

# COMMISSION OF THE EUROPEAN COMMUNITIES

SEC(90) 1935 final

Brussels, 15 October 1990

## REPORT ON THE STATE OF THE SHIPBUILDING INDUSTRY IN THE COMMUNITY

Situation in 1989

(presented by the Commission)

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## I. INTRODUCTION

This report - in implementation of the Council resolution of 19 September 1978 - gives an overview of the shipbuilding industry and market in 1989.

The year 1989 turned out to be better than expected, and the development towards a more positive trend in the shipbuilding industry - which already emerged in 1988 - gathered further momentum, leading to forecasts and estimates being revised upwards.

1989 and its main characteristics :

- further growth in the world economy;
- an increase in the tonnage of world seaborne trade of 5,5%
- a reduction of tonnage overcapacity, coupled with further recovery of freight rates;
- increasing international shipbuilding production, with a growth rate of 14,9% (in cgt terms);
- a surge of new orders of 48 6% and
- recovering newbuilding prices (in current dollars) improving for the fourth consecutive year .

However, despite these signs of a hopefully sustainable recovery the improvements that occurred during 1989 were not yet sufficient to restore the industry as a whole to profitability.

The fact that ship prices in national currencies developed more advantageously for Far Eastern competitors than for shipbuilders in the EC, placed new constraints on the ability of the EC industry to compete on price.

## II. GENERAL ECONOMIC BACKGROUND

In spite of a certain slowdown relative to 1988, world economic activity remained fairly strong in 1989. World output increased by 3.3 per cent in real terms thanks to a remarkable 4.8 per cent increase in Japan and to quite satisfactory performances in the Community (3.4 per cent) and the USA (3 per cent).

The deceleration of growth is expected to continue throughout 1990. As a result, world economic activity is projected to increase by about 2 3/4 per cent in real terms. The Community should experience a rate of expansion of real GDP just above 3 per cent. The high level of interest rates and the effects of the appreciation of the European currencies are expected to dampen somewhat the expansion of investment in most Member States. In 1990, total investment in the Community could increase by about 4 1/2 per cent in real terms while investment in equipment should show a greater resiliency and increase by 5 1/2 per cent.

The volume of world trade increased in 1989 by 7.8 per cent, one of the highest rates of the last two decades, thus bringing to seven years the period of continuous expansion which began in 1983. The Community contributed by increasing its imports from the rest of the world by more than 11 per cent. In this favourable economic environment investment continued to increase briskly throughout the industrialized world. In the Community, gross fixed capital formation expanded by 6.7 per cent with investment in equipment increasing by 9 per cent.

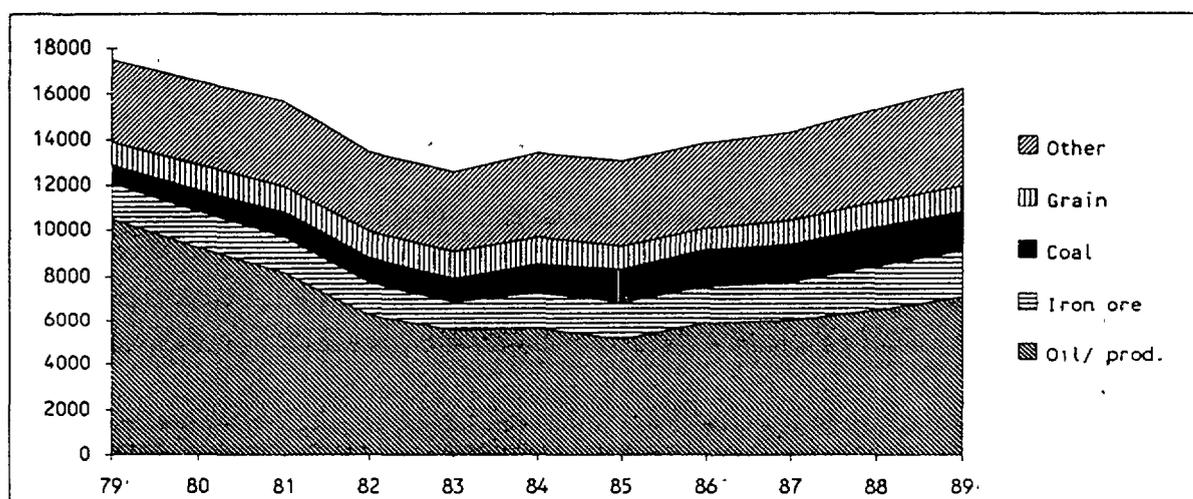
World trade is expected to decelerate in line with output, but still expand by about 6 1/4 per cent in volume terms. In spite of the slowdown in activity, United States imports are forecast to increase by just below 6 per cent in volume, more or less the projected rate of increase of Japanese imports. Imports into the Community from the rest of the world could increase by 8 1/2 per cent.

### III. SHIPPING TRENDS

World seaborne trade continued to increase. Although the growth rate of 5,5% (in terms of tonnes) was below the 6.2% registered in 1988, the underlying upwards trend, which started in 1984/85 was sustained. Furthermore, the volume of about 3,9 billion tonnes in 1989 was the highest since the 3,7 billion tonnes recorded in 1979.

In terms of tonne-miles, seaborne trade increased even by 6%, without however equalling the result of 1979 (see annex 1, table 1).

Fig. 1 WORLD SEABORNE TRADE 1979-1989 (billion tonne-miles)



Source : Fearnleys Review 1989

Crude oil shipments contributed most to this increase, with nearly 10% in terms of tonne-miles. This contrasts with oil products (+ 3%), coal (+ 3,5%) and iron ore (+ 2.4). Grain transport even experienced a setback and dropped slightly.

Freight rates, compared on a year to year basis, improved further. However, in the course of 1989 they were flattening out. Nonetheless in the second half of the year freight rates not only for tankers, but also for dry bulk and gas carriers, strengthened to sometimes new record levels.

#### IV. FLEET TRENDS

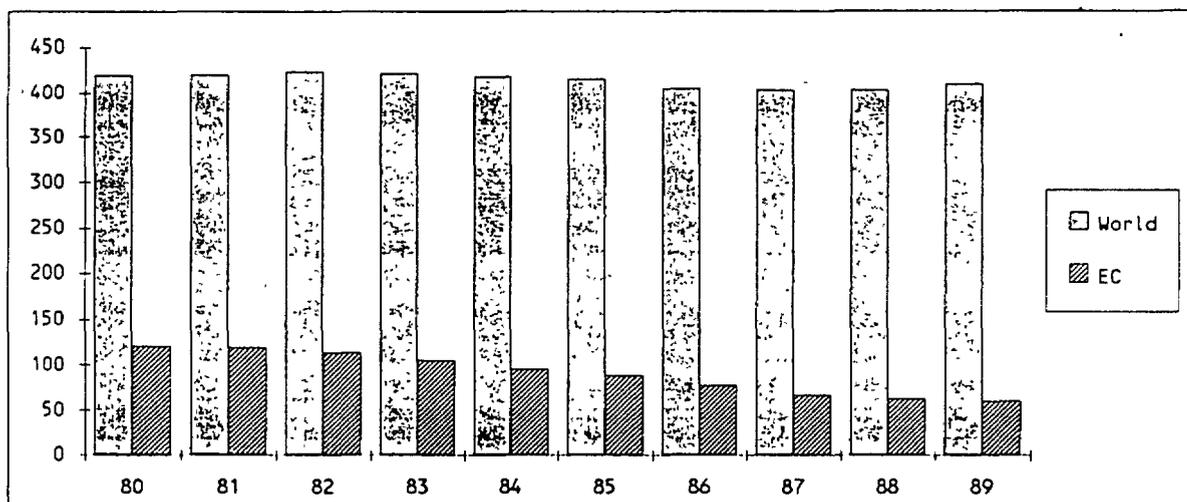
The world fleet, which declined between 1982 and 1987, continued the new growth which started in the last part of the preceding year, and increased from 403,4 million gt in 1988 to 410,5 million gt in 1989 (see annex 1, table 3).

Tankers and dry bulk carriers, representing more than 2/3 of the world fleet, were the main beneficiaries of the trend, with growth rates of 3% and 3,5%. Combined carriers, on the other hand, were hit by a decrease.

Tonnage broken up and lost in 1989 was less than half that of 1988. Tanker deletions especially decreased by more than 50%. Against the background of rising prices, for newbuildings as well as second hand vessels, not balanced by the rise in freight rates, certain shipowners preferred to extend where possible the life time of their vessels instead of placing new orders. However, safety considerations, partly aiming at double bottom/double hull tankers, as currently under discussion in the USA, and the age of the world fleet, may reverse this trend.

The supply of new tonnage at 1.8% in gt terms, was thus smaller than the increase of 5,5% in seaborne trade, and consequently the tonnage balance improved further in 1989.

Fig. 2 Merchant fleet 1980-1989 (gt millions)



Source : Lloyd's Register of Shipping

Nevertheless, compared with the previous year, the Community fleet showed a decrease of 4% in gt terms for 1989. Consequently the EC flagged share of the world fleet in 1989 was 14,6% against 15,5% in 1988 (see annex 1, table 3).

Against this background the discussions concerning positive measures designed to maintain and develop an efficient Community shipping industry, continued. However, especially as far as the European Register - Euros - is concerned no final decision was taken in 1989.

## V. SITUATION IN THE SHIPBUILDING INDUSTRY

The recession in the shipbuilding industry, which prevailed for more than 10 years, may be slowly coming to an end, as 1989 was characterised by moderate but continuing optimism.

Compared with 1988, the year with the lowest level of activity in the shipbuilding industry since the mid-60s, production in 1989 increased by 14,9% on a cgt basis.

The ageing fleet, the growing level of seaborne trade, but also the perspective of a sustainable recovery in the maritime sector, were among the dominant reasons for the revival.

