system is established and English should be used where language difficulties exist.
- Systems established in areas where there are many international ships may designate English as the primary language.

Following these recommendations COST 301 is supporting a so called "Seaspeak for VTS" study that will give special guidance for initiating, maintaining and terminating conversations in English between VTS and ships.

...

5. Contents of communication

Up to now marginal conditions of communication have been mentioned. Now the question is, what informations are needed and related to COST 301. The contents of communication may be classified as follows:

- mutual information about present position, intended maneouvres (course and speed) and sailing plan.
- information about environmental conditions for navigation, e.g. navigational warnings, weather forecasts, status of aids to navigation, special events in the area concerned.
- communication related to SAR actions/reactions.

The first statement refers to traffic safety in general and will be allocated to COST 301, the second one is partially covered by existing services (e.g. Navtex, Notice to Mariners), but will be dealt with by COST 301 as well, the third one is allocated to existing services but may be dealt with by COST 301.

Further contents of communication may be classified as follows:

- communication between ship and shipping companies or agents regarding business purposes
- communication between ships and port authorities concerning arrival messages in order to assign a berth
- communication between ships and pilot organizations.

These statements refer entirely or predominantly to commercial interest and are normally not allocated to COST 301. If such communication is integrated into the procedure of VTS-communication COST 301 may refer to it. How far we have to deal with such communication may also reveal from the inputs by other that is to say from requirements stated by other COST 301 programmes.

Independant from such inputs the contents and flow of communication related to traffic safety - as typical for a VTS - may be as shown on Fig. 2.

6. Data exchange

The communication shore-to-ship and vice versa contains a certain amount of data which may be classified as folows:

- fixed ship data (e.g. name, call sign, size, category)
- variable ship data (e.g. draught, cargo, destination, ETA)
- ship movement data (position, course, speed).

The first two catergories of data may be assembled and taken from data bases and distributed on an European wide system.

The third category which may be stated as sensor data and are derived from tracking processes could be transferred with the ships name between adjacent VTS when considering an overall system of VTS. This would mean that an identifying and tracking process has not to be started anew when a vessel is leaving one VTS area and entering the next one.

Whether or not such sensor data transfer is reasonable will be dealt with by COST 301. Technical means of course are available, but at high expenditure. In this connection a combination of data transfer for different purposes will also be discussed (e.g. EVHA, Port State Control).

7. Media

Basically communication can use voice or visual information from printed text up to visual displays of graphs and pictures. At short distances also signal lights are used for maritime traffic information purposes and may be useful also in future times.

...

However the main objective of COST 301 will be to look at the options of radio transmission between shore and ship and vice versa. VHF and MF radio services both for voice/telegraphy and teletype communication are available with the intention to use VHF radio for VTS wherever applicable.

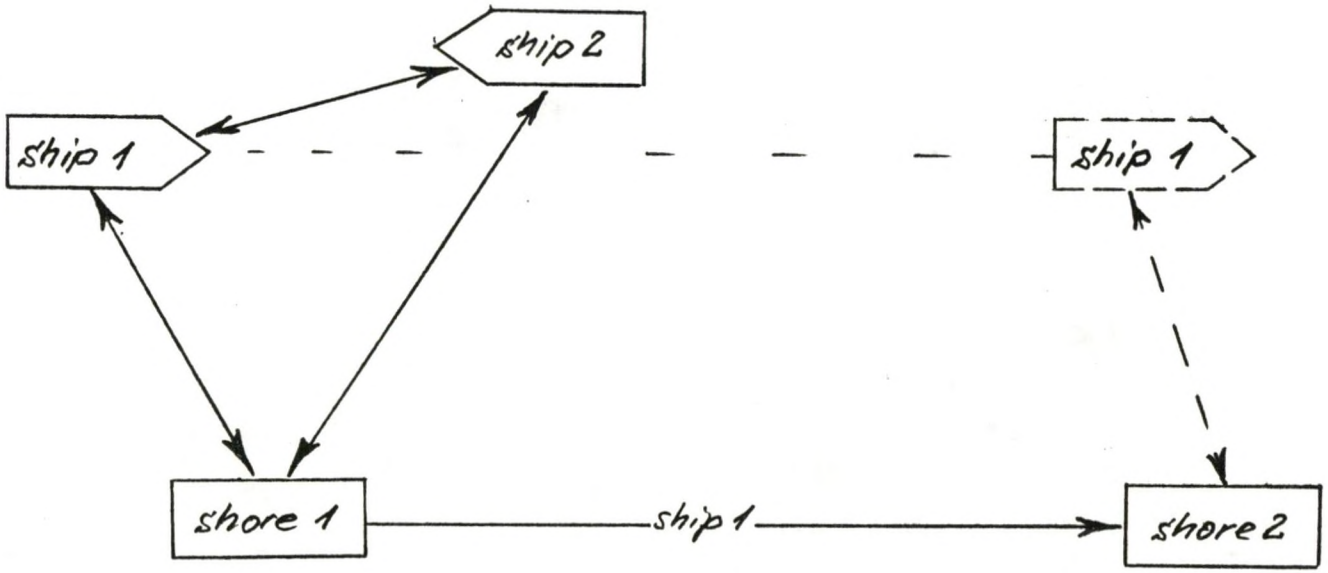
Facsimile and viewdata/btx are media for transmitting graphs and pictures. Whereas facsimile is well established - but not mandatory on ships - viewdata or btx (or whatever names are used for it in different countries) is a new means of communication using visual displays. Viewdata is already provided for special purposes in the maritime field, but COST 301 has to study whether such means are of general interest for communication referred to traffic safety.

8. Outlook

Objectives and options have been mentioned. The research of the WPL has started not until July of this year and I cannot state definitely what is coming out of it now. The research will also be greatly influenced by the requirements coming from other COST 301 programmes and from the questionnaire sent to all European VTS.

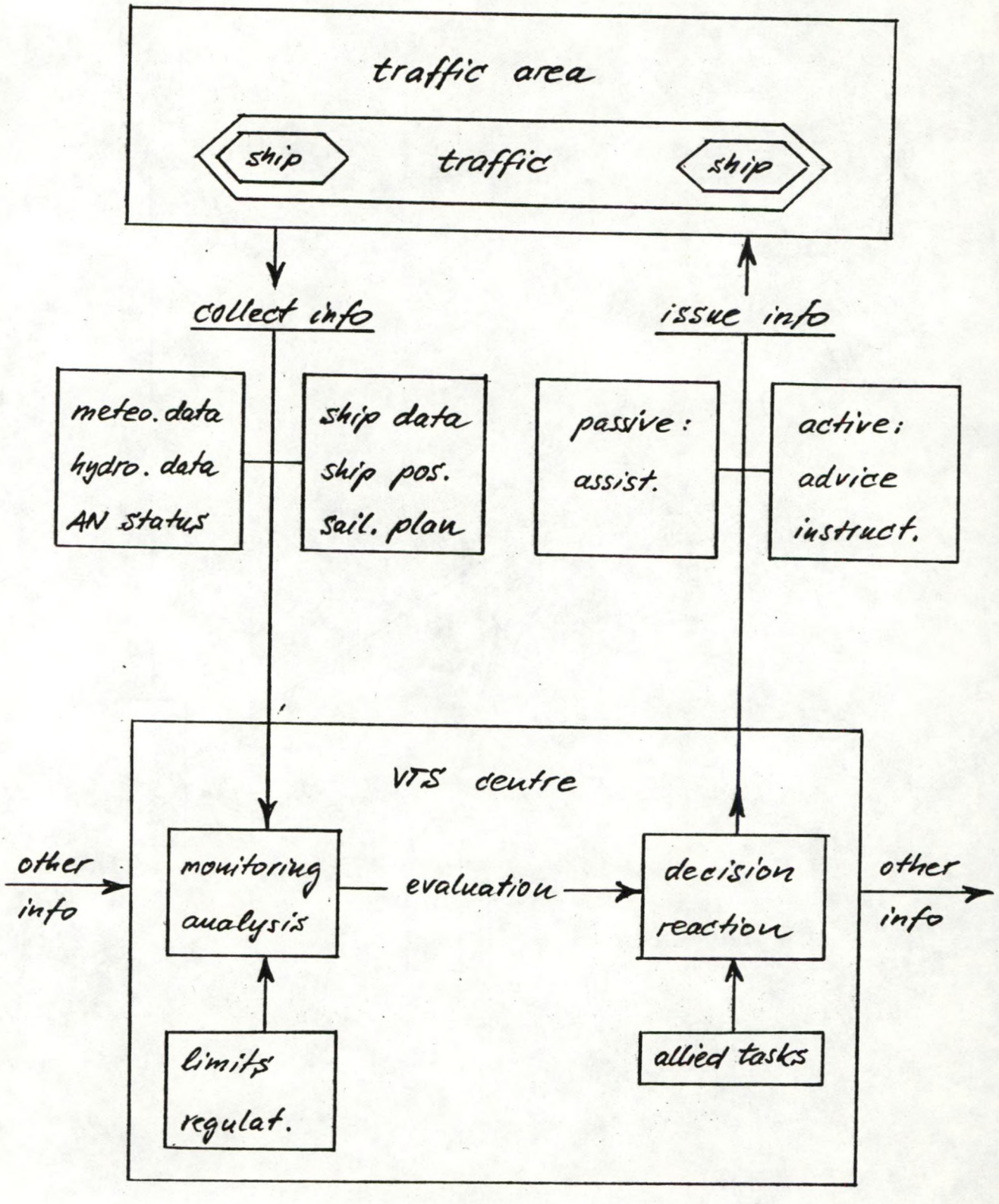
Therefore, we shall be more aware how far the options should go by the end of this year or early in 1984.

Fig. 1



communication circuit

Fig. 2



communication flow in a VTS

SEA TECHNOLOGY EUROPE
18th - 19th OCTOBER, 1983

A SYMPOSIUM ON HIGH TECHNOLOGY IN EUROPEAN PORTS AND SHIPPING.
PALAIS DE CONGRES, BRUSSELS, BELGIUM.

SPONSORED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES

INTERVENTION OF CPT. D.C. MITSATSOS, H.N.

SECRETARY GENERAL OF THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION (H E L M E P A)

CONCERNING: PROTECTION OF THE MARINE ENVIRONMENT AND THE HUMAN FACTOR

THANK YOU MR CHAIRMAN FOR ALLOWING ME TO TAKE THE FLOOR FOR A FEW MINUTES
THIS SYMPOSIUM HAS EXAMINED FOR THE PAST TWO DAYS A NUMBER OF QUESTIONS VITAL FOR THE SHIPPING IN GENERAL IN A MOST PROFOUND AND INDEED PROFESSIONAL WAY
ON BEHALF OF THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION KNOWN AS H E L M E P A I WOULD LIKE TO DRAW YOUR ATTENTION TO A FACTOR WE BELIEVE PLAYS A CRUCIAL ROLE IN THE PROPER IMPLEMENTATION OF TECHNOLOGICAL ADVANCES: THE HUMAN ELEMENT
I AM SURE WE ALL AGREE THAT THE SEA WAS REGARDED BY ALL OF US AS AN EVER RENEWABLE RESOURCE
UNFORTUNATELY PRACTICE HAS SHOWN THAT WE CAN NO LONGER RELY ON THAT

HELMEPA WAS FOUNDED A YEAR AGO BY REPRESENTATIVES OF THE PANHELLENIC SEAMENS FEDERATION AND THE UNION OF GREEK SHIPOWNERS IN A JOINT VOLUNTARY EFFORT TO PROTECT THE MARINE ENVIRONMENT FROM SHIP GENERATED POLLUTION
IT IS A DIFFERENT APPROACH TO THE PROBLEM TO WHICH SEVERAL LEADING INTERNATIONAL ENVIRONMENTAL ORGANIZATIONS AGREED AND SPONSORED HELMEPA ENTHUSIASTICALLY
THESE ARE THE INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE AND NATURAL RESOURCES IUCN, WHICH HAS DEVELOPED THE WORLD CONSERVATION STRATEGY, THE CLUB OF ROME, THE WORLD WILDLIFE FUND (WWF),
THE INTRNATIONAL OCEAN INSTITUTE (IOI),
THE INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT (IIED),
AND THE UNITED NATIONS ENVIRONMENT PROGRAM (UNEP)

HAVING STUDIED THE INTERNATIONAL CONVENTIONS SUCH AS SOLAS AND MARPOL 73/78, BOTH RATIFIED BY GREECE, AND BASED ON DATA COLLECTED FROM NATIONAL AUTHORITIES AS WELL AS OUR OWN MEMBERS, WE HAVE DESIGNED AN EDUCATIONAL PROGRAMME COMPENHENSIVE IN SCOPE
IT INCLUDES ALL TOPICS RELATED TO OPERATIONS ABOARD VESSELS THAT MAY LEAD TO SAFETY PROBLEMS THUS CREATING SHIP GENERATED POLLUTION INCIDENTS

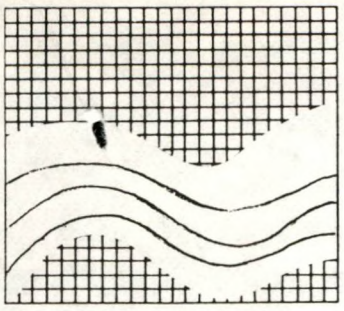
THE BASIC AND FUNDAMENTAL IDEA IS TO TRAIN CAPTAINS AND ENGINEERS TOGETHER ON THE PROPER IMPLEMENTATION OF THE NEW METHODS AND EQUIPMENT NOT BECAUSE OF THE EXISTING LEGISLATURE ALONE, BUT BECAUSE THEIR ARE TRADITIONAL SEAFARING CONSCIENCE IS THE DRIVINGT FORCE BEHIND ALL THAT

THE RESPONSE OF OUR MEMBER COMPANIES AND ESPECIALLY OF THE SEAMEN THEMSELVES TO OUR EDUCATIONAL PROGRAMME PROVES THAT THIS EFFORT IS ON THE RIGHT TRACK
IN SO FAR ONE THOUSAND OFFICERS OF GREEK VESSELS ARE SCHEDULED TO ATTEND THE PROGRAMME UNTIL JUNE 1984
OUR MEMBERSHIP NUMBERS 500 GREEK-FLAG OCEAN GOING VESSELS, 80 SHIPPING COMPANIES, ANOTHER LAND BASED 65 COMPANIES CONNECTED WITH SHIPPING, AND AN EVER INCREASING NUMBER OF GREEK SEAFARERS

EVEN THOUGH OUR AIM IS THE SHIPPING INDUSTRY, HELMEPA INITIATED A CAMPAIGN ADDRESSED TO THE BROADER PUBLIC TO PROTECT THE 15000 KILOMETERS OF OUR COASTS AND ISLANDS FROM POLLUTION DURING LAST SUMMER. GOVERNMENTAL ORGANISATIONS TOGETHER WITH PRIVATE INITIATIVES COORDINATED THIS ENDEAVOUR

I MIGHT ADD THAT ONE OF HELMEPA'S WARMEST SUPPORTERS IS THE HELLENIC NAVY WHICH HAS RESPONDED TO OUR EFFORTS BY PLEDGING TO OBSERVE VOLUNTARILY POLLUTION REGULATIONS WHEREVER POSSIBLE
THE IMPORTANCE OF THE NAVY'S JOINING OUR ASSOCIATION LIES IN THE FACT THAT INTERNATIONAL POLLUTION REGULATIONS GOVERNING OPERATIONS AT SEA THAT MAY RESULT IN MARINE POLLUTION ARE NOT BINDING ON WAR NAVIES

WE BELIEVE THAT OUR INITIATIVE TO ENCOURAGE HUMAN BEINGS TO MAKE A VOLUNTARY COMMITMENT TO THE PRESERVATION OF THE SEAS SHOULD BE A SUBJECT FOR CONSIDERATION BY ALL EUROPEAN NATIONS
WE ALL HAVE A DEBT TO OUR SEA WHICH ENABLED US HERE IN EUROPE TO EXTEND OUR HORIZONS FOR SO MANY CENTURIES
WE SHOULD BE WILLING TO DEVOTE TIME AND RESOURCES TO REPAY THIS DEBT
I THEREFORE ON BEHALF OF THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION PROPOSE TO THE COMMISSION OF THE EUROPEAN COMMUNITIES THAT THEY INITIATE THE APPROPRIATE PROCEEDINGS TO URGE ALL EUROPEAN COMMUNITY COUNTRIES AND SPECIFICALLY THE MEDITERRANEAN ONES TO UNITE IN A SIMILAR HELMEPA EFFORT
UNDER THE COMMISSION'S COORDINATION AND IN CLOSE COOPERATION AMONG OURSELVES I HAVE NO DOUBT THAT WE WILL SUCCEED IN REVITILIZING THE MEDITERRANEAN MARINE ENVIRONMENT
THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION HOLDS ITSELF AT THE DISPOSITION OF THE COMMISION TO ASSIST IN THIS EFFORT IN ANY WAY POSSIBLE
WE SHOULD WELCOME THE OPPORTUNITY TO WORK TOGETHER WITHTHE OTHER EUROPEAN NATIONS IN THIS WORTHY ENDEAVOUR FOR WE ARE CERTAIN THAT THIS WOULD RESULT IN THE GENERATION OF FRESH IDEAS, SUGGESTIONS AND CONSTRUCTIVE CRITICISM WHICH WOULD BENEFIT ALL OF US CONCERNED WITH THE PRESERVATION OF THE MARINE ENVIRONMENT
THANK YOU



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THEME : Shipping and The Community

DATE : Wednesday, 19th October, 1983

1005 : Vessel and Port Performance System

By

C. Vordokas

Trade Management Services, Piraeus

Symposium: SEA TECHNOLOGY EUROPE

Vessel and Port Performance System

Ch. Vordokas

Excellencies, Ladies and Gentlemen,
let me first of all, express the great pleasure and satisfaction I have in having the honour to give you my views on such an important and vital topic, as vessel and port performance. I hope that this paper will provoke discussions and generate further thoughts and opinions on ways and means of analysis of the vessel and port performance. This subject is closely tied to the aformentioned module of Voyage Calculation as well as to the next module 3 of the EASI Project, that of Fleet Scheduling.

