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THE EUROPEAN AEROSPACE INDUSTRY - POSITION AND FIGURES

(Third revision of and additions to the statistical appendices to the Commission's Communication to the Council dated 19 July 1972. N°. COM/72/850)

III/956/74-E
Orig.: F

The Commission's Communication to the Council dated 19 July 1972 included statistical appendices on the position of the sector (market and production facilities).

This information was subsequently updated by the relevant departments of the Commission (documents SEC (73) dated 1 March 1973 and III/1243/73 dated 31 December 1973), the information being sent to the Council of Ministers of the EEC and circulated in all the circles concerned.

On 20 December 1974, the Council approved the resolution proposed by the Commission in 1972, concerning "a concerted approach and consultation between member states in the field of industrial policy in the aeronautical sector". By this resolution, the Commission was charged with the preparation of "an initial overall report on the conditions of operation of the aeronautical construction industry of the Community and on the measures necessary for its development".

This document is the third revision of the statistical appendices to the 1972 document, and has this year been supplemented by more detailed analysis in certain parts (estimate of the distribution between civil and military markets, analysis of sales of the various branches of the aerospace sector, analysis of value added in the industry, etc.), since the document is intended as a first important foundation for the compilation of the report mentioned above.

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I. THE MARKET

A. Civil aircraft market *

1. General trend

The number of turbojet aircraft delivered and on order, set out in Table 1 below, varied as follows between 1970 and 31 December 1973[1]:

	Long-haul	Short and medium-haul	Total
1970	1478	1995	3473
1971	1559	2620	4179
31 December 1973	1987	3186	5173
(percentages)			
1970	42.6	57.4	100.0
1971	37.3	62.7	100.0
31 December 1973	38.4	61.6	100.0

Note that these figures represent complete series of turbojet aircraft and do not reflect the precise variation of the number of planes in service and on order, since withdrawals from service are not counted; again, the comparison of the numbers of aircraft by range should be accompanied by a value-basis comparison (see below).

The variation for the different types of aircraft was as follows in 1973 [1]:

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* This part relates only to turbojet-powered civil aircraft (see also footnote 7)

(1) Footnotes at end of document

Table 1

	Delivered			Ordered	Pending	Delivered
	before 1973 (a)	in in 1973 (b)	total as at 31.12.73 (c)	in 1973 (d)	delivery on 31.12.73 (e)	and pending delivery on 31.12.73 (c) + (e)
Long-haul						
Concorde	-	--	-	-	9	9
Boeing 707	691	11	702	9	14	716
Boeing 747	195	28	223	31	31	254
DC 8	556	-	556	-	-	556
DC 10 30/40	4	44	48	n.d.	68	116
Other long-haul [2]	336	-	336	-	--	336
	1782	83	1865	40	122	1987
Short and medium-haul						
A 300	-	-	-	1	14	14
Caravelle	275	3	278	-	-	278
BAC 111	207	2	209	-	1	210
Boeing 727	903	92	995	86	103	1098
Boeing 737	310	17	327	41	33	360
Fokker F 28	55	16	71	8	2	73
HS Trident	80	8	88	15	29	117
Mercure	-	-	-	-	10	10
DC 9	659	21	680	83	74	754
DC 10.10	60	14	74	n.d.	30	104
Tristar Lockhead 1011	17	39	56	12	75	131
Others	37	-	37	-	-	37
	2603	212	2815	246	371	3186
Grand total	4385	295	4680	286	493	5173

2. Aircraft in service and on order

An exact picture of the situation of fleets is afforded by the number of aircraft in service and on order at a given date. We are able to show the change in the position as between June 1973 and May 1974[3] :

Table 2

	Number		Value (millions of u.a.)[4]	
	1973	1974	1973	1974
Long-haul	1,687	1,777	13,913.3	18,057.2
Short and medium-haul	2,887	3,084	13,273.9	15,725.3
	4,574	4,861	27,187.2	33,782.5

The average value per aircraft increased as follows (millions of u.a.) :

	1973	1974
Long-haul	8.2	10.1
Short and medium-haul	4.6	5.0

A comparison with the situation in previous years gives the following results for percentage values[5]

Table 2a

	1970	1971	1973	1974
Long-haul	55.2	51.1	51.1	53.4
Short and medium medium-haul	44.8	48.9	48.9	46.6

It will be noted that the relative value distribution between the two classes displays a certain stability.

The following table illustrates the overall composition of the number of aircraft in service and on order :

Table 2b

	Number of aircraft				Value (millions of u.a.)			
	1973	%	1974	%	1973	%	1974	%
Long-haul (US)	1,624	35n5	1,711	35.2	13,447.7	49.5	17,543.5	51.9
Long-haul (European)	63	1.4	66	1.3	465.6	1.6	513.7	1.5
Short and medium-haul (US)	2,315	50.6	2,482	51.1	11,930.3	43.9	14,258.8	42.2
Short and medium-haul (European)	572	12.5	602	12.4	1,343.6	4.9	1,466.5	4.4
	4,574	100.0	4,861	100.0	27,187.2	100.0	33,782.5	100.0

A very slight increase in the already predominant position of American machines will be noted, from 93.4 % of the total in 1973 to 94.1 % in 1974 (leaving 5.9 % for Europe) (see footnote 7 : situation as at 31 October 1974).

The distribution varied as follows, by value and by class of aircarft :

	US machines		European machines	
	1973	1974	1973	1974
Long-haul	96.6 %	97.2 %	3.4 %	2.8 %
Short and medium-haul	88.8 %	90.7 %	11.2 %	9.3 %

The European industry's share of the market, having already fallen to less than 5 % for long-haul aircraft, declined to less than 10 % for short and medium-haul planes (turbojets - see footnote 7).

The value of the aircraft in service and on order in the various commercial fleets (see note 3) was as follows in May 1974 :

Table 3

(millions of u.a.)

	Long-haul		Short and medium-haul		Total	%	%
	US	European	US	European			
Germany	567.4	-	369.7	120.7	1,057.8		17.4
Belgium	225.5	-	62.3	17.5	305.3		5.0
Denmark[6]	18.9	-	30.3	39.2	88.4		1.5
France	938.9	133.4	163.1	206.6	1,442.0		23.8
Ireland	69.3	-	39.8	1.6	110.7		1.8
Italy	489.0	-	226.0	22.5	737.5		12.2
Luxembourg	27.0	-	-	0.7	27.7		0.5
Netherlands	406.8	-	117.1	7.4	531.3		8.8
U.K	762.0	206.8	314.3	466.7	1,749.8		28.9
EEC	3,504.8	340.2	1,322.6	882.9	6,050.5	17.9	100.0
Other European countries"	1,357.2	-	1,092.0	176.7	2,625.9	7.8	
Europe	4,862.0	340.2	2,414.6	1,059.6	8,676.4		25.7
United States	7,049.0	-	9,169.8	15.4	16,234.2	48.0	
Rest of the world	5,632.5	173.5	2,674.4	391.5	8,871.9	26.3	
World	17,543.5	513.7	14,258.8	1,466.5	33,782.5	100.0	
	18,057.2		15,725.3				

The comparison with previous years for the value distribution of civil fleets is not absolutely valid as regards the Community, because the Community percentage for 1970 and 1971 covers only the six original members plus the UK; it is, however, fully valid for all headings in 1973 and 1974 (aircraft considered in footnote [3] :

Table 4

Value distribution of civil fleets	1970	1971	1973	1974
Community	14.7	15.4	18.2	17.9
Other European countries	6.3	7.1	8.1	7.8
Europe	(21.0)	(22.5)	(26.3)	(25.7)
United States	63.9	60.1	53.0	48.0
Rest of the world	15.1	17.4	20.7	26.3
	100.0	100.0	100.0	100.0

The most striking features of this four-year period are as follows :

-substantial decline in the relative value of the United States fleet : - 15.9 %

-considerable increase in relative valued of the "rest of the world" fleet : + 11.2 %

-slight increase in relative value of the European fleet : + 4.7 %.

The value distribution of the fleet as between member states varied only slightly between June 1973 and May 1974.

Between June 1973 and May 1974, the total value of the entire fleet considered increased by 24.2 %, but the variation in value differed widely as between the different classes of aircraft and regions (percentages).

Table 4a

Fleet	Long-haul		Short and medium-haul		
	USA	European	USA	European	Total
EEC	+ 27.6	+ 10.0	+ 32.0	- 2.3	+ 21.9
Other European countries	+ 21.6	-	+ 11.8	+ 16.7	+ 19.7
Europe	+ 25.8	+ 10.0	+ 25.3	+ 0.4	+ 21.3
United States	+ 14.1	-	+ 11.5	+ 19.3	+ 12.6
Rest of the world	+ 65.2	+ 10.7	+ 50.2	+ 41.6	+ 57.8

It will be seen that the value of the "rest of the world" fleets increased by 57.8 %.

Since the increase in aircarft prices was typically in the range 10-20 % during this period, demand appears to have stabilized in the United States, increased slightly in Europe, and surged ahead in the rest of the world.

