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THE EUROPEAN AEROSPACE INDUSTRY

POSITION AND FIGURES

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Foreword

This document groups together the principal statistics on the aerospace sector in Europe and the United States available to the relevant departments of the Commission.

The Directorate-General of Industrial and Technological Affairs has been gathering and processing these statistics since 1972; its first communication to the Council, dated 19 July 1972 (document COM(72)850), already included a statistical appendix on the position of the aerospace sector (market and production facilities).

In subsequent years¹ it became possible to carry out a more detailed analysis, owing, in particular, to the cooperation of the aviation industry associations in each country, which actively helped the departments of the Commission in an annual survey of firms in the sector.

Finally, the Commission's communication to the Council dated 3 October 1975 (document COM(75)475) on an action plan for European aviation also provided statistics on the position and prospects of the sector.

¹ Documents: SEC(73)813 dated 1 March 1973
III/243/73 dated 31 December 1973 ✓
SEC(75)1539 dated 23 April 1975 ✓

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I. THE MARKET

A. Civil air traffic and the civil aircraft market

1. Civil air traffic

a) Scheduled traffic¹

In 1973, 1974 and 1975 (estimates), the airlines of the 131 member states of the ICAO* produced the following numbers of passenger-kilometres (in thousands of millions) on scheduled domestic and international services:

Table 1

	(excluding USSR)	<u>Change</u> compared with previous year	(including USSR)	<u>Change</u> compared with previous year
1973	520	+ 11.8	618	+ 10.4
1974	546	+ 5.0	654	+ 5.8
1975	560	+ 2.6	676	+ 3.4

Growth rates were very low compared with those of the period 1965-75, in which the annual average growth was 11% (excluding USSR statistics).

In 1974, 47 countries whose unit airline traffic exceeded 1000 million passenger-kilometres together accounted for 97.2% of the total.

US airlines accounted for 40.1% of the traffic, followed by the USSR with 16.6%; the UK was ousted from third place by Japan. As in the past, Community airlines made up about 14%.

* Excluding China (People's Republic).

¹ Footnotes at end of document. They are preceded by a conversion table of national currency units into European units of account (u.a.).

Traffic referred to distance was as follows in 1974:

Table 2

	Passenger-kilometres produced on scheduled domestic and international services (millions)	including the following on international services (millions)	% of total
United States	262,185	45,248	17
USSR	108,577	5,360	5
Japan	27,797	10,970	39
UK	27,775)	25,229	91
France	21,745)	16,457	76
West Germany	12,473)	11,005	88
Italy	11,377) 90,611	9,180	81
Netherlands	9,389)	9,341	99
Belgium	3,975)	3,975	100
Denmark	2,229)	1,791	80
Ireland	1,648)	1,619	98
Canada	24,605	11,193	45
Australia	17,123	9,546	56
Spain	10,105	7,260	72
Brazil	8,559	3,909	46
Switzerland	7,089	7,056	99
Mexico	5,957	2,660	45
South Africa	5,376	3,510	65
India	4,926	3,126	63

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

In general, growth in terms of passenger-kilometres in 1974 was less on international than on domestic services (5.5 against 6.1%); the percentage changes from 1973 to 1974 were as follows for the countries mentioned:

Table 3

	<u>International</u>	<u>Domestic</u>
USA	- 8.1	+ 2.6
UK	- 1.8	- 0.3
France	+ 9.5	+ 12.2
West Germany	+ 10.1	+ 32.1
Netherlands	+ 1.9	-
Italy	+ 0.2	+ 11.8

Passenger traffic referred to distance of the member airlines of the Association of European Airlines (AEA)* has varied as follows since 1970²:

Table 4

<u>thousands of millions of passenger-kilometres (scheduled services)</u>				
	<u>Intra-European</u>	<u>Domestic</u>	<u>Intercontinental</u>	<u>Total</u>
1970	22.0	7.4	44.6	74.0
1971	24.9	8.2	48.0	81.1
1972	27.4	8.9	58.8	95.1
1973	31.0	10.1	72.5	113.6
1974	31.8	10.5	75.6	117.9

Of the 10,500 million passenger-kilometres of domestic traffic, 5.3 were accounted for by French domestic traffic and 2.5 by British domestic traffic.

* AEA: Community airlines plus Austrian Airlines, Finnair, Iberia, Icelandair, JAT, Olympic, SAS, Swissair, TAP, THY; it is estimated that 76.7% of the traffic of the AEA airlines was carried by Community airlines.

The annual percentage variations in traffic were as follows:

Table 5

	<u>Intra-European</u>	<u>Domestic</u>	<u>Intercontinental</u>	<u>Total</u>
1971-72	+ 10.1	+ 8.9	+ 22.5	+ 17.3
1972-73	+ 12.8	+ 13.8	+ 23.4	+ 19.4
1973-74	+ 2.6	+ 3.5	+ 4.3	+ 3.8
average 1970-74+	9.6	+ 9.1	+ 14.1	+ 12.3

The breakdown by type of traffic varied as follows from 1970 to 1974:

Table 6

	<u>Intra-European</u>	<u>Domestic</u>	<u>Intercontinental</u>	<u>Total</u>
1970	29.7	10.0	60.3	100
1974	26.9	8.9	64.2	100

For comparison, domestic and international traffic in the United States varied as follows:

Table 7 (percent)

	<u>Domestic (U.S.A.)</u>	<u>International (U.S.A.)</u>	<u>Total (U.S.A.)</u>
1971-72	+ 11.2	+ 18.0	+ 12.0
1972-73	+ 6.5	+ 5.2	+ 6.3
1973-74	+ 2.6	- 8.1	+ 0.6

It will be seen that traffic on the European airlines continued to grow slowly in 1974, whereas United States traffic remained steady overall although international traffic fell sharply.

However, the combined intra-European and domestic traffic of the European airlines (AEA) in 1974 amounted to less than 20% of United States domestic traffic.

On the other hand, the intercontinental traffic of the AEA airlines was equivalent to 167% of United States international traffic.

b) Nonscheduled traffic

The estimates of the nonscheduled traffic of the airlines of ICAO member countries in 1974 (excluding the USSR and the People's Republic of China) are based on statistics from 47 nonscheduled flight operators whose traffic is assumed to represent 75% of the total nonscheduled flight operators' traffic and on statistics for the nonscheduled traffic of 165 airlines providing scheduled services.

In 1973, nonscheduled services accounted for a total of 114,600 million passenger-kilometres (equivalent to 22% of scheduled traffic), falling in 1974 to 104,800 million passenger-kilometres (equivalent to 19.1% of scheduled traffic).