The increasing capital and operating costs of a modern fleet as well as high competition in a depressed market force shipping companies to develop new methods of planning and control of the vessel's operation and voyage performance in order to reduce costs and increase the fleet's economic performance. With some differencies of minor importance this fact is today valid both for the liner and the tramp shipping business.

The basic tasks of a company's operations, are both in the day-to-day routine activities-e.g. chartering, fleet/vessel operations, accounting- and in the longterm work-e.g. planning, budgeting, contract management, fleet scheduling-require precise, updated and accurate figures indicating the vessel performance at sea and in the port. On the basis of the above information improvements will be achieved in fields related to the Voyage Planning, Voyage Performance Operation, Voyage Control, Cargo Handling. Improvements may also be expected in the accounting process, as it is obvious that having statistical data and coefficients on the vessel's operational cost, one can easily project the present into the future economic status, e.g. preparing and updating budgets, controlling and managing the credit situation more efficiently.

../..

Providing future business management has the above facilities decisions will have a better, more exact and reliable basis leading to better assessment of the vessels and fleet employment. Isn't that a highly important motive for the shipping companies to increase performance and improve the competitiveness of their fleet?

The high amount of data required for performance analysis as well as the analysis of interrelations in order to produce performance coefficients, to identify parameters and to define transformations assume both a sophisticated system lay-out and an exact data flow management.

The requirements for the system, as set during the definition phase of the project, are the following:

° the system should be suitable both for liner and tramp services

° the required data should be defined regarding the various origins and/or sources and evaluated in respect of their priority, validity and quantity

° the procedures of solutions for the data input, data transmissions and data output should be defined and evaluated

° the connections and interrelations with other problem areas in the company and with other systems within the company should be examined, defined and evaluated. One can mention further requirements concerning the data processing and taken into account during the system definition, e.g.

- editing of incoming reports, generating and transmitting of messages to each participant (e.g. vessels, shipping companies' offices, operators) when appropriate.
- decoding of incoming reports, printing and transmitting of reports to addressees when appropriate
- When appropriate, placing of incoming reports into a computer file accessible only to specific addressees.

- protection of all data fed in through a system of passwords controlled by the permitted users.
- running first evaluations of incoming data, e.g. comparing actual performance figures of the voyage with planned data and instructions to the vessel (s) and operator (s), or preparing data for statistics or trend lines, ready for access for favoured users.
- using data contained in an incoming data flow, the system can form a different report perhaps after evaluation and transmit it to a different address for use in other systems e.g Fleet scheduling, Voyage Calculation, Optimal Vessel Operation.

As far as the data required is concerned, two main categories of data sources may be mentioned.

° the orders of the vessel's operation and the voyage/port performance

° the reports of the vessel's voyage/port performance as well as their evaluation on the first approach.

The first source is the final step of the work on voyage planning in detail. The relevant actual data transmitted during the operation voyage as well as the corresponding coefficients calculated upon the finalization of the voyage build up the basis of the decision making support provided to the operators for the next voyages.

The second source are the reports transmitted by the vessel in standard time interval during the voyage, which enable the operators to follow up and control the vessel's voyage and/or port performance considering the planned targets set initially and comparing actual performance figures with figures of previous similar voyages.

A further definition of the data sources is established according to the origin of data, namely distinguishing data in
- internal data, coming from existing files and/or actual inputs
- external data, coming from the vessel(s) and/or agent (s)

The reason for this separation lies in the fact that both the quality,

the quantity and the frequency of data differ to a great extent between the two sources, especially when these data concern the voyage data.

Vessel and Port related data are in this respect internal data, fed into the files once and altered only in rare cases, e.g. when a vessel or port particular has been changed.
Vessel related data are: the vessel's cargo capacity, the vessel's type, the types of cargo the nominal service speed, bunker consumption at sea and in port, loading/discharging capacities with own cargo-handling equipment or requirements for shore-bound cargo handling facilities.

Port related data are information on the ports' characteristics, i.e concerning access, berthing facilities, capacities of the loading/discharging equipment, storage facilities, congestion experienced/expected, navigational information , (draft restrictions, pilotage etc), tidal influences, working data (holidays, overtime, strikes, customs, unions etc), information concerning customary and legal procedures etc.

Sailing and port operations data are external information coming from the vessel and/or the agent (s) where

° the vessel's sailing data are mainly:speed, weather conditions consumption of main and auxiliary engine, delays/deviations/breakdowns and the corresponding reasons, maintenance and repair work performed by the crew. Further information concerning the sea passage leg refer to times of departure, arrival, pilots, tugs, boatment for mooring/unmooring etc. These information can be taken for comparison with port accounts, estimates, standards, statistics etc.

° the vessel's port data are mainly:berthing times, times of commencing/completing loading/discharging operations, interruptions with reasons, loading/discharging rates and quantities (vessel and shore figures), information on equipment used, (performances, deficiencies etc) as well as legal and customary data which are

important for the shipper/charterer/owner and refer to the terms of the contract. All this information can be taken for comparison and/or calculation of the statement of fact, the laytime statement, the laytime calculation, the demurrage invoicing etc.

From the above analysis of the data characteristics it is obvious that the information may be further categorized according to its contents in:

- quantity data
- time data
- cost data (expenditures)

The aim of this system is , in the first istance, as mentioned before, to control the vessel's performance and further to build up a history module with other modules-especially No 1 " Voyage Calculation" and No 3 "Fleet Scheduling"-within the frame of the EASI-project, requiring an exact definition of the output. In this respect one has to distinguish

° the vessel voyage performance

° the vessel/port performance

Both voyage and port performances produce respectively

° time analysis

° quantity/rates analysis

° expenditures/cost analysis

° port analysis

All the above analyses are performed using information in the history files as well analysing actual data coming to the company. In that second part, i.e the data analysis, the operator is mainly involved in this activity.

Data Analysis

The analysis has to be done as early as possible in order to prevent any negative influence on the voyages being performed at present and/or planned by using non-relevant historical data.

The comfort of analysis performance by the operator is dependant on the supporting S/W during this process as it is a tool to speed-up analyses.
The Operator's analysis activity is only requested if the incoming data doesn't comply with the planning data in the file. An indicated data deviation does not only require an analysis if data is input errors or not and the acknowledgement after verification, but also analyses with respect to preventive or corrective actions. The analysis therefore consists of several parts, as shown below, where the indicated structure reflects the sequential steps of software implementation.

° identification of deviations

° investigation of reason of deviation

° investigation of impact on
  - running voyages
  - voyage planning
  as the technical/operational impact

° investigation of cost/operational impact

° identification of counteractions required

° organization of counteractions

  - management level

  - operational level

  - technical level

  - cost level

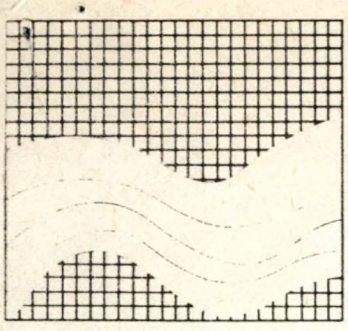
The development of this system requires an analysis effort for the identification of parameters and their essential organization and transformation into coefficients, in order to allow the shipping company binding these coefficients to its cost keys and operational targets according to the company's policy and the management's insentives.

The other work effort is the contingency analysis, part of the operational analysis. The contingency analysis identifies the necessary operator's activities in case of actual data deviation

from data file parameters (e.g. reported vessel's routing segment speed below planned routing segment speed, RPM as planned) as indicated e.g. on the display message line. The contingency analysis effort goes in line with the aforementioned list of the analysis parts.

At this point one has to consider that electronic Data Processing affects also the organization and work flow management of the company. In this respect the above described system mainly supports centralized operations. It is suitable, however, also for distributed operations in cases of partial autonomous operation of vessels by allowing a defined autonomous data dialogue between vessel and company.
In both cases the operators role in the management's structure, gets a central function. His planning activities
can only be regarded in connection with the controlling activities leading to analyses(from time to time). It is therefore necessary in any case to identify and redefine the operator's function, taking into account his increased work load. In this respect one has to mention that using the direct interface i.e the VDU and keyboard between the operator and his communication partners, i.e the vessel(s), the port agent (s) and the company's management, the operator has to meet high level decisions in cases of significant deviations of one or more relevant parameter (s).
It is obvious, that the system provides a sophisticated service both in data acquisition and data analysis and by increasing the operator's comfort in the day-to-day routine work it enables a higher managerial performance. This is though the theme my EASI colleague Mr. R.J. OUWERKERK will refer to.

Ladies and Gentlemen, I thank you for your kind attention.



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DATE : Wednesday, 19th October, 1983

0905 : Ports and Shipping - Tele-Informatic Solutions to Future Maritime Problems.

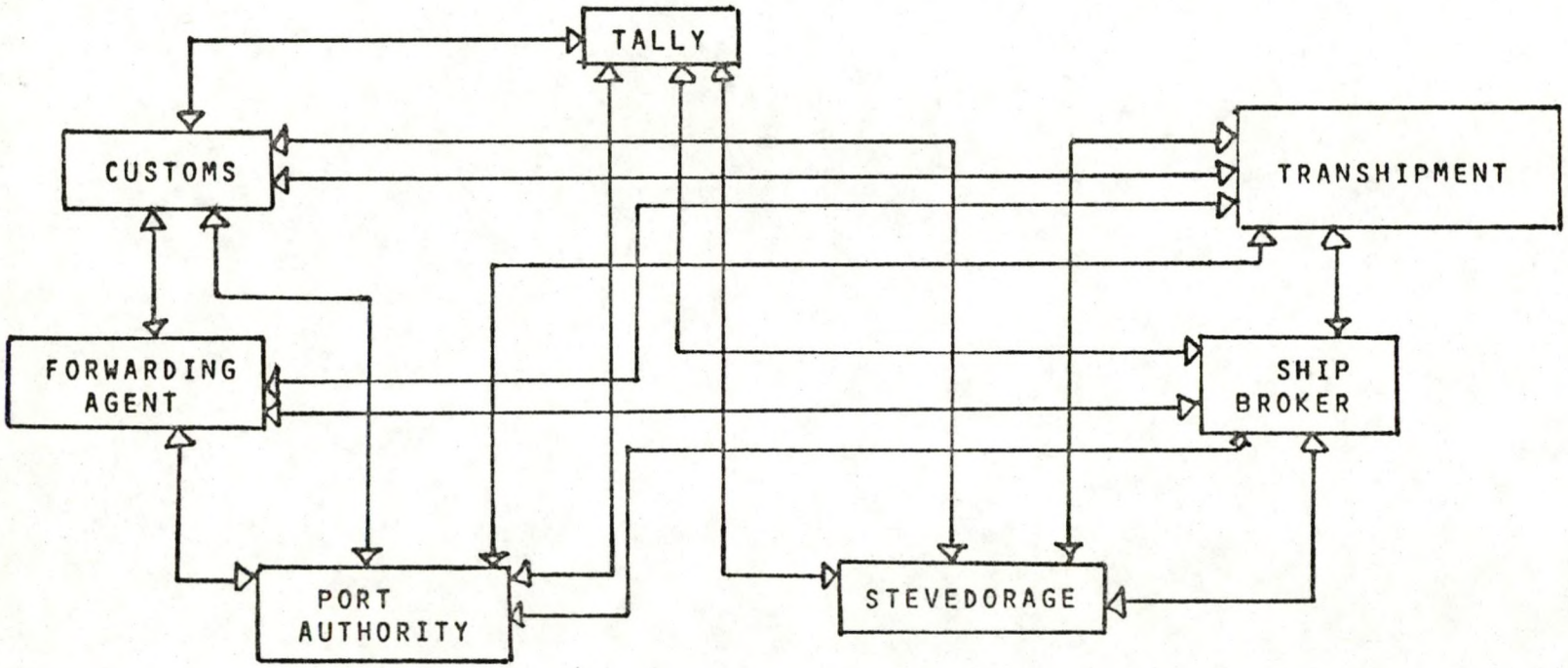
By

A. Sarich
Project Manager EVHA & EASI
Director, Euromatica Limited

TRANSPARENCIES 1 - 9

SLIDE 1.

EXAMPLE OF TRADITIONAL INFORMATION FLOW IN A SEAPORT.



SLIDE 2.

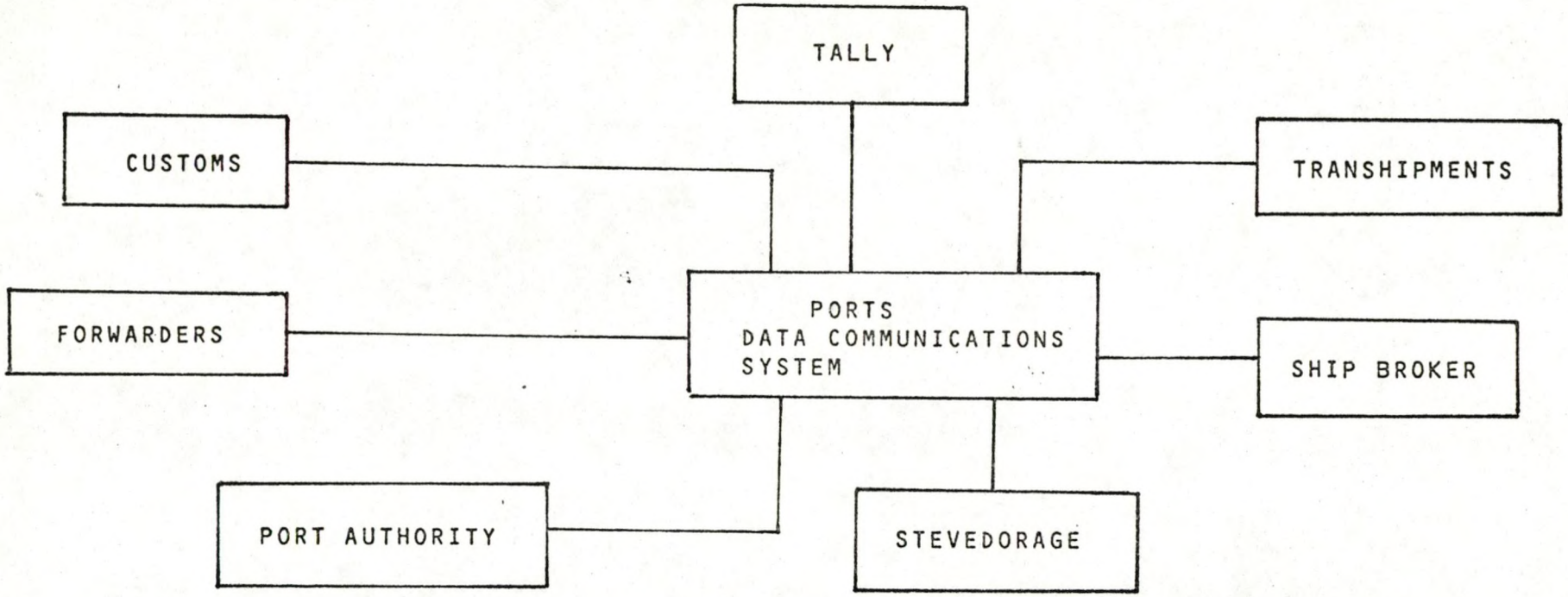
PORTS DATA COMMUNICATION SYSTEMS.