The following table shows the percentage variation by origin of the aircraft on the different markets (turbojet aircraft mentioned in footnote 3 only) :

Table 5

Aircraft origin

Fleets of	1970		1971		1973		1974	
	EEC	USA	EEC	USA	EEC	USA	EEC	USA
EEC	33.0	67.0	25.7	74.3	24.4	75.6	20.2	79.8
Other European countries	23.1	76.9	24.0	76.0	6.9	93.1	6.7	93.3
Europe	30.1	69.9	25.1	74.9	19.0	81.0	16.1	83.9
United States	2.1	97.9	2.1	97.9	0.1	99.9	-	100.0
Rest of the world	12.2	87.8	12.2	87.8	7.7	92.3	6.3	93.7
World	9.5	90.5	9.2	90.8	6.6	93.4	5.9	94.1

The share of the European industry has fallen by 40 % and now accounts for less than 6 % of the world market; the decline is general on all markets, having been particularly marked between 1970 and 1974 on the markets of the "other European countries".

This decline in the share of the world market accounted for by European products coincides with a relative increase in the value of the European fleet and that of the "rest of the world" (whilst the United States fleet shows a decrease).

The following table illustrates this trend (for the turbojet aircraft mentioned in footnote 3 only· the situation for all civil aircraft is slightly different - see footnote 7) :

Table 6

	Size of market			Market share of aircraft from					
				E E C			United States		
	1970	1974	change	1970	1974	change	1970	1974	change
EEC	14.7	17.9	+ 3.2	33.0	20.2	- 12.8	67.0	79.8	+ 12.8
Other European countries	6.3	7.8	+ 1.5	23.1	6.7	- 16.4	76.9	93.3	+ 16.4
Europe	(21.0)	(25.7)	(+ 4.7)	30.1	16.1	- 14.0	69.9	83.9	+ 14.0
United States	63.9	48.0	- 15.9	2.1	-	- 2.1	97.9	100.0	+ 2.1
Rest of the world	15.1	26.3	+ 11.2	12.2	6.3	- 5.9	87.8	93.7	+ 5.9
	100.0	100.0		9.5	5.9	- 3.6	90.5	94.1	+ 3.6

The unbalance to the detriment of the European industry has worsened constantly since 1970. At the end of 1972, it was stated that "This is probably not a medium or long-term trend, but the temporary consequence of the appearance on the market of new-generation aircraft from the United States which are two or three years ahead of the new European planes"; we can only repeat the opinion put forward at the end of 1973 : the situation having continued to deteriorate, the logical consequence of the endeavours of the European aviation industry and of the governments of member states to offer a range of new civil aircraft must be to respond to the competition by exploiting the large relative importance on the world scale of the value of the European market; it is not enough to say that the size of the European market warrants the existence of a European aviation industry; it is necessary for the industry to take advantage of the size of the market.

This is true not only in the short term but also in the long term : preliminary studies show that with the stabilization of European percentage demand, the increase in percentage demand by the rest of the world, and the fall in United States percentage demand, the negative trade balance on new civil aircraft from the Community will tend to increase in the next decade.

3. Long-haul aircraft (turbojets)

Analysis on the basis of types of aircraft gives the following results (aircraft in service and on order in May 1974) (simplified table : different series of aircraft of the same type are combined, whereas the value calculation is on a series basis - see footnote 3) :

Table 7

(millions of u.a.)

	Community	Other European countries	Europe	United States	Rest of the world	World
707/720	965.9	300.4	1266.3	2259.4	1827.7	5353.4
DC 8	227.4	313.8	541.2	935.0	698.1	2174.3
Convair	-	9.3	9.3	8.2	2.7	20.2
747	1602.8	379.3	1982.1	3268.2	2451.2	7701.5
DC 10/30/40	708.7	354.4	1063.1	578.2	652.8	2294.1
United States aircraft	3504.8	1357.2	4862.0	7049.0	5632.5	17543.5
Comet	1.5	-	1.5	-	0.5	2.0
VC 10	38.5	-	38.5	-	6.2	44.7
Concorde	300.2	-	300.2	-	166.8	467.0
European aircraft	340.2	-	340.2	-	173.5	513.7
Total	3845.0	1357.2	5202.2	7.049.0	5806.0	18057.2

The following table compares market size and market shares of American and European planes in 1973 and 1974 :

(percentages Table 8

(pourcentages)	Market size		Market share of aircraft from			
			EEC		USA	
	1973	1974	1973	1974	1973	1974
EEC	22.0	21.3	10.1	8.8	89.9	91.2
Other European countries	3.0	7.5	-	-	100.0	100.0
Europe	(30.0)	(28.8)	7.4	6.6	92.6	93.4
United States	44.4	39.0	-	-	-	-
Rest of the world	25.6	32.2	4.3	2.9	95.7	97.1
World	100.0	100.0	3.3	2.8	96.7	97.2

The steady displacement of European aircraft from all markets will be noted. The disproportion between the percentages for Europe as regards both the world market and the share of the European industry on this market is even greater than for all civil aircraft :

	All civil aircraft	Long-haul
Size of European market	25.7	28.8
Share of world market accounted for by European aircraft	5.9	2.8

Another point to be noted is the growing importance of the countires of the "rest of the world" in the composition of the world long-haul fleet (25.6 % in 1973, 32.2 % of value in 1974).

Since the relative value of the old British long-haul planes is low, most of the share of the European industry is repressentend by orders for Concorde.

The variation in the distribution of long-haul aircraft by generation is as follows :

	Percentage of value		Percentage of numbers	
	1973	1974	1973	1974
"Standard" aircraft	51.2	42.1	80.5	77.4
"Wide bodies"	45.8	55.3	18.6	21.8
Supersonic	3.0	2.6	0.9	0.8
	100.0	100.0	100.0	100.0

It will be noted that during the period under examination (June 1973 - May 1974) the value of high-capacity long-haul aircraft exceeded that of "standard" long-range machines, although the newcomers still represent only one third of the number of older types of long-haul planes.

The average value of aircraft increased as follows :

(millions of u.a.)	1973	1974
"Standard" aircraft	5.24	5.51
"Wide bodies"	20.27	25.82
Supersonic	30.00	33.35

The distribution by manufacturers varied as follows :

(percentages)	1973	1974
Boeing	67.7	72.3
M.D.D.	28.8	24.8
Convair	0.2	0.1
Europeans	3.3	2.8
	100.0	100.0

The new advance by Boeing is mainly due to the considerable increase in the value of the 747s in service and on order (1973 : 4700 million u.a.)

(1974 : 7700 million u.a.)

4. Short and medium-haul aircraft (turbojets)

Analysis by aircraft types gives the following results (machines in service and on order in May 1974) : the table is simplified; series of the same type are combined, whilst value is calculated on a series basis[3] :

Table 9

(millions of u.a.)

	Community	Other European countries	Europe	United States	Rest of the world	World
727	471.6	355.6	827.2	4057.4	950.7	5835.3
737	257.5	54.7	312.2	769.6	790.0	1871.8
DC 9	328.2	648.6	976.8	1209.2	469.5	2655.5
DC 10-10	49.7	33.1	82.8	1624.8	-	1707.6
L 1011	215.6	-	215.6	1508.8	464.2	2188.6
United States aircraft	1322.6	1092.0	2414.6	9169.8	2674.8	14258.8
Caravelle	103.5	34.0	137.5	-	27.3	164.8
A 300	168.6	76.7	245.3	-	30.7	276.0
Mercure	49.7	-	49.7	-	-	49.7
BAC 111	262.4	13.6	276.0	15.4	118.3	409.7
Trident	245.7	6.0	251.7	-	92.5	344.2
F 28	53.0	46.4	99.4	-	122.7	222.1
European aircraft	882.9	176.7	1059.6	15.4	391.5	1466.5
Total	2205.5	1268.7	3474.2	9185.2	3065.9	15725.3

The following table compares the sizes of the various markets and the shares on them of American and European aircraft in 1973 and 1974 :

Table 10

(percentages)	Market size		Market share of aircraft from			
			E E C		U S A	
Markets	1973	1974	1973	1974	1973	1974
EEC	4.3	14.0	47.4	40.0	52.6	60.0
Other European countries	8.1	8.1	14.0	13.9	86.0	86.1
Europe	(22.4)	(22.1)	35.3	30.4	64.7	69.6
United States	62.1	58.4	0.1	0.1	99.9	99.9
Rest of the world	15.5	19.5	13.4	12.7	86.6	87.3
World	100.0	100.0	10.1	9.3	89.9	90.7

Since 1971, the Community industry's share of the short and medium-haul market of the Community has fallen from 53.8 % to 40 %. In addition, quite apart from the United States market, on which European products are not represented, a substantial decline will be noted in the share of the European industry, firstly, on the markets of the other European countries (13.9 %)against 40.2 % in 1971 : Caravelles replaced by Boeing 727s and 737s and DC 9s) and, secondly, on the markets of the "rest of the world" (12.7 % against 24.8 % in 1971).

Hence, in the short and medium-haul class, European aircraft now account for only 10 % of the value of world fleets.