A) On a world scale and in general terms, all aspects of the situation improved, with higher production figures, prices and an increase in new orders. These developments if sustained - may lead to a situation where competition distorting measures can be eliminated

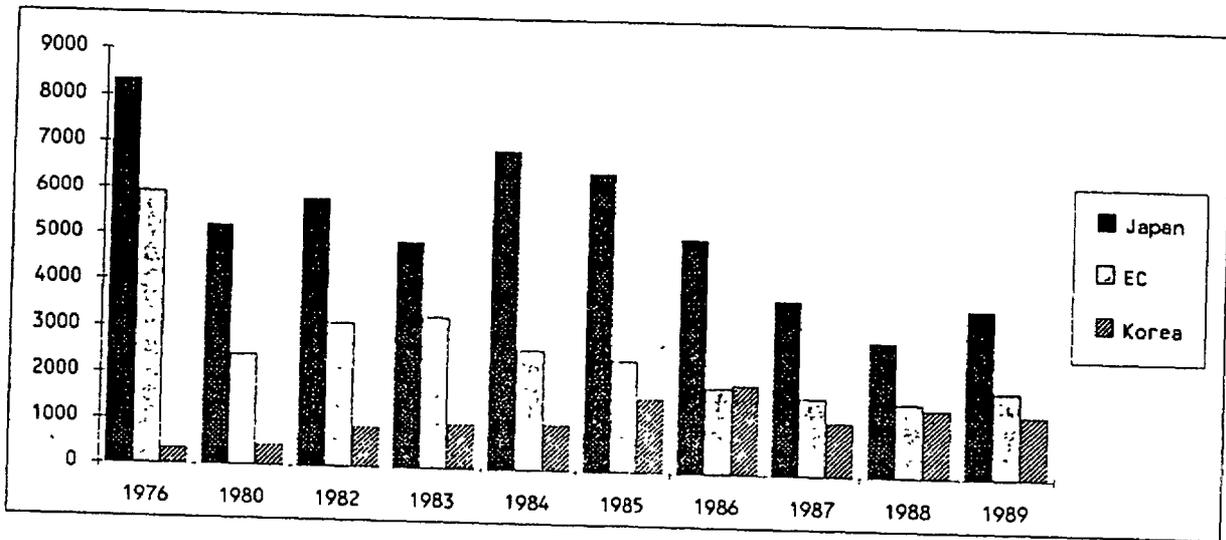
### 1. Production

About 9.9 million cgt were completed in 1989 against 8.6 million cgt in 1988, corresponding to an increase of 14.9% in cgt terms (see annex 1, table 5a).

Bulk carriers and oil tankers, a market segment dominated by Far Eastern yards, accounted for 32,5% of deliveries in 1989, compared with 22% (cgt terms) in 1988.

However for general cargo vessels and fishing vessels the situation did not improve.

Fig. 3 WORLD PRODUCTION OF SHIPS 1976-1989 (1000 CGT)

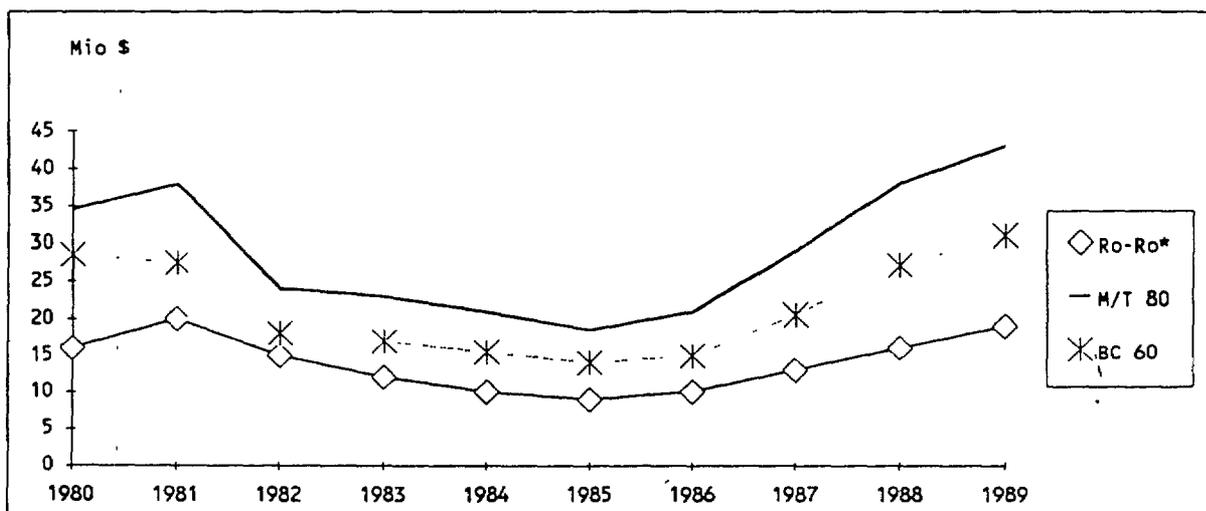


Source : Commission/Lloyd's Maritime Information Services Contract

2. Prices

During 1989 newbuilding prices in current dollars continued to rise :

Fig. 4 NEWBUILDING PRICES (in current dollars)



Source : Fearnleys Review 1989 (see annex 1, table 4)

However, given the price decline during previous years, and taking into account steadily increasing production costs, these improvements were not always sufficient to allow costs to be covered.

Furthermore, due to the fact that in 1989 Japanese shipbuilders started to quote their prices almost exclusively in Yen - for both domestic and export contracts - currency movements were of outstanding importance. The weakening of the yen against the US Dollar, but also against the ECU (see Annex 1, table 12a and b) strengthened the Japanese ability to compete on price. Japanese yards were able to raise their prices in Yen more than shipbuilders in countries with stronger currencies, without becoming less price competitive. Therefore shipbuilders outside Japan benefited only to a lesser degree than Japan from the rise in shipbuilding prices.

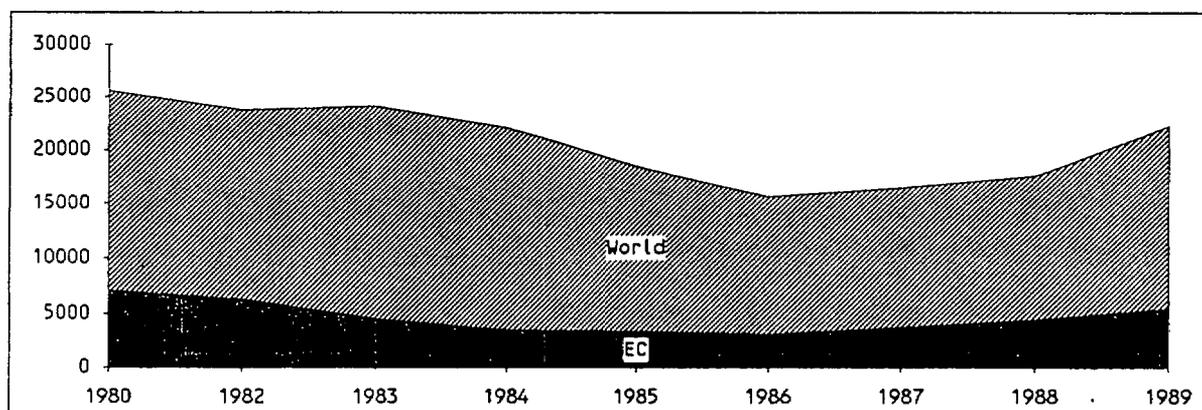
### 3. New orders and order books

During 1989 the volume of new orders grew by 48,6% on a cgt basis. Compared with 1988, when orders dropped by over 6%. This aspect deserves to be underlined (see annex 1, table 6a).

Again the situation for tankers has to be mentioned. For this type of ship the number of orders more than doubled in 1989 compared to 1988 (see annex 1, table 8). New demand for tonnage, increases in second-hand prices but also a shift in interest from older tonnage to modern vessels, partly accentuated by accidents and oil spills, made newbuilding attractive, despite rising prices.

As far as order books are concerned, the increase in 1989 was about 24% from 17,7 million cgt in 1988 to nearly 22 million cgt in 1989.

Fig. 5 Shipbuilding : order book



Source : Commission/Lloyd's Maritime Information Services Contract

#### 4. Supply and demand

Against the background of rising shipbuilding prices and an increase in new orders, it is evident that the current trend towards greater balance in supply and demand in the industry depends most of all on the future willingness of all shipbuilders to abstain from substantially increasing their production level by abruptly expanding their capacity through the reopening of previously mothballed yards.

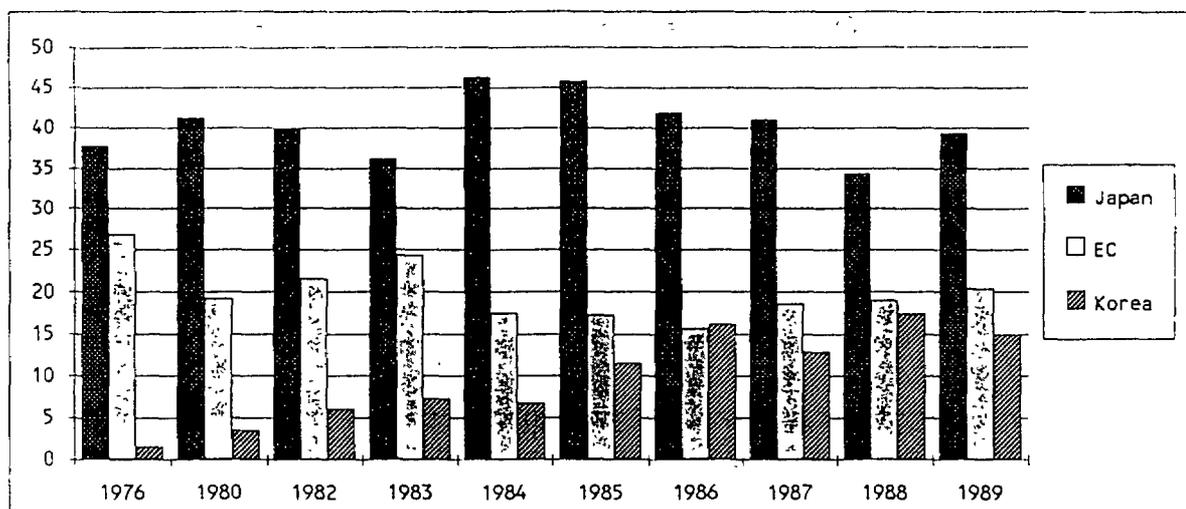
B) The general recovery throughout 1989 did not occur on a regionally balanced basis, but was instead accompanied by a further shift of shipbuilding activity to the Far East.