- TRIM (Traitement Rationnel des Informations Maritimes)
- COMPASS (Computer Oriented Management of Port And Shipping Services)
- DAKOSY (DAten KOmmunikations SYsteme)
- ORION (On-line, Revolutionary, Instantaneous, Operating Network)

OBJECTIVES

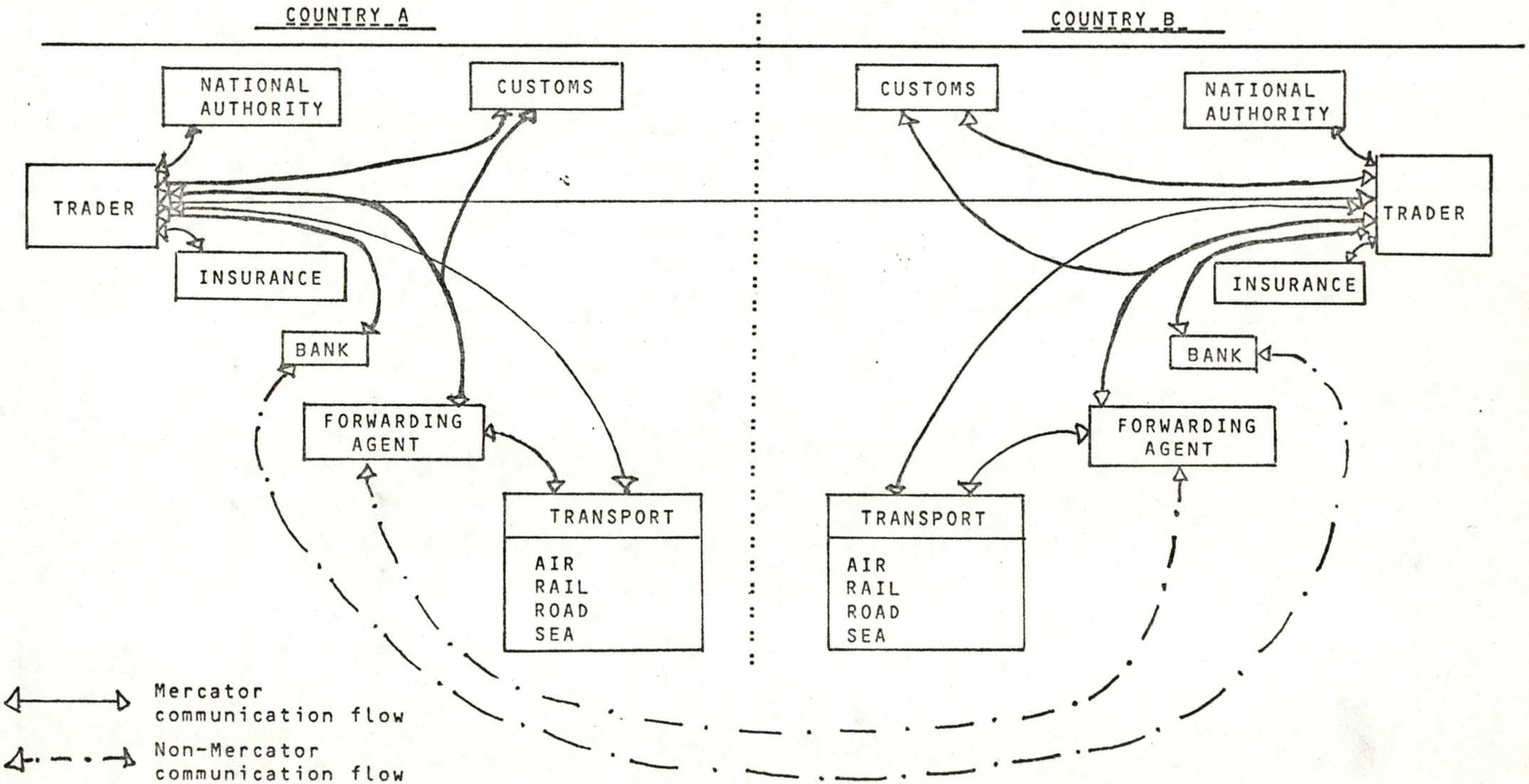
- Lower administrative costs
- Increase goods turnaround
- Simplify administrative and operating procedures
- Minimize errors and increase accuracy

SLIDE 3.


TALLY
CUSTOMS
TRANSHIPMENTS
FORWARDERS
PORTS
DATA COMMUNICATIONS
SYSTEM
SHIP BROKER
PORT AUTHORITY
STEVEDORAGE

SLIDE_4

MERCATOR_PROJECT_OUTLINE_:_INFORMATION_FLOW



SLIDE 5

LAYOUT KEY FOR TRADE DOCUMENTS

Consignor (Exporter)	Date; Reference No. etc.
Fa. Armin Boldt *Postfach 2105* *8000 München 11*	*1983.01.15 / DP 0833*
Consignee	**Buyer (if other than consignee) or other address**
Fa. Bernd Müller *Postfach 3206* *5300 Bonn 1*	
Notify or delivery address	**Country whence consigned**
Fa. Bernd Müller *Villemombler Straße 33* *5300 Bonn 1*	**Country of origin** *DE* / **Country of destination**
Transport details	**Terms of delivery and payment** *Werk 1* *Bonn* *Post — frei Haus*

Shipping marks; Container No.	Number & kind of packages; Goods description	Commodity No.	Gross weight	Cube
	1 Paket *Taste „x2" für Fern-* *sprechgerät 3018* *Widerstand, 100 Stück* *Gleichrichter, 20 Stück*	*85 13 81* *85 19 85* *85 01 88*	*2800 gr*	
			Net quantity *2500 gr*	**Value** *180,44 DM*

Das Muster einer Handelsrechnung ist im Handbuch „Automatisierter Datenaustausch nach einheitlichen Regeln" (Teil 1, Seite 44) abgedruckt. Das Handbuch wurde als DEUPRO-Projektergebnis vom AWV Ausschuß für wirtschaftliche Verwaltung in Wirtschaft und öffentlicher Hand e. V., Postfach 5129, 6236 Eschborn 1, herausgegeben.

Place and date of issue; Authentication

SLIDE 6

POTENTIAL COMPUTERIZED ON-BOARD APPLICATIONS

- Integration of routing, speed, heat engine balance; weather etc. parameters.

- On-board inventory control.

- On-board administrative systems (payroll, crew lists, rosters).

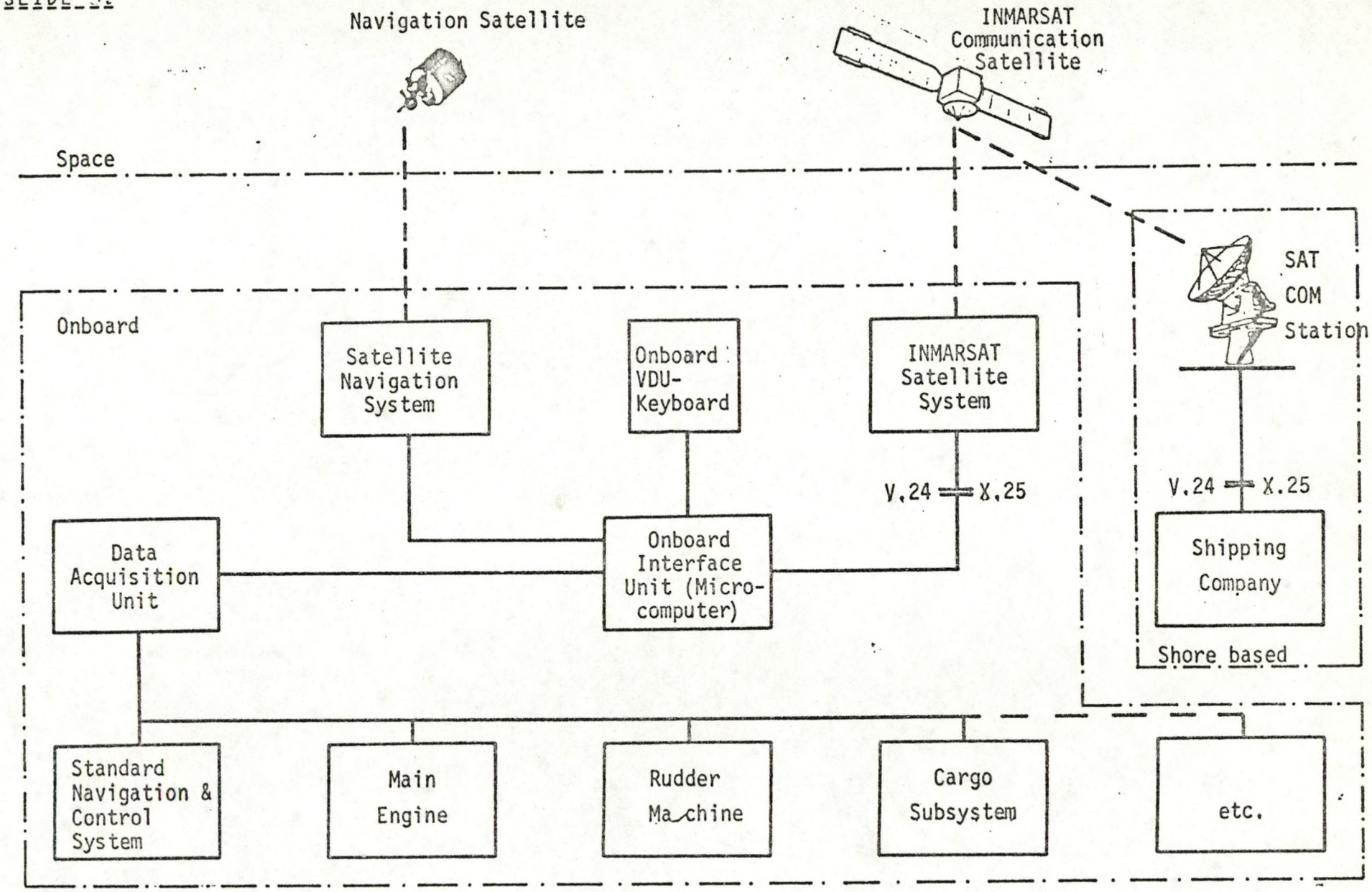
-Cargo lists.

-Collision / damage control.

- Collision avoidance systems

- Training programmes

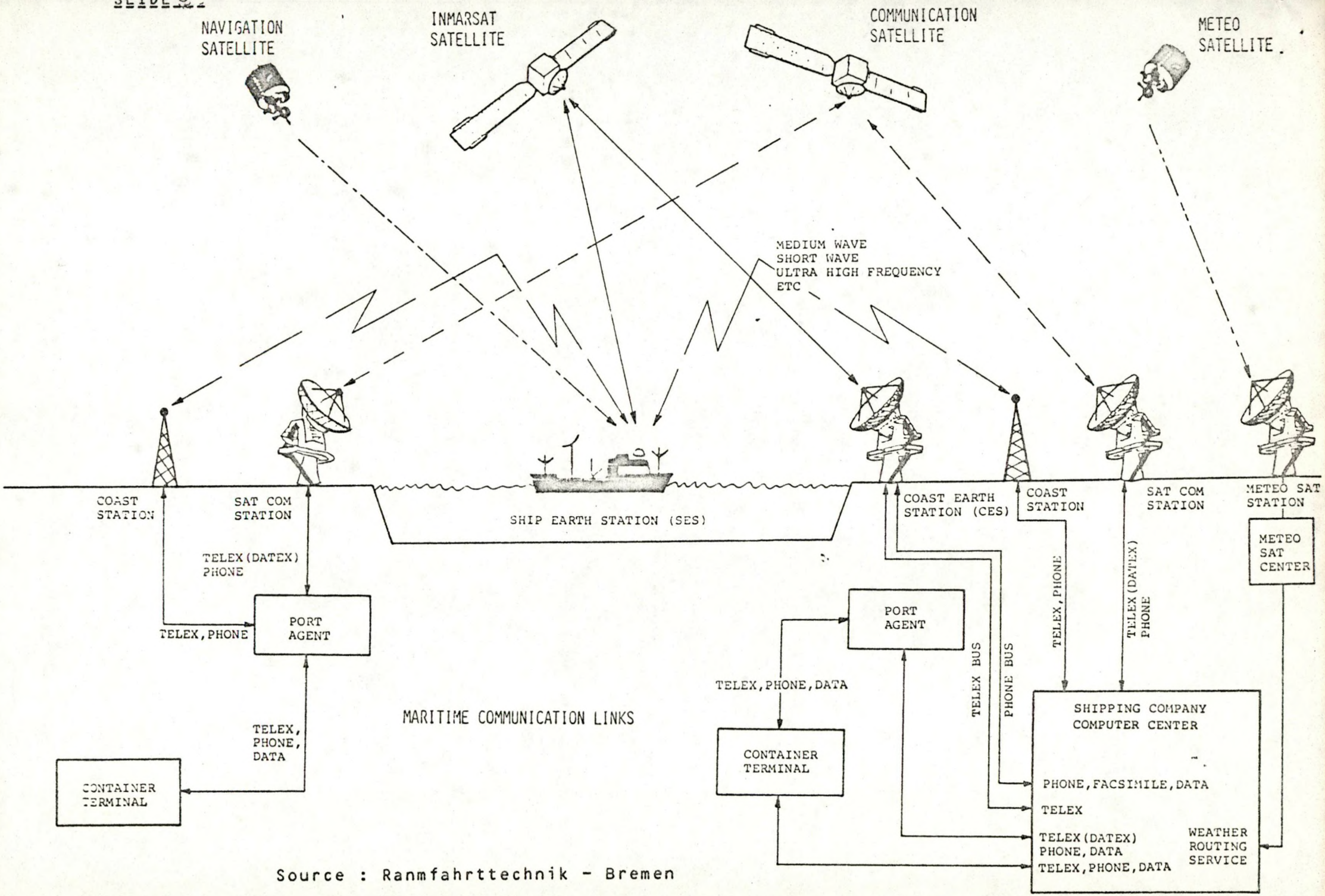
SLIDE 7



Onboard-Micro as a link between vessel and shipping company

Source : ERNO Ranmfahrttechnik - Bremen

SLIDE 8



MARITIME COMMUNICATION LINKS

Source : Ranmfahrttechnik - Bremen

COMMISSION
DES
COMMUNAUTES EUROPEENNES

Direction générale de l'environnement,
de la protection des consommateurs
et de la sécurité nucléaire
XI/A/1

Bruxelles, le 5 octobre 1983

SYMPOSIUM SEATEC

Bruxelles, les 18 et 19 octobre 1983

Utilisation du système communautaire d'information pour le contrôle de la pollution marine par les hydrocarbures

par A.P. BARISICH, Administrateur de la Division "Gestion des Eaux"

(I. Introduction)

Monsieur le Président, Mesdames, Messieurs,

Monsieur Andreopoulos vous a donné une vue d'ensemble sur la politique communautaire de protection de l'environnement en mettant en évidence dans son exposé, les questions relatives à l'environnement marin.

Monsieur Mandl vous a ensuite présenté, dans le détail, le programme d'action "hydrocarbures" et la manière dont ce programme a été mis en oeuvre par la Commission.

A mon tour, et en suivant cette logique déductive, qui va du général vers le particulier, je voudrais vous présenter de manière détaillée, le système communautaire d'information pour le contrôle et la réduction de la pollution causée par le déversement d'hydrocarbures en mer.

Avant de procéder à la présentation du sujet, permettez-moi de saluer la présence dans cette salle, de mon collègue et ami, Michel BIART, qui a été mon prédécesseur dans les fonctions que j'exerce actuellement et qui avait initialement été pressenti pour vous présenter cet exposé.

II. La genèse du système

Je voudrais maintenant vous parler de la genèse du système. Le système communautaire d'information constitue en fait la réalisation pratique de la première orientation retenue dans le cadre du programme d'action "hydrocarbures".

Ce système a été établi à la suite de la décision du Conseil de décembre 1981, intervenue à la suite de la proposition de la Commission du mois d'août 1980.

L'approche communautaire du système d'information diffère sensiblement de celles retenues dans d'autres enceintes.

Elle repose sur trois piliers, distincts et complémentaires.

Le premier pilier est constitué par l'inventaire des moyens de lutte contre la pollution. Cet inventaire reprend les informations relatives au personnel spécialisé, aux moyens mécaniques et physico-chimiques de lutte, ainsi qu'aux équipes d'intervention, aux navires et aéronefs équipés pour la lutte, aux moyens de stockage etc... .

./. 3

Il comporte également des indications relatives à la localisation des moyens précités et aux délais de mise en oeuvre.

Cet inventaire est conçu pour un traitement informatisé des données, conformément à l'intention dont la Commission avait fait part aux Etats membres, au moment des discussions relatives à l'établissement du système.

Tandis que son informatisation se poursuit, à titre expérimental, une version préliminaire de l'inventaire sous forme de brochure a été réalisée et transmise aux autorités compétentes de tous les Etats membres, selon les dispositions de la décision du Conseil.

Dès que les observations de tous les Etats membres parviendront à la Commission, il sera procédé à la réalisation d'une première version opérationnelle de l'inventaire.
Pour aider les Etats membres dans l'effort de révision et surtout d'harmonisation des données de base du système, la Commission s'est d'ailleurs assurée la coopération d'un consultant de haut niveau.

Le deuxième pilier de ce système est constitué par un catalogue des moyens de lutte contre la pollution.

Ce catalogue consiste en une description succinte, mais exhaustive de tous les moyens de lutte recensés au niveau de l'inventaire.

./. 4

L'élaboration de ce catalogue est pratiquement achevée; un effort particulier a été consacré à la présentation de ce catalogue pour en faciliter l'utilisation.
A l'heure actuelle, il se présente comme un assemblage de fiches, chaque page ayant été consacrée à un seul équipement.

Le troisième pilier est constitué d'un recueil des propriétés des hydrocarbures.
Les travaux relatifs à ce recueil sont conduits par CONCAWE (The Oil Companies' International Study Group for Conservation of Air and Water).
Ils seront achevés pour la fin de l'année.

Ce recueil devrait comprendre toute une série de données sur les principales caractéristiques physico-chimiques des hydrocarbures, ainsi que sur l'évolution naturelle des hydrocarbures (à la suite de phénomènes tels que l'évaporation, l'oxidation etc..) et sur l'évolution de ces mêmes hydrocarbures lorsqu'ils sont soumis aux techniques de traitement.