The distribution of short and medium-haul aircraft by generation is as follows :

	% value		% numbers	
	1973	1974	1973	1974
"Standard" machines	71	73	92	92
"Wide bodies"	29	27	8	8

In contrast to the trend with long-haul aircraft, where percentage value has considerably increased in favour of high-capacity aircraft (from 45.8 to 55.3 %), the relative value of high-capacity short and medium-haul planes has fallen from 29 to 27 % of the total.

Average aircraft value varied as follows :

	1973	1974
"Standard" aircraft	3.5 million u.a.	4 million u.a.
"Wide bodies"	16.5 million u.a.	16.5 million u.a.

Distribution by value as between manufacturers varied as follows :

(percentages)	1973	1974
Boeing	43.0	49.0
McD.D.	32.6	27.8
Lockheed	14.3	13.9
Europeans	10.1	9.3
	100.0	100.0

The growth of Boeing's share is due mainly to sales of :

- 727s to "other European countries" (+ 41)
- 737s to the "rest of the world" (+ 81)

5. Market for European-built civil aircraft

Aircraft in service and on order in June 1973 and May 1974 - numbers

Table 11

	National market		Community market		Markets of other European countries		Europe		United States		Rest of the world		World	
	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
Comet	12	12	12	12	-	-	12	12	-	-	2	4	14	16
VC 10	30	31	30	31	-	-	30	31	-	-	5	5	35	36
Concorde			9	9	-	-	9	9	-	-	5	5	14	14
Caravelle	63	66	132	126	54	47	186	173	-	-	49	50	235	223
Mercure			10	10	-	-	10	10	-	-	-	-	10	10
A 300			12	11	4	5	16	16	-	-	-	2	16	18
BAC 111	69	75	83	91	1	8	84	99	31	33	45	42	160	174
Trident	66	65	66	65	-	3	66	68	-	-	28	42	94	110
F 28			18	16	14	14	32	30	-	-	25	37	57	67

Aircraft built by transnational cooperation are included in the "Community market" column. Note that the table covers only aircraft in service with and on order by the 400 principal airlines in May 1974. The situation for the Airbus, for example, was, however, as follows in September 1974 :

	In service and on order	Options	Total
Air France	6	10	16
Air Charter International	1	-	1
Lufthansa	3	4	7
Iberia	4	8	12
Sterling	(3)	-	(3)
TEA	1	-	1
Air Siam	2	-	2
SATA	(1)	-	(1)
Trans Brasil	(2)	(2)	(4)
	23	24	47

The situation has changed since.

Similarly, sales of the F 28 are now considerably higher than shown in Tbale 11, amounting to 91 units, 27 of these having been built since the beginning of 1974.

To return to aircraft in service and on order in May 1974, we give below the value distribution (percentages) on the different markets for the various European programmes ("transnational" planes being included in the "Community market" column).

Table 12

	National Market	Community market	Markets of other European countries	Europe	United States	Rest of the world
Comet	75	75	-	75	-	25
VC 10	86	86	-	86	-	14
Concorde		64	-	-	-	36
Caravelle	28	63	21	84	-	16
Mercure	-	100	-	-	-	-
A 300	-	61	28	89	-	11
BAC 111	54	64	3	67	-	33
Trident	71	71	2	73	-	27
F 28	-	24	21	45	-	55

For all these programmes together, sales in the Community account for 59 % of the total, aggregate European sales representing 68 %.

6. International trade in civil aircraft

International trade in heavier-than-air craft and spare parts was as follows in 1971 and 1972 (millions of u.a.; source SOEC) :

Table 13

Origin	1971 Importing countries					
	Total	France	BLEU	Netherlands	Germany	Italy
France	79.3	-	23.2	19.4	30.6	6.1
Germany	75.7	55.1	8.1	11.0	-	1.5
BLEU	13.8	8.1	-	2.7	1.6	1.4
Italy	33.4	13.9	5.7	5.0	8.8	-
Netherlands	30.3	6.5	2.7	-	21.0	0.6
UK	76.2	29.8	6.7	11.2	25.8	2.7
EEC	309.2	113.4	46.4	49.3	87.0	12.3
United States	614.5	72.4	18.5	194.4	203.4	125.8
Other countries	111.9	8.3	39.7	58.1	3.9	1.9
Total	1035.6	194.1	104.6	301.8	295.1	140.0

Table 14

Origin	1972 Importing countries					
	Total	France	BLEU	Netherlands	Germany	Italy
France	73.0	-	25.0	17.1	21.2	9.7
Germany	69.3	37.0	13.7	16.9	-	1.7
BLEU	15.1	9.8	-	3.0	0.8	1.5
Italy	22.9	15.0	4.0	1.2	2.7	-
Netherlands	30.1	4.9	5.6	-	18.9	0.7
UK	106.7	64.5	6.5	13.0	18.1	4.6
Denmark	0.5	-	0.2	0.3	-	-
Ireland	5.3	-	5.2	-	0.1	-
EEC	322.9	131.2	60.2	51.5	61.8	18.2
United States	483.7	133.4	39.0	35.5	175.3	100.5
Other countries	53.0	7.7	16.3	17.7	8.2	3.1
Total	859.6	272.3	115.5	104.7	245.3	121.8

It will be seen that, of total imports of the six original member states, 29,9 % originated in the Community (including the UK in 1971 and the three new countries in 1972) in 1971 and 37.6 % in 1972. They were accounted for mainly by spare parts and components.

On the other hand, imports from the United States were chiefly composed of complete airliners.

Imports by the six original member states plus the three new members from non-EEC countries were as follows in 1970 and 1971 :

1970	755.8 million u.s.
1971	913.7 million u.a.

B. Military aircraft market

An analysis of the composition of the military fleets of all [illegible] of the western world[7a)] shows the relative shares of European and American-designed machines. This basis for classification was preferred to one based on place of manufacture, which would not have covered pro- [illegible].

The following two tables show the position of the European fleets and of those of the main regions of the world as at 31 December 1972.

fleet or military?

Table 15

	European-designed aircraft[8)]		American-designed aircraft		TOTAL
	Value[9)] millions of u.a.	%	millions of u.a.	%	millions of u.a.
Germany	1347.6	39.3	2077.4	60.7	3425
Belgium	154.9	33.6	305.8	66.4	460.7
Denmark	49.2	32.9	100.5	67.1	149.7
France	1661.3	93.1	122.2	6.9	1783.5
Ireland	1.4	100.0	-	-	1.4
Italy	690.0	63.0	405.2	37.0	1095.2
Netherlands	87.2	23.6	282.3	76.4	369.5
UK	1680.5	69.4	740.1	30.6	2420.6
EEC	5672.1	58.5	4033.5	41.5	9705.6

Table 16

	European-designed aircraft[8)]		
	Number of aircraft	Value[9)] (million u.a.)	% of total European aircraft
USA	26	108.3	3.7
Canada	5	4.6	0.2
Latin America	480	170.4	5.9
Europe other than EEC	2868	1445.6	49.8
Middle East and North Africa	979	482.8	16.6
Africa south of Sahara	322	75.9	2.6
South Africa, Rhodesia	484	351.6	12.1
Asia	822	161.4	5.6
Australia	207	83.3	2.9
Oceania	48	18.7	0.6
TOTAL	6211	2902.6	100.0

These figures show the importance of the military market for Community products in the countries of the EEC, in particular, France, the UK and Italy (the Dutch market being too small to be significant). In terms of labour employed, the scale of production under licence, which is not included in these percentages, should not be forgotten; production under licence is very extensive in some countries (in particular, Germany).

Again, analysis of the world market shows the importance of the Community market outside the Community (especially NATO countries) and of the Middle Eastern and north African markets.

C. Civil air traffic (10)

1. Scheduled traffic

a) Total traffic referred to distance in 1973

According to ICAO statistics, the airlines of the 128 member states (including China, for which statistics are not yet available) produced, on scheduled domestic and international services, a total of 75,742 million tonne-kilometres, an 11.2 % increase over 1972.

The increase in total traffic referred to distance from 1972 to 1973 was greater on international routes (+ 15.7 %) than on domestic routes (+ 8.0 %), which accounted for over half (57.0 %) of traffic in 1973.

b) Passenger traffic referred to distance

In 1973, the airlines of the 128 member states of the ICAO produced, on scheduled domestic and international services, a total of 619,000 million passenger-kilometres, an increase of 10.5 % over 1972. The increase was only 3.7 % in 1974.

Between 1972 and 1973, total growth of traffic was faster on international routes (+ 14.6 %) than on domestic routes (+ 8 %), which accounted for over half (61.8 %) of total traffic in 1973 (63.1 % in 1972 and 64.9 % in 1971).

In 1973, 42 countries or groups of countries whose unit airline traffic exceeded 1000 million passenger-kilometres together accounted for 97 % of the total.

US airlines represented 42.2 % of the total, USSR airlines 15.9 %, UK airlines 4.6 %, and Community airlines as a whole 14.1 %.