#### 1. The Community

The EC's industry as a whole continued its restructuring and specialisation efforts, progressively gaining in its stronger areas of higher value added vessels like container, passenger/vehicle ferries, cruise ships and reefers.

Taking into account that the rising demand for newbuildings was mainly directed towards tankers and bulk carriers, a market segment characterised by strong price competition, the fact that the EC's market share improved from 19% to 19,8%, needs to be underlined (see annex 1, table 5 and 5a).

Fig. 6 SHARES IN WORLD PRODUCTION 1976-1989



Source : Commission/Lloyd's Maritime Information Services Contract

However, with regard to new orders, the result of 1988, where the EC held a market share of 24,8%, could not be repeated and it fell to slightly more than 20%, nearly the same level as in 1987 (see annex 1, table 6 and 6a).

As far as order backlogs are concerned, the situation did not change and, with a world market share of 25,1% in 1989 the EC reached the same result as in 1988 (see annex1, table 9 and 9a).

On the basis of world market shares, the results for 1989 are thus on the whole comparable with those for 1988.

In absolute terms however the situation improved quite considerably, with a rise in production of more than 19% (in cgt). For comparison : in 1988 production dropped by 4,7%. New orders in 1989 rose by 21,8% (14,7% in 1988) and the order backlog by 24,4% (19,4% in 1988), with the result that in cgt terms the order backlog at the end of 1989 represented 2,8 times that year's production.

In other terms, with EC production rising by 19% in contrast to 15% for the world as a whole, Community shipbuilders consolidated their international position.

Furthermore, 1989 saw the tendency confirmed for a growing number of orders from third countries to be placed within the Community (1.6 mio ctg in 1989 against 1.2 mio cgt in 1988—which equals 56% of all orders received by Community yards in 1989, 53% in 1988). A substantial part of these orders have been for the USSR and register for ships with flags of convenience. At the same time however, orders for ships under EC flags, are also increasingly placed outside the Community (0,9 mio cgt in 1989 against 0,2 mio cgt in 1988 – see annex 1, table 7). Most of these orders are placed with Far Eastern countries. Altogether this tendency underlines the openness of the EC market.

Nevertheless, two points are worth mentioning.

The first concerns the fact that there are still several EC yards which have to step up their restructuring efforts.

The second concerns the fact that the world leader, Japan, is moving into the higher value added shipmarket, thus aiming at market segments which are of considerable importance to EC yards.

It is thus against this background that the future situation of the EEC industry has to be seen.

## 2. Japan

In Japan, the latest restructuring of the shipbuilding industry took place on the basis of these recommendations from the Ministry of Transport from 1987. The aim of these recommendations was to reduce and limit the production capacity to 4,6 mio cgt for those yards that are capable of building ships above 5.000 gt. Furthermore the big yards formed a "crisis cartel", intended to limit their production to 2,4 mio cgt, as far as ship types over 10,000 g\$[3;30w were concerned. the end of September 1989 however this cartel was terminated.

The end of this cartel, combined with the fact that Japan disposed of over 1,5 mio cgt of frozen production capacity fuelled fears that Japan would start to expand its production still further.

And indeed, lending weight to reports about the reactivation of previously "mothballed" capacities and yards, production in 1989 surpassed 3.7 mio cgt compared with about 3.0 mio cgt in 1988. Thus Japan succeeded in getting a market share of 37,1%, which was nearly 3 percentage points higher than in 1988 (see annex 1, table 5a)

Despite possible plans to raise the annual production by up to 10%, an acute labor shortage in the shipbuilding sector may put some constraints on expansion. Nevertheless, closer cooperation between different yards, and a very systematic R&D policy may well give a boost to productivity, thus rendering the labor problem less stringent.

With regard to new orders, Japan underlined once more that it holds the leadership. The Japanese world market share rose during 1989 from 36.8% to 43.3%. This development was also due to the weakness of the Yen - which dropped in 1989 by about 12% against the US \$ and by about 14% against the ECU, and, given that Japanese prices have mainly been quoted in Yen since 1989, their competitiveness thus received a further boost.

A further indication that Japan reinforced its leading position in the shipbuilding sector is given by the 64,0% increase in order books.

### 3. Korea

The Korean yards which had long pursued an aggressive policy of increasing their market share at any price were confronted with severe financial problems and thus obliged on the one hand to increase their prices, and on the other to reduce employment.

In addition rising material production costs and severe labour unrest also took their toll on Korean shipbuilders. Shipyard wages are reported to have more than doubled in dollar terms in the past three years.

Faced with these problems Korea's production sagged by 7,7% in 1989, leaving it with a market share of 14,1% against 17,5% in 1988 (see annex 1, table 5a).

However, new orders rose by 38,9% during 1989, indicating that the situation is improving (see annex 1, table 6a).

In other words, even though the Korean industry experienced rising production costs and severe social unrest, it continued to follow a policy directed towards maintaining a high market share (1).

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(1) In this context it is worth underling that in 1989 DSHM (Daewoo Shipbuilding & Heavy Machinery Ltd) was rescued through the Korean Development Bank (KDB), which, as a shareholder and major creditor of DSHM, rescheduled the payment of an existing debt of 220.4 billion won. DSHM will be allowed to repay its KDB loans in a 10-year instalment plan after a seven year grace period. The Daewo Business Group, the main shareholder of DSHM, contributed a further 223.4 billion won in 1989 to the normalisation of the yard.

## VI. POLICY FRAMEWORK

### A. INTERNATIONAL ASPECTS

Worldwide overcapacities and newbuilding prices that did not cover costs of production, have been confronting the industry since 1976. In particular Japan and Korea, "the price leaders" in this sector, were deemed to be partially responsible for the breakdown of normal market conditions.

The Commission therefore engaged in exploratory talks with Japan and Korea in 1988, in order to find ways of achieving profitable prices and eliminating unfair practices. Nevertheless, despite this Community initiative, no concrete progress was made at that time.

However, in June 1989 a new element emerged. The shipbuilders Council of America (SCA) filed a complaint with the US government based on Section 301 of the Trade Act, and directed towards governmental support in Japan, Korea, Norway and West Germany, calling for the termination by all countries concerned of their shipbuilding subsidies.

Behind this complaint was the strong desire of the US shipbuilding industry to come back on to the world market, arguing that rising newbuilding prices would allow US yards to become competitive, if only other nations would abstain from supporting their industries.

The complaint was however withdrawn in exchange for an undertaking by the American authorities to negotiate with the principal producers concerned and to obtain substantial progress by March 1990.

Exploratory discussions thus started in September 1989 in the framework of the OECD Liaison group between Korea and Working Party 6 of the Council on shipbuilding, which the USA joined in 1989.

These discussions aim at reaching not only full transparency in the field of different support measures, but their final objective is to reach an international agreement establishing normal competitive conditions in the shipbuilding sector. This would involve the phasing out of public assistance and other support measures. The agreement would also include provision to remedy unfair pricing by shipbuilders.

The Community welcomed this initiative, as it is in line with the EC's above-mentioned previous efforts to restore normal market conditions (and given the progress achieved during the exploratory discussions, the Council gave the Commission a mandate to enter formal negotiations in July 1990).

## B. EUROPEAN ASPECTS

### 1) European Shipbuilding R & D

The main problems of European shipbuilding are due to higher costs of manufacture relative to overseas competitors such as those from the Far East, and consequently the challenge is to develop automated manufacturing processes to reduce costs. The level of competitive technology within the European shipbuilding industry is uneven, with the best comparing with some shipyards in Japan, however, it is in general less advanced in the application of new technology to improve productivity.

There is a need for research and development within the European Community to improve manufacturing techniques with an increase in robotisation to reduce production costs. The application of advanced technology to the European shipbuilding industry is considered essential if it is to become a competitive and viable industry and enable it to respond to the challenge with which it is confronted. Cooperation on a European scale is considered to be an effective way of conducting the R&D that is required and a number of EC funded collaborative projects are currently underway and these include the following :

a) BRITE/EURAM RTD PROGRAMME

Advancing manufacturing practices :

(I) CAD/CAM for Marine Engineering , Piping and Accommodation In Shipbuilding

(II) Development of a CAD/CAE system for Ship Design for SMES

(III) Structured Design and Verification of Systems to use on Ships and Marine Platforms.

Shaping, assembly and joining :

(IV) Flexible low cost Automation of Arc Welding

b) ESPRIT RTD PROGRAMME

(I) Neutral product definition database for large Multifunctional systems (NEUTRABAS)

(II) Real time monitoring and control of construction site manufacturing (ROCOCO)

R&D is essential if European Shipbuilding is to become competitive with other countries, particularly those in the Far East. Although progress is being made on a number of collaborative R&D projects further R&D activities are needed on a European scale, particularly on "integrated technology" projects, if significant improvements in productivity are to be achieved.

2) Technical Harmonization of Marine Equipment

A draft Directive is under consideration at the present time that would harmonize the standards of marine equipment used onboard ocean-going merchant ships. This would be in accordance with the Commission's "New Approach to Technical Harmonization" (1985) and the "Global Approach to Certification" (1989).

It is envisaged that the Directive would include marine equipment for which it is essential to harmonize to promote the safety of life at sea and for the protection of the marine environment from pollution by hazardous substances. The most important items of marine equipment included in the Directive would be statutory items covered by international conventions such as those of the International Maritime Organisation (IMO).

The harmonizing of marine equipment would help to remove technical barriers to trade and it would also offer the prospect of creating a single industrial market to enable Europe to compete more efficiently with its competitors.

### 3) Social and Regional Aspects

- the Renaval programme - adopted by the Council in July 1988 - was created in order to assist the development of regions affected by the restructuring of the shipbuilding industry. The objective of the programme was therefore to support economic activities that generate new jobs outside the sector (1).
  