III. Utilisation du système communautaire d'information

Quelle sera l'utilisation du système communautaire d'information ?
Aucune décision n'a été prise à ce stade, sur une éventuelle informatisation des deux derniers éléments constitutifs du système d'information, à savoir le catalogue et le recueil.

./. 5

D'autre part, dans l'immédiat, les responsables de la lutte anti-pollution dans les Etats membres, auront à leur disposition la brochure relative à l'inventaire sans pouvoir profiter du système informatisé.

Dans ces conditions, l'utilisation du système communautaire ne différera pas sensiblement des autres systèmes existants.

Cependant, la sophistication de l'inventaire, la facilité d'utilisation du catalogue et la finesse de réalisation du recueil feront du système communautaire un instrument précieux, non seulement pour les responsables de la lutte anti-pollution, mais également pour tous ceux qui seront amenés à s'intéresser à la lutte anti-pollution. Je songe, à titre d'exemple, à ceux qui ont la responsabilité de décision pour l'achat d'équipements : il ne fait aucun doute que le catalogue leur fournira une aide précieuse lorsqu'ils seront amenés à faire un choix entre les différents matériels disponibles.

Mais ce n'est pas dans ces différences, somme toute de détail, que réside l'utilité du système communautaire d'information par rapport à d'autres systèmes existants.

Sa vraie spécificité, du moins au niveau communautaire, réside dans sa conception de base, orientée vers l'informatique.

En effet, au stade actuel où tous ces systèmes d'informations sont limités aux problèmes relatifs aux seuls hydrocarbures, il demeure encore possible, à chacun d'entre-nous, de travailler sur base de brochures plus ou moins sophistiquées.

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Il convient cependant de rappeler que, de plus en plus, les structures nationales ou internationales, initialement chargées de la lutte contre la pollution par les hydrocarbures, s'intéressent également aux problèmes relatifs à la pollution par d'autres substances dangereuses.

Le dernier exemple en date, est l'Accord de Bonn; le 13 septembre dernier, les Parties contractantes ont signé un nouvel accord couvrant également les substances dangereuses autres que les hydrocarbures.

IV. Implications de cette évolution

Quelles seront les implications de cette évolution ?

Il est difficile, à ce stade, de faire davantage qu'émettre des hypothèses.

Cependant, dans la mesure où ces structures s'efforceront d'améliorer leurs capacités d'intervention, par exemple, en cas d'accidents dûs à des produits chimiques, il est tout à fait vraisemblable qu'elles seront amenées à se doter de systèmes d'information en la matière.

En ce moment, un choix fondamental se prépare : en effet, il sera nécessaire, soit de limiter de manière draconnienne la portée des nouveaux systèmes d'information (en se limitant, par ex. à utiliser des listes d'experts), soit de franchir le pas et passer à un système informatisé.

En effet, il semble assez aléatoire de songer à travailler avec des fichiers matières établis sur papier et concernant des milliers de substances. Il faut cependant mentionner ici, qu'il existe des techniques alternatives telles que les microfiches avec lecteur portatif qui constituent des possibilités intéressantes.

Cependant, chaque jour qui passe voit des applications nouvelles de l'informatique. Nos enfants baignent dans un univers où électronique et informatique sont rois.

Dans ces conditions, l'évolution à terme semble tracée : nous devrions assister à une généralisation de l'informatisation de ces systèmes.

D'ailleurs, une telle évolution permettrait d'apporter une réponse à des besoins nouveaux qui émergent à peine à l'heure actuelle. Je vais vous en citer un exemple.
Nous avons été surpris par la requête qui nous a été adressée par les autorités compétentes d'un Etat membre, de pouvoir d'ores et déjà avoir accès au fichier informatisé des moyens de lutte contre la pollution par les hydrocarbures dont je vous ai parlé auparavant.
Mais il est intéressant de connaître la motivation de cette demande : dans le cadre de la mise au point d'un modèle mathématique de déplacement de nappes et pour effectuer des exercices de simulation sur papier, ces responsables avaient en fait essayé de réaliser ce qui, dans le fond, peut être assimilé à un système d'information intégré.

(V. Les systèmes d'information plus complexes)

Mais revenons aux systèmes d'informations plus complexes existants. Afin de pouvoir disposer d'une série de renseignements sur ces systèmes, la Commission a confié à un contractant une étude des systèmes d'information existants en matière de produits chimiques.

Le mandat du contractant prévoit qu'il devra effectuer un recensement des systèmes existants notamment en Europe et en Amérique du Nord.
A partir de ce rencensement, le contractant établira la possibilité d'adapter au milieu marin ces systèmes, qui sont en général orientés vers l'intervention, à l'intérieur des territoires concernés.

Parmi les autres recherches que le contractant devra effectuer, figure enfin un chapitre relatif aux possibilités d'amélioration réalisables dans le domaine de l'utilisation de ce genre de systèmes d'information.

(VI. Conclusions)

Je voudrais maintenant essayer de tirer quelques conclusions.

La première me semble être, qu'une information rapide et précise constitue une priorité absolue pour les équipes d'intervention.

La seconde, pourrait être qu'il n'y a peut-être pas d'avantage décisif pour un système informatisé, aussi longtemps que l'on se contente d'un système simple et limité aux hydrocarbures

La troisième conclusion, qui me semble s'imposer, est en revanche, qu'il est pratiquement indispensable de passer aux systèmes informatisés dès qu'on recherche des informations plus complexes.

Pour l'ensemble de ces raisons, l'attitude de la Commission a été jusqu'ici :

1. de poursuivre l'informatisation, à titre expérimental, de l'inventaire des moyens de lutte "hydrocarbures" ;

2. d'essayer de recueillir des informations suffisantes sur des systèmes plus complexes.

De la sorte, elle pourra, le moment venu, contribuer efficacement au développement de ces outils indispensables de lutte.

Monsieur le Président, Mesdames, Messieurs, je vous remercie de votre attention. Je vous prie de croire que je considère comme un privilège d'avoir eu à m'exprimer devant vous. Merci

COMMISSION
DES
COMMUNAUTES EUROPEENNES

Direction générale de l'environnement,
de la protection des consommateurs
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Bruxelles, le 3 octobre 1983

SYMPOSIUM SEATEC

Bruxelles, les 18 et 19 octobre 1983

Nouvelles méthodes de contrôle de la pollution marine par les hydrocarbures

par V. MANDL, Chef de la Division "Gestion des Eaux"

I. (Introduction)

Permettez-moi, en guise d'introduction, de reprendre une des considérations que Monsieur Andreopoulos vient d'exposer, à savoir que l'action de la Communauté a été particulièrement efficace dans les domaines relatifs à la lutte contre la pollution marine par les hydrocarbures.
Je vais m'efforcer de vous expliquer comment nous en sommes venus à cette conclusion.

Le programme d'action "hydrocarbures dont Mr. Andreopoulos vous a également parlé prévoyait 6 domaines d'action, dont 4 étaient relatifs à la lutte contre la pollution.

Nous allons voir, domaine par domaine, comment ces résolutions ont été traduites dans la pratique.

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II.(La traduction dans la pratique du programme d'action hydrocarbures)

Le premier domaine d'action du programme concernait le traitement des informations. Les études et propositions qui ont été élaborées dans ce cadre, ont abouti au système communautaire d'informations pour le contrôle et la réduction de la pollution causée par le déversement d'hydrocarbures en mer.
Comme il s'agit du sujet de l'exposé que fera Mr. Barisich, je n'entrerai pas dans le détail du système : je me limite à constater que dans ce domaine, on a enregistré un développement significatif.

Le deuxième domaine traitait essentiellement de questions relatives à la prévention; je passerai donc sans transition aux développements intervenus dans le troisième domaine qui traitait du renforcement de la coopération et de l'efficacité des équipes d'intervention.

Il s'agit d'un domaine très important.
En effet, les moyens humains et matériels dont peut disposer une région sont en général tout à fait dérisoires face à des déversement importants. C'est ainsi, que l'objectif de coopération a été particulièrement pris en considération.
Cependant, les organisations internationales compétentes en matière de lutte dans les mers communautaires (Accord de Bonn, Protocole de Coopération à la Convention de Barcelone, Accord d'Helsinki) se sont à ce point développées qu'il n'a pas été jugé utile d'intervenir au niveau de la Communauté, du moins jusqu'à maintenant.

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En revanche, en ce qui concerne l'organisation des équipes d'intervention d'urgence, la Commission a estimé nécessaire de présenter au Conseil une proposition de directive relative à l'établissement de plans d'intervention d'urgence. Cette proposition a été transmise en septembre 1983.

Nous verrons plus loin que d'autres aspects concernant ce domaine sont toujours en phase de traitement (notamment la compatibilité des équipements et l'opportunité de proposition d'harmonisation en la matière).

Le quatrième domaine du programme concernant les navires dépollueurs, n'a pas donné lieu à des développements considérables. Les raisons en sont nombreuses; je me limiterai à citer ici d'une part, l'accroissement important des moyens locaux et nationaux, et d'autre part, le coût important d'éventuelles initiatives en la matière.

Le cinquième domaine concerne la couverture des risques : je passerai donc directement au sixième, à savoir, la recherche.

Ce domaine a connu un développement tout à fait considérable. En effet, cette orientation a donné d'une part, naissance aux programmes de recherches "hydrocarbures" (dont Mr. Bourdeau vous entretiendra plus tard), et a été, d'autre part, à l'origine des activités d'étude et de soutien à des projets pilotes que la Commission mène dans le cadre d'un poste budgétaire spécifique.

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(III. La Communication de la Commission de 1980)

Il est intéressant, à ce stade, de rappeler que toutes ces réalisations se sont concrétisées à la suite d'une Communication au Conseil que la Commission a présentée en juin 1980 (1).

Dans cette Communication, la Commission annonçait également qu'elle venait d'instituer un Comité consultatif en matière de contrôle et de réduction de la pollution causée par le déversement d'hydrocarbures en mer (2).

Ce comité, composé d'experts hautement qualifiés en la matière, a pour tâche essentielle d'assiter la Commission dans son activité.

(IV. Le poste budgétaire 6621)

Je voudrais revenir maintenant aux études et actions pilotes que j'ai citées dans le cadre du 6ème domaine du programme.

En effet, à partir de l'exercice budgétaire 1982, un nouveau poste budgétaire a été créé, intitulé "Protection du milieu marin". Ce poste a été doté de 600.000 ECU en 1982 et de 800.000 ECU en 1983. Pour 1984, la Commission a proposé de le doter également de 800.000 ECU.

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(1) Décision de la Commission du 25 juin 1980 (80/686/CEE), J.O. n° L 188 du 22.7.1980, p. 11

(2) Communication de la Commission au Conseil relative à un plan de lutte contre la pollution des mers par les hydrocarbures (COM(80) 361 final).

Les crédits de 1982 ont été consacrés à la réalisation de 7 études et de 6 actions pilotes dont je vous épargnerai la liste.

Je me limiterai à vous indiquer qu'elles concernent une large gamme de questions qui vont des modèles mathématiques au traitement des déchets contenant des hydrocarbures.
Toutes ces études et actions pilotes devraient être achevées dans les jours à venir.
Leurs résultats seront examinés de manière approfondie avec la coopération du Comité consultatif.

Pour 1983, la Commission a publié au J.O. une Communication concernant l'octroi d'un soutien financier à des projets pilotes (1); Elle consacrera la quasi-totalité des crédits disponibles à ces projets pilotes.

Je ne peux, à ce stade, vous donner des détails sur les soumissions que nous avons reçues et sur celles susceptibles d'être retenues : je me dois, en effet, d'en garder la primeur pour notre Comité consultatif qui se réunira d'ailleurs dès demain.
Je voudrais seulement attirer votre attention sur le caractère novateur des domaines retenus pour les actions pilotes 1983.
En effet, soit ils concernent des secteurs très avancés (tels que télédétection), soit ils visent la recherche de solutions à des problèmes pratiques importants (tels que la protection des marais salins) qui n'ont pas trouvé, à ce jour, une solution satisfaisante.

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(1) Communication de la Commission concernant l'octroi d'un soutien financier à des projets pilotes pour le contrôle et la réduction de la pollution marine par les hydrocarbures (J.O. nº C 214/8 du 10.8.1983).

L'activité communautaire d'études et d'actions pilotes a été, et restera particulièrement efficace et importante; à titre d'exemple, je voudrais citer le développement des techniques de nettoyage des plages.
La confrontation au sein d'organisations internationales des actions entreprises en la matière, par les uns et les autres, a fait apparaître que les équipements réalisés avec le support de la Communauté constituaient en général une partie essentielle des activités des Etats membres dans ce secteur.

V. Situation actuelle en matière de moyens de lutte

Il est bien difficile de se livrer à un bilan des disponibilités actuelles en matière de moyens de lutte contre la pollution.

Cependant, la Commission a recueilli, dans le cadre du système d'information et dans le cadre de la préparation de la proposition de directive relative aux plans d'urgence, des informations détaillées sur ces moyens. Ces données laissent apparaître un formidable développement quantitatif et qualitatif des moyens humains et matériels, au cours des dernières années.

Les moyens de lutte qui ont été développés concernent tous les secteurs de la lutte anti-pollution : je voudrais en citer des exemples bien connus :

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1. Des barrières flottantes de plus en plus performantes (et spécialisées) sont disponibles dans des quantités importantes et croissantes.

2. Des récupérateurs (skimmers) de plus en plus nombreux équipent les unités d'intervention. Ils fonctionnent selon des principes très différents, allant du disque oléofile à la vis sans fin. Leur capacité est également très différente, selon la dimension et le principe de fonctionnement et selon qu'ils exigent, en aval, des capacités de décantation plus ou moins importantes.

3. Tous les dispositifs accessoires à ces équipements systèmes de pompage, capacités de stockage en mer et ensuite à terre etc.. . Les navires spécialisés ou non de mise en oeuvre de ces moyens se sont développés également de manière très diversifiée.

4. Les équipes chargées de la lutte contre la pollution ont acquis une haute compétence technique dans l'utilisation des équipements à leur disposition ainsi que dans l'utilisation d'autres moyens physico-chimiques de lutte, tels que les dispersants, en partie grâce à des exercices conduits assez régulièrement.

Ce développement rapide, qui a permis d'atteindre un certain niveau d'équipement, a eu cependant, comme corollaire, une différenciation de plus en plus prononcée des différents équipements.

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Au vu de cette évolution, la Commission a estimé opportun de confier à un institut particulièrement compétent, une étude sur la compatibilité des moyens de lutte existants dans la Communauté.

Cette étude aurait dû se fonder sur les enseignements que les responsables des actions de lutte avaient tiré de l'utilisation combinée de matériels de différentes origines.

Or, il est apparu, que de plus en plus, les équipes d'intervention et leurs matériels constituent des ensembles homogènes et qu'il est illusoire de vouloir raisonner en terme de pools d'hommes et d'équipements à utiliser de manière aléatoire.

C'est pourquoi, en cours d'étude, il a été jugé préférable de s'orienter davantage vers un examen théorique des possibilités techniques de rendre compatibles entre-eux des équipements qui, de par leur conception, ne sont que peu ou pas du tout compatibles.

Les résultats de cette étude seront disponibles dans les semaines à venir. Ils seront examinés de manière très approfondie par la Commision, en coopération avec le Comité consultatif.
Ce sera à partir de cet examen, qu'il sera possible de se prononcer sur la possibilité et l'opportunité d'une initiative visant à harmoniser les caractéristiques techniques des différents équipements.
Il s'agit là, je vous le rappelle, d'une tâche assignée à la Commission par le programme d'action "hydrocarbures".

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Je ne voudrais pas préjuger des résultats des réflexions qui seront retenues de l'étude et des consultations en cours : je me limiterai à vous exprimer mon sentiment à cet égard, à savoir, qu'à ce stade, une initiative réglementaire dans ce domaine me paraît hautement improbable.

VI. Conclusions

Je voudrais maintenant, en guise de conclusion, résumer mon intervention en quelques mots.

1. Ma première conclusion sera que, à mon avis, nous avons enregistré au cours de la dernière décennie, un formidable développement des moyens de lutte contre la pollution marine par les hydrocarbures ;

2. La seconde, est que ce développement est aussi quantitatif que qualitatif.

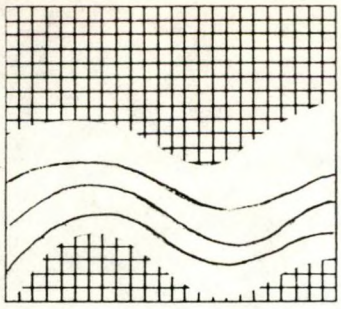
3. Ma troisième conclusion est que j'ai pu constater que le soutien de la Communauté a été tout à fait déterminant dans plusieurs domaines.

4. Ma quatrième, est que le rôle des programmes de la Commission dans les développements ultérieurs devient de plus en plus important.

Je ne voudrais cependant pas terminer mon exposé sur une note trop optimiste; estimer que tout est réglé et que les moyens de lutte disponibles sont suffisants à faire face à toute éventualité, serait à mon avis une erreur fondamentale de jugement.