The traffic for the main countries was as follows in 1974:

(millions of passenger-kilometres)

Table 8

<u>Nonscheduled traffic</u>	a) <u>Nonscheduled flight operators</u>	b) <u>Scheduled flight operators</u>
Belgium	597	367
Denmark	5,453	n.d.
France	689	262
West Germany	8,336	285
Netherlands	3,012	1,596
UK	n.d.(4)	7,052
USA	15,098	17,912
<u>TOTAL</u>	48,224	43,676
	(for 47 operators)	(ICAO estimates from the figures of 165 operators)

Overall figures for nonscheduled traffic for 1975 are not yet available, however, the change in transatlantic traffic (scheduled and nonscheduled) from 1974 to 1975 was as follows:

Table 9

<u>Number of passengers</u>	<u>1974</u>	<u>% of market</u>	<u>1975</u>	<u>% of market</u>	<u>Change 1974-75</u>
IATA scheduled	9,345,000	73	8,700,000	71	- 7 %
IATA charter	1,143,000	9	1,250,000	10	+ 9 %
Non-IATA scheduled	295,000	2	300,000	2	- 1,7 %
Non-IATA charter	2,040,000	16	2,050,000	17	- 0,5 %
					- 4 %

The 4% decline on the total is due to the fall in scheduled IATA traffic.

2. Civil aircraft market

a) The number of aircraft ordered and in service in recent years has varied as follows:

Table 10

	<u>Ordered</u>				<u>Sales as at</u>	<u>In service*</u>	
	<u>before 1973</u>	<u>in 1973</u>	<u>in 1974</u>	<u>in 1975</u>	<u>31 December 1975</u>	<u>on 31 Dec. 1974</u>	<u>in Sept. 1975</u>
<u>Long-haul</u>							
Concorde	9	-	-	-	9	-	-
Boeing 707	722	9	14	4	749	638	633
Boeing 747	219	31	29	22	301	236	238
DC 8	556	-	-	-	556	504	491
DC 10.30/40	-	92	-	20	126	86	99
Other long-haul	336	-	-	-	336	nd	nd
(5)			63	40	2077	1464	1461

(Table 10 continued)

<u>Short and medium-haul</u>	Ordered				Sales as at	In service*	
	before 1973	in 1973	in 1974	in 1975	31 December 1975	on 31 Dec. 1974	in Sept. 1975
A.300	5	1	9	17	32	3	11
Caravelle	278	-	-	-	278	210	195
BAC 111	204	-	9	7	220	165	163
Boeing 727	1012	86	97	49	1244	1053	1116
Boeing 737	342	41	47	33	463	370	405
Fokker 28	60	8	22	17	107	57	63
H.S. Trident	104	13	-	-	117	66	73
Mercure 100	10	-	-	-	10	6	9
DC 9	703	83	42	22	850	694	725
DC 10.10	- 104	-	-	-	104	86	99
Tristar Lockheed	126	12	19	-	157	86	110
1 614	-	-	10	1	11	-	1
Fokker 27 (227)	- 610	-	15	23	648	363	363
HS.748	- 287	-	11	12	310	118	110
			<u>281</u>	<u>179</u>	<u>4551</u>	<u>3277</u>	<u>3443</u>

* With the 400 largest airlines.

Orders in 1974 for long-haul, high-capacity aircraft were equivalent to 15 % of aircraft in service in 1974; in 1975, orders for these aircraft amounted to 10 % of aircraft in service in 1975.

As regards high-capacity short and medium-haul aircraft, 17 Airbuses were sold in 1975, whilst there were no new orders for the Tristar and the DC 10-10. Sales of the F 28 were good in this crisis period. The Boeing 727 continued to sell, while sales of the Boeing 737 increased faster than those of the DC 9. Total sales by category had reached the following totals by 31.XII.1975 :

	USA aircraft	European aircraft	Total
Long haul	1982	95	2077
Short/medium haul	2818	1733	4551
Total	4800	1828	6628

b) Aircraft in service and on order

An exact picture of the position of fleets is afforded by the number of aircraft in service and on order at a given date. The position as at 31 October 1974 is compared with that at 1 February 1976 below⁶.

Table 11

	<u>Number</u>		<u>Value (millions of u.a.)</u>	
	<u>1974</u>	<u>1976</u>	<u>1974</u>	<u>1976</u>
Long-haul	1,886	1,845	17,686.1	19,554.6
Short and medium-haul	4,348	4,333	16,559.0	19,731.5
<u>Total</u>	<u>6,234</u>	<u>6,178</u>	<u>34,245.1</u>	<u>39,286.1</u>

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

	<u>1974</u>	<u>1976</u>
Long-haul	9,377	10,598
Short and medium-haul	3,808	4,553

Note that there are now very few non-turbojet long-haul aircraft, whilst there are over a thousand short and medium-haul turboprop aircraft.

The percentage value distribution between long-haul aircraft and short and medium-haul aircraft has varied as follows in recent years:

Table 12 %

	<u>1970</u>	<u>1971</u>	<u>1973</u>	<u>1974</u>	<u>1976</u>
Long-haul	55.2	51.1	51.1	51.6	49.7
Short and medium-haul	44.8	48.9	48.9	48.7	50.3

There has thus been a slow but steady increase in the proportion of short and medium-haul aircraft; a study by Airbus Industrie dated April 1976 forecasts that in the period 1976-90 two thirds of the value of aircraft purchased will be accounted for by short and medium-haul planes.

The value of aircraft in service and on order in the fleets of the relevant countries was as follows in February 1976 (millions of u.a.):

Table 13

Type + origin Fleet	Long haul			Short and medium-haul			Total	%	%
	USA	Eur.	Other	USA	Eur.	Other			
Germany	646.2	-	-	390.1	130.0	-	1,166.3		16.3
Belgium	288.1	0.4	-	108.4	37.0	-	433.9		6.1
Denmark	15.3	-	-	52.8	28.9	-	97.0		1.4
France	1,058.5	188.0	-	192.6	253.6	-	1,692.7		23.7
Ireland	72.7	0.4	-	35.4	2.8	-	111.3		1.6
Italy	361.2	-	-	338.5	33.5	-	733.2		10.3
Luxembourg	29.7	-	4.2	-	5.3	-	39.2		0.5
Netherlands	509.4	-	-	151.2	13.8	-	674.4		9.4
UK	1,017.4	248.0	16.8	408.9	505.1	-	2,196.2		30.7
EEC	3,998.5	436.8	21.0	1,677.9	1,010.0	-	7,144.2	18.2	100.0
Other European countries ⁷	1,414.4	-	1.4	1,468.6	141.4	8.4	3,034.2	7.7	
Europe	5,412.9	436.8	22.4	3,146.5	1,151.4	8.4	10,178.4	25.9	
USA	7,100.1	-	-	10,319.3	21.7	28.8	17,469.9	44.5	
Rest of world	6,558.0	7.6	16.8	3,512.3	1,427.9	115.2	11,637.8	29.6	
WORLD	19,071.0	444.4	39.2	16,978.1	2,601.0	152.4	39,286.1	100.0	