- employment in the shipbuilding industry continued to decrease from 68.960 in 1988 to 67.368 in 1989 (see annex 1, table 11).  
However, compared with 1985 or 1986, when employment fell more than 10.000, each year, the downward trend seems to be flattening out, especially if the regional variations are taken into consideration.

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(1) A list with regional RENAVAL programmes up to mid-1990 is given in Annex 1, table 13.

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ANNEX 1

STATISTICAL DATA

TABLE 1 - WORLD SEABORNE TRADE AND CARGO FLEET

	OIL PRODUCTS				OTHER CARGO				TOTAL			
	Seaborne trade		fleet *		Seaborne trade		fleet *		Seaborne trade		fleet *	
	'000 million tonne-miles	reference 1973-100	million tpl	reference 1973-100	'000 million toone-miles	reference 1973-100	million tpl	reference 1973-100	'000 million tonne-miles	reference 1973-100	million tpl	reference 1973-100
1973	10.217	100	234,3	100	5.187	100	205,6	100	15.404	100	439,9	100
1974	10.621	104	275,4	118	5.766	111	218,6	106	16.387	106	493,9	112
1975	9.730	95	313,0	134	5.636	109	230,7	112	15.366	100	543,7	124
1976	11.149	109	343,9	147	5.874	113	247,4	120	17.023	111	591,3	134
1977	11.403	112	356,1	152	6.050	117	268,6	131	17.453	113	624,6	142
1978	10.546	103	353,0	151	6.388	123	279,8	136	16.934	110	632,7	144
1979	10.497	103	350,9	150	7.016	135	287,0	140	17.513	114	637,9	145
1980	9.239	90	348,4	149	7.372	142	293,0	143	16.611	108	641,3	146
1981	8.193	80	342,9	146	7.469	144	305,9	149	15.662	102	648,7	147
1982	6.282	62	322,5	138	7.217	139	320,6	155	13.499	88	643,0	146
1983	5.558	54	301,4	129	7.022	135	331,0	156	12.580	82	632,4	144
1984	5.648	55	285,1	122	7.778	150	341,2	166	13.426	87	626,2	142
1985	5.157	50	257,1	110	7.908	152	348,2	169	13.065	85	605,3	138
1986	5.905	58	249,7	107	7.951	153	345,5	168	13.856	90	595,2	135
1987	6.016	59	245,8	105	8.282	160	342,2	166	14.298	93	588,0	134
1988	6.510	64	248,8	106	8.795	170	345,0	168	15.305	99	593,8	135
est.												
1989	7.110	70	255,5	109	9.125	176	353,6	172	16.235	105	609,1	138

\* = as at end of the year

est. = provisional

Source = Fearnleys Oslo

TABLE 2 - TONNAGE WITHDRAWN (in '000 grt/dwt)

TONNAGE LAID UP					TONNAGE BROKEN UP				TONNAGE USED FOR STORAGE			
	month	n'	grt	dwt		n'	grt	dwt		month	n'	dwt
1976	VII X	765 737	29.651 25.486	55 289 47 507	1978	1 088	12.840	21.703				
1979	I VII X	595 417 353	16.678 11.206 7.490	30.290 20.063 12.518	1979	904	6 997	11.137	1979	I VII X	40 37 37	7.856 6.668 6.672
1980	I VII X	298 268 233	8.204 6.767 5.371	10.603 12.249 9.512	1980	887	9.184	15.940	1980	I VII X	39 45 67	7.112 9.199 14.266
1981	I VII X	229 246 287	4.840 8.618 10.399	8.288 15.562 19.014	1981	824	9.789	17.517	1981	I VII X	74 77 149	16.866 15.668 35.950
1982	I VII X	353 624 1.071	14.111 25.437 35.293	26.391 49.122 67.260	1982	1.081	18.086	32.160	1982	I VII X	120 79 64	28.757 18.295 13.860
1983	I VII X	1.292 1.403 1.429	40.657 45.093 42.641	77.168 85.755 80.959	1983	1.323	20 299	36.881	1983	I VII X	58 70 78	11.812 13.482 14.868
1984	I VII X	1.383 1.202 1.147	40.805 35.629 33.049	77.274 66.841 61.693	1984	1.500	19.661	34.757	1984	I VII X	73 95 98	13.450 19.672 21.164
1985	I VII X	1.015 926 963	31.048 28.750 30.083	58.194 54.510 57.086	1985	1.722	26 345	47.801	1985	I VII X	86 87 91	17.847 18.101 18.223
1986	I VII X	840 741 698	24.219 16.639 13.781	45.262 30.325 24.283	1986	1.576	20.860	36.164	1986	I VII X	78 86 92	14.169 16.916 18.807
1987	I VII X	606 484 423	12.073 9.923 8.991	21.368 17.248 15.491	1987	1.094	12 936	22 005	1987	I VII X	96 75 63	20.142 16.499 13 306
1988	I VII X	379 313 272	8.216 6.818 4.835	14.145 11.771 7.595	1988	812	6 124	9 908	1988	I VI X	62 63 65	12.607 11.901 12.803
1989	I VII X	266 198 191	4.213 2.862 3.057	6 519 4.278 4.809	1989	512	4 026	6 588	1989	I VII X	68 53 55	13.540 9.361 11.093
1990	I	192	2.600	3.982					1990	I	46	8.505

SOURCES : Institute of Shipping Economics - Bremen, Howard Holder Chartering Ltd.

TAB.E 3 - WORLD AND COMMUNITY FLEETS

A. Fleet as at 1 July (in million grt/gt from 1984)															
	1960	1970	1975	1977	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
WORLD	129,8	227,6	342,2	393,7	413,0	419,9	420,8	424,7	422,6	418,7	416,3	404,9	403,5	403,4	410,5
EEC 10	48,1	68,3	96,8	105,9	110,4	111,1	109,9	104,5	95,9	87,7	80,5	70,9	60,8	57,0	55,2
% EEC 10	37,1	30,0	28,3	26,9	26,7	26,5	26,1	24,6	22,7	20,7	19,3	17,5	15,1	14,1	13,4
EEC 12	50,5	.	103,4	114,4	119,9	120,6	119,4	114,0	104,8	:	88,2	77,4	66,8	62,4	59,9
% EEC 12	38,9	.	30,2	29,1	29,0	28,7	28,4	26,8	24,8	:	21,2	19,1	16,6	15,5	14,6

B. Member States' fleets by flag (in '000 grt/gt from 1984)																												
	Existing fleet as at 1 July										Broken up								Laid up									
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1981	1982	1983	1984	1985	1986	1987	1988	1989	1981	1982	1983	1984	1985	1986	1987	1988	1989	
	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	dec.	
Germany	7 700	7 707	6 697	6 242	6 177	6 668	4 318	3 917	3 967	143	186	260	176	310	-	26	-	-	17	409	501	316	208	-	-	84	67	
Belgium	1 917	2 271	2 274	2 407	2 400	2 420	2 268	2 118	2 044	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Denmark	5 048	5 214	5 115	5 211	4 942	4 651	4 873	4 502	4 963	110	144	-	-	287	-	-	-	-	144	793	843	993	503	-	-	-	-	
France	11 455	10 771	9 868	8 945	8 237	5 936	5 371	4 506	4 413	397	479	658	464	1 451	73	-	-	22	297	519	1 343	1 536	723	499	272	194	53	
Greece	42 006	40 035	37 478	35 059	31 032	28 391	23 560	21 979	21 324	1 691	3 027	2 931	4 061	3 326	2 877	929	581	55	2 306	10 248	9 937	5 902	3 731	1 646	1 402	404	132	
Ireland	268	239	223	221	194	149	154	173	167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Italy	10 641	10 375	10 015	9 158	8 843	7 897	7 817	7 794	7 009	210	259	705	348	1 019	397	425	205	41	206	1 610	1 635	1 136	673	402	194	-	63	
Netherlands	5 468	5 393	4 940	4 586	4 301	4 324	3 908	3 726	3 655	65	548	391	421	479	-	-	-	-	-	-	462	290	-	148	-	-	-	
UK	25 419	22 505	19 122	15 874	14 344	11 567	8 505	8 260	7 646	1 026	1 107	932	501	387	181	138	158	1	770	1 591	2 272	2 084	1 327	190	156	-	-	
Luxembourg	-	-	-	-	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL EEC 10	109 929	104 510	95 932	87 703	80 470	70 900	60 774	56 977	55 192	3 642	5 749	5 928	5 971	7 267	3 528	1 517	944	119	3 742	16 170	16 993	12 259	7 165	2 885	2 024	682	335	
Spain	8 134	8 131	7 505	:	6 256	5 422	4 949	4 415	3 962	21	215	263	181	302	203	37	159	182	206	696	616	-	-	-	63	51	-	
Portugal	1 377	1 402	1 358	:	1 437	1 114	1 048	989	726	11	2	55	-	56	19	-	9	2	-	-	-	365	223	-	-	48	-	
TOTAL EEC 12	119 440	114 043	104 795	:	88 163	77 436	66 771	62 381	59 880	3 674	5 966	6 246	6 152	7 625	3 750	1 554	1 111	303	3 948	16 866	17 609	12 624	7 388	2 885	2 087	781	335	
TOTAL WORLD										9 754	18 086	20 299	19 658	26 345	20 860	12 936	6 124	4 026	11 348	38 815	40 924	31 876	25 878	12 213	8 485	4 485	2 604	

Sources : existing fleet Lloyd's Register of Shipping

Other data : Institute of Shipping Economics, Bremen (Chiffres annuels ou à défaut, mensuels)

: Unavailable .