Bien des efforts doivent encore être consacrés à l'amélioration des moyens existants. Il suffit de citer des domaines tels que la récupération des hydrocarbures en mer par gros temps, ou encore, la récupération des huiles lourdes ou la télédétection.

Pour sa part, la Commission est tout à fait consciente de cette situation et je peux vous assurer qu'elle contribuera, selon ses possibilités, aux progrès qui seront réalisés.



SEA TECHNOLOGY EUROPE
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A SYMPOSIUM ON HIGH TECHNOLOGY IN EUROPEAN PORTS AND SHIPPING.
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THEME : Shipping and The Community

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1100 : Equipment Control System

By

B. Schierbeck

Hamburg-Sud, West Germany

Hamburg, 3rd October, 1983.
BSCH/ph

Sea Technology Europe
Symposium Brussels 1983

Excellencies, Ladies and Gentlemen,

Equipment Control System

Within shipping, the container trade is a relatively young trade but, the development during the last 25 years has been extremely fast.

In 1956 SEALAND started a regular service between Port Newark in New Jersey and Houston in Texas with M.S. "IDEAL-X", a vessel with a maximum carrying capacity of 58 containers. The situation today is that containerships with a carrying capacity of between 2.000 and 3.000 containers have become common, and that there are ships on order with a carrying capacity of up to 4.000 containers.

The amount of equipment operated by EASI members amounts to only 300.000 which is, of course, distributed throughout the world.

Considering these figures, it becomes quite obvious that an efficient control of the equipment requires the colllection and handling of an enormous number of detailed information. The EASI members are convinced that this can only be carried out satisfactorily by the use of the most advanced computer

technics including, data-based organised mass-memories, on-line transmission of data, etc.

It is unlikely that the rate of containerised cargo will diminish, so there will be an increasing demand for equipment management and control methods from the european shipping industry. Therefore, it was found necessary to design and implement a standard equipment tracking and steering system that can benefit the european shipping community as a whole.

The main objectives of this system are to decrease the logistic costs for the shipping companies and increase the competitiveness by offering a better service to the customer.

The following main aspects have to be taken into consideration in order to achieve effective container management; reduction of the idle time of the equipment employed, calculation of optimal container stock and composition, tracking, steering of equipment, supervision of maintenance and repair.

To follow up these ideas, a great deal of actual information regarding containers, transactions, dates, positions and status has to be handled and high speed and accuracy is needed to utilize such a system effectively.

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Almost all the information is created within the organisational set-up of the shipping companies, which includes agents, depots, terminals, etc., which co-operate with, but are not necessarily owned by, the companies.

The creation, the collection (registration), the transmission and the storage of the data are all very important steps in making a container control system work efficiently, as the system is only as good as the data input is.

Because of the amount of data to be registered, transferred and stored, it is of great importance to limit the manual handling of the data for cost and data safety reasons.

Besides the actual data, another category of data must be included i.e. the expectations. Based on statistical information and developments in the various markets, the Marketing Department has to prepare forecasts relating to the demand for transport. In co-operation with booking agents and others, the forecasts are redefined. As time goes by, the uncertainty within the forecasts is reduced because the forecasts are replaced by more and more concrete data. With the voyage performed, the actual data will be part of the platform for a new forecast, etc.

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Requirements of a Container Control System

In order to fulfil the basic requirements of a container control system, the following sub-modules have to be defined:

a) Container inventory
b) Container tracking
c) Container steering
d) Container maintenance and repair
e) Container invoice control
f) Container statistics

With regard to a) Inventory/Container Master File

The container inventory/master file contains, as basic information, details of the type and physical construction of the container, the ownership of the container, the entry of the container into the system, special conditions/ limitations related to the use of the container etc. This means, that this file contains all the data regarding the container fleet, which is not subject to frequent changes, and which forms the basic part of the container steering, tracking, maintenance and repair control systems etc.

To give you an idea, I would like to give you an example of some of the details stored within the inventory file: the container number, which is of course, necessary for the identification of the container, the container type

i.e. 20 ft. dry box/the material i.e. steel/the ownership i.e. owned or leased, sub-leased etc., leasing contract and insurance details etc. Within the container master file, also the date of the "on-hire" i.e. the date when the box entered the equipment control system is stored. Before any actual transaction or activity can be reported to the equipment control system, a container master file has to be available in the system, as otherwise, the information will be treated as rejected and incorrect. It goes without saying, that there is of course, a limited access to the master file by means of passwords etc.

With reagrd to b) Container tracking

The main goal of the tracking part of the system is to state the latest accepted information on the container's geographical position and status. Furthermore, the expected next change in status has to be reported, to allow a plausibility check within the system, if same is reported afterwards.

Transactions are any changes in the container status, i.e. "full", "empty","repair", "reserved" or any movements of a container between two positions.

The necessary information per container in such a submodule are as follows:

container number, container type, container position, status - full/empty/repair, date of last change of status, date of last change of position, date of expected empty status, possible restrictions in use and of course, summaries representing the number of containers per status and/or type per location etc.

The control of the movements and the status will be based on reports called "leased in and leased out reports", "load and discharge reports", "equipment inter-change receipts", "gate in and gate out reports", etc., dependant on the local requirements, organisation structure etc.

With regard to c) Container steering

In container steering the essential problem is to have the right number of a certain type of container available with the right status at the right time in a given geographical position.

The container steering can be divided into two parts; the container forecast and the container handling.

The container forecasts are, with a time horizon of 8 to 10 voyages, the trends in the container traffic. They are based on statistical data and the experience and expectations of the Marketing Department and the agents.

The container forecasts give the company the opportunity to plan well in advance, how to overcome imbalances in types and traffics. The forecasts have to state types and numbers of containers going to and from ports and/ or areas.

The container handling is a more detailed short-term information about actual and expected container positions and corresponding status. Since the container traffic is changing more and more from pier/pier traffic to house/house traffic involving, besides feeder lines, also trucks and/or railways, the need for correct information/data to and from agents, terminals and depots is constantly increasing. Depending on the company organisation, this container handling can be taken care of centralized or area-wise. The system has to allow both alternatives.

The purpose of the steering module is to present the following information per position:

Total number of containers per type

- actually available empty
- expected available empty within first period (x-days ahead)
- actually available empty within next period (y-days ahead) etc.

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Based on information from agents and Marketing about actual and expected bookings, the following information is presented per location per voyage:

- total number of containers per type (actually booked)
- booking forecast first period
- booking forecast second period
- booking forecast third period etc.

Based on the booked and the available containers, following information can be supplied for decision-making:

- actual requirement for additional containers per type
- forecast requirement for additional containers, first period
- forecast requirement for additional containers, second period
- forecast of surplus of own/special equipment
- actual requirement for re-delivery of leased containers
- actual requirement for dead-heading own and/or leased containers

With regard to d) Container maintenance and repair

A subject which has only been given limited attention up until now, is the maintenance and repair of the equipment. But, due to the high costs involved, it is a field where a planning, steering and controlling system is absolutely necessary in order to achieve cost savings which are desperately required.

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Within the container fleet, there is already a certain standardization in the contstruction and the spares which would make a system feasible where damages can be described (what), be identified (where), be valuated (how urgent), be priced (how much), and hopefully be avoided (how).

Firstly, to have such a system, it would be necessary to carry out a survey in co-operation with container repair shops and/or within a group of shipping companies/ or leasing companies and to have a catalogue developed giving a relatively simple damage description.

Secondly, a system splitting up the container box in the left and right sides, front, end, top, and bottom could lead to a co-ordination system with which the position of any actual damages inside or outside can be located (a sample of such a splitting system is attached in annex 1)

The third factor in the container maintenance and repair system to be standardized is the evaluation of the damages in order to make clear whether the container can be:

- repaired on the spot, while still in use (i.e. without changing status)
- repaired on the spot, but taken out of use (i.e. changing status)
- repaired in a workshop only (i.e. change status and send to repair shop)

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By analysing repairs of containers over a given period, some types of damages will be found more frequent than others, since some parts of a container are more endangered during their use.

Such an analysis could point out special ports/areas and/or container handling procedures, specific container types, manufactures or certain container series, which should have special attention in order to avoid or limit the damages.

Having classified the damages, the next subject to be examined is that of repair costs. The goal here is quite clear, i.e. the catalogue of damages must be priced; this can be done based on historical data. A proposed split-up of the repair cost catalogue into manpower time, manpower costs, material costs (spares and additionals), is necessary as the price levels from repair shop to repair shop can vary considerably and of course between areas etc.

The container inspection should also classify the damaged containers according to time requirements such as:

- to be repaired immediately
- to be repaired within two months
- to be repaired within six months

This classification is intended to give the container management a steering possibility in order to direct

containers due for minor repairs to another port/area where repairs are cheaper by utilizing the container during transport to this workshop/area.

In addition, a forecast should be included in the file as to when and where the repaired container can be expected after repair.

With regard to e) Control of leasing invoices

The control of the invoices from the leasing companies is a very important subject. The problem is the extremely large number of detailed data required to perform this job and the number of pending items which are in dispute.

Due to the large number of data, the leasing companies today, quite often, already supply the leaser with a magnetic tape thus enabling the leaser to have the check of the invoices done by his EDP-System.

Having the data stored in the data base, it is relatively simple to compare the data i.e. on-hire and off-hire dates and container numbers which are the basis for the leasing invoices with the container inventory and checking file, and to report any discrepancies as well as keeping a pending file with items in dispute with the leasing companies.

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With regard to f) Container statistics

Out of stored container transaction data, lists of containers and their respective stay-time in geographical positions can be produced together with general statistics for Marketing about container traffice and market trends.

Turn-around times, idle times per container type and/or per location can be produced as all the corresponding data will be stored with easy access within the system which should eventually allow the Equipment operation department to improve the productivity of the equipment and thus reduce the cost of equipment.

A sophisticated equipment control system such as I briefly tried to present to you is considered by all EASI members involved in the container trade a necessary tool towards increasing their competitiveness of the european shipping industry in todays depressed shipping markets.

COMMISSION
DES
COMMUNAUTES EUROPEENNES

Direction générale de l'environnement,
de la protection des consommateurs
et de la sécurité nucléaire
XI/A/1

Bruxelles, le 6 octobre 1983

SYMPOSIUM SEATEC

Bruxelles, les 18 et 19 octobre 1983

La Communauté Européenne et l'Environnement Marin

par A. ANDREOPOULOS, Directeur-Général de l'Environnement,
de la Protection des Consommateurs et de la Sécurité Nucléaire

I.(Introduction)

Monsieur le Président, Mesdames, Messieurs,

C'est pour moi à la fois un honneur et un plaisir d'ouvrir cette séance du symposium consacré á l'environnement marin.

Un honneur, de présenter une politique communautaire devant d'aussi nombreux responsables et spécialistes du monde entier.

Un plaisir aussi, car dans les jours à venir, plus précisément le 29 novembre prochain, nous célébrerons le dixième anniversaire des programmes d'action des C.E. en matière d'environnement.

Pour tous ceux, qui comme nous, ont consacré tant d'efforts et d'énergie à la sauvegarde de l'environnement, il s'agit d'un véritable événement.

II.(La politique de l'environnement en général)

Permettez-moi tout d'abord d'exprimer quelques considérations de caractère général sur les politiques de protection de l'environnement.

En plus des difficultés qui dérivent de la situation actuelle, que ce soit sur un plan politique, social ou économique, la conduite d'une politique de protection de l'environnement implique la recherche de solutions à des problèmes techniques d'une complexité extraordinaire et croissante.

En effet, traiter de manière simultanée des relations de l'homme avec la nature et des interactions entre les différents milieux [eau, air, sol], tout en assurant une gestion éclairée des ressources naturelles, n'est pas une tâche aisée.

Pour essayer d'atteindre l'ensemble de ces objectifs, nous devons, d'une part, consolider les mesures déjà adoptées et, d'autre part, accroître encore les efforts consentis, en vue de répondre aux soucis de coordination et de globalisation qui se manifestent à propos des mesures en préparation ou à envisager.

Ces orientations sont d'ailleurs des priorités du troisième programme d'action des Communautés européennes en matière d'environnement, que le Conseil a adopté au début de l'année.

Je voudrais maintenant essayer de vous donner un aperçu des activités communautaires dans le secteur de l'eau et particulièrement en ce qui concerne la protection du milieu marin.

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(III. La protection des eaux et du milieu marin)

Les orientations essentielles de ces activités ont été définies et successivement ajustées dans les trois programmes d'action communautaires en matière d'environnement (de 1973, 1977 et 1983) ainsi que dans le programme d'action des Communautés européennes en matière de contrôle et de réduction de la pollution causée par le déversement d'hydrocarbures en mer (de 1978).

Il existe également d'autres textes, de caractère juridique ou politique, qui fixent plus précisément les orientations de certaines activités spécifiques dans le secteur qui nous intéresse aujourd'hui.

Dans les exposés qui vont suivre, ces textes et leurs applications, vous seront présentés de manière détaillée.

Dès l'adoption, en 1973, de son premier programme d'action en matière d'environnement, la Communauté s'est préoccupée de la protection des mers, qu'elle soit due à des rejets à partir des terres ou à des déversements au large.

Vous citer toutes les directives adoptées et les autres actions menées dans le cadre de ce programme et de ceux qui l'ont suivi, serait ennuyeux; aussi je me limiterai à vous présenter de manière synthétique, les activités communautaires dans ce secteur.
Elles peuvent être regroupées dans les 3 catégories suivantes :

- Les directives visant la réduction des émissions de polluants (par ex. mercure, cadmium etc..) ;

- Les directives visant des objectifs de qualité (par ex. eau de baignade) ;

- Une coopération active au sein des organisations internationales compétentes en matière de pollution des eaux.

(IV. La protection du milieu marin)

Il ne fait aucun doute que bon nombre de ces mesures ont eu et continueront d'avoir comme résultat directement ou indirectement, la réduction de la pollution marine.

Je vais décrire maintenant plus en détail, deux autres instruments qui eux sont spécifiquement orientés vers le contrôle de la pollution marine.

(A. Le programme d'action "hydrocarbures")

Il s'agit d'une part, du programme d'action des Communautés européennes en matière de contrôle et de réduction de la pollution marine par les hydrocarbures (que j'appellerai désormais, programme d'action "hydrocarbures) et d'autre part, de l'action menée au sein des organisations internationales spécialisées dans ces questions.

Le programme d'action "hydrocarbures", adopté par le Conseil en 1978 (1) a vu le jour à la suite de la catastrophe de l'Amoco Cadiz, survenue d'ailleurs moins d'un an après les déversements massifs de la plateforme "BRAVO" dans la partie norvégienne de la mer du Nord.

Je ne veux pas tomber dans la banalité et considérer qu'il aurait été préférable d'établir un tel programme avant que ces événements ne surviennent; c'est évident mais ce n'est pas nouveau.

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(1) Résolution du Conseil du 26 juin 1978, J.O. n° C 162 du 8.7.1978, p. 1

Aussi, je me limiterai à vous décrire le programme, tel qu'il a été adopté, ainsi que les mesures qui en ont découlé.

Le programme d'action hydrocarbures constitue en fait une sorte de mandat confié à la Commission pour qu'elle entreprenne les études nécessaires et propose, dans les meilleurs délais, les mesures appropriées concernant les six domaines suivants :

1. En premier lieu, le traitement informatisé des informations relatives aux moyens humains et matériels, permettant de lutter contre la pollution ;

2. deuxièmement, l'étude d'informations relatives aux pétroliers et aux plateformes ;

3. troisièmement, l'étude de mesures propres à renforcer la coopération et l'efficacité des équipes d'intervention ;

4. en quatrième lieu, l'étude relative à des navires dépollueurs ;

5. cinquièmement, les études juridiques concernant la couverture des risques de pollution accidentelle par les hydrocarbures ;

6. Et enfin, un programme de recherche sur les moyens matériels de lutte, sur les effets des hydrocarbures sur la faune et la flore maritimes etc...

J'ai détaillé les différents points du programme car ils font apparaître les 3 soucis essentiels qui avaient guidé à l'époque les décideurs politiques dans l'établissement du programme, à savoir :

1. la prévention des incidents ;

2. l'information, la coopération et le développement technique en matière de moyens de lutte ;

3. la couverture juridique.

Si nous examinons la manière dont ce programme s'est traduit dans la réalité jusqu'à ce jour, force est de constater que l'action de la Communauté en tant que telle, a été particulièrement efficace dans les domaines relatifs à la lutte contre la pollution.
Mr Mandl vous exposera en détail les progrès enregistrés en la matière.

Je voudrais cependant vous citer un des développements intervenus récemment, en raison de son caractère d'actualité.

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Il s'agit d'une proposition de directive relative à l'établissement de plans d'intervention d'urgence pour lutter contre les déversements accidentels d'hydrocarbures en mer, que la Commission vient d'adopter et de transmettre au Conseil. Cette proposition de directive vise l'établissement d'un véritable réseau de plans d'intervention au niveau communautaire, national, régional et local.
Les deux caractéristiques essentielles d'un tel réseau devront être la cohérence entre les différents plans d'intervention et l'assurance d'une couverture réelle et satisfaisante de toutes les mers de la Communauté.