There have been few changes in the value distribution of fleets as between Community countries. On the other hand, the relative value of the US fleet has again declined, whilst that of the fleets of the rest of the world has increased:

Table 14

Value distribution of civil fleets	<u>1970</u> (8)	<u>1973</u>	<u>1974</u>	<u>1976</u>
Community	14.7	18.2	18.0	18.2
Other European countries	6.3	8.1	8.0	7.7
Europe	(21.0)	(26.3)	(26.0)	(25.9)
United States	63.9	53.0	45.4	44.5
Rest of world	<u>15.1</u>	<u>20.7</u>	<u>28.6</u>	<u>29.6</u>
	100.0	100.0	100.0	100.0

Regarding aircraft origin, planes built outside the Community and the USA account for only 0.5% of the total value. The following table compares the variation in fleet value and the market share for Community-built aircraft; almost all of the balance is attributable to United States manufacturers.

Table 15

	<u>Relative market sizes</u>				<u>Market share for EEC-built aircraft</u>			
	<u>1970</u>	<u>1974</u>	<u>1976</u>	<u>Change</u> <u>1970-76</u> ⁸	<u>1970</u>	<u>1974</u>	<u>1976</u>	<u>Change</u> <u>1970-76</u>
<u>Market</u>								
EEC	14.7	18.0	18.2	+ 3.5	33.0	21.4	20.2	-12.8
Other European countries	6.3	8.0	7.7	+ 1.4	23.1	7.7	4.7	-15.4
Europe	(21.0)	(26.0)	(25.9)	+ 4.9	30.1	17.2	15.6	-14.5
United States	63.9	45.4	44.5	-19.4	2.1	0.4	0.1	- 2.0
Rest of World	<u>15.1</u>	<u>28.6</u>	<u>29.6</u>	<u>+14.5</u>	<u>12.2</u>	<u>12.6</u>	<u>12.4</u>	<u>+ 0.2</u>
World	100.0	100.0	100.0		9.5	8.2	7.7	- 1.8

The imbalance to the detriment of the European industry has increased steadily since 1970. While the relative size of the European market has increased by 5 points (4.9) and that of the "rest of the world" market has risen by nearly 15 points, these 20 points having been lost by the United States fleet in terms of relative value, it is the United States aeronautical industry which has improved its market position still further, taking over a larger and larger market share from the European industry: the latter is now virtually zero on the United States market, 12.4% of the value of the "rest of the world" fleets, and 15.6% of the value of the European fleet.

Forecasts of the trade balance in airliners dating from 1975, based on much higher world market penetration rates for European aircraft than the actual rate observed, indicate deficits ranging between 500 million and 4300 million u.a. for the period 1975-85.

c) Long-haul aircraft

Analysis on the basis of types of aircraft gives the following results (aircraft in service and on order in February 1976)⁶:

Table 16

	Community	Other European countries	Europe	USA	(millions of u.a.)	
					Rest of world	World
707 - 720	1,127.6	234.1	1,361.7	2,179.8	2,192.8	5,734.3
747	1,939.2	393.9	2,333.1	3,272.4	2,636.1	8,241.6
DC 6 - 7	8.8	9.8	18.6	4.9	67.3	90.8
DC 8	261.4	320.6	582.0	1,024.9	807.3	2,414.2
DC 10-30/40	661.5	453.6	1,115.1	548.1	812.7	2,475.9
Lockheed 100	-	-	-	68.4	41.8	110.2
Convair 880-990	-	2.4	2.4	1.6	-	4.0
USA aircraft	3,998.5	1,414.4	5,412.9	7,100.1	6,558.0	19,071.0
Britannia	1.4	-	1.4	-	0.2	1.6
Comet	1.6	-	1.6	-	0.8	2.4
V.C. 10	10.8	-	10.8	-	6.6	17.4
Concorde	423.0	-	423.0	-	-	423.0
Europ. aircraft	436.8	-	436.8	-	7.6	444.4
C.L. 44	21.0	1.4	22.4	-	16.8	39.2
T O T A L	4,456.3	1,415.8	5,872.1	7,100.1	6,582.4	19,554.6

The change in market sizes and shares for European long-haul aircraft has been as follows:

Table 17

Market	Market size			Market share for Community-built aircraft		
	1974	1976	Change 1974-76	1974	1976	Change 1974-76
EEC	22.0	22.8	+0.8	8.6	9.8	+ 1.2
Other European countries	7.0	7.2	+0.2	-	-	
Europe	(29.0)	(30.0)	+1.0	6.5	7.4	+ 0.9
United States	38.9	36.3	-2.6	-	-	
Rest of world ⁹	32.1	33.7	+1.6	3.0	0.1	
World	100.0	100.0		2.9	2.3	- 0.6

The market changes between 1974 and 1976 are part of a longer-term trend, as forecasts show that in the period 1975-85 the "rest of the world" market will account for over 50% of the total, with Europe and the United States sharing the balance roughly equally.

The distribution of long-haul aircraft in February 1976 was as follows (by value):

Table 18

"Standard" aircraft:	43.0 %	}	100.0
"Wide bodies":	54.8 %		
Supersonic:	2.2 %		
Boeing:	71.5 %	}	100.0
McD. Douglas:	25.5 %		
Other USA	0.5 %		
European:	2.3 %		
Other:	0.2 %		

There has been no significant change since 1974 in the proportions of long-haul aircraft accounted for by the different manufacturers.

d) Short and medium-haul aircraft

Analysis by aircraft type gives the following results (planes in service and on order in February 1976) (in millions of u.a.)⁶:

Table 19

	<u>EEC</u>	<u>Other European countries</u>	<u>Europe</u>	<u>USA</u>	<u>Rest of world</u>	<u>World</u>
B. 727	579.4	433.6	1,013.0	4,666.2	1,060.7	6,739.9
B. 737	378.1	41.3	419.4	900.6	1,189.5	2,509.5
DC 3 - 4	1.1	0.6	1.7	0.7	26.6	29.0
DC 9	385.1	991.5	1,376.6	1,585.0	569.2	3,530.8
DC 10 - 10	50.1	-	50.1	1,586.5	-	1,636.6
Electra	-	0.9	0.9	10.5	14.4	25.8
Lockheed 1011	283.9	-	283.9	1,569.8	651.3	2,505.0
Convair	0.2	0.7	0.9	-	0.6	1.5
USA aircraft	1,677.9	1,468.6	3,146.5	10,319.3	3,512.3	16,978.1
Caravelle	32.1	21.3	53.4	-	11.4	64.8
A 300	226.2	-	226.2	-	261.0	487.2
Mercure	61.0	-	61.0	-	-	61.0
Vanguard	14.0	-	14.0	-	2.1	16.1
Viscount	19.0	0.4	19.4	-	15.8	35.2
Bac 111	213.3	4.5	217.8	21.7	198.7	438.2
Herald	4.4	-	4.4	-	1.0	5.4
Trident	257.9	-	257.9	-	217.7	475.6
H.S. 748	27.0	3.0	30.0	-	138.0	168.0
F 27 - 28	147.5	112.2	259.7	-	582.2	841.9
VFW 614	7.6	-	7.6	-	-	7.6
Europ. aircraft	1,010.0	141.4	1,151.4	21.7	1,427.9	2,601.0
YS 11	-	8.4	8.4	28.8	115.2	152.4
T O T A L	2,687.9	1,618.4	4,306.3	10,369.8	5,055.4	19,731.5

The variation of market sizes and market shares for European short and medium-haul aircraft in 1974-76 was as follows:

Table 20

Markets	Market size			Market share for EEC-built aircraft		
	1974	1976	Change 1974-76	1974	1976	Change 1974-76
EEC	13.8	13.6	- 0.2	42.9	37.5	- 5.4
Other European countries	9.1	8.2	- 0.9	14.1	8.7	- 5.4
Europe	(22.9)	(21.8)	- 1.1	31.5	26.7	- 4.8
United States	52.3	52.6	+ 0.3	0.7	0.2	- 0.5
Rest of world	24.8	25.6	+ 0.8	25.7	28.2	+ 2.5
World	100.0	100.0		13.9	13.2	- 0.7

The relative sizes of the markets for short-haul and medium-haul aircraft remained virtually unchanged since 1974. In spite of the entry into service of Airbuses and Mercures in particular, the European industry experienced a further decline on all markets, except the "rest of the world" owing to sales of Airbuses.

Over a longer reference period (1970-76), the European industry may be said to have held its position on the "western" market.

There has been no change since 1974 in the relative proportions of wide-bodied and standard aircraft, the former representing about 6% of the number and 25% of the value of short and medium-haul aircraft.

The value distribution by manufacturers varied as follows between 1974 and 1976:

Table 21

	1974	1976
Boeing	40.3	46.9
McD. D.	30.4	26.3
Lockheed	14.2	12.8
Europeans	13.9	13.2
Others	1.2	0.8

Boeing's share increased by 6.6 points at the expense of all its competitors, mainly owing to sales of the 727 - 200 in the United States (27 units) and of the 737 - 200 (39 units) in the "rest of the world".

The fleets of the Community (including planes on order) increased by eleven 727 - 200s and fourteen 737 - 200s between 31 October 1974 and 1 February 1976.

For the European aircraft listed in the following table, based on the situation at 1 February 1976, the percentage distribution by markets of planes in service and on order was as follows (European transnational aircraft are included in the "Community market" column).

Table 22

	<u>National market</u>	<u>Community market</u>	<u>Other Europ. countr.</u>	<u>Europe</u>	<u>USA</u>	<u>Rest of world</u>	<u>World</u>
Britannia	37.5	87.5	-	87.5	-	12.5	100
Comet	66.7	66.7	-	66.7	-	33.3	100
V.C.10	62.1	62.1	-	62.1	-	37.9	100
Concorde	-	100	-	100	-	-	100
Caravelle	22.1	49.5	32.9	82.4	-	17.6	100
Mercure	-	100	-	100	-	-	100
A 300	(10)	46.4	(10)	46.4	-	53.6	100
Vanguard	47.8	87.0	-	87.0	-	13.0	100
Viscount	54.0	54.0	1.1	55.1	-	44.9	100
BAC 111	40.9	48.7	1.0	49.7	5.0	45.3	100
Herald	66.7	81.5	-	81.5	-	18.5	100
Trident	54.2	54.2	-	54.2	-	45.8	100
H.S.748	14.3	16.1	1.8	17.9	-	82.1	100
F 27	1.6	21.1	7.6	28.7	-	71.3	100
F 28	-	11.8	22.4	34.2	-	65.8	100
VFW 614	-	100	-	100	-	-	100

For all these programmes together, sales (aircraft in service and on order) break down as follows:

Table 23

- National markets (national programmes)	17.3
- Markets of other member states (national programmes)	5.4
- Transnational aircraft sold in the Community:	<u>24.8</u>
	<u>COMMUNITY:</u>
	47.5
- Other European countries:	4.7
	<u>EUROPE:</u>
	52.2
- United States:	0.7
- Rest of western world:	<u>47.1</u>
	100.0

Certain changes have taken place compared with May 1974, when sales within the Community accounted for 59% of the total and sales in Europe 68%;

B. Helicopter market

Most helicopters built are for the military market, the civil market being still relatively undeveloped.

1. Military helicopter market

Sales of military helicopters in Europe in the ten-year period 1966-75 were as follows¹¹:

Table 24 (numbers)

Country	France	Italy	West Germany	UK	Other European countries	Total	%
Origin							
European-designed	1,000	25	340	770	465	2,600	44
European-manufact. under licence	235	580	500	970	235	2,520	43
Subtotal	1,235	605	840	1,740	700	5,120	87
Imported from USA	245	15	190	20	275	745	13
TOTAL	1,480	620	1,030	1,760	975	5,865	100

Of the total of 5865, about 1500 helicopters have been destroyed or withdrawn from service.

Over the same ten-year period, the American helicopter manufacturing companies sold about 15,000 military helicopters.

The world fleet of military helicopters amounted to about 24,000 units¹² at the end of 1974. At the same time the number of military helicopters in service in Europe (EEC + other European countries) - amounting to 78.5% of the total European helicopter fleet - totalled some 4000 units.

Figures for European manufactured equipments' share of the market are given in paragraph D below which mainly deals with the military aircraft market.

The value distribution of the European military helicopters (by types) is as follows:

Table 25

Light helicopters (less than 3500 kg)	60
Medium helicopters (3500 - 10,000 kg)	32
Heavy helicopters (over 10,000 kg)	<u>8</u>
	100%

2. Civil helicopter market

- Europe: During the same period, 1966-75, about 1300 civil helicopters were sold in Europe.