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Traffic referred to distance in 1973

Table 17

	Passenger-kilometres produced on scheduled domestic and international services (millions)		including the following on international services (millions)	% of total
United States	260,637		49,259	18
USSR	98,418		4,430	4
UK	28,256		25,701	90
France	19,742		15,028	76
Italy	11,131		9,164	82
West Germany	11,106		9,995	89
Netherlands	9,211	87,159	9,162	99
Belgium	3,644		3,644	100
Ireland	1,757		1,724	98
Denmark	2,312		2,312 (x)	100
Japan	26,016		11,169	42
Canada	21,701		9,758	44
Australia	14,241		7,373	51
Spain	9,573		6,837	71
Brazil	7,335		3,351	45
Zwitserland	6,728		6,692	99
India	5,454		3,164	58
Mexico	5,010		2,421	48

The Community is thus the world's third largest passenger air transport operator, just behind the USSR and far ahead of Japan (only the UK precedes Japan).

(x) estimate

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Breakdown of scheduled traffic by airlines of EEC member states

Table 18

(million passenger-kilometres)

Domestic traffic (x)	10,429	12.0
"Local" European traffic (xx)	15,550	17.8
"Europe-Middle East" traffic	5,484	6.3
Intercontinental and overseas traffic	55,696	63,9
Total	87,159	100.0

International and overseas traffic of the Community airlines exceeds the international traffic of the United States, which amounted in 1973 to 49,000 million passenger-kilometres.

However, combined domestic, "local" European and Europe-Middle East traffic amounts to only 31,400 million passenger-kilometres, whereas domestic traffic in the United States is 211,000 million passenger-kilometres.

Variation of traffic growth rates in passenger-kilometres in recent years

Table 19

	1971	1972	1973
World (ICAO)	+ 7.4 %	+ 13.4 %	+ 10.4 %
North Atlantic (IATA)	+ 5.0 %	+ 26.0 %	+ 5.0 %
US scheduled airlines	+ 4.0 %	+ 12.0 %	+ 6.0 %
European airlines (AEA) (intra-European services only)	+ 13.3 %	+ 10.2 %	+ 11.8 %

(x) obtained by subtracting "international" from "domestic + international" traffic.

(xx) i.e., in the geographical area comprising Europe and north Africa.

2. Nonscheduled traffic

In 1973, nonscheduled traffic amounted to 101,600 million passenger-kilometres, i.e., 16.4 % of ICAO regular traffic.

The breakdown was as follows :

Table 20

(million passenger-kilometres)

- Nonscheduled flight operators from European countries (ECAC)	52,500
- Additional United States carriers	13,100
- Nonscheduled flights by airlines also providing scheduled air transport	
north American airlines	13,500
European airlines	19,100
other airlines	3,400
	101,600

Average traffic growth from 1972 to 1973 was 9.8 %, against 12.7 % from 1971 to 1972.

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II. PRODUCTION FACILITIES

A. SECTOR AND SUBSECTORS

1. Level of activity in the main manufacturing countries

The general position of the sector in the western world(10a) is characterized by the predominant role of the United States industry.

The share of the United States, although falling, nevertheless still exceeds 70 % of the total for the western world. According to available data, sales achieved in recent years were as follows (in millions of current u.a.) :

Table 21

	1969	%	1970	%	(R) 1971	%	(R) 1972	%	1973	%
United States(11)	26,126	83.6	24,930	82,3	22,186	79.5	20,934	75.6	19,976	71.7
Canada (12)	692	2.2	659	2.2	596	2.1	581	2.1	565	2.0
Community of Nine(13)	3,856	12.3	4,039	13.4	4,234	15.2	4,935	17.8	5,797	20.8
Other European countries (14)	143	0.5	157	0.5	204	0.7	400	1.5	600	2.2
Europe	(3,999)	(12.8)	(4,196)	(13.9)	(4,438)	(15.9)	(5,335)	(19.3)	(6,397)	(23.0)
Japan (15)	274	0.9	306	1.0	309	1.1	406	1.5	413	1.5
Other western countries(16)	147	0.5	187	0.6	382	1.4	420	1.5	500	1.8
	31,238	100.0	30,278	100.0	27,911	100.0	27,676	100.0	27,851	100.0

The figures set out in Table 21 have been revised compared with the corresponding statistics given in the documents of 21 December 1972 and 31 December 1973, further information having become available. It will be seen that the value of production of the western world in current units of account has been stable since 1971.

(R) revised.

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Sales of member states and of the Community - the latter being calculated by adding together those of the member states - and United States sales have varied as follows since 1969 (millions of current units of account ; revised series ; see footnotes for each country) :

Table 22

	West Germany(17)	Belgium (18)	France (19)	Italy (20)	Netherlands(21)	UK (22)	EEC(23)	USA(24)
1969	598	42	1252	208	109	1647	3856	26,126
1970	787	40	1339	232	115	1526	4039	24,930
1971	842	54	1417	224	122	1575	4234	22,186
1972	1022	67	1563	367	173	1743	4935	20,934
1973	1178	80	1959	500	157	1923	5797	19,976

The above figures are expressed in millions of units of account at the value for the relevant years (current units of account). In Table 22a below, the results are corrected and expressed in "real" terms. Price indices for GDP at market prices (1969 = 100) have been applied to the amounts in national currencies at current levels, the results being converted into u.a. at the 1969 rates of exchange.

The variation of sales at constant 1969 prices is as follows (25) :

Table 22a

	West Germany	Belgium	France	Italy	Netherlands	UK	EEC	USA
1969	598	42	1252	208	109	1647	3856	26,126
1970	685	38	1364	218	109	1423	3837	23,630
1971	679	49	1368	197	106	1349	3748	20,096
1972	742	56	1429	307	135	1392	4061	18,363

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For the period 1969-72, percentage variation of sales at constant value and annual (compound) rates of variation were as follows :

Table 22b

	West Germany %	Belgium %	France %	Italy %	Netherlands %	UK %	EEC %	USA %
1969-72	+ 24.0	+ 33.3	+ 14.1	+ 47.5	+ 23.8	- 15.4	+ 5.3	- 29.7
Annual rate	+ 7.4	+ 10.1	+ 4.5	+ 13.9	+ 7.4	- 4.9	+ 1.7	- 9.0

It will be observed that during this period sales in constant-value terms by the EEC aerospace industry rose very slightly only, the variation differing widely from country to country (at the same time, United States sales declined sharply).

It is interesting to compare these variations with the variation of GDP at market prices and 1969 exchange rates (constant value) (25a).

Table 23

(10^9 u.a.(1969))

	West Germany	Belgium	France	Italy	Netherlands	UK	EEC*	USA
1969-72%	+ 11.9	+ 15.9	+ 17.9	+ 10.2	+ 16.3	+ 6.7	+ 12.5	+ 9.6
Annual rate	3.8	5.0	5.6	3.3	5.1	2.2	4.0	3.1

Community aerospace industry sales at constant prices showed only modest growth from 1969 to 1972, this growth being far outstripped by that of GDP, so that the relative importance of the aerospace industry in the economy fell slightly :

Table 24

	EEC		USA	
	1969	1972	1969	1972
Aerospace sales as % of GDP	0.691	0.646	2.771	1.776

* 9 members

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It will be noted that the relative decline of the aerospace sector as a proportion of GDP is even greater in the United States, although in that country the sector is relatively larger than in the Community.

Within the Community, this parameter varied to different extents from country to country, variation of the relative importance of aerospace sales as a proportion of GDP at constant prices being as follows (percentages) :

Table 25

	West Germany	Belgium	France	Italy	Netherlands	UK
1969	0.3	0.1	0.8	0.2	0.3	1.4
1972	0.4	0.2	0.8	0.3	0.4	1.1

The aerospace sector showed slight growth with respect to GDP in Germany, Belgium, Italy and the Netherlands ; in France, the relative importance of the aerospace sector remained stable.

In the UK there was a slight decline in the relative importance of the aerospace sector ; however, the UK is the only country in which the industry accounts for more than 1 % of GDP.

The variation of aerospace sales and GDP in the Community and in the USA at constant 1969 prices was as follows :

Table 26

(million u.a. (1969))

	Aerospace sales			Gross domestic product (GDP)		
	EEC	USA	% (EEC/USA)	EEC	USA	%
1969	3856	26,126	14.7	557,654	942,581	59.1
1972	4061	18,363	22.1	627,743	1,033,758	60.7

Whereas the GDP of the Community grew by 1.6 % compared with that of the United States, aerospace sales of the Community increased by 7.4 %, this difference being mainly due to the fall in United States aerospace sales at constant prices.

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2. Analysis of sales

The action taken to improve statistical data continued during 1974, but the figures at present available relate to 1972. So far as we know, this is the first time the type of analysis presented here has been effected on a supranational scale.

2.1 Total and final sales

Analysis of sector and subsectors

The following parameters should be distinguished for each country :

total sales, which include transactions (sales of aerospace goods and services) between firms in the aerospace sector of the country concerned ;

final sales (output of the aerospace sector), excluding transactions between firms in the aerospace sector of the country concerned.

The difference between the total and final sales represents sales of aerospace goods and services between firms in the subsectors (aircraft, engines, equipment, space) and between firms in the same subsectors (e.g., subcontracting of subassemblies between airframe manufacturers) in the same country.