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TABLE 4 - CONTRACT PRICES FOR ORDERS OF NEW VESSELS 1976-1986

(price at the end of the year in USD million as charged by the Japanese and Korean yards)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
30.000 dwt tanker	23,0	26,0	25,0	17,0	16,0	14,5	13,0	14,0	20,0	27,0	31,0
80.000 dwt tanker	29,0	34,5	38,0	24,0	23,0	21,0	18,5	21,0	29,0	38,0	43,0
130.000 dwt tanker	37,5	45,0	51,0	32,5	31,5	29,0	25,0	26,5	34,0	46,0	54,0
250.000 dwt tanker	48,0	63,0	72,5	50,5	48,5	44,0	37,0	42,5	54,0	73,0	82,0
400.000 dwt tanker	60,0	85,0	90,0	61,0	57,0	51,0	44,0	50,5	60,0	88,0	101,0
96.000 dwt oil/bulk/ore	35,0	47,0	44,0	30,0	28,0	26,0	22,5	25,5	32,0	44,0	54,0
30.000 dwt bulk carrier	15,5	20,0	19,0	13,0	12,0	11,0	10,0	11,5	16,0	22,0	?
60.000 dwt bulk carrier	?	28,5	27,5	18,0	17,0	15,5	14,0	15,0	20,5	27,0	31,0
120.000 dwt bulk carrier	33,0	44,0	42,0	26,0	25,0	24,0	20,5	23,0	30,0	39,0	45,0
125.000 cbn LNG carrier	125,0	150,0	175,0	150,0	150,0	130,0	130,0	120,0	145,0	175,0	220,0
75.000 cbn LPG carrier	60,0	75,0	75,0	53,0	50,0	45,0	42,5	47,5	55,0	61,0	71,0
5.000 dwt ro-ro ship	14,0	16,0	20,0	15,0	12,0	10,0	9,0	10,0	13,0	16,0	19,0

Source : Fearnleys Oslo

TABLE 5 - PRODUCTION (completions)

	1976	1982	1983	1984		1985	1986	1987	1988	1989
	1.000 cgrt coeff. AWES	1.000 cgrt coeff. 1978	1.000 cgrt coeff. 1978	1.000 cgrt coeff. 1978	1.000 cgt coeff. 1984 (1)	1.000 cgt coeff. 1984				
Germany	1.468,0	757,3	811,3	673,8	662,2	641,2	578,7	396,4	502,5	452,9
Belgium	139,8	83,0	173,2	102,2	102,3	124,4	45,0	25,9	46,8	35,5
Denmark	560,6	329,2	333,5	389,1	355,4	444,0	350,7	194,4	277,2	287,0
France	672,4	353,3	356,8	363,1	357,2	164,1	145,0	207,9	63,2	198,8
Greece	:	61,8	35,7	32,8	39,8	43,8	24,7	6,6	12,3	12,5
Ireland	20,3	-	19,2	-	-	-	-	-	-	-
Italy	353,9	155,2	217,0	183,1	182,3	123,8	60,9	224,8	119,9	284,5
Netherlds	940,0	390,0	415,8	248,8	259,3	310,2	262,8	146,2	153,1	171,9
U.K.	985,1	394,0	319,3	295,9	305,3	164,4	141,5	162,3	113,2	157,3
TOTAL EEC 10	5.140,1	2.524,8	2.686,8	2.286,9	2.233,8	2.015,9	1.609,3	1.364,5	1.288,2	1.600,4
Spain	734,0	587,4	488,7	:	345,9	400,3	229,8	328,4	326,4	306,0
Portugal	53,0	31,2	124,7	:	18,5	40,3	61,0	26,3	23,0	46,3
TOTAL EEC 12	5.927,1	3.143,4	3.300,2	:	2.628,3	2.456,5	1.900,2	1.719,1	1.637,6	1.952,6

Source : contrat CCE/Lloyd's Maritime Information Services

: = Unavailable

(1) = serie revised in March 1986

TABLE 5A - PRODUCTION (completions)

	1976		1982		1983		1984		1985		1986		1987		1988		1989			
	1000 cgrt coeff. AWES	%	1000 cgrt coeff. '78	%	1000 cgrt coeff. '78	%	1000 cgrt coeff. '78	1000 cgrt coeff. '84 (3)	1000 cgrt coeff. '84	%										
EEC 10 (1)	5.140,1	23,3	2.524,8	17,3	2.686,8	19,8	2.288,9	15,5	2.263,8	15,1	2.015,9	14,2	1.609,3	13,3	1.364,5	14,8	1.288,2	15,0	1.600,4	16,2
EEC 12	5.927,1	26,8	3.143,4	21,5	3.300,2	24,4	:		2.628,3	17,5	2.456,5	17,3	1.900,2	15,7	1.719,1	18,6	1.637,6	19,0	1.952,7	19,8
WESTERN EUROPE(2)	8.285,8	37,5	4.285,0	29,4	4.375,6	32,3	3.509,2	23,8	3.403,0	22,7	3.088,9	21,8	2.438,8	20,1	2.168,7	23,5	2.127,6	24,7	2.387,7	24,2
JAPAN	8.348,8	37,8	5.811,1	39,8	4.908,2	36,2	6.704,3	45,5	6.951,1	46,3	6.498,4	45,9	5.085,4	41,9	3.795,3	41,1	2.952,7	34,3	3.664,1	37,1
SOUTH KOREA	349,4	1,6	880,3	6,0	985,6	7,3	1.072,2	7,3	1.014,9	6,8	1.633,3	11,5	1.971,4	16,2	1.193,5	12,9	1.504,7	17,6	1.389,2	14,1
REST OF WORLD	5.095,0	23,1	3.611,4	24,8	3.283,0	24,2	3.459,4	23,4	3.629,0	24,2	2.948,0	20,8	2.643,5	21,8	2.087,5	22,6	2.013,4	23,4	2.440,3	24,7
Including :																				
RDA									502,5	3,4	502,0	3,5	488,3	4,0	368,3	4,0	382,5	4,4	393,6	4,0
POLAND									382,4	2,5	357,5	2,5	340,0	2,8	300,0	3,2	344,0	4,0	237,9	2,4
URSS									689,5	4,6	274,2	1,9	170,4	1,4	44,3	0,5	56,0	0,7	226,7	2,3
CHINA									297,8	2,0	172,4	1,2	214,6	1,8	207,3	2,2	253,1	2,9	230,0	2,3
YUGOSLAVIA									237,2	1,6	281,4	2,0	188,4	1,6	259,5	2,8	230,5	2,7	327,7	3,3
T O T A L	22.078,2	100,0	14.587,8	100,0	13.552,3	100,0	14.745,1	100,0	14.998,1	100,0	14.168,6	100,0	12.139,1	100,0	9.245,0	100,0	8.598,4	100,0	9.881,3	100

Source : contrat CCE/Lloyd's Maritime Information Services

: Unavailable

(1) 1976 excluding Greece

(2) EEC + rest of AWES : Association of West European Shipbuilders

Non-EEC members are Finnish, Swedish and Norwegian shipbuilders' associations.

(3) serie revised in march 1986

TABLE 6 - NEW ORDERS

	1976	1982	1983	1984		1985	1986	1987	1988	1989
	1.000 cgrt coeff. AVES	1.000 cgrt coeff. 1978	1.000 cgrt coeff. 1978	1.000 cgrt coeff. 1978	1.000 cgt coeff. 1984 (1)	1.000 cgt coeff. 1984				
Germany	726,1	716,7	550,4	716,7	644,5	819,7	328,8	533,8	652,8	934,9
Belgium	75,0	43,3	58,7	80,7	69,5	26,8	43,2	34,0	52,0	101,7
Denmark	317,1	250,6	428,9	433,2	405,2	86,0	305,9	219,2	205,3	192,4
France	63,6	175,9	136,4	95,6	106,5	202,5	132,4	60,5	204,6	165,9
Greece	:	10,3	4,6	7,7	7,4	29,4	5,1	6,5	6,1	5,0
Ireland	19,2	1,3	-	-	-	-	-	-	-	-
Italy	301,5	243,2	57,1	70,0	68,2	257,4	229,0	408,7	172,3	564,8
Netherlds	626,4	304,0	237,3	303,6	218,4	269,8	137,0	91,9	356,2	236,3
U.K.	627,6	301,5	150,4	108,3	107,6	224,4	112,0	116,5	124,2	209,2
TOTAL EEC 10	2.756,6	2.051,8	1.623,8	1.815,7	1.657,2	1.975,8	1.293,3	1.471,1	1.773,5	2.410,2
Spain	297,0	323,9	221,1	:	92,2	197,6	258,5	421,7	453,8	274,1
Portugal	73,0	27,8	36,0	:	30,6	1,2	29,5	78,1	33,1	69,6
TOTAL EEC 12	3.126,6	2.403,5	1.881,9	:	1.780,0	2.174,6	1.581,3	1.971,0	2.160,4	2.753,9

Source : contrat CCE/Lloyd's Maritime Information Services

: = Unavailable

(1) = serie revised in March 1986

TABLE 7 - BREAKDOWN OF ORDERS BY FLAGS

ORDERS PLACED FOR REGISTRATION UNDER THE FLAG OF A COMMUNITY MEMBER STATE

with shipyard in : A - national B - other EC countries C - third countries	1976			1982			1984 (1)			1985			1986			1987			1988			1989		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
% du total	64	5	31	77	1	22	63,9	3,9	32,2	74,9	11,3	13,8	76,6	7,0	16,4	77,6	3,3	19,1	79,6	5,8	14,6	54,2	3,8	42,0
TOTAL en '000 cgrt/cgt	3.027			1.876			2.039			1.630			1.297			1.737			1.243			2 073		

ORDERS RECEIVED BY COMMUNITY SHIPYARDS

from shipowner in : A - national B - other EC countries C - third countries	1976			1982			1984 (1)			1985			1986			1987			1988			1989		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
% du total	70	5	25	73	1	26	78,8	4,7	16,6	61,8	9,3	28,9	62,8	5,8	31,4	68,3	3,0	28,7	43,8	3,2	53,0	40,8	2,8	56,4
TOTAL en 1000 cgrt/cgt	2.756			1.988			1.657			1.976			1.581			1.971			2.260			2.754		

(1) Serie revised in March 1986

Source : Commission/Lloyd's Maritime Information Services contract

Remarks : 1976 - EEC excluding Greece; from 1985 - EEC including Spain and Portugal

There may be slight differences in the total compared with similar data in other tables.