Their distribution on 31 December 1974 was as follows:

Table 26

<u>France</u>	<u>Italy</u>	<u>West Germany</u>	<u>UK</u>	<u>Other EEC</u>	<u>EEC</u>	<u>Other European countries</u>	<u>Total</u>
170	119	154	360	66	869	221	1090

- United States and Canada: These two countries had a civil fleet of about 4820 helicopters on the same date¹³.

- Rest of world¹³: At the end of December 1974 there were about 2090 civil helicopters in service in the "rest of the world".

The world fleet ("western" world) of civil helicopters thus totalled about 8000 at the end of 1974. This figure varied as follows between 1973 and 1975:

Table 27

	<u>1973</u>	<u>%</u>	<u>1974</u>	<u>%</u>	<u>1975</u>	<u>%</u>	<u>Change 73-75</u>
USA and Canada	4,600	60.6	4,820	60.3	5,670	63.0	11 %
Europe	1,000	13.2	1,090	13.6	1,180	13.1	8.6 %
"Rest of world"	<u>1,990</u>	<u>26.2</u>	<u>2,090</u>	<u>26.1</u>	<u>2,150</u>	<u>23.9</u>	<u>3.9 %</u>
Total including EEC	7,590	100.0	8,000	100.0	9,000	100.0	8.8 %

The percentage distribution of the numbers of civil helicopters by type is as follows:

- light helicopters (up to 3500 kg) : 80%
- medium helicopters (3500 - 10,000 kg) : 18%
- heavy helicopters (over 10,000 kg) : 2%

Overall, the world fleet of civil helicopters has grown since 1966 at an average rate of 9% per year.

In the United States and Canada civil passenger and freight traffic has been growing steadily; a basic growth factor in Europe, on the other hand, is North Sea oil prospecting and drilling.

In addition, helicopters are coming to be used more and more in Europe in agriculture and by public bodies (police, fire brigades, etc.).

3. Market distribution

The breakdown of the world fleet (civil + military) between products of European origin and American origin is estimated at 18 % and 82 % respectively.

C. General and executive aircraft market

1. From 1970 to 1975 the market for light aircraft for general aviation and for executive aircraft grew at an average annual rate of 7.4%, as against 8.7% from 1965 to 1968.

In 1975 it is estimated that about 210,000 planes were in service in the western world, according to light and executive aircraft registrations in ICAO member countries (excluding the USSR, eastern European countries, and China).

It appears that the upward trend of the world fleet of light and executive aircraft will continue in the period 1976-80, and United States forecasts suggest that nearly 200,000 new planes will be delivered in the ten-year period 1981-90.

There was a substantial increase in the number of executive aircraft from 1970 to 1975, with turbojets being outstripped by turboprops.

Overall, these two classes increased from 3000 units in 1970 to 5980 in 1975 (average annual growth 14.7%).

The world fleet of piston-engined light aircraft is numerically larger, increasing from 146,000 in 1970 to nearly 204,000 in 1975 (average annual growth 7%).

Table 28

World light and executive aircraft fleet in 1975							
Propulsion units	Number	%	Geographical distribution	Number	%	US origin	% of total
1. Piston engines			USA and Canada	166,700	79.4	164,200	99
- single-engined	176,000	83.8	Europe	20,100	9.6	9,990	50
- multi-engined	28,000	13.3	- including about 14,700 for the EEC				
2. Turbine engines			"Rest of world"	23,180	11.0	16,200	70
- turbojets	2,500	1.2					
- turboprops	3,480	1.7					
TOTAL	209,980	100.0		209,980	100.0	190,390	91

The above figures are derived from different sources which have been compared and do not always agree; they should therefore be regarded as being accurate only to within a few hundred planes.

The following points emerge from Table 28:

- 99% of the light and executive aircraft fleet of the United States and Canada is made up of planes of US origin;
- US machines represent only 50% of the total in the European fleet;
- US planes account for 70% of the "rest of the world" market.

Aircraft manufactured in the USA make up 91% of the overall world fleet. The Community's share is less than 9%, as there are also Japanese, Australian and Brazilian manufacturers.

The composition of the light and executive aircraft fleet of the Community was as follows in 1974:

Table 29

	<u>Number</u>	<u>% aircraft of US origin</u>
West Germany	3,590	70
Belgium	581	49
Denmark	300	67 (estimation)
France	3,192	27
Ireland	80	35
Italy	1,219	34
Luxembourg	36	44
Netherlands	500	45 (estimation)
UK	<u>3,210</u>	<u>57</u>
TOTAL	14,708	47

The information given in Table 28 must be supplemented by value estimates.

The following estimates are based on average prices in 1974 (value of aircraft when new):

Table 30

<u>Propulsion units</u>	<u>Number</u>	<u>1974 value ranges in millions of u.a.</u>	<u>Average unit value in millions of u.a.</u>	<u>Average total value in millions of u.a.</u>
1. Piston engines				
- single-engined	176,000	0.008 - 0.056	0.032	5,632
- multiengined	28 000	0.040 - 0.200	0.120	3,360
2. Turbines				
- turbojets	2,500	0.632 - 2.800	1.716	4,290
- turboprops	3,480	0.344 - 0.720	0.532	1,851
	<u>209,980</u>			<u>15,133</u>

It is worth noting that the 6,000 turbine aircraft have a greater market value than the 176,000 piston engined aircraft.

D. Military aircraft market

An analysis of military aircraft and helicopter fleets¹⁴ (excluding those of the socialist countries) shows the relative shares of EEC industry-designed¹⁵ and American-designed planes as at 31 December 1974. This basis for classification was preferred to one based on place of manufacture, which would not have covered production under licence.