Transactions within the aerospace industry in each member state amount to the following percentages of total sales :

Table 27

(percentages)

	Aircraft	Engines	Equipment	Space	Total
West Germany	17.0	57.5	34.7	-	21.4
Belgium	0.06	0.03	-	-	-
France	7.0	8.5	63.2	-	19.7
Italy	3.3	13.0	21.0	-	7.1
Netherlands	-	-	-	-	-
UK	2.3	10.1	21.1	0.5	10.8

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The following will be noted :

- high level of subcontracting between airframe manufacturers in Germany ;
- a high proportion of German engine manufacturers' sales is accounted for by deliveries to German airframe manufacturers (mainly military engines) ;
- a high proportion of the French equipment manufacturers' sales goes to the French airframe and engine manufacturers.

Final sales are arrived at by eliminating the amounts corresponding to transactions within the industry in the same country ; final sales are the parameter which represents the actual level of activity in each country.

According to the data obtained, final sales are as follows :

Table 28

(millions of current u.a.)

	Aircraft	Engines	Equipment	Space	Total
West Germany (26)	621.740	34.860	94.695	73.353	824.648
Belgium	33.366	17.271	10.977	5.452	67.066
France	1,041.518	365.242	156.687	cf. aircraft	1,563.447
Italy	262.295	71.534	32.326	1.121	367.276
Netherlands	164.635	-	6.037	1.974	172.646
UK (26a)	824.439	817.572	617.951	24.088	2,284.050
EEC	2,947.993	1,306.479	918.673	105.988	5,279.133

The EEC figure above is the sum of the national final sales figures.

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Having eliminated transactions within the aerospace industry in the same country, we must now eliminate those between manufacturers in the aerospace industries of the different member states in order to obtain the final sales of the Community. According to the information available, sales of aerospace goods and services by the aerospace firms of member states to those of other member states were as follows in 1972 :

Table 29

(millions of current u.a.)

	Aircraft	Engines	Equipment	Space	Total
West Germany	14.054	5.845	38.107	n.d.	58.006
Belgium	16.548	9.232	2.429	2.414	30.623
France (27)	100.000	20.000	25.423	n.d.	145.423
Italy	19.715	16.675	4.115	0.111	40.616
Netherlands	1.765	-	-	n.d.	1.765
UK	79.793	36.147	63.935	0.480	180.355
EEC	231.875	87.899	134.009	3.005	456.788

Subtraction of the totals in Table 29 from the final national sales figures in Table 28 and addition of the results gives the final sales of the Community, which can be compared with those of the United States :

Table 30

(millions of current u.a.)

	Aircraft		Engines		Equipment		Space		Total	
		%		%		%		%		%
EEC	2,716	56.3	1,218	25.3	785	16.3	103	2.1	4,822	100
USA (28)	7,177	41.1	2,224	12.7	2,872	16.5	5,183	29.7	17,456	100

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Sales by the subsectors in the EEC represent the following percentages of those in the USA :

Table 31

Aircraft	Engines	Equipment	Space	Total
37.8	54.8	27.3	1.9	27.6

The Community aerospace sector is thus actually between 25 and 30 % of the size of its United States counterpart.

In terms of subsectors :

- the comparison is not entirely valid for the "aircraft" and "space" subsectors, because in the EEC the former includes missiles (for France, missiles and space), whereas in the United States missiles come under the heading of "space" ;

- the percentage of the United States level is relatively high for engines ;

- in spite of these complications, it is clear that the "aircraft" and "engines" subsectors are relatively more developed in the Community than in the USA, that the "equipment" subsector is developed to the same extent, and, finally, that the "space" subsector is much more developed in the USA than in the EEC.

2.2 Analysis of national final sales by class of purchaser

Following the above analysis by subsectors, national final sales will now be analysed by class of purchaser. To simplify the presentation, the following table shows the percentage distribution of 1972 final sales for each member state :

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Table 32

Sales or services	West Germany	Belgium	France(29)	Italy	Netherlands	UK
1. Military R & D	27.7	12.0	9.7	8.0	0.1	11.8
2. Military aircraft and repairs	49.5	29.9	20.6	42.5	3.1	26.8
1 + 2	(77.2)	(41.9)	(30.3)	(50.5)	(3.2)	(38.6)
3. Civil R & D	0.3	3.6	15.2	0.1	15.0	7.7
4. Civil aircraft and repairs	0.6	0.2	1.0	2.7	2.2	0.7
3 + 4	(0.9)	(3.8)	(16.2)	(2.8)	(17.2)	(8.4)
5. Space	8.9	2.3	3.0	0.1	0.6	0.3
STATE, 1 to 5	(87.0)	(48.0)	(49.5)	(53.4)	(21.0)	(47.3)
6. Other national purshasers *	0.2	-	5.8	0.9	1.4	10.3
National market 1 to 6	(87.2)	(48.0)	(55.3)	(54.3)	(22.4)	(57.6)
7. EEC aeronautical industry	7.0	47.5	9.3	10.8	1.0	7.9
8. Final users -EEC	2.5	2.0	5.3	3.1	14.0	1.8
EEC market 1 to 8 **	(96.7)	(97.5)	(69.9)	(68.2)	(37.4)	(67.3)
9. Aeronautical industry - non-EEC countries	1.7	1.7	1.7	19.2	0.5	11.0
10. Final users - non-EEC countries	1.6	0.8	28.4	12.6	62.1	21.7
	100.0	100.0	100.0	100.0	100.0	100.0
or STATE (1 to 5)	87.0	48.0	49.5	53.4	21.0	47.3
Other national purchasers	0.2	-	5.8	0.9	1.4	10.3
Exports (7 to 10)	12.8	52.0	44.7	45.7	77.6	42.4
	100.0	100.0	100.0	100.0	100.0	100.0

* excluding transactions within the aerospace industry of a country

** i.e., including national market.

Table 32 calls forth some comments on the distribution of member states' final sales, presented under the following headings :

Purchasers

a) Role of the state . In all member states except for the Netherlands and Belgium, the state is the principal customer of the aerospace industry ; the exception is particularly remarkable in the case of the Netherlands, where the state accounts for only 21.0 % of final sales (48 % in Belgium). The importance of the state is particularly marked in Germany (87 %), whereas in the other countries not mentioned here, the state accounts for about 50 % of sales.

b) Role of other national purchasers (final users other than the state).

This heading in fact represents civil purchases by national aircraft operators other than the state ; purchases by national or private airlines are very small, except in the UK (10.3 %).

c) Role of exports. "Exports" here means total exports, including both transactions within the aerospace industry and sales to final users abroad. Exports are proportionately very high in the Netherlands (77.6 %) and very low in Germany (12.8 %), the figures ranging between 42 and 52 % for the other countries.

Markets

Addition of purchases by the state and by other national customers shows that the national market represents only 22.4 % of final sales in the Netherlands, against 87.2 % in Germany ; the equivalent figure for the other member states is in the region of 50 % of final sales.

At Community level (national markets plus exports - cooperation and sales to users - to other Community countries), the Community market represents 37.4 % of final sales in the Netherlands, about 70 % in France, Italy and the UK, and some 97 % for Germany and Belgium.

2.3 Analysis of exports (from final national sales figures)

We have stated that exports amount to the following percentages of final national sales :

West Germany	Belgium	France	Italy	Netherlands	UK
12.8	52.0	44.7	45.7	77.6	42.4

These exports are made up of four distinct headings, which account for the following relative percentages of total exports :

Table 33

Purchasers	West Germany	Belgium	France	Italy	Netherlands	UK
EEC aerospace firms	54.7	91.4	20.8	23.6	1.3	18.6
EEC final users	19.5	4.0	11.9	6.8	18.0	4.3
Non-EEC aerospace firms	13.3	3.2	3.2	42.0	0.7	25.9
Non-EEC final users	12.5	1.4	63.5	27.6	80.0	51.2
	100.0	100.0	100.0	100.0	100.0	100.0

The percentages for "Community aerospace firms" represent the extent of intra-Community industrial cooperation in the final sales of each member state ; it will be seen that they are particularly high for Belgium, Germany, Italy, France and the UK.

Addition of exports under the heading of industrial cooperation between member states to exports to final users in the Community gives the following percentages of total exports :

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Table 34

West Germany	Belgium	France	Italy	Netherlands	UK
74.2	95.4	32.7	30.4	19.3	22.9

The Community market (i.e., exports to each country's eight partners) is very important for Belgium and Germany ; it exceeds 30 % of total exports for France and Italy.

Industrial cooperation with non-EEC countries is significant only in the case of Italy (42 % of total exports) and the UK (25.9 % - mainly deliveries of engines to airframe manufacturers in non-EEC countries).

Finally, exports to non-EEC final users are very important for the Netherlands (80.0 % of total exports), France (63.5 %) and the UK (51.2 %).

Community exports to non-EEC countries

These amount to the following totals (millions of u.a.) :

Table 35

Purchasers	West Germany	Belgium	France	Italy	Netherlands	UK(22)	EEC
Non-EEC aerospace firms	14.0	1.1	26.5	70.5	0.9	251.2	378.2
Non-EEC final users	13.2	0.5	444.0	46.3	107.4	495.6	1107,0
	27,2	1,6	470,5	116,8	108,3	746,8	1485,2

Community exports to non-EEC countries represent 30.8 % of final sales of the EEC ; this is a much higher percentage than United States exports, which amount to only about 19 % of United States final sales.