TABLE 8 - TREND OF NEW ORDERS BY TYPE OF VESSEL

	Oil tankers		Bulk carriers		Cargo ships		Non-cargo vessels		TOTAL (including unspecified)	
	1000 cgrt	%	1000 cgrt	%	1000 cgrt	%	1000 cgrt	%	1000 cgrt	%
1977 World	790,6		1.783,2		8.497,3		2.969,8		14.040,9	
EEC	30,9	3,9	75,1	4,2	1.764,4	20,8	670,5	22,6	2.540,9	18,1
1978 World	1.185,4		534,8		6.163,8		1.912,7		10.796,7	
EEC	56,2	4,7	23,6	4,4	1.341,3	21,8	591,5	20,3	2.012,6	18,6
1979 World	3.364,8		2.744,9		5.148,4		2.949,8		14.207,9	
EEC	168,1	5,0	466,5	17,0	1.172,6	22,8	747,6	25,3	2.554,8	18,0
1980 World	2.960,2		4.325,3		4.780,1		2.291,9		14.357,5	
EEC	273,7	9,2	425,9	9,8	1.023,4	21,4	740,8	32,3	2.463,8	17,2
1981 World	1.166,7		4.934,9		4.967,9		2.433,0		14.053,1	
EEC	75,1	6,4	487,9	9,9	1.342,7	27,0	606,4	24,9	2.525,2	18,0
1982 World	662,6		2.335,3		5.679,9		2.135,4		10.813,2	
EEC	70,3	10,6	197,5	8,5	1.093,2	22,0	628,0	29,4	1.989,0	18,4
1983 World	1.682,1		5.370,3		5.910,8		1.886,9		14.850,1	
EEC	92,3	5,5	110,7	2,1	1.039,9	17,6	380,9	20,2	1.623,8	10,9
1984 World	1.176,2		3.890,6		4.742,2		1.956,8		12.088,7	
EEC	179,3	15,2	165,6	4,3	944,2	19,9	448,8	22,9	1.815,7	14,5
	1000 tbc	%	1000 tbc	%	1000 tbc	%	1000 tbc	%	1000 tbc	%
1984 World (1)	470,1		3.918,4		5.299,9		2.089,2		11.777,6	
EEC (1)	15,3	3,3	152,8	3,9	1.029,7	19,4	459,3	22,0	1.657,2	14,1
1985 World	575,4		2.454,5		5.138,8		2.152,4		10.321,3	
EEC	18,0	3,1	154,9	6,3	1.033,5	20,1	769,6	35,8	1.975,8	19,1
1986 World	1.199,7		1.296,0		4.208,4		2.778,0		9.482,0	
EEC	0,0	0,0	108,0	8,3	768,6	18,3	704,7	25,4	1.581,3	16,7
1987 World	1.404,6		1.033,2		4.899,7		2.402,7		9.740,2	
EEC	107,5	7,7	45,3	4,4	1.128,1	23,0	690,1	28,7	1.971,0	20,2
1988 World	781,8		2.164,5		3.985,6		2.194,0		9.125,9	
EEC	116,7	14,9	-	0,0	1.095,5	27,5	1.048,1	47,8	2.260,4	24,8
1989 World	1.943,6		2.483,1		6.798,4		2.339,3		13.564,3	
EEC	219,9	11,3	70,8	2,9	1.454,3	21,4	1.008,8	43,1	2.753,9	20,3

Source : Contrat CEE/Lloyd's Maritime Information Services

Remarks : From 1986 EEC including Spain and Portugal

(1) Series revised in March 1986

TABLE 9 - ORDERS BOOKS

	ORDERS BOOKS AT 31 DECEMBER									
	1976 1.000 cgrt coeff. AWES	1982 1.000 cgrt coeff. 1978	1983 1.000 cgrt coeff. 1978	1984 1.000 cgrt coeff. 1978		1.000 cgt coeff. 1984 (1)	1985 1.000 cgt coeff. 1984	1986 1.000 cgt coeff. 1984	1987 1.000 cgt coeff. 1984	1988 1.000 cgt coeff. 1984
Germany	2.113,3	990,1	649,5	680,9	607,1	809,3	529,7	686,9	856,4	1.314,6
Belgium	277,0	261,1	143,7	138,1	136,1	62,1	60,0	75,0	82,0	147,7
Denmark	923,5	603,9	707,7	747,2	692,2	442,1	429,2	473,9	459,6	589,7
France	1.770,4	978,5	598,6	331,9	263,3	382,7	371,2	234,5	379,9	361,9
Greece	:	191,4	146,1	121,7	137,4	119,9	102,8	121,5	116,8	113,6
Ireland	43,9	20,0	2,1	-	-	-	-	-	-	-
Italy	1.036,2	480,4	356,3	230,4	195,5	345,2	465,2	864,8	904,2	1.188,6
Netherlands	917,1	498,8	308,8	379,0	331,6	300,3	195,6	141,8	365,1	414,5
U.K.	1.989,4	714,1	506,1	302,7	292,3	352,5	325,4	369,7	317,1	376,5
TOTAL EEC 10	9.070,8	4.738,3	3.418,9	2.932,0	2.655,5	2.814,2	2.480,4	2.968,1	3.481,1	4.507,1
Spain	:	1.325,3	967,4	:	690,5	491,5	527,7	635,6	837,7	853,7
Portugal	:	258,4	124,1	:	138,3	94,0	67,0	108,3	114,0	155,7
TOTAL EEC 12	:	6.322,0	4.510,3	:	3.484,4	3.399,7	3.075,1	3.712,1	4.432,9	5.516,5

Source : contrat CCE/Lloyd's Maritime Information Services

: = Unavailable

(1) = series revised in March 1986

TABLE 9A - ORDER BOOKS

	ORDER BOOKS AT 31 DECEMBER																			
	1976		1982		1983		1984		1985		1986		1987		1988		1989			
	1000 cgrt coeff. AWES	%	1000 cgrt coeff. '78	%	1000 cgrt coeff. '78	%	1000 cgrt coeff. '78	%	1000 cgrt coeff. '84 (3)	%	1000 cgrt coeff. '84	%								
EEC 10 (1)	9.070,6	22,9	4.738,3	20,0	3.418,9	14,2	2.912,0	13,0	2.655,5	12,0	2.814,2	15,2	2.430,4	15,2	2.968,1	17,9	3.481,1	19,7	4.507,1	20,5
EEC 12	:		6.322,0	26,6	4.510,3	18,7	:		3.484,4	15,8	3.399,7	18,3	3.075,1	19,7	3.712,1	22,4	4.432,9	25,1	5.516,5	25,1
WESTERN EUROPE (2)	15.839,2	40,0	8.212,6	34,6	5.900,8	24,5	5.057,8	22,5	4.624,1	21,0	4.273,9	23,0	3.843,3	24,6	4.933,8	29,8	5.548,9	31,4	6.706,7	30,5
JAPAN	12.093,8	30,6	6.640,2	28,0	8.477,9	35,1	7.969,6	35,4	8.221,5	37,2	5.915,2	31,9	3.915,9	25,0	2.918,5	17,6	3.473,9	19,7	5.696,5	25,9
SOUTH KOREA	7.943,2	2,4	1.854,9	7,8	2.898,4	12,0	3.203,9	14,6	3.223,1	14,6	2.578,7	13,9	1.909,2	12,2	2.639,1	15,9	2.342,7	13,3	2.813,1	12,8
REST OF WORLD	3.692,9	27,0	7.023,8	29,6	6.841,4	28,4	6.260,9	27,5	6.003,8	27,2	5.796,1	31,2	5.977,3	38,2	6.064,6	36,7	6.307,9	35,6	6.751,6	30,8
including																				
GDR								352,3	1,6	309,6	1,7	752,0	4,8	739,4	4,5	572,8	3,2	659,4	3,0	
POLAND								1.272,1	5,8	1.018,1	5,5	1.041,6	6,7	1.251,6	7,6	1.131,3	6,4	1.080,1	4,9	
USSR								42,9	0,2	:	/	:	/	:	/	74,1	0,4	248,5	1,1	
CHINA								433,3	2,0	486,5	2,6	547,0	3,5	647,3	3,9	809,8	4,6	681,0	3,1	
YUGOSLAVIA								455,4	2,1	545,9	2,9	840,0	5,4	751,4	4,5	861,9	4,9	1.011,4	4,6	
T O T A L	39.569,1	100,0	23.731,5	100,0	24.118,5	100,0	22.492,2	100,0	22.072,6	100,0	18.563,9	100,0	15.645,7	100,0	16.555,9	100,0	17.673,5	100,0	21.967,9	100,0

Source : contrat CCE/Lloyd's Maritime Information Services

: Unavailable

(1) 1976 excluding Greece

(2) EEC + rest of AWES : Association of West European Shipbuilders (Association des constructeurs de navires de l'Europe occidentale)  
Non-EEC members are Finnish, Swedish and Norwegian shipbuilders' associations.