Table 31

EEC - and American-designed aircraft - distribution on the EEC market

	HELICOPTERS					FIXED-WING AIRCRAFT					TOTAL				
	European-designed		American-designed		Total	European-designed		American-designed		Total	European-designed		American-designed		Total
	Value (millions of u.a.)	%	Value (millions of u.a.)	%	Value (millions of u.a.)	Value (millions of u.a.)	%	Value (millions of u.a.)	%	Value (millions of u.a.)	Value (millions of u.a.)	%	Value (millions of u.a.)	%	Value (millions of u.a.)
Germany	1062.2	33.0	2158.7	67.0	3220.9	1088.1	31.4	2380.5	68.6	3468.6	25.9	10.5	221.8	89.5	247.7
Belgium	126.1	31.0	280.7	69.0	406.8	134.7	32.3	281.9	67.7	416.6	8.6	87.8	1.2	12.2	9.8
(45) Denmark	99.7	54.1	84.7	45.9	184.4	100.8	52.4	91.7	47.6	192.5	1.1	13.6	7.0	86.4	8.1
France	2210.1	93.7	149.6	6.3	2359.7	2518.5	94.3	153.2	5.7	2671.7	308.4	98.8	3.6	1.2	312.0
(45) Ireland	1.1	100.0	-	-	1.1	1.9	100.0	-	-	1.9	0.8	100.0	-	-	0.8
Italy	545.8	46.6	625.0	53.4	1170.8	592.4	43.2	778.4	56.8	1370.8	46.6	23.3	153.4	76.7	200.0
Netherlands	63.8	17.2	307.9	82.8	371.7	75.7	19.6	310.5	80.4	386.2	11.9	82.1	2.6	17.9	14.5
UK	1849.4	63.8	1050.4	36.2	2899.8	2177.1	67.5	1050.4	32.5	3227.5	327.7	100.0	-	-	327.7
EEC	5958.2	56.1	4657.0	43.9	10615.2	6689.2	57.0	5046.6	43.0	11735.8	731.0	65.2	389.6	34.8	1120.6

Table 32

World market distribution for E E C -designed aircraft							
	FIXED-WING AIRCRAFT		HELICOPTERS		TOTAL		% of total
	Number	Value (millions of u.a.)	Number	Value (millions of u.a.)	Num-ber	Value (millions of u.a.)	
United States	82	295.2	-	-	82	295.2	9.3
Canada	5	4.0	-	-	5	4.0	0.1
Latin America	81	336.1	80	16.6	461	352.7	11.2
Europe other than EEC	63	512.1	302	65.4	1065	577.5	18.3
Middle East and north Africa	869	752.6	191	182.8	1060	935.4	29.6
Africa south of Sahara and Malagasy Republic	233	55.9	78	41.2	311	97.1	3.1
South Africa and Rhodesia	418	440.8	116	83.5	534	524.3	16.6
Asia	459	217.6	136	42.2	595	259.8	8.2
Australia	104	74.2	28	19.1	132	93.3	3.0
Oceania	30	19.6	3	0.8	33	20.4	0.6
TOTAL	3344	2708.1	934	451.6	4278	3159.7	100.0

Table 31 shows the importance of the military market in the EEC as a whole and the differences in quantities and origins as between the member states.

Table 32 shows the importance of certain markets for the European industry, e.g., the Middle East and North Africa, Europe other than the EEC, South Africa and Rhodesia.

E. International trade in civil aircraft

International trade in aerodynes (helicopters, airliners and light aircraft) and parts and spares was as follows in 1974 (millions of u.a.; source SOEC):

Table 33

Origin	Importing countries								
	EEC	West Germany	France	Italy	Netherlands	Belgium/ Luxembourg	UK	Ireland	Denmark
West Germany	62.9	-	15.5	4.5	22.4	12.0	8.1	0.2	0.2
France	160.3	36.5	-	14.4	8.7	14.4	85.0	0.4	0.9
Italy	14.5	2.1	6.9	-	1.0	2.3	2.1	-	0.1
Netherlands	23.4	10.3	7.3	2.1	-	2.2	1.4	-	0.1
Belgium/ Luxembourg	15.5	0.6	9.4	1.2	2.7	-	1.3	0.1	0.2
UK	110.3	30.6	59.9	5.8	10.2	2.6	-	0.7	0.5
Ireland	0.4	...	-	...	...	0.3	0.1	-	...
Denmark	5.8	0.3	4.2	...	0.8	0.5	...	...	-
EEC	393.1	80.4	103.2	28.0	45.8	34.3	98.0	1.4	2.0
USA	876.2	235.8	216.3	126.3	107.0	95.4	52.9	5.5	36.0
"Rest of world	77.3	5.6	14.9	3.0	10.4	7.3	33.6	-	2.5
Secret	139.8						139.8		
World	1,486.4	321.8	334.4	157.3	164.2	137.0	324.3	6.9	40.5

... : negligible

Imports of civil aerodynes and parts are comparable in West Germany, France and the UK; the aggregate imports of these three countries represent over two thirds of Community imports as a whole.

Community imports originate mainly (58.9%) from the United States; airliners from the USA account for 39.4% of total imports of aerodynes and aerodyne parts and spares,

while trade between member states represents only 26.4%.

International trade in aero engines and spares was as follows in 1974
(millions of u.a.; source SOEC):

Table 34

Origin	Importing countries								
	EEC	West Germany	France	Italy	Netherlands	Belgium/ Luxembourg	UK	Ireland	Denmark
West Germany	56.9	-	3.5	3.1	2.2	15.1	32.9	-	0.1
France	88.3	12.3	-	0.7	6.0	15.1	53.1	0.5	0.6
Italy	13.4	2.7	0.1	-	0.4	1.0	9.2	-	-
Netherlands	10.1	4.0	2.8	0.1	-	2.6	0.5	-	0.1
Belgium/ Luxembourg	11.1	5.0	3.7	0.1	0.7	-	1.5	-	0.1
UK	136.4	41.8	53.1	12.9	22.9	4.7	-	0.5	0.5
Ireland	...	...	-	-	-	...	...	-	-
Denmark	6.5	0.2	...	...	2.2	3.7	0.4	-	-
EEC	322.7	66.0	63.2	16.9	34.4	42.2	97.6	1.0	1.4
USA	518.2	70.6	230.9	42.3	20.6	5.7	126.9	2.4	18.8
"Rest of world"	208.7	8.5	4.6	5.3	53.6	9.4	127.1	...	0.2
World	1,049.6	145.1	298.7	64.5	108.6	57.3	351.6	3.4	20.4

... : negligible

Like those of aerodynes, member states' imports of engines and engine parts and spares originate mainly (49.4%) from the United States, consisting primarily of parts and spares for jet and turboprop engines (44%, about half of which come from the USA, going mainly to France and the UK) and turbojet engines for aerodynes (40% - about half of this being from the USA - mainly to France); intra-Community trade makes up only 30.7% of the total.