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2.4 Civil and military sales by the Community

This estimate concerns the breakdown of total final national sales by the EEC member states (i.e., not final sales by the Community ; intra-Community transactions are included, but intra-sector national transactions are excluded).

Table 36

	millions of u.a.		percentages
Military R & D	687.1		13.0
Sales, repairs and maintenance of military aircraft	1523.9		28.9
Exports of military aircraft	1082.3		20.5
Military sales	3293.3	62.4	
Civil aviation R & D (aids)	444.7		8.4
Sales, repairs and maintenance of civil aircraft for the state	50.3		0.9
Space hardware and research	130.1		2.5
Sales of civil aircraft to final users other than the state	333.3		6.3
Exports of civil aircraft	1027.2		19.5
Civil sales	1985.6	37.6	
Sum of national final sales	5278.9		100.0

It is interesting to compare the results of Table 36 with the percentages for the United States (30) :

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Table 37

	EEC	USA
Military R & D	13.0	12.0
Sales, repairs and maintenance of military aircraft	28.9	50.3
Exports of military aircraft	20.5	4.3
Military sales	(62.4)	(66.6)
Civil R & D (31)	8.4	4.6
Sales and repairs of civil aircraft for the state	0.9	-
Space hardware and research	2.5	13.1
Civil aircraft for domestic market (other than the state)	6.3	0.9
Civil exports	19.5	14.8
Civil sales	(37.6)	(33.4)

The relative importance of the civil and military sales figures is similar in the Community and in the USA, but the internal composition of sales differs substantially :

Military sales : little difference in military R & D (12 or 13 % of total) ; more military aircraft for the country and less exports, relatively, in the United States.

Civil sales : much greater importance of "space" in the USA (13.1 % as against 2.5 % in Europe) ; greater relative importance of civil exports in Europe.

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2.5 Role of the state (percentage of sales by the industry)

Table 38

	EEC	USA
Military R & D	13.0	12.0
Military sales and repairs	28.9	50.3
Space	2.5	13.1
Civil R & D	8.4	-
	52.8	75.4

The table shows clearly that the aerospace industry of the United States is "aided" more by the state than its Community counterpart.

This greater importance of the state role is evident not in R.& D (either civil or military) but in "space" and, in particular, in the fact that the relative size of contracts for the sale and maintenance of military aircraft is much larger in the USA.

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3. Labour force

3.1 Sector

The variation of the total labour force of the aerospace industry in the last few years has been as follows :

Table 39

	1969	1970	1971	1972	1973	1974
West Germany (32)	52,076	56,206	55,173	52,455	52,985	54,015
Belgium (33)	4,500	4,700	4,849	4,941	4,380	4,451
France (34)	96,977	103,364	108,646	108,525	106,132	n.d.
Italy (35)	27,000	29,500	28,000	28,500	30,000	n.d.
Netherlands (36)	7,000	8,000	8,000	6,600	7,000	n.d.
UK (37)	248,000	237,000	218,000	212,000	206,108	n.d.
EEC	435,553	438,770	422,668	413,021	406,605	n.d.
USA (38)	1,402,000	1,166,000	951,000	922,000	948,000	968,000
Canada (39)	44,400	35,800	28,700	28,800	30,200	n.d.
Japan (40)	23,100	25,600	26,500	26,000	26,026	n.d.

A gradual decline in the EEC labour force will be noted, mainly reflecting the fall in numbers in the UK, the other member states maintaining or slightly increasing their labour forces. A sharp decline in staff numbers took place in the USA and Canada between 1969 and 1972, followed by a slight increase in 1973.

Sales per person employed (calculated at constant 1969 values) in units of account were as follows (41):

Table 40

	West Germany	Belgium	France	Italy	Netherlands	UK	USA
1969	11,483	9,333	12,910	7,703	15,571	6,641	18,634
1972	14,145	11,333	13,167	10,771	20,454	6,566	19,916

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It will be observed that sales (at constant 1969 prices) per person employed increased in all the countries considered except the UK.

This change is due partly to percentage variations in sales at constant 1969 prices and partly to changes in staff numbers :

Table 41

	West Germany	Belgium	France	Italy	Netherlands	UK	USA
Sales %	+ 24.0	+ 33.3	+ 14.1	+ 47.5	+ 23.8	- 15.4	- 29.7
Staff %	+ 0.7	+ 9.8	+ 12.2	+ 5.5	- 5.7	- 14.5	- 34.2

In every country which recorded an increase in sales, the increase in the labour force was proportionately less than that of sales.

In the USA, the fall in the labour force was greater than that of sales, so that sales per person employed increased.

In the UK, the fall in sales in constant terms was proportionately greater than that of staff numbers.

It is also interesting to compare the variation of aerospace sales per person employed with that of GDP per civilian member of the national workforce, to show whether these phenomena are specific to the sector or reflect a general national economic trend (constant 1969 values) :

Table 42

	West Germany	Belgium	France	Italy	Netherlands	UK	USA
Aerospace sales per person employed 1969-72	+ 23 %	+ 21 %	+ 2 %	+ 40 %	+ 31 %	- 1 %	+ 7 %
GDP per person employed 1969-72 (42)	+ 11 %	+ 13 %	+ 14 %	+ 12 %	+ 14 %	+ 9 %	+ 4 %

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The above percentages show that in the countries of the Community, except for France and the UK, the percentage growth of aerospace sales per person employed was greater than that of GDP per working member of the civilian population.

In France, growth of aerospace sales per person employed was less than that of GDP per member of the civilian national workforce, but it should be added that in 1969 aerospace sales per person employed exceeded those of West Germany, Belgium and Italy.

In the UK, sales per person employed in the aerospace industry fell by 1 % between 1969 and 1972, whilst GDP per member of the national working population increased, not as much as in the other member states, but by the nevertheless considerable proportion of 9 %. This means that the trend in the British aerospace industry is specific to the sector and is not a consequence of national economic trends.

A comparison of aerospace sales per person employed in the UK, in the other member states having an aerospace industry, and in the United States immediately suggests itself :

Table 43

Aerospace sales per person employed (1969 u.a.)			
	Average for West Germany, Belgium, France, Italy, Netherlands	United Kingdom	United States
1969	11,400	6,641	18,634
1972	13,974	6,566	19,916

The British aerospace industry has retained an excessively large labour force in relation to the fall in value of its output (in constant terms).

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3.2 Subsectors

The following figures are available for distribution of the labour force by subsectors :

Table 44

(1973)	West Germany (43)	Belgium (44)	France (45)	Italy (46)	Netherlands (47)	UK (48)	EEC (59)	USA (50)
Aircraft	31,447	2,191	60,883	18;000	6,500	72,960	194,764	514,000
Engines	7,186	1,361	21,925	5,700		63,550	99,722	
Equipment	11,569	828	23;324	6;300	500	69,598	112,119	339,000
Space	2,783	n.d.	n.d.	n.d.	n.d.	n.d.		95,000
Total	52,985	4,380	106,132	30,000	7,000	206,108	406,605	948,000

Owing to the difference in distribution of the labour force between subsectors, it is difficult to make a valid comparison between staff numbers in the EEC and the USA (see footnote 50 for the USA) ; in the EEC member countries, staff employed on missile and space product manufacture are not usually distinguished from those engaged on aeronautical production.

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B. Firms

The following table shows the absolute value of sales of the principal European and US aerospace firms, the relevant annual growth rates, and staff numbers :

Table 45

(millions of u.a.)

		1970	1971	1972	1973	Annual growth rate	
						Period	%
Aeritalia	Sales	128.00	120.00	128.00	133.16	1970-73	1.3
	Staff	8,500	8,730	8,140	8,140	1970-73	-1.5
Aérospatiale	Sales	600.00	582.65	613.03	766.66	1970-73	8.5
	Staff	39,170	39,170	38,700	41,600	1970-73	2.0
Agusta	Sales	-	74.26	-	113.31	1971-73	23.5
	Staff	-	-	-	4,110	-	-
BAC	Sales	361.10	381.47	367.98	418.55	1970-73	5.0
	Staff	37,100	35,000	34,000	33,500	1970-73	- 3.5
Dassault-Breguet	Sales	-	316.32	391.49	623.82	1971-73	40.4
	Staff	12,750	15,030	15,000	14,960	1970-73	5.5
Dornier	Sales	-	87.75	133.81	144.24	1971-73	28.2
	Staff	7,040	7,700	7,600	7,130	1970-73	0.4
Hawker Siddeley Aviation	Sales	-	508.79	439.19	484.79	1971-73	- 2.4
	Staff	93,000	84,600	80,000	67,000	1970-73	-11.5
M.B.B.	Sales	250.60	316.60	331.40	359.88	1970-73	12.8
	Staff	20,870	20,400	18,130	18,700	1970-73	- 3.7
M.T.U.	Sales	-	106.48	120.08	163.59	1971-73	24.0
	Staff	-	4,970	6,010	6,120	1971-73	11.0
Rolls Royce (1971)	Sales		443.73	899.72	1036.88	1972-73(x)	15.2
	Staff	63,000	62,000	63,600	63,550	1970-73	0.3
Short Brothers	Sales	-	-	58.27	66.02	1972-73	13.3
	Staff	-	-	-	6,500	-	-
SNECMA	Sales	213.45	248.07	286.24	312.61	1970-73	13.6
	Staff	13,830	14,700	14,600	14,160	1970-73	0.8
Turbomeca	Sales	-	60.36	63.94	82.88	1971-73	17.2
	Staff	-	4.100	-	4.400	1971-73	7.3
VFW-Fokker	Sales	245.93	276.34	346.79	422.12	1970-73	19.7
	Staff	20,300	19,200	17,210	17,120	1970-73	- 5.8
Westland	Sales	-	-	148.07	165.59	1972-73	11.8
	Staff	-	10,700	12,500	6,500	1971-73	-28.3
Boeing	Sales	3677.07	3039.82	2194.05	2779.31	1970-73	- 9.8
	Staff	62,500	56,300	58,600	68,200	1970-73	3.0
McD.Douglas	Sales	2098.18	2069.06	2523.77	2501.66	1970-73	6.0
	Staff	92,500	92,100	86,710	70,740	1970-73	- 9.4
Lockheed	Sales	2535.60	2852.37	2289.56	2300.00	1970-73	- 3.3
	Staff	84,700	74,400	69,600	66,900	1970-73	- 8.2
Pratt & Whitney	Sales	-	1480.00	1352.77	1415.00	1971-73	- 2.3
	Staff	-	-	-	-	-	-
General Electric (Aeronautical Division)	Sales	1666.00	1623.00	1351.35	1342.50	1970-73	- 7.5
	Staff	-	-	23,000	-	-	-