(3) serie revised in March 1986

(/u/ic6/MK/TABL/carn9a)EN2

TABLE 10 - ORDER BOOKS AND DELIVERY SCHEDULE

	1989					
	1000 cgt - coeff. 1984					
	Prod. 1989	Total order books at 31.12.89	for delivery in :			
1990			1991	1992	1993 and beyond	
Germany	452,9	1.314,6	613,5	376,2	324,9	-
Belgium	35,5	147,7	70,2	42,6	34,9	-
Denmark	287,0	589,7	318,3	147,6	123,8	-
France	198,8	361,9	109,4	142,7	109,8	-
Greece	12,5	113,6	113,6	-	-	-
Ireland	-	-	-	-	-	-
Italy	284,5	1.188,6	424,5	296,2	136,3	331,6
Netherlands	171,9	414,5	327,7	83,1	3,7	-
UK	157,3	376,5	165,2	116,6	94,7	-
TOTAL EEC 10	1.606,4	4.507,1	2.142,4	1.205,0	828,1	331,6
Spain	306,0	853,7	535,7	224,5	93,5	-
Portugal	46,3	155,7	89,1	32,6	21,3	12,8
TOTAL EEC 12	1.952,7	5.516,5	2.767,2	1.462,1	942,9	344,4

Source : Contrat CCE/Lloyd's Maritime Information Services

TABLE 11 - EMPLOYEMENT IN CONSTRUCTION OF NEW VESSELS IN THE COMMUNITY

	1975	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Belgium	7.467	6.614	6.258	6.523	6.347	4.680	4.104	4.060	3.923	2.995	2.548	2.270	2.307
Denmark	16.630	12.000	9.000	11.400	11.350	11.800	11.200	10.300	10.200	7.000	7.000	7.300	7.900
France	32.500	25.300	23.000	22.200	22.200	21.600	21.000	16.940	15.053	(6) 13.700	(6) (1) 8.940	(6) 6.650	(6) 6.800
Germany	46.839	31.113	27.369	24.784	26.521	27.600	25.966	22.183	22.260	18.184	12.875	14.845	14.732
Greece	2.316	:	:	2.672	3.393	2.900	2.812	2.000	2.000 ?	1.709	1.621	1.855	1.535
Ireland	869	840	750	750	762	882	550	-	-	-	-	-	-
Italy	25.000	20.000	19.000	18.000	16.500	13.750	12.800	12.800	12.000 (4)	(4) 11.570	(4) (7) 9.500	(7) 8.428	(7) 9.675
Netherlands(2)	22.662	17.540	14.540	13.100	13.100	12.800	11.250	10.330	6.236	(4) 5.400	(4) 3.600	3.500	3.500
UK	54.550	41.050	31.200	24.800	25.345	25.000	20.486	14.655	10.200 (3)	(3) 8.500	(3) 8.000	(3) 5.500	(3) 4.124
TOTAL EEC 10	208.833	154.457 (5)	132.017 (5)	124.229	125.518	121.012	110.168	93.274	81.877	69.058	54.084	50.548	50.573
Spain	:	:	:	:	:	:	:	:	18.000	18.000	(4) 17.300	14.000	12.550
Portugal	:	:	:	:	:	:	:	:	5.370	5.087	5.020	4.412	4.245
TOTAL EEC 12	:	:	:	:	:	:	:	:	105.247	92.145	76.404	68.960	67.368

(Table compiled from national sources)

(1) Revised figures

(2) From 1975 à 1984 = including naval dockyards estimated to be :  
1975 : 1.600; 1978 et 1979 : 3.200; 1980 : 3.400; 1981 et 1982 : 3.200; 1983 et 1984 : 2.800

(3) Excluding jobs in Harland & Wolff (Northern Ireland).  
This figure for 1985 and 1986 was 4.000, for 1987 and 1988 was 3.500 et pour 1989 à 2.370 personnes.

(4) Estimated

(5) Excluding Greece

(6) The figure from 1986 covers jobs in new shipbuilding and naval and para-naval building (conversion, naval vessels and off-shore vessels).  
The figure for the preceding years using the same method are 1975 : 32.500; 1980 : 23.700; 1985 : 17.700

(7) 2.780 unemployed should be added to this figure for 1987 and 2.850 for 1988 and 2.581 for 1989; of these 2 000 represent a structural overcapacity for whom no new jobs can be found.

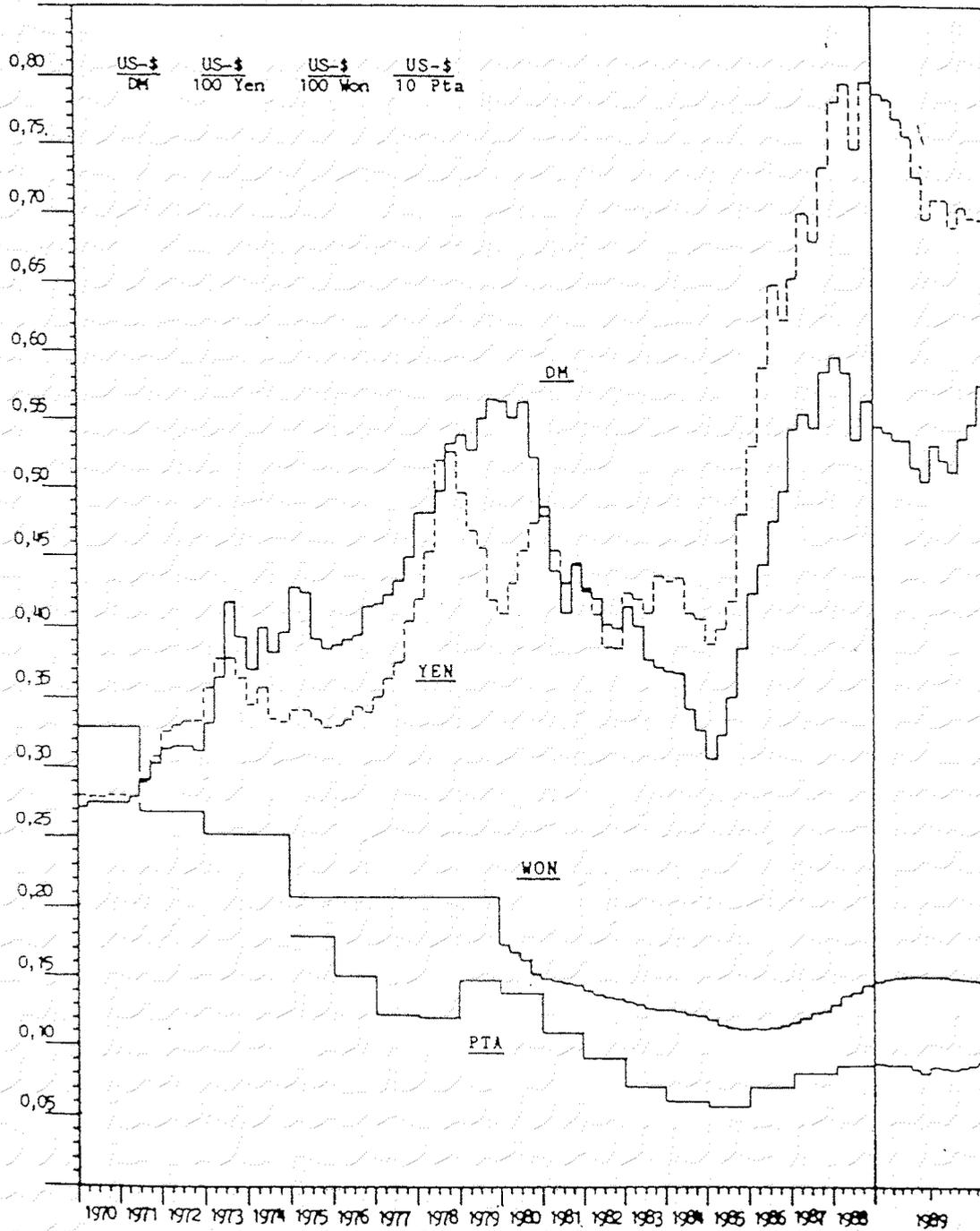
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TABLE 12-A CURRENCY EXCHANGE RATES, ECU, USD, YEN

	\$	1 Ecu = Yen	Ecus	1 USD = Yen	Ecus	1000 Yen = \$	
198501	0.701986	178.292	1.42453	253.982	5.60878	3.93728	198501
198502	0.675582	175.897	1.48021	260.364	5.68515	3.84078	198502
198503	0.674594	174.168	1.48237	258.182	5.74158	3.87324	198503
198504	0.724945	182.254	1.37941	251.404	5.48685	3.97766	198504
198505	0.720196	181.234	1.38851	251.645	5.51773	3.97385	198505
198506	0.732914	182.419	1.36442	248.896	5.48189	4.01775	198506
198507	0.771766	186.287	1.29573	241.378	5.36806	4.14289	198507
198508	0.797985	189.285	1.25316	237.204	5.28304	4.21579	198508
198509	0.785039	185.531	1.27382	236.333	5.38993	4.23131	198509
198510	0.836684	179.593	1.19519	214.649	5.56815	4.65878	198510
198511	0.851674	173.770	1.17416	204.033	5.75473	4.90116	198511
198512	0.872869	177.023	1.14565	202.806	5.64898	4.93082	198512
198601	0.891352	178.382	1.12189	200.125	5.60595	4.99687	198601
198602	0.927562	171.091	1.07810	184.452	5.84484	5.42145	198602
198603	0.954474	170.413	1.04770	178.541	5.86810	5.60095	198603
198604	0.950818	166.136	1.05173	174.730	6.01917	5.72313	198604
198605	0.964452	160.958	1.03686	166.891	6.21280	5.99195	198605
198606	0.961605	161.255	1.03993	167.694	6.20136	5.96326	198606
198607	0.990211	157.062	1.00989	158.615	6.36691	6.30459	198607
198608	1.021360	157.382	0.97909	154.091	6.35397	6.48969	198608
198609	1.028050	158.997	0.97272	154.659	6.28943	6.46585	198609
198610	1.040260	162.464	0.96130	156.176	6.15521	6.40302	198610
198611	1.029360	167.701	0.97148	162.918	5.96299	6.13807	198611
198612	1.044540	169.534	0.95736	162.305	5.89852	6.16124	198612
198701	1.111970	171.862	0.89930	154.556	5.81862	6.47013	198701
198702	1.129880	173.416	0.88505	153.482	5.76648	6.51543	198702
198703	1.131730	171.332	0.88360	151.389	5.83662	6.60548	198703
198704	1.147090	163.882	0.87177	142.868	6.10195	6.99949	198704
198705	1.162410	163.140	0.86028	140.346	6.12970	7.12523	198705
198706	1.140930	164.875	0.87648	144.509	6.06520	6.91997	198706
198707	1.123840	168.901	0.88981	150.289	5.92063	6.65384	198707
198708	1.116420	164.711	0.89572	147.535	6.07124	6.77805	198708
198709	1.144740	163.887	0.87356	143.165	6.10177	6.98493	198709
198710	1.151840	164.991	0.86818	143.241	6.06094	6.98123	198710
198711	1.227410	165.984	0.81472	135.231	6.02468	7.39475	198711
198712	1.263720	162.035	0.79131	128.221	6.17151	7.79906	198712
198801	1.250100	159.428	0.79994	127.532	6.27242	7.84116	198801
198802	1.216870	157.247	0.82178	129.223	6.35942	7.73859	198802
198803	1.234320	156.932	0.81016	127.140	6.37219	7.86532	198803
198804	1.240660	155.145	0.80602	125.050	6.44558	7.99678	198804
198805	1.228340	153.210	0.81411	124.729	6.52699	8.01736	198805
198806	1.184240	150.680	0.84442	127.238	6.63658	7.85930	198806
198807	1.127360	150.046	0.88703	133.095	6.66462	7.51343	198807
198808	1.103910	147.524	0.90587	133.638	6.77856	7.48292	198808
198809	1.110650	149.292	0.90037	134.419	6.69828	7.43945	198809
198810	1.140310	146.843	0.87695	128.775	6.80999	7.76550	198810
198811	1.185350	145.968	0.84363	123.143	6.85082	8.12062	198811
198812	1.184370	146.261	0.84433	123.493	6.83709	8.09765	198812
198901	1.138170	144.661	0.87860	127.100	6.91271	7.86784	198901
198902	1.125170	143.681	0.88875	127.697	6.95986	7.83103	198902
198903	1.115260	145.364	0.89665	130.341	6.87928	7.67219	198903
198904	1.112110	146.907	0.89919	132.098	6.80703	7.57016	198904
198905	1.066780	147.472	0.93740	138.240	6.78095	7.23378	198905
198906	1.046850	150.683	0.95525	143.939	6.63645	6.94737	198906
198907	1.094540	153.780	0.91363	140.497	6.50280	7.11757	198907
198908	1.077830	152.223	0.92779	141.231	6.56931	7.08060	198908
198909	1.063120	154.214	0.94063	145.058	6.48450	6.89380	198909
198910	1.102980	156.601	0.90663	141.980	6.38566	7.04325	198910
198911	1.119010	160.664	0.89365	143.577	6.22417	6.96491	198911
198912	1.166950	167.718	0.85693	143.723	5.96239	6.95781	198912
199001	1.202180	174.304	0.83182	144.990	5.73710	6.89703	199001