II. PRODUCTION FACILITIES

A. Sector and subsectors

1. Sales

The general position of the sector in the western world¹⁶ is characterized by the predominant role of the United States industry. The share of the United States, although falling, still exceeds 68% 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. for aerospace products and services only)

Table 35

	1970		1971		(R) 1972		(R) 1973		1974	
		%		%		%		%		%
United States (17)	22,286	80.4	19,663	77.2	18,676	73.3	17,172	70.2	17,802	68.8
Canada (18)	659	2.4	596	2.4	581	2.3	532	2.2	589	2.3
Community (19)	4,124	14.9	4,307	16.9	5,274	20.7	5,744	23.5	6,259	24.2
Other European countries (20)	157	0.6	204	0.8	235	0.9	305	1.2	360	1.4
Europe	(4,281)	(15.5)	(4,511)	(17.7)	(5,509)	(21.6)	(6,049)	(24.7)	(6,619)	(25.6)
Japan (21)	306	1.1	309	1.2	405	1.6	394	1.6	546	2.1
Other western countries (22)	187	0.6	382	1.5	316	1.2	320	1.3	326	1.2
	27,719	100.0	25,461	100.0	25,487	100.0	24,467	100.0	25,882	100.0

Figures given in the above table have been revised compared with those in the documents dated March 1972, December 1973 and April 1975, further information having become available. It will be seen that the value in current units of account has remained very steady since 1971; this indicates a fall in the real value of the products and services of the aerospace industry.

(R): Revised

Final sales for the Community countries, total final sales for the EEC as a whole, and United States final sales have varied as follows since 1969 (in millions of current u.a.; revised series: see footnotes for each country):

Table 36

	<u>West Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>	<u>USA</u>
	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(17)
1969	598	42	1,252	208	109	1,743	3,952	23,427
1970	787	40	1,339	232	115	1,611	4,124	22,286
1971	842	51	1,418	224	122	1,647	4,307	19,663
1972	929	67	1,564	367	173	2,174	5,274	18,676
1973	1,119	60	1,960	347	157	2,101	5,744	17,172
1974	1,159	71	2,161	345	135	2,388	6,259	17,802

The figures in the above table from 1972 onwards are those given by the national manufacturers' associations in each member state.

For West Germany and the UK, the figures published by the relevant ministries are as follows³⁰:

Table 37

	<u>West Germany</u>	<u>UK</u>
1972	1,022	1,808
1973	1,178	1,634
1974	1,338	1,976

In addition, the AIA has pointed out that the 1972 and 1973 figures for Italy relate to firms employing 79 and 83% respectively of the labour force of the Italian aerospace industry. On the basis of this and other information, it seems that the Italian final total sales in 1974 amount to between 400 and 450 million u.a.

The figures given in Table 36 are in millions of u.a. at the values of the years concerned (current u.a.). In the following table, the results are corrected and expressed in "real" terms. Price indices for GDP and 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.

Sales at constant 1969 prices have thus varied as follows³¹:

Table 38

	<u>West Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>	<u>USA</u>
1969	598	42	1,252	208	109	1,743	3,952	23,427
1970	685	38	1,364	217	109	1,502	3,915	21,144
1971	679	40	1,368	196	107	1,406	3,805	17,843
1972	677	56	1,418	306	135	1,815	4,407	17,708
1973	732	46	1,656	303	112	1,906	4,755	17,842
1974	688	40	1,780	287	85	1,995	4,884	16,832

Clearly, the growth of the European industry's sales at an average annual compound rate of 4.3% has enabled the industry to catch up to some extent on that of the United States: European sales rose from the equivalent of 16.8% of United States sales in 1969 to 29.0% in 1974.

It is interesting to compare the variation of aerospace industry sales with that of GDP at constant prices and at 1969 exchange rates over the period 1969-74:

Table 39

Percentage for the period

	<u>West Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>E.E.C.</u>	<u>USA</u>
Aero- space industry	+ 15.0	+ 16.6	+ 42.1	+ 37.9	- 22.0	+ 14.4	+ 23.5	- 28.1
GDP	+ 18.7	+ 28.8	+ 29.4	+ 20.8	+ 24.7	+ 14.7	+ 21.6 ^(x)	+ 12.1
Compound average annual rate								
Aero- space industry	+ 2.8	+ 3.1	+ 7.3	+ 6.6	- 4.0	+ 2.7	+ 4.3	- 5.0
GDP	+ 3.5	+ 5.2	+ 5.2	+ 3.9	+ 4.5	+ 2.7	+ 3.9 ^(x)	+ 2.3

* Community of Nine

The aerospace industry has grown faster than GDP in the Community as a whole and in France and Italy. This means that the aerospace industry now accounts for a slightly higher proportion of the GDP of the Community as a whole, whereas its share of GDP in the United States has declined sharply although the sector is relatively more important in the United States than in the Community:

Table 40

	<u>EEC</u>		<u>United States</u>	
	<u>1969</u>	<u>1974</u>	<u>1969</u>	<u>1974</u>
Sales of the aerospace industry as a percentage of GDP	0.718	0.730	2.485	1.591

Within the Community, the relative importance of the aerospace industry is greatest in the UK (1.577%) and in France (1.014%).

The action taken to improve the statistics has borne fruit and the latest figures available are for 1974. On the basis of these statistics, overall and final sales can be analysed at sector and subsector level.

For each country, the following should be distinguished:

- overall sales, which include transactions (sales of aerospace goods and services) between aerospace firms in the relevant country;
- final sales (output of the aerospace sector), which does not include transactions between aerospace firms in the country concerned.

The difference between overall 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.

Overall sales in EEC countries in 1974 were as follows (in millions of current u.a.)³²:

Table 41

<u>West Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>
1,470	70	2,547	385	135	2,755	7,362

The breakdown by subsectors is as follows* :

Table 42

	<u>West Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>
Aircraft	63	54	59	63	92	35	51
Engines	14	19	19	19	-	36	24
Equipment	16	17	19	14	6	28	21
Space	$\frac{7}{100}$	$\frac{10}{100}$	$\frac{3}{100}$	$\frac{4}{100}$	$\frac{2}{100}$	$\frac{1}{100}$	$\frac{4}{100}$

The aircraft sector dominates in the Netherlands and is very important in the other Community countries; the best balance between the three principal subsectors - aircraft, engines and equipment - is found in the UK.

Elimination of amounts (see footnote 32) representing transactions within the industry in a given country yields the final national sales figures, which represent the actual level of activity in each country. (already given in table 36).

* This analysis is better than one of final sales would be because sales between subsectors are not eliminated . Sales of the aircraft subsector include the value of equipment and engines purchased by the airframe manufacturers, thus entailing an underestimate of the relative contribution of these two subsectors to total aerospace sales.

According to available information, final sales were as follows in 1974:

Table 43

(in millions of current u.a.)

	<u>Aircraft</u>	<u>Engines</u>	<u>Equipment</u>	<u>Space</u>	<u>TOTAL</u>
West Germany	671,3	189.7	208.4	90.0	1,159.4
Belgium	38,4	13,8	11,8	6.8	70.8
France	1,428,6	424.8	221,0	86.3	2,160.7
Italy	222.9	66.9	40.9	14,2	344.9
Netherlands	123.4	-	8.1	3,0	134.5
UK	941,0	841.4	568.2	37.1	2,387.7
TOTAL	3,425.6	1,536,6	1,058,4	237.4	6,258.0

The figures under the heading "Total" represent the sum of the final national sales totals.