(x) The year 1971 is not considered because it was limited to 32 weeks.

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A more detailed analysis of the firms' results can be made from the information obtainable from the balance sheets and profit and loss accounts published every year by the companies themselves. However, this analysis must be limited to those companies whose aerospace activities represent a substantial proportion of total sales, and it must cover a period ranging over a number of financial years.

On the basis of this approach, the figures in the next three tables are aggregated for three groups of firms : six European airframe manufacturers (SNIAS, Dassault-Breguet, MBB, VFW-Fokker, BAC and Aeritalia), three European engine manufacturers (Rolls-Royce, SNECMA and MTU), and three American airframe makers (Boeing, Lockheed and McDonnell Douglas) (51).

Table 46

Composition of value added

	European firms			US airframes
	Airframes	Engines	Together	
- Wages, etc./V.A.	84.3	80.0	83.2	86.7
- Gross operating results/V.A.	15.7	20.0	16.8	13.3
- Value added	100.0	100.0	100.0	100.0

Table 47

Productivity ratios

			Units of account and, in brackets, the percentage ratio of European to American values	
- Wages, etc./staff	6,415	5,384	5,942(51.8)	11,477
- Gross operating results/staff	1,245	1,344	1,197(68.0)	1,760
- V.A./staff	7,660	6,728	7,139(53.9)	13,237
- Sales/staff	13,823	15,079	14,450(48.9)	29,513

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Financing ratios

European firms				
%	Airframes	Engines	Together	US airframes
- Gross results for financial years/equity	15.6	16.4	16.0	13.8
- Indebtedness/gross internal financing	4.8	2.4	3.6	3.4
- Amortization/gross internal financing	92.2	73.8	83.7	65.5
- Working capital/stock	53.6	69.2	61.4	59.9

These figures give rise to the following points :

- Analysis of value added in the aerospace sector confirms a feature which is general to all manufacturing industries, namely, the higher proportion of value added represented by wages and salaries in American than in European firms.

- This superior remuneration of labour in American firms is correlated with the productivity indices of the European manufacturers, which are only about half as much as those achieved in the USA.

- The ratio of gross operating results to equity is higher in Europe than in the USA ; this is partly a consequence of the higher remuneration of labour in the United States, as already noted, and partly due to the higher level of amortization in European firms, which reduces the value of the denominator of the ratio.

- The ratio of internal to external sources of finance is seemingly the same in European and American firms. In fact, however, the situations differ substantially if account is taken of the representation of amortization)in internal funding (83.7 % in Europe as against 65.5 % in the USA).

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FOOTNOTES

(1) Sources : mainly ICAO - turbojets (western world) only.

(2) including 167 Boeing 720
35 VC 10
51 Comet
83 Convair
336

(3) Analysis of civil aircraft in service and on order in June 1973 and May 1974

Source : Aérospatiale
- table compiled by the Commission.

a) The analysis relates to the following countries :
- the nine member states of the Community ;
- "other European countries" : Austria, Finland, Greece, Iceland, Norway, Portugal, Spain, Sweden, Switzerland, Turkey and Yugoslavia.
- United States ;
- rest of the world : in June 1973 : 99 countries, including the USSR and China(People's Republic)
in May 1974 : 104 countries including the USSR and China(People's Republic).

b) The analysis covers only the 396 principal airlines in June 1973 and the 400 principal airlines in 1974.

c) The analysis relates solely to the following western aircraft :

Long-haul

United States aircraft :

- Boeing 707 - 720, broken down for calculation of value of planes in service and on order as follows : - 707 - 120 - 220 - 420
- 707 - 720
- 707 - 320

- DC8 series 30 - 40
50
60
63

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- DC 10 - 30
  40
- Boeing 747
- Convair : series 880 - 990

Short and medium-haul

727 - 100	Caravelle 3 and 6
727 - 200	Caravelle 10 and 11
737 - 100	Caravelle 12
737 - 200	A 300
DC 9 - 10 - 20	Mercure
DC 9 - 30 - 40	BAC 111 - 200 and 300
DC 10 - 10	BAC 111 - 400 and 475
Lockheed 1011	BAC 111 - 500
	Trident 1 and 2
	Trident 3
	F. 28

(4) It should be noted that most new American aircraft increased in price in terms of current dollars by between 5 and 15-20 % between June 1973 and May 1974.

The parities used in this document to convert national currencies into European units of account (u.a.) are those adopted by the SOEC, namely (average value for the year) :

	1969	1970	1971	1972	1973	1974
DM (West Germany)	3.93	3.66	3.65	3.49	3.32	3.21
FF (France)	5.17	5.55	→	→	→	→
Lira (Italy)	625	625	625	631	→	→
Guilder (Netherlands)	3.62	3.62	3.61	3.52	3.47	3.35
BF/LF (BLEU)	50.0	50.0	49.9	48.6	48.6	→
£ (UK)	0.416	→	→	→	→	→
Krone (Denmark)	7.50	→	→	7.57	→	→
Dollar (USA)	1.00	1.00	1.00	1.08	1.19	1.20
Yen (Japan)	360	360	359	334	→	→

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(5) 1970 : planes in service only
1971 : planes in service and on order
1973 and 1974 : planes in service and on order.

(6) The SAS fleet is included under "Sweden".

(7) The analysis relates to the position as at 31 October 1974, the following aircraft, mostly turboprops, being added to those listed in footnote 3 :

(Lockheed 1011
(DC 6 B - DC 7
(Britannia
(CL 44

(DC 3 and DC 4
(Lockheed Electra
(Convair 440
(Vanguard
(Viscount 700 and 800
(Herald
(HS 748
(Fokker F 27
(VFW 614
(YS 11

As a result of this enlargement of the market considered, the number of aircraft covered is increased as follows :

long-haul : 1777 to 1886
short and medium-haul : 3084 to 4318

The breakdown by value is then as follows :

	EEC aircraft	US aircraft	Other "western" aircraft
long-haul	3.3	96.5	0.2
short/medium-haul	14.0	85.2	0.8
Total	8.8	90.7	0.5

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(7a) Source : D.M.S. "World Aircraft Forecast 1973-82", published 1973.

(8) Including production of the Swedish SAAB company.

(9) The figures are necessarily approximate, because it was impossible to determine the value of certain aircraft (this applies particularly to the UK, Latin America, Europe outside the EC, the Middle East, Asia and Australia).

(10) Sources : ICAO, AEA.

(10a) This document covers the western world only ; however, it should be remembered that the USSR, in particular, has a powerful aerospace industry, employing 600,000 people in 1971.
Sales of Soviet civil aircraft were as follows as at 31 October 1974:

(LH : long-haul ; SMH : short/medium-haul ; MH : medium-haul)

USSR aerospace industry

Sales as at 31 October 1974 - number of aircraft					
Manufacturers	Type of aircraft	Totals (excluding options)	National market			Exports already delivered
			Operational	On order	Options	
Antonov	AN 12 - Four turboprops LH	200	-	-	2
	AN 22 - Four turboprops LH	30	-	-	-
	AN 24 - Two turboprops SH	300	-	-	58
Total	= 590	530	-	-	60
Ilyushin	IL 18 - Four turboprops SMH	125	-	-	69
	IL 62 - Four turboprops LH	75	27	-	22
	IL 76 - Four turboprops SMH	5	95	-	-
Total	= 418	205	122	-	91

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Manufacturers	Type of aircraft	Totals (excluding options)	National market			Exports already delivered
			Operational	On order	Options	
Tupolev	TU 114 - Four turboprops LH Replaced by IL 62	15	-	-	-	
	TU 124 - Two turbofans SMH	140	-	-	-	
	TU 134 - Two turbofans MH	175	29	-	48	
	TU 144 - Four turbofans LH (SST)	4	32	-	-	
	TU 154 - Three turbofans SMH	50	306	2	18	
Total	= 817	384	367	2	66	
Yakovlev	YAK 40 - Three turbofans, 32 seats SH	290	70	4	13	
	= 373					
Grand Total	= 2198	1409	559	6	230	

(11) United States : Aerospace Industries Association of America
Aerospace Facts and Figures 1974-75
1971 and 1972 : revised figures

(12) Canada

Sources : 1969 : Interavia Data in D 70 Al
Subsequent years : Canadian Mission to the European Communities and Canadian Department of Industry and Trade ;
Canadian Aviation - January 1974 :

Sales of the Canadian aerospace industry (in Canadian dollars)

1970	1971	1972	1972 first 6 months	1973 first 6 months	1973
1	596	625 a)	324	354 b)	669 c)
including aircraft and airframe (including equipment such as hydraulic systems, landing gear, etc., but excluding "avionics") :		326			325
Engines :		210			248

a) preliminary b) provisional estimate c) Commission estimate

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(13) Community, see Table 22 - estimate for 1973.