TABLE 12-B

CURRENCY EXCHANGE RATE OF DM, YEN, WON AND PESETA.  
AGAINST US-DOLLAR



Source : AWES

## Tableau 13

**RENAVAL PROGRAMMES**  
**(ADOPTED OR EXPECTED (period up to mid-1990))**

RENAVAL North Jutland

RENAVAL West Lolland

RENAVAL Bremen und Brem.

RENAVAL Luebeck

RENAVAL Hamburg

RENAVAL Eaden

RENAVAL PACA

RENAVAL Loire Atl.

RENAVAL H. Normandie

RENAVAL B. Normandie

RENAVAL Dunkerque

RENAVAL Charente Mar.

RENAVAL Genova

RENAVAL Trieste

RENAVAL Venezia

RENAVAL Delta du Rhin

RENAVAL Amsterdam-Noord

- RENAVAL Plymouth
- RENAVAL Strathclyde
- RENAVAL Fife
- RENAVAL Tyne and Wear
- RENAVAL Cleveland
- RENAVAL Merseyside
- RENAVAL Pais Vasco\*
- RENAVAL Espagne Obj.\*
- RENAVAL Setubal

\* Applications have been received from the Spanish government for a number of Objective 1 regions : Asturias, La Coruna, Pontevedra, Cadiz, Sevilla, Murcia and Valencia and also two Objective 2 regions : Vizcaya and Cantabria. The Commission is awaiting further information from the Spanish authorities.

**ANNEX 2**

1. The purpose of this annex is to provide a detailed description of the various components and their interactions within the system. This includes a thorough analysis of the data flow, the processing logic, and the user interface elements. The goal is to ensure that all stakeholders have a clear and consistent understanding of the system's architecture and its operational requirements.

2. The components are organized into several functional areas, each with its own set of responsibilities and data requirements. These areas are interconnected, and their performance is critical to the overall success of the system. The following sections provide a detailed overview of each component and its role in the system.

3. The data flow is a central element of the system, and it is essential to understand how data is collected, processed, and distributed. This involves a detailed examination of the data sources, the processing algorithms, and the output mechanisms. The data flow is designed to be efficient and reliable, ensuring that all information is up-to-date and accurate.

4. The processing logic is another key component, and it is responsible for the core operations of the system. This includes the execution of various tasks, the management of resources, and the handling of exceptions. The processing logic is designed to be flexible and scalable, allowing the system to adapt to changing requirements and data volumes.

5. The user interface is the primary point of interaction between the system and its users. It is designed to be intuitive and easy to use, providing a clear and consistent way to interact with the system. The user interface is a critical component of the system, and its design is essential to the overall user experience.

**GLOSSARY**

## GLOSSARY

### 1. Tonnage Measurement

The word "tonnage" is a term used to give an indication of a ship's size. It can have widely differing meanings depending upon the purpose of the assessment, e.g. measuring the vessel's volumetric capacity or its weight carrying capacity.

Measurement systems have, therefore, been laid down in tonnage regulations for specific purposes but, due to differences in national criteria used, the outcome is not necessarily the same for similar vessels registered under different flags.

On 18 July 1982, the 1969 IMO Convention on Tonnage Measurement for Ships entered into force, affecting all ships built after that date for registration in signatory countries. Thus, a uniform system for the calculation of two of the most important notions, viz. "gross tonnage" and "net tonnage", is now being applied to an increasing number of ships of the world fleet.

### 2. Types of tonnage

#### - Displacement tonnage

A ship's displacement is the weight of water displaced by the ship; the displacement tonnage equals the sum of the ship's actual weight (lightweight) and its maximum allowed contents (deadweight).

#### - Lightweight tonnage

The lightweight is the weight of the ship as built (hull, outfit and machinery) including boiler water, lubricating oil and the cooling water system's contents.

(Commercially it is almost only employed when considering the scrapping value of a ship).

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- Deadweight tonnage (dwt)

Deadweight is the total sum of the weight of the cargo which a ship can carry and the weights of its fuel, stores, water ballast, fresh water, crew and passengers plus baggage. It represents the difference between the loaded ship displacement and the lightweight.

(Commercially it is the notion most commonly used by shipowners in order to assess the transport capacity of a vessel in relation to heavy and/or bulk cargoes).

- Gross register tonnage (grt)

grt is a value calculated according to various national regulations in order to indicate the volumetric internal capacity of the ship, certain spaces being, however, exempted; it is expressed in gross register tons of 100 cubic feet or 2.83 m<sup>3</sup>.

(Before the coming into force of gt regulations it was widely used for registration purposes, levying of harbour fees and duties, etc).

- Net register tonnage (nrt)

nrt is equally a calculated value supposed to represent the earning capacity of the ship; it is obtained by deducting certain non revenue-earning spaces from the grt and it is accordingly expressed in 100 cubic feet units or 2.83m<sup>2</sup>.

(Its use is similar to that of grt but less frequent and mainly as the basis for port charges).

- Gross tonnage (gt)

gt is the tonnage calculated according to the 1969 Tonnage Measurement Convention. It is a dimensionless value now gradually replacing grt for all official purposes concerning vessels under flags of signatory countries.

(The commercial and legal applications of gt will make it the most widely used parameter).

- Net tonnage (nt)

Net tonnage is likewise calculated according to a formula laid down by the 1969 Tonnage Measurement Convention. It is also a dimensionless value and not be taken as less than 0.30 gt.

(It replaces nrt in many of its former applications but there is a tendency towards a more universal use of gt for harbour and canal duties.)

3. Compensated gross register tonnes (cgrt)

Compensated gross tonnes (cgt)

The volume of work that goes into building a vessel is not directly related to its size but also depends on its type, degree of technical sophistication etc. For statistical purposes, regarding the output and order intake of the shipbuilding industry, the AWES as well as the OECD developed in the late sixties a series of special coefficients, for different ship types and sizes, by means of which the work content involved in the building of homogeneous groups of vehicles could be assessed from their grt values ( $\text{grt} \times \text{coefficient} = \text{cgrt}$ ).

Initially the AWES and the OECD coefficients diverged markedly, but in 1977 new coefficients for cgrt calculations were developed by the AWES, which were subsequently also agreed upon by the OECD. This explains why certain 1976 (or earlier) OECD statistics in cgrt are not, or not always, comparable with other series.

With the coming into force, in 1982, of the IMO Convention it became again necessary to modify the compensated tonnage calculation system, in order to take into account that for certain ship types (in particular RoRo-vessels, car ferries and vehicle carriers) gt values have increased considerably as compared with grt values. Moreover, recent ships of these types tend to be of more complex build and new coefficients have, therefore, been adopted. They are applicable as from 1 January 1984.

For the sake of continuity the 1984 values in the present report have been calculated and presented according to both methods (cgrt and cgt).

#### 4. Compatibility of OECD and LRS statistics

The data in the tables giving the trend of completions, new order intake and order books in the Member State's shipyards are taken from two different sources : OECD and Lloyd's Register of Shipping (LRS).

The data for the OECD statistics are supplied by the OECD member governments. Where the Member States are concerned they constitute, therefore, an official source, but since the data only refer to the situation in the OECD member countries they cannot be used for making worldwide comparisons. Moreover, the calculation of cgt (or cgrt) values is carried out by the respective administrations so that discrepancies may sometime arise as to when an order is regarded as being definite, in the classification of vessels and as to what coefficient should be used for establishing cgt for certain vessels of a hybrid type.

The data produced by LRS are not infallible either, but because they are gathered worldwide by LRS own outposts according to uniform criteria, they constitute a more homogeneous source of information allowing comparisons on a global level to be made.

LRS supplies information to the Commission under a contract and the basic data only contain gt (or grt) and dwt references. The cgt (or cgrt) values are calculated at the Commission's Joint Research Centre in Ispra by computer processing of the LRS input, using the OECD calculation coefficients.

Despite certain differences which can sometimes arise from the different procedures for establishing the OECD and the LRS/Commission series of statistics, the two sets of data show trends which generally point in the same direction. Since the divergence between the two sources is only random, and the present report is essentially concerned with indicating the main trends, the reference to only one source is generally of no consequence.