Les deux instruments principaux retenus pour atteindre les objectifs précités ont été, d'une part, l'établissement de critères minima en ce qui concerne le contenu des plans d'intervention nationaux, et d'autre part, la fixation d'une méthode d'évaluation de l'efficacité de ces plans en cas d'accidents graves.

L'action de la Communauté a donc été assez rapide et efficace en matière de lutte contre la pollution.

En effet, après quelques années qui avaient montré une tendance à la réduction du nombre d'accidents en 1983, on a malheureusement assisté à une recrudescence d'indicents graves, ainsi les pays du Golfe, de l'Afrique du Sud et très récemment du Royaume-Uni, ont dû faire face à des pollutions massives. Dans ces conditions, avoir contribué au développement qualitatif et quantitatif des moyens de lutte, est un fait dont nous pouvons être fiers.

(B. La coopération internationale)

Je voudrais maintenant aborder le chapitre de la coopération internationale.

La Communauté et les Etats membres qui la composent, n'ont cessé d'oeuvrer de manière assez convergente au sein de nombreuses organisations internationales.

Je citerai en premier lieu, l'O.M.I. (l'Organisation maritime internationale). Dans ce cadre, des progrès considérables ont été accomplis en matière de sécurité des transports.
A titre d'exemple, je voudrais citer les nouveaux dispositifs de séparation du trafic et d'autre part, la Convention MARPOL, entrée en vigueur le 2 octobre dernier.

D'autres progrès ont été enregistrés au niveau international spécifiquement européen.
Ainsi deux Conférences ministérielles ont abouti à la signature (le 26 janvier 1983) par 13 Etats d'Europe occidentale, d'un memorandum d'entente comportant la mise en oeuvre d'un système d'information provisoire en matière de contrôle des navires (dit Memorandum de Paris).

Il convient également de citer la participation de la Communauté aux travaux menés au sein des Commissions de Paris et d'Oslo, ainsi que certaines autres actions dont vous avez eu un aperçu au cours de ce symposium.

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(V. La mer du Nord)

Enfin, je ne voudrais pas quitter le chapitre relatif à la coopération internationale sans rappeler l'accord de coopération en matière de lutte contre la pollution de la mer du Nord par les hydrocarbures et autres substances dangereuses, dit Accord de Bonn.

En effet, cet accord constitue une étape importante pour la lutte contre la pollution en mer du Nord.
Son champ d'application, initialement limité aux hydrocarbures, vient d'être élargi aux autres substances dangereuses.
La Communauté, désormais partie contractante à l'Accord, y sera représentée par la Commission, qui entend coopérer avec un maximum de dynamisme et efficacité pour que les objectifs de l'accord soient atteints.

Cependant, en ce qui concerne les questions relatives à la mer du Nord, il y a lieu de signaler un changement important de la situation socio-politique.

En effet, fin 1982, début 1983, un accroissement sensible de la mortalité aviaire avait provoqué des réactions accentuées de l'opinion publique (notamment dans le nord de la République fédérale d'Allemagne).

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D'autre part, les autorités politiques ont également manifesté des préoccupations sérieuses en ce qui concerne la pollution de la mer du Nord. C'est ainsi qu'en février 1983, le gouvernement de la République fédérale d'Allemagne, annonçait au Conseil son intention de convoquer pour 1984, une Conférence internationale pour la protection de la mer du Nord.

La Commission a supporté, dès le début, cette initiative allemande, entre autres en proposant d'examiner les possibilités techniques de créer un Centre international de documentation scientifique sur l'état de la mer du Nord.

(VI. L'attitude du Parlement européen concernant la mer du Nord)

Le Parlement européen a également pris des positions très fermes en demandant un renforcement substantiel de la protection de la mer du Nord. Une série de résolutions ont été votées ou débattues: elles demandent à la Commission et au Conseil d'accroître leurs efforts pour la protection de la mer du Nord. Certaines de ces résolutions assignent d'ailleurs des objectifs très ambitieux à l'action des instances communautaires.

(VII. Les autres mers "communautaires" (Baltique et Méditerranée)

A l'instar des Etats riverains de la mer du Nord, les pays méditerranéens (en 1973) et ceux qui bordent la mer baltique (en 1974) ont convenu de dispositions à prendre pour réagir à une pollution accidentelle. Dans les 2 cas, l'échange d'informations était organisé.

En Méditerranée, un centre régional a même été installé à Malte pour recueillir et diffuser l'information sur les hydrocarbures.

Depuis 1977, la Communauté est directement concernée par la lutte contre la pollution des eaux dans cette région, en tant que Partie contractante à la Convention de Barcelone pour la protection de la mer Méditerranée et ses protocoles annexés, à savoir :

a) Le protocole relatif à la prévention de la pollution de la mer Méditerranée par les opérations d'immersion effectuées par les navires et aéronefs ;

b) Le protocole relatif à la protection de la mer Méditerranée contre la pollution d'origine tellurique (83/101/CEE) ;

c) Le protocole relatif aux aires spécialement protégées de la Méditerranée.

Il est d'ailleurs intéressant de noter que la prochaine réunion des Parties contractantes à la Convention se tiendra l'année prochaine à Bruxelles.

D'autres actions importantes telles que le Plan Bleu et le Programme d'Actions Prioritaires concernent également la Méditerranée.

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Le Plan Bleu a pour objet de mettre à la disposition des pouvoirs publics et des planificateurs du développement des pays de la Méditerranée des informations leur permettant d'élaborer des plans nationaux destinés à favoriser le développement socio-économique optimal et la mise en valeur de l'environnement pour les générations présentes et futures.

Le Centre d'activité environnement-développement en Méditerranée de Cannes (MEDEAS) a été désigné comme Centre d'activités régionales pour le Plan Bleu.

Le Programme d'Actions Prioritaires (PAP) a pour but de favoriser la coopération permanente entre les Etats riverains de la Méditerranée par des activités et des projets développés sur place. Plusieurs projets sont en cours de définition concernant des domaines très diversifiés.

Le Centre d'activités régionales pour le PAP est installé à Split.

La Communauté participe donc de manière intense aux activités menées dans le cadre de la protection de la Méditerranée.
En revanche, elle n'a pas pu accéder à la Convention pour la protection de la mer Baltique contre la pollution et les démarches qu'elle avait effectuées sont restées sans réponse.

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(VIII) Conclusions)

En guise de conclusion à mon intervention, je voudrais vous faire état de certaines réflexions personnelles.

Tout d'abord, concernant l'attitude de l'opinion publique : il me semble qu'un nombre croissant de citoyens de la Communauté acceptent de plus en plus mal les risques d'incidents écologiques et le font savoir haut et fort.

Ensuite, les milieux politiques, nationaux et européens manifestent également un intérêt croissant pour ce type de questions.

Tout cela me paraît être un indice évident de bon fonctionnement de nos démocraties.
Cette sensibilité encore accrue pour les problèmes de l'environnement suscitera vraisemblablement des initiatives nouvelles.

Pour sa part, la Commission ne manquera pas de s'associer à toute initiative appropriée, voire proposera elle-même des nouvelles actions dans le domaine de la protection de la mer contre la pollution par les substances chimiques.

Monsieur le Président, Mesdames et Messieurs, je vous remercie.

SEA TECHNOLOGY EUROPE
18th - 19th OCTOBER, 1983

A SYMPOSIUM ON HIGH TECHNOLOGY IN EUROPEAN PORTS AND SHIPPING.
PALAIS DE CONGRES, BRUSSELS, BELGIUM.

SPONSORED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES

INTERVENTION OF CPT. D.C. MITSATSOS, H.N.

SECRETARY GENERAL OF THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION (H E L M E P A)

CONCERNING: PROTECTION OF THE MARINE ENVIRONMENT AND THE HUMAN FACTOR

THANK YOU MR CHAIRMAN FOR ALLOWING ME TO TAKE THE FLOOR FOR A FEW MINUTES
THIS SYMPOSIUM HAS EXAMINED FOR THE PAST TWO DAYS A NUMBER OF QUESTIONS VITAL FOR THE SHIPPING IN GENERAL IN A MOST PROFOUND AND INDEED PROFESSIONAL WAY
ON BEHALF OF THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION KNOWN AS H E L M E P A I WOULD LIKE TO DRAW YOUR ATTENTION TO A FACTOR WE BELIEVE PLAYS A CRUCIAL ROLE IN THE PROPER IMPLEMENTATION OF TECHNOLOGICAL ADVANCES: THE HUMAN ELEMENT
I AM SURE WE ALL AGREE THAT THE SEA WAS REGARDED BY ALL OF US AS AN EVER RENEWABLE RESOURCE
UNFORTUNATELY PRACTICE HAS SHOWN THAT WE CAN NO LONGER RELY ON THAT

HELMEPA WAS FOUNDED A YEAR AGO BY REPRESENTATIVES OF THE PANHELLENIC SEAMENS FEDERATION AND THE UNION OF GREEK SHIPOWNERS IN A JOINT VOLUNTARY EFFORT TO PROTECT THE MARINE ENVIRONMENT FROM SHIP GENERATED POLLUTION
IT IS A DIFFERENT APPROACH TO THE PROBLEM TO WHICH SEVERAL LEADING INTERNATIONAL ENVIRONMENTAL ORGANIZATIONS AGREED AND SPONSORED HELMEPA ENTHUSIASTICALLY
THESE ARE THE INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE AND NATURAL RESOURCES IUCN, WHICH HAS DEVELOPED THE WORLD CONSERVATION STRATEGY, THE CLUB OF ROME, THE WORLD WILDLIFE FUND (WWF),
THE INTRNATIONAL OCEAN INSTITUTE (IOI),
THE INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT (IIED),
AND THE UNITED NATIONS ENVIRONMENT PROGRAM (UNEP)

HAVING STUDIED THE INTERNATIONAL CONVENTIONS SUCH AS SOLAS AND MARPOL 73/78, BOTH RATIFIED BY GREECE, AND BASED ON DATA COLLECTED FROM NATIONAL AUTHORITIES AS WELL AS OUR OWN MEMBERS, WE HAVE DESIGNED AN EDUCATIONAL PROGRAMME COMPENHENSIVE IN SCOPE
IT INCLUDES ALL TOPICS RELATED TO OPERATIONS ABOARD VESSELS THAT MAY LEAD TO SAFETY PROBLEMS THUS CREATING SHIP GENERATED POLLUTION INCIDENTS

THE BASIC AND FUNDAMENTAL IDEA IS TO TRAIN CAPTAINS AND ENGINEERS TOGETHER ON THE PROPER IMPLEMENTATION OF THE NEW METHODS AND EQUIPMENT NOT BECAUSE OF THE EXISTING LEGISLATURE ALONE, BUT BECAUSE THEIRARE TRADITIONAL SEAFARING CONSCIENCE IS THE DRIVINGT FORCE BEHIND ALL THAT

THE RESPONSE OF OUR MEMBER COMPANIES AND ESPECIALLY OF THE SEAMEN THEMSELVES TO OUR EDUCATIONAL PROGRAMME PROVES THAT THIS EFFORT IS ON THE RIGHT TRACK
IN SO FAR ONE THOUSAND OFFICERS OF GREEK VESSELS ARE SCHEDULED TO ATTEND THE PROGRAMME UNTIL JUNE 1984
OUR MEMBERSHIP NUMBERS 500 GREEK-FLAG OCEAN GOING VESSELS, 80 SHIPPING COMPANIES, ANOTHER LAND BASED 65 COMPANIES CONNECTED WITH SHIPPING, AND AN EVER INCREASING NUMBER OF GREEK SEAFARERS

EVEN THOUGH OUR AIM IS THE SHIPPING INDUSTRY, HELMEPA INITIATED A CAMPAIGN ADDRESSED TO THE BROADER PUBLIC TO PROTECT THE 15000 KILOMETERS OF OUR COASTS AND ISLANDS FROM POLLUTION DURING LAST SUMMER. GOVERNMENTAL ORGANISATIONS TOGETHER WITH PRIVATE INITIATIVES COORDINATED THIS ENDEAVOUR

I MIGHT ADD THAT ONE OF HELMEPA'S WARMEST SUPPORTERS IS THE HELLENIC NAVY WHICH HAS RESPONDED TO OUR EFFORTS BY PLEDGING TO OBSERVE VOLUNTARILY POLLUTION REGULATIONS WHEREVER POSSIBLE
THE IMPORTANCE OF THE NAVY'S JOINING OUR ASSOCIATION LIES IN THE FACT THAT INTERNATIONAL POLLUTION REGULATIONS GOVERNING OPERATIONS AT SEA THAT MAY RESULT IN MARINE POLLUTION ARE NOT BINDING ON WAR NAVIES

WE BELIEVE THAT OUR INITIATIVE TO ENCOURAGE HUMAN BEINGS TO MAKE A VOLUNTARY COMMITMENT TO THE PRESERVATION OF THE SEAS SHOULD BE A SUBJECT FOR CONSIDERATION BY ALL EUROPEAN NATIONS
WE ALL HAVE A DEBT TO OUR SEA WHICH ENABLED US HERE IN EUROPE TO EXTEND OUR HORIZONS FOR SO MANY CENTURIES
WE SHOULD BE WILLING TO DEVOTE TIME AND RESOURCES TO REPAY THIS DEBT
I THEREFORE ON BEHALF OF THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION PROPOSE TO THE COMMISSION OF THE EUROPEAN COMMUNITIES THAT THEY INITIATE THE APPROPRIATE PROCEEDINGS TO URGE ALL EUROPEAN COMMUNITY COUNTRIES AND SPECIFICALLY THE MEDITERRANEAN ONES TO UNITE IN A SIMILAR HELMEPA EFFORT
UNDER THE COMMISSION'S COORDINATION AND IN CLOSE COOPERATION AMONG OURSELVES I HAVE NO DOUBT THAT WE WILL SUCCEED IN REVITILIZING THE MEDITERRANEAN MARINE ENVIRONMENT
THE HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION HOLDS ITSELF AT THE DISPOSITION OF THE COMMISION TO ASSIST IN THIS EFFORT IN ANY WAY POSSIBLE
WE SHOULD WELCOME THE OPPORTUNITY TO WORK TOGETHER WITH THE OTHER EUROPEAN NATIONS IN THIS WORTHY ENDEAVOUR FOR WE ARE CERTAIN THAT THIS WOULD RESULT IN THE GENERATION OF FRESH IDEAS, SUGGESTIONS AND CONSTRUCTIVE CRITICISM WHICH WOULD BENEFIT ALL OF US CONCERNED WITH THE PRESERVATION OF THE MARINE ENVIRONMENT
THANK YOU

·HELMEPA·

Symposium
"Sea Technology Europe"
Brussels, Belgium
October 18-19, 1983

Marine Pollution Prevention:
The Importance of the Human factor

by

Capt. D. Mitsatsos, H.N.

(Grad. Mech.-Elect. Engnr.)
N.T.U. of Athens

Secretary General

HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION

Ladies and Gentlemen,

On behalf of the member, vessels, companies, officers and crews of the HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION, known as HELMEPA, I wish to congratulate the Commission of the European Communities, and especially the DG XI officials who have worked so hard to present us with this most efficient approach to pollution problems at sea in general, and to express our appreciation for having been allocated these few minutes.

HELMEPA was founded a little over a year and a half ago by representatives of the PANHELLENIC SEAMEN'S FEDERATION and the UNION OF GREEK SHIPOWNERS. The expressed aim of HELMEPA is the voluntary protection of the marine environment from ship-generated pollution, and in this it has been sponsored and supported from the very beginning by several leading international environmental organizations: The Club of Rome, World Wildlife Fund (WWF), the International Ocean Institute (IOI), the International Union for the Conservation of Nature and Natural Resources (IUCN), the International Institute for Environment and Development (IIED), as well as by UNEP, the United Nations Environment Program.

HELMEPA members are Greeks who depend for their living on the sea. They have become increasingly alarmed about the damage being done to the marine environment by their industry, and they have determined to express their deep love as seafarers for the sea by promoting environmental awareness and positive action to stop its destruction.

The International Maritime Organization (IMO) has developed the Marine Pollution Convention 1973 and the 1978 Protocol,

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known as MARPOL 73/78, which came into force October 2, 1983, after having been ratified by its signatory countries.

This Symposium's speakers have analysed the technical aspects of the European efforts against marine pollution. HELMEPA takes pride today in presenting to an audience of distinguished professionals another dimension of the problem of controlling ship-generated marine pollution: the human dimension.

During the first year of its existence, the HELMEPA staff concentrated on the collection of information from international organizations such as the IMO and others, from national authorities and its own members, in order to identify the areas where Greek flag vessels most need to improve their performance. We analysed this information, together with the new international regulations governing operations which may lead to pollution, and we used the results to design an educational program which would enable Greek seamen to excel in an area of human competence for which they have always been known, professional seamanship.

The educational program is comprehensive in scope. First, since the beginning of 1983 it has briefed over seventy-five Greek ship-management offices on all pollution requirements relating to their vessels. Second, it is training Greek seamen in the use of the full range of safety and pollution equipment required by IMO's MARPOL 73/78, which was ratified by Greece with all its annexes, and by SOLAS, also ratified by Greece. Third, it concentrates on informing Greek seamen of all the provisions of international regulations governing ship-generated pollution.