(14) Other European countries : i.e., mainly Sweden, Spain and Zwitzerland - estimates for 1972 and 1973.

(15) Japan : 1969, 1970, 1971 : Interavia 10/73.
1972 and 1973 : USIAS report.

(16) Other western countries : i.e., principally, Australia, Argentina, Brazil, New Zealand, South Africa, India and Israel, estimates for 1972 and 1973.

(17) West Germany : BDLI statistics (B-I.a) (excluding non-aerospace products), according to Economics Ministry tables.

(18) Belgium : GEBECOMA, estimate for 1973.

(19) France : USIAS (figures exclude R & D for certain civil programmes).

(20) Italy : 1969-71 : Italian government.
1972 : AIA
1973 : estimate.

(21) Netherlands : Industry source.

(22) United Kingdom: Department of Industry and predecessors
1973 : official figures not published
Estimate : £ 800 million

(23) EEC : Sales figure is the sum of the national sales figures.

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(24) United States : Aerospace Facts and Figures 1974-75, page 11.

(25) Table 22a : Conversion of national sales in current u.a. (Table 22) into national sales in u.a. at constant 1969 values : the national sales figures from sources 17 to 22 in national currencies at current prices have been converted into national currencies at constant 1969 values via the GDP price index at market prices (Statistical Office of the European Communities - National Accounts, 1973, page 32).
The results are converted into u.a. at the 1969 rates of exchange.

(25a) Same method of calculation as explained in note 25 on the basis of the 1973 National Accounts of the Statistical Office of the European Communities.

(26) West Germany. The final sales figure in Table 28 and the percentage in Table 27 do not belong to the same statistical series as the figures in Table 22. For 1972, this final sales figure (824.6 million u.a.), when German intra-sector transactions are added to it, gives aggregate sales of 1050 million u.a. (compare this figure with the 1022 million u.a. shown in Table 22).

(26a) United Kingdom : Note the substantial difference (+ 541 million u.a.) between this final sales figure, from an industry source, and the official final sales figure for the UK (1743 million u.a. - compare Table 22).

(27) France : Estimate for "aircraft" and "engines".

(28) United States : a) The United States total is 3478 million u.a. less than the figure given in Table 22, for the following reasons :

- in Table 22 : 2450 million u.a. relates to non-aerospace products manufactured by the US aerospace industry.

- in Table 22 : 1028 million u.a. relates to sales of aerospace firms other than the 55 principal firms in the sector, whose sales are subdivided by subsectors : cf. Aerospace Facts and Figures 1974-75, page 15.

b) In addition, it should be noted that for the United States, the heading "Space" means missiles and space, including propulsion units, whilst "Equipment" includes aerospace hardware not mentioned elsewhere.

c) Of the 29.7 % for "Space", the industry's sales under NASA contracts (research and sales of civil space hardware) amounts to only 13.1 % ; the balance is accounted for by military space applications and missiles.

(29) Estimate.

(30) Final sales of the United States.

(31) State aid in Europe and private funds used in the United States industry.

(32) German aerospace labour force : BDLI Statistik (7 November 1973 and 13 November 1974)

(33) Belgian aerospace labour force : GEBECOMA.

(34) French aerospace labour force : USIAS.

(35) Italian aerospace labour force : Italian government ; 1973 : AIA.

(36) Estimate of Netherlands aerospace labour force.

(37) UK : Department of Industry - labour force in June each year.

(38) United States labour force : Aerospace Facts and Figures.

(39) Canada : Canadian Aviation - January 1974.

(40) Japan : USIAS report.

(41) Sales per person employed are obtained by dividing the sales of the aerospace industry at constant 1969 values (cf. Table 22a) by the staff numbers set out in Table 39.

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(42) GDP : Statistical Office of the European Communities - National Accounts 1973.
Civilian working population : Statistical Office of the European Communities - monthly statistics November 1974 - and "Statistical Abstract of the United States".

(43) BDLI, as at 31 December 1973.

(44) GEBECOMA.

(45) USIAS, as at 31 December 1973. "Aircraft" = aircraft and missiles.

(46) Italian industry source.

(47) Estimate.

(48) UK : about 21,000 people employed at BAC, HSA and RR work in the equipment subsector.

(49) "Space" included with "Aircraft".

(50) For the United States, the breakdown of the labour force is as follows (Aerospace Facts and Figures) :

- airframes	: 274,600	
- aeroengines	: 144,800	514,000
- aircraft equipment	: 94,500	
- missiles and space	: 95,000	
- communications equipment	: 134,000	
- other	: 205,000	
	947,900	

(51) The accounts of these companies were obtained and compiled by DAFSA using the European method of financial analysis, whose purpose is to allow the aggregation of data from different countries which may be based on differing fiscal and accounting concepts. The reference periods chosen cover five financial years (1968 to 1972) for the companies SNECMA, BAC, Lockheed, McDonnell Douglas and Boeing, three financial years for Dassault-Breguet (1971 to 1973) and for SNIAS, MBB and VFW-Fokker (1970 to 1972), and two financial years (1971 and 1972) for MTU, Rolls-Royce and Aeritalia.

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(Appendix 1)

IMPORTS 1972

(thousands of u.a.)

	Helicopters					
	Importing countries					
Country of origin	EEC	Germany	BLEU	France	Italy	Netherlands
Germany	105	-	54	-	28	23
BLEU	-	-	-	-	-	-
Denmark	-	-	-	-	-	-
France	5,427	1,009	25	-	3,219	1,174
Italy	1,032	474	127	431	-	-
Ireland	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-
UK	53	11	42	-	-	-
EEC	6,617	1,494	248	431	3,247	1,197
USA	4,909	694	23	7	2,905	1,280
Rest of the world	407	16	1	-	390	-
World	11,933	2,204	272	438	6,542	2,477

Source : SOEC

(thousands of u.a.)

Light aircraft

Country of origin	Importing countries: EEC	Germany	BLEU	France	Italy	Netherlands
Germany	311		194	69	17	31
BLEU						
Denmark	32		32		2,152	1,993
France	8,194	3,633	416			
Italy	376	138	121	117		
Ireland	14			14		
Netherlands	2,268	473	58	1,737		
UK	2,192	219	576	1,189		208
EEC	13,387	4,463	1,397	3,126	2,169	2,232
USA	25,848	13,922	1,705	9,747	428	46
Rest of the world	19,323	5,503		2,515	971	10,335
World	58,558	23,888	3,102	15,388	3,568	12,613

(thousands of u.a.)

Airliners

Country of origin	Importing countries: EEC	Germany	BLEU	France	Italy	Netherlands
Germany	33,666		5,968	27,698		
BLEU	658			658		
Denmark						
France	12,613	3,145	565			8,903
Italy						
Ireland	4,889		4,889			
Netherlands	18,344	14,685	3,659			
UK	14,485	11,125	2,055	1,305		
EEC	84,655	28,955	17,136	29,661		8,903
USA	267,656	88,338	19,305	94,283	62,835	2,895
Rest of the world	11,959	1	11,233	355	369	1
World	364,270	117,294	47,674	124,299	63,204	11,799

(thousands of u.a.)

Aircraft parts and spares

Country of origin	EEC	Germany	BLEU	France	Italy	Netherlands	Denmark + Ireland + UK
Germany	35,148		7,507	9,192	1,602	16,847	
BLEU	14,407	789		9,119	1,547	2,952	
Denmark	560	28	187	9	27	309	
France	46,800	13,383	24,030		4,360	5,027	
Italy	21,418	2,052	3,772	14,413		1,181	
Ireland	381	62	318			1	
Netherlands	9,438	3,700	1,870	3,153	715		
UK	90,009	6,779	3,801	62,036	4,644	12,749	
EEC	218,161	26,793	41,793	97,922	12,895	39,066	
USA	185,332	72,374	17,973	29,359	34,331	31,295	
Rest of the world	21,237	2,654	5,065	4,781	1,375	7,362	
World	424,730	101,821	64,523	132,062	48,601	77,723	