During this academic year, over 1000 Greek captains and engineers will be the first to complete the HELMEPA training seminars

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held in Piraeus. HELMEPA's target is to bring its ever-increasing number of member vessels, within the shortest space of time possible, to a level of safety and pollution-free performance which will be a credit to the Greek seafaring tradition. In this way, the HELMEPA pennant flying on HELMEPA ships' masts will serve as a reminder to the Greeks themselves, and to the world, that Greek seamen have not foresaken their maritime heritage.

The association has been encouraged in its efforts by the strong response from its growing membership, and particularly by the seamen themselves, who have shown a tremendous eagerness and willingness to adopt the new procedures which assist in protection the marine environment. And this is HELMEPA's strength.

This is a totally voluntary effort, with particular appeal to a nation of seafarers who have for centuries made their living from the sea. Until relatively recently that sea was an ever-renewable resource. There is an old Greek saying which goes, "Shipowners change, but the Greek fleet and the sea remain". Now, Greek seamen and owners have begun to realize that unless they, as human beings, take positive action, that sea may not remain, that this resource is not infinitely renewable. They have vowed to stop the destruction of the marine environment.

The shipping industry is international in character, and knows no geographical boundaries. However, it would be most inappropriate if, as a Greek initiative, HELMEPA did not concern itself with the home waters. This is even more important because the Mediterranean has been designated a "Special Area" by MARPOL, and since almost 50 percent of the world's total marine pollution is concentrated in its basin, an area representing only 1 percent of the earth's total water surface.

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It is for these reasons that HELMEPA has focussed part of its attention this past summer of 1983 on the stemming of marine pollution along a Greek coastline of 15,000 kilometers and in the Greek seas. This was done in cooperation with the Greek government and local authorities by using mass media in a broad-based anti-litter campaign which reached a wide sector of the Greek public.

I might add that one of HELMEPA's warmest supporters is the Hellenic Navy. The importance of the Navy's joining our effort lies in the fact that the Hellenic Navy is not bound, as is no war navy, by international regulations governing operations at sea which may result in marine pollution. Nevertheless, our Navy has responded to HELMEPA by pledging voluntarily to observe the regulations wherever possible.

HELMEPA originated in Greece. Like many ideas of Greek origin, however, it can be adopted by other nations. Specifically, this concept of encouraging human beings to make a voluntary commitment to preservation of the seas should be a subject of consideration by all the nations of Europe. We all have a debt to the sea, the sea which enabled Europe to extend its influence throughout the world. We should all be willing to devote time and resources to repay that debt. I therefore propose to the Commission, and especially to DG XI, that they initiate the appropriate proceedings to urge all European Community Countries, and specifically the Mediterranean ones, to unite in a similar HELMEPA effort. Under the coordination of DG XI, in in close cooperation among ourselves, I have no doubt that we will succeed in revitalizing the Mediterranean marine environment.

The HELLENIC MARINE ENVIRONMENT PROTECTION ASSOCIATION holds itself at the disposition of the Commission to assist in this effort in any way possible. We would more than welcome the

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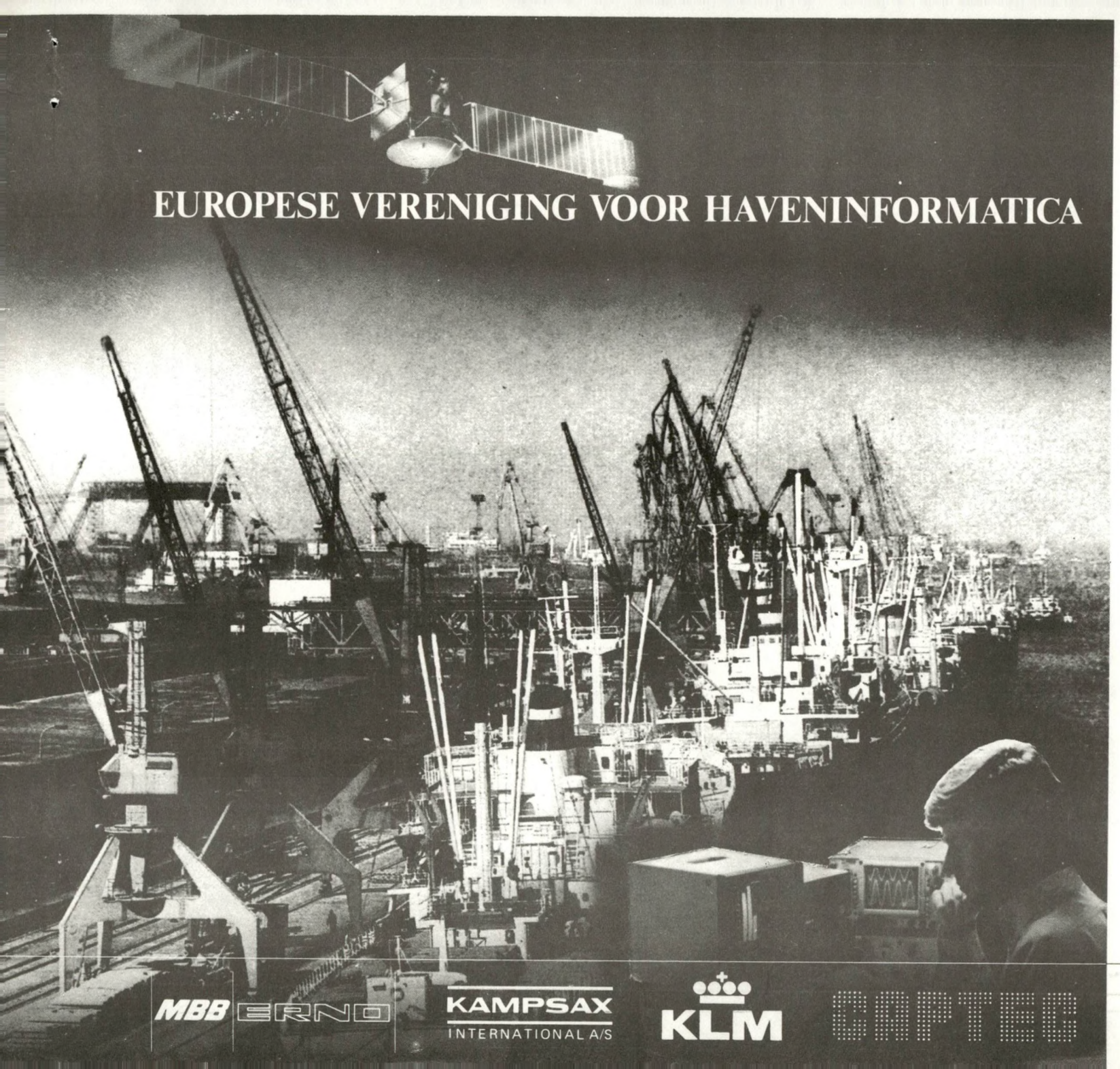
opportunity to work together with the other European nations in this worthy endeavour, for we are certain that this would result in the generation of fresh ideas, suggestions and the kind of constructive criticism which would benefit not only HELMEPA but all of us who are concerned with the preservation of the marine environment.



E.V.H.A.

FINAL NETWORK

OBJECTIVES, SCOPE, BENEFITS

Dr. Werner Sobotta

MBB/ERNO, Bremen

Federal Republic of Germany

SEA TECHNOLOGY EUROPE

BRUSSELS, OCTOBER 1983

FINAL NETWORK

OBJECTIVES, SCOPE, BENEFITS

Dr. Werner Sobotta

MBB/ERNO, Bremen

Federal Republic of Germany

SYMPOSIUM ON HIGH TECHNOLOGY IN EUROPEAN PORTS AND SHIPPING

BRUSSELS, OCTOBER 18th/19th, 1983

INTRODUCTION

STUDY CONTRACTED IN JULY 82 TO CONSORTIUM

- MBB/ERNO, GERMANY (PRIME CONTRACTOR)
- KAMSAX INTERNATIONAL, DENMARK
- CAPTEC COMPUTER APPLIED TECHNIQUES LTD., IRELAND
- KLM ROYAL DUTCH AIRLINES, NETHERLANDS

FIVE MAIN TASKS:

(1) ASSESSMENT OF SITUATION IN PORTS TO DERIVE SPECIFIC USER AND SYSTEM REQUIREMENTS (PROBLEM IDENTIFICATION)

(2) SURVEY OF SUITABLE TECHNICAL MEANS AND METHODS TO SATISFY USER NEEDS (TECHNICAL POSSIBILITIES)

(3) FUNCTIONAL & SYSTEM LEVEL TECHNICAL SPEC'S OF FEASIBLE DATA PROCESSING AND COMMUNICATION SYSTEM (SYSTEM DEFINITION)

(4) CONSIDERATION OF POLICY IMPLICATIONS ON STRATEGY FOR MANAGEMENT, FUNDING AND ORGANIZATION OF SYSTEM DEVELOPMENT AND OPERATION (FINANICAL & MANAGERIAL STRATEGY)

(5) SPECIFICATION OF MEANS TO ACHIEVE COMPLETE TURNKEY DATA PROCESSING AND COMMUNICATION SYSTEM (FINAL IMPLEMENTATION PLAN)

OBJECTIVES

TO PROMOTE INTERPORT INFORMATION EXCHANGE RELATED TO VESSEL'S VOYAGE AND PORT CALLS IN ORDER TO ENHANCE THE EFFECTIVENESS OF PORT AUTHORITIES AND IMPROVE THEIR SERVICES.

OBJECTIVES

DETAILED PORT AUTHORITY FUNCTIONS TO BE SUPPORTED

- BERTH REQUEST VALIDATION & PLANNING
- DANGEROUS SUBSTANCES CONTROL AND CHECKING
- VESSEL TRAFFIC CONTROL
- VESSEL ARRIVAL/DEPARTURE REPORTING
- RESOURCE ALLOCATION
- PORT SERVICES ACCOUNTING AND MANAGEMENT SUPPORT
- EMERGENCY ACTION CO-ORDINATION

OBJECTIVES

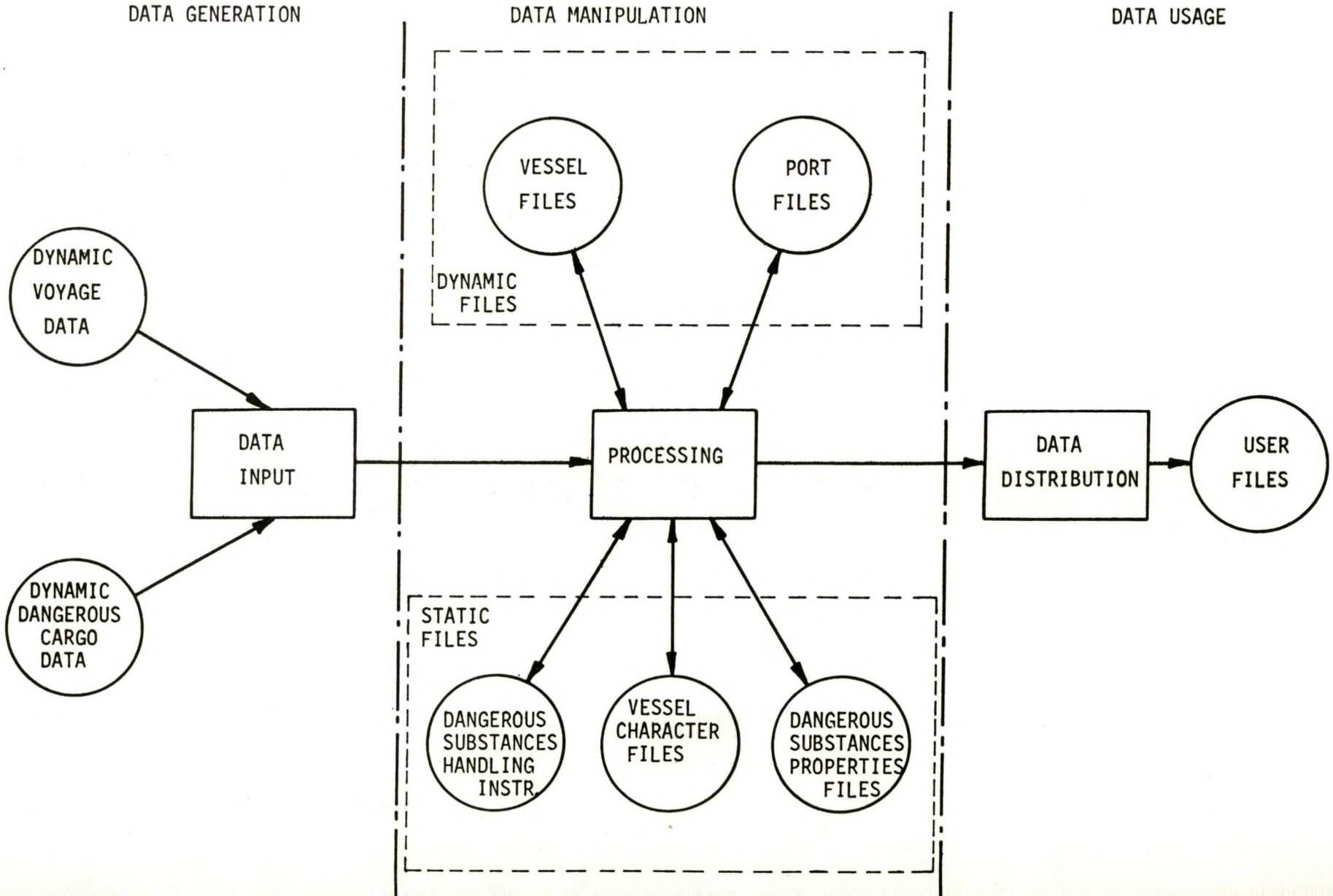
FLEXIBILITY AND GROWTH POTENTIAL TO SUPPORT IN THE NEXT IMPLEMENTATION STAGE AN ENLARGED GROUP OF INTRA-PORT END USERS LIKE

- CUSTOMS/IMMIGRATION AUTHORITIES
- EMERGENCY SERVICES
- SHIPPING AGENTS/COMPANIES
- FREIGHT FORWARDERS
- CHAMBERS OF COMMERCE
- ENVIRONMENTAL BODIES
- TRAFFIC CONTROL SERVICES
- GOVERNMENTAL BODIES
- PORT SERVICES
- STEVEDORING/WAREHOUSING
- TERMINAL OPERATORS
- PORT SECURITY
- SHIPPING INTELLIGENCE

OBJECTIVES

A FURTHER LONGTERM OBJECTIVE IS TO EXPAND THE SYSTEM TO ALLOW ACCESS TO AND FROM USERS AND/OR MARITIME SYSTEMS IN OTHER PARTS OF THE WORLD.

SYSTEM CONCEPT & ARCHITECTURE



SYSTEM CONCEPT & ARCHITECTURE

REPORT WRITER TO BE USED IN TWO OPERATIONAL MODES:

- TO SUPPLY THE USER WITH OUTPUT REPORTS AND/OR VDU-PAGES READY FOR OPERATION

- TO SUPPLY THE USER WITH DATA STRINGS WHICH HE CAN USE IN CONJUNCTION WITH HIS INTERNAL DATA WITHIN THE PORT EDP FACILITIES TO GENERATE REPORTS AND/OR VDU-PAGES READY FOR OPERATION.

A THIRD MODE IN THE SYSTEM DEVELOPMENT SHOULD BE

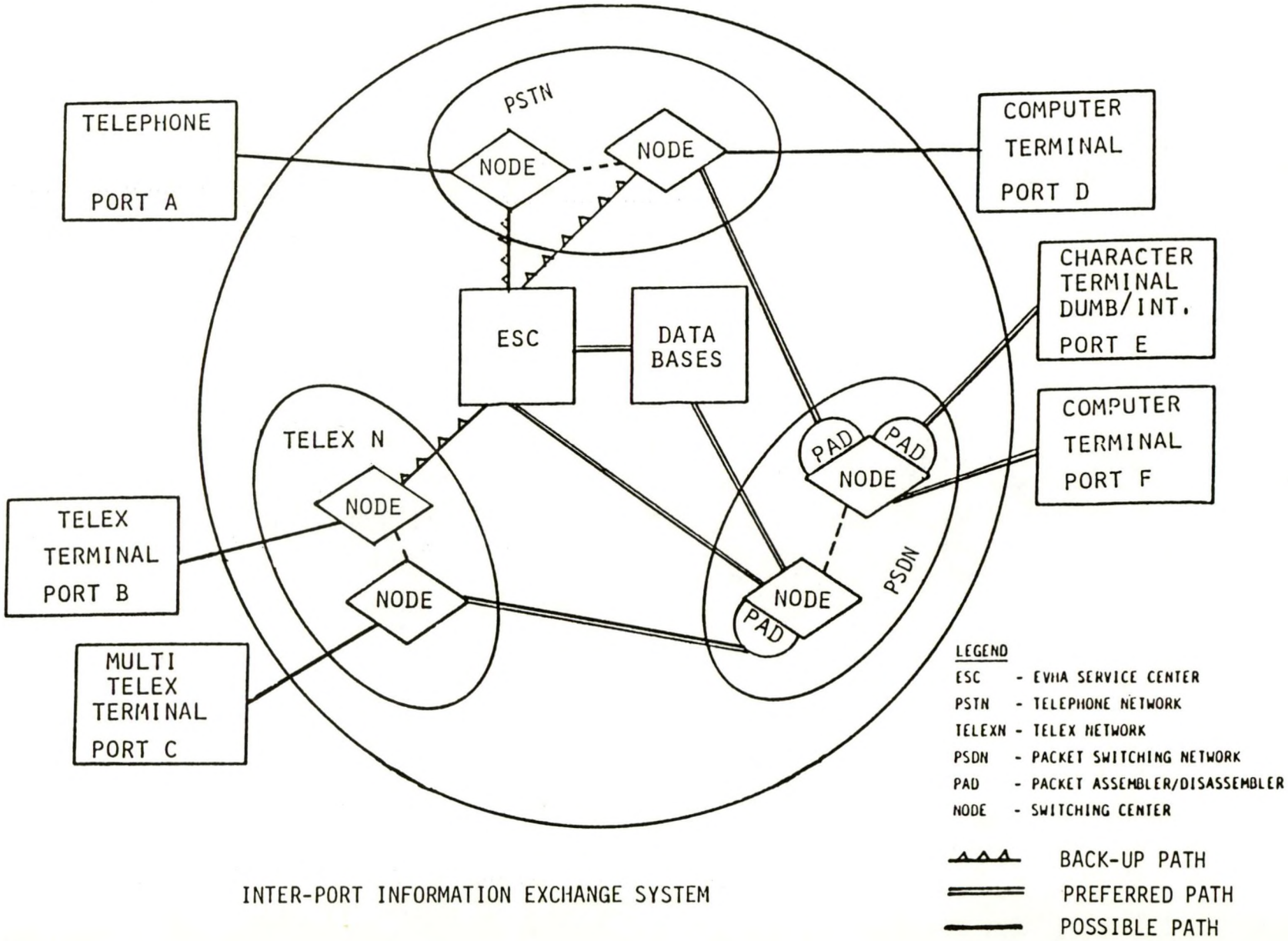
- TO PROVIDE DIRECT DATA BANK ACCESS IN A DIALOG MODE

SYSTEM CONCEPT & ARCHITECTURE

A PORTABLE SOFTWARE PACKAGE TO BE DEVELOPED COMPATIBLE WITH THE FOLLOWING OPERATING SYSTEMS

IBM	:	DOS, DOS/VS, DOS/VSE OS/MFT, OS/MVT SVS, MVS VM/CMS
SIEMENS:		BS 1000, BS 2000
DEC	:	RSX-11, IAS

SYSTEM CONCEPT & ARCHITECTURE

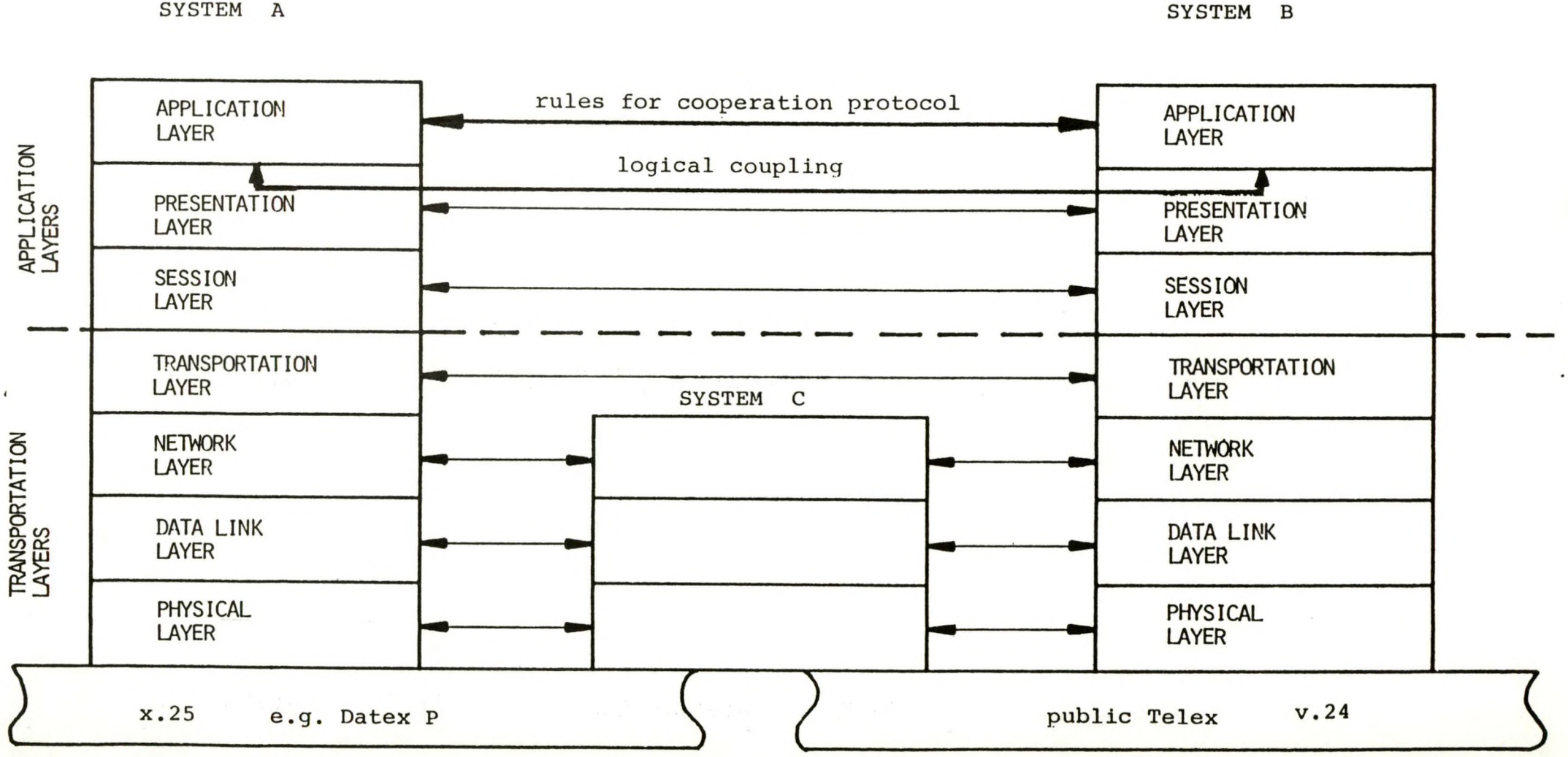


INTER-PORT INFORMATION EXCHANGE SYSTEM

SYSTEM CONCEPT & ARCHITECTURE

RECOMMENDED SOLUTION FOR DATA PROCESSING AND COMMUNICATION:

ISO - SEVEN LAYER REFERENCE MODEL FOR OPEN SYSTEM INTERCONNECTIONS



DEVELOPMENT & IMPLEMENTATION PLANNING

STRATEGIC GOALS TO BE ACHIEVED FOR SUCCESSFULL IMPLEMENTATION OF THE SYSTEM:

- A SUFFICIENTLY LARGE NUMBER OF POTENTIAL SYSTEM USERS MUST BE ATTRACTED AND UNITED BY TAKING ACCOUNT OF THEIR SPECIFIC REQUIREMENTS PRIOR TO INITIATION OF THE DESIGN, DEVELOPMENT & TEST PHASE OF THE PROJECT

- AN EVHA SYSTEMS MANAGEMENT ORGANIZATION HAS TO BE ESTABLISHED WHICH IS EFFECTIVE BUT FLEXIBLE ENOUGH TO ALLOW FOR UNINTERRUPTED ADAPTION TO THE CHANGING REQUIREMENTS BETWEEN DEVELOPMENT PHASE AND OPERATIONAL PHASE AS WELL AS FOR THE EXPECTED SYSTEM GROWTH

- THE DEVELOPMENT, PROCUREMENT AND INSTALLATION OF SYSTEM COMPONENTS MUST BE CAREFULLY SEQUENCED AND TIMED IN ORDER TO MINIMIZE THE RESPECTIVE FUNDING REQUIREMENTS AND HENCE THE FINANCIAL RISK.

DEVELOPMENT & IMPLEMENTATION PLANNING

THREE PHASED PROGRAMME PLANNING

DEFINITION PHASE

DESIGN, DEVELOPMENT & TEST PHASE

INITIAL OPERATIONAL PHASE

DEVELOPMENT & IMPLEMENTATION PLANNING

DEFINITION PHASE

- TO DEFINE THE SPECIFIC REQUIREMENT OF EACH INDIVIDUAL PORT FOR SYSTEM SERVICES

- TO CONFIRM THE REQUIREMENTS SPECIFICATION, ESTABLISH THE SYSTEM PARAMETERS, PREPARE DETAILED IMPLEMENTATION PLANS FOR STAFFING AND TASKS AND PREPARE FOR PROCUREMENT OF EQUIPMENT AND SYSTEM SOFTWARE

- TO AGREE UPON POLICIES FOR SYSTEM USAGE CHARGE, MEMBERSHIP FEES AND FOR MANAGERIAL AND ORGANIZATIONAL SCHEMES TO BE APPLIED

THIS LEADS TO A HIGH LEVEL OF CONFIDENCE NECESSARY TO START THE DESIGN, DEVELOPMENT AND TEST PHASE.

DEVELOPMENT & IMPLEMENTATION PLANNING

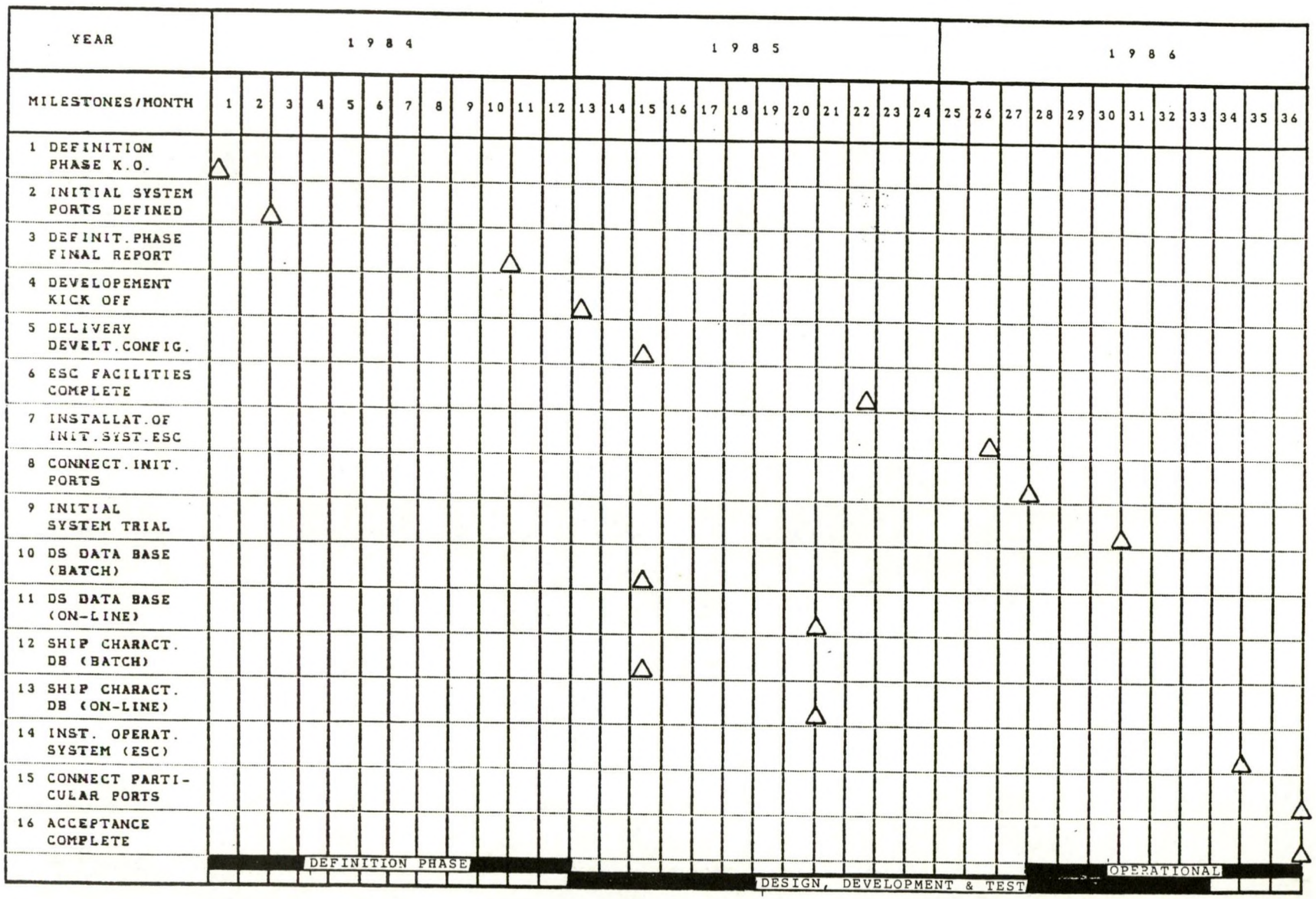
DESIGN, DEVELOPMENT AND TEST PHASE

- DESIGN AND DEVELOPMENT
- TEST & INTEGRATION
- OPERATIONAL DOCUMENTATION
- ESTABLISHMENT OF THE SERVICE CENTER

OPERATIONAL PHASE

- INITIAL SYSTEM INSTALLATION
- INITIAL OPERATIONAL TEST PHASE
- OPERATIONAL IMPLEMENTATION
- IMPLEMENTATION OF FURTHER USERS

DEVELOPMENT & IMPLEMENTATION PLANNING



BENEFITS

DIRECT BENEFICIAL EFFECT ON:

- EFECTIVENESS OF THE PORT AUTHORITY
- COOPERATION BETWEEN PORTS
- STREAMLINING THE FLOW INFORMATION

BENEFITS WITH RESPECT TO COMPATIBILITY WITH THE POLICIES OF THE EUROPEAN COMMUNITY:

- BETTER USE OF THE SCIENTIFIC AND TECHNICAL RESOURCES OF THE COMMUNITY
- STANDARDIZATION IN RESPECT TO THE MARITIME AREA AS WELL AS TO THE DATA PROCESSING AND COMMUNICATION FIELD

BENEFITS

SAFETY	CONTROL	OPERATIONS	MANAGEMENT and COST
INFORMATION QUALITY - COMPLETENESS - ACCURACY	INFORMATION QUALITY - COMPLETENESS - ACCURACY	INFORMATION QUALITY - COMPLETENESS - ACCURACY	TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES
TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES	TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES	PRESENTATION QUALITY - STANDARDISATION OF MESSAGE CONTENT , FORMAT , DISPLAY	REDUCTION OF MANUAL DATA HANDLING - MINIMIZING TRANSCRIPTION/FILING - AVOIDANCE OF REPETITIVE INPUT PROCESSING
ON - CALL ACCESS TO STATIC AND DYNAMIC DATA BASES	IMPROVEMENT OF DATA ACQUISITION	TIMELINESS OF INFORMATION - AVAILABLE WITH SUPPLEMENTARY INFORMATION WHEN NEEDED FOR USES OF PLANNING AND/OR OPERATIONAL ACTIVITIES	PORT STAFF JOB ENHANCEMENT - REDUCTION IN CLERICAL WORK LEAVING MORE OPPORTUNITY FOR RESPONSIBLE ACTIVITIES
ACCESS TO INCIDENT INFORMATION	ACCESS TO INCIDENT INFORMATION	REDUCTION OF MANUAL DATA HANDLING - MINIMIZING TRANSCRIPTION/FILING - AVOIDANCE OF REPETITIVE INPUT PROCESSING	REDUCED INTER PERSON COMMUNICATION COST
IMPROVED CAPABILITIES TO RESPOND TO DANGEROUS SUBSTANCES INCIDENTS	IMPROVED MEANS OF ESTABLISHING COMPATIBILITY OF DANGEROUS SUBSTANCE SHIPMENTS WITH PORT REGULATIONS	IMPROVEMENT OF DATA ACQUISITION	AVAILABILITY OF BETTER STATISTICS
IMPROVED HANDLING OF DANGEROUS SUBSTANCES DUE TO MORE PRECISE INFORMATION		IMPROVEMENT OF DATA AVAILABILITY TO PORT AUTHORITY PERSONNEL DEPENDING ON APPLICATION USE AND LOCATION OF TERMINALS	ON - CALL ACCESS TO STATIC AND DYNAMIK DATA BASES
		EFFICIENCY IMPROVEMENT - JOB EXECUTION INTER PERSON COMMUNICATION, SHIP TURN-AROUND	INFORMATION VALUE AS A SALEABLE RESOURCE
		ON - CALL ACCESS TO STATIC AND DYNAMIK DATA BASES	SUBSTITUTION OF OTHER PURCHASED INFORMATION SOURCES (SHIPPING INTELLIGENCE)
		UP TO DATE MOVEMENT INFORMATION - CENTRALIZED DEPARTURE REPORTING	OPTIMIZATION OF INVESTMENTS - ONE STANDARD EVHA INTERFACE TO SUPPORT ALL PORT FUNCTIONS WITH EXTERNAL/INTERNAL COMMUNICATIONS, WHICH ARE MOST LIKELY TO REQUIRE COMPUTERIZATION IN THE NEAR FUTURE
		SUBSTITUTION OF OTHER PURCHASED INFORMATION SOURCES	