The final sales of each Community country include aerospace goods and services transactions between manufacturers and suppliers in that country and in other member states (see footnote 33). The percentage variation of these figures is interesting because it is a measure of the volume of intra-Community cooperation relative to the final sales of each Community country:

Table 44

	<u>1972</u>	<u>1973</u>	<u>1974</u>
West Germany	7.0	4.8	14.7
Belgium	45.6	42.0	56.9
France	9.3	10.7	9.3
Italy	11.0	14.6	11.0
Netherlands	1.0	2.3	5.6
UK	7.8	13.0	13.6
TOTAL	8.6	11.3	12.5

It will be seen that the trend is for the percentage of final sales relating to intra-Community cooperation to increase. In 1973 and 1974, the amounts represented by intra-Community cooperation exceeded 70% of the value of national transactions (49% in 1972), whereas sales of aerospace goods and services to aerospace firms in non-EEC countries amounted to about 38% in 1973 and 31% in 1974 of the volume of national transactions.

Deducting transactions between firms in the Community from aggregate final national sales, we obtain the final sales figures for the Community, which break down as follows:

Table 45

(millions of 1974 u.a.)

<u>Aircraft</u>	<u>Engines</u>	<u>Equipment</u>	<u>Space</u>	<u>EEC final sales</u>
3,068.9	1,282.7	930.0	193.7	5,475.3

Final sales in the Community and the United States have varied as follows since 1972 (millions of current u.a.):

Table 46

	<u>EEC</u>	<u>United States</u>
1972	4,850	18,676
1973	5,126	17,172
1974	5,475	17,802

In this period, final sales increased by 12.8 % in the EEC and declined by 4.6 % in the United States.

The final sales figure for the Community breaks down as follows (separate figures for the civil and military sectors):

Table 47

(in millions of 1974 u.a.)	<u>Civil</u>	<u>Military</u>
1. <u>State</u>		
- <u>Research and development</u>		
West Germany	54.9	291.5
Belgium	0.7	0.1
France	189.7	316.0
Italy	3.8	14.7
Netherlands	8.3	1.2
UK	<u>137.2</u>	<u>255.2</u>
	394.6	878.7
- <u>Sales, repairs and maintenance</u> <u>for the State</u>		
West Germany	25.9	516.8
Belgium	1.2	21.0
France	22.2	495.4
Italy	8.6	137.2
Netherlands	-	6.6
UK	<u>27.1</u>	<u>585.5</u>
	85.0	1,762.5
2. <u>Aerospace firms in</u> <u>non-EEC countries</u>		
West Germany	19.3	25.4
Belgium	0.5	0.2
France	-	35.6
Italy	22.8	34.2
Netherlands	0.7	0.6
UK	<u>157.6</u>	<u>41.9</u>
	200.9	137.9

Table 47 continued

	<u>Civil</u>		<u>Military</u>	
3. <u>End users</u>				
- <u>national</u>				
West Germany	18.6			
Belgium	0.2			
France	249.2			
Italy	1.7			
Netherlands	7.2			
UK	<u>137.0</u>			
	413.9			
- <u>Community</u>				
West Germany	0.3		6.1	
Belgium	0.5		4.7	
France	13.8		48.1	
Italy	8.5		2.4	
Netherlands	-		7.6	
UK	<u>46.6</u>		<u>37.0</u>	
	69.7		105.9	
- <u>non-EEC</u>				
West Germany	19.1		10.4	
Belgium	1.7		-	
France	112.7		477.0	
Italy	3.3		69.7	
Netherlands	94.7		-	
UK	<u>237.4</u>		<u>400.2</u>	
	468.9		957.3	
Grand total EEC	1633.0	+	3842.3 =	5475.3
- percentages	29.9	+	70.1 =	100.0

Over 70% of the Community's final sales thus relate to the military sector, the breakdown in accordance with the headings of the previous table being as follows:

Table 48

(percentages)		
	<u>Civil</u>	<u>Military</u>
1. <u>State</u>		
R & D	7.2	16.0
Sales, repairs and maintenance	1.5	32.2
Governments of other Community countries		1.9
2. <u>Firms in non-EEC countries</u>		
	3.7	2.5
3. <u>End users</u>		
- national	7.6	
- Community	1.3	
- non-EEC	<u>8.6</u>	<u>17.5</u>
	29.9	70.1

The military sector accounted for 65% of total final sales in the United States in 1974.

Although, as stated, the best possible calculation of the distribution by subsectors is in terms of overall national sales, a comparison between the EEC and the United States can only be made on the basis of final sales, in which there has been little change since 1972-73.

Table 49

(percentages)	Breakdown of final sales by subsectors							
	<u>Aircraft</u>		<u>Engines</u>		<u>Equipment</u>		<u>Space</u>	
	<u>1972-73</u>	<u>1974</u>	<u>1972-73</u>	<u>1974</u>	<u>1972-73</u>	<u>1974</u>	<u>1972-73</u>	<u>1974</u>
EEC	54.2	56.1	25.1	23.4	17.5	17.0	3.2	3.5
United States	43.5	45.8	13.0	13.6	15.3	14.9	28.2	25.7

The space sector in the Community (sales of the industry's goods and services only, as before) is still small in relative terms compared with its United States counterpart, so that the relative importance of the "aeronautical" subsectors is greater than in the case of the United States.

An interesting comparison is the apportionment of final sales in the Community and in the United States as between the State, the domestic civil market and exports in the following activities and subsectors:

- aerospace activities
- aeronautical activities
- aircraft, engines and equipment subsectors.

Table 50

Percentage of final sales accounted for by broad categories of customers:				
	<u>EEC</u>		<u>United States</u>	
	<u>1972-73</u>	<u>1974</u>	<u>1972-73</u>	<u>1974</u>
<u>Aerospace activities</u> ³⁴				
State:	59.7	58.9	77.1	68.2
Domestic civil market	11.0	8.8	9.9	9.7
Exports	29.3	32.3	13.0	22.1
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
<u>Aeronautical activities</u>				
State:	58.3	58.2	51.5	48.5
Domestic civil market	11.4	8.5	20.9	15.7
Exports	30.3	33.3	27.6	35.8
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
<u>Subsectors: Aircraft</u>				
State:	57.7	54.8	45.6	43.8
Domestic civil market	8.4	7.6	19.4	9.9
Exports	33.9	37.6	35.0	46.3
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
<u>Engines</u>				
State:	61.3	59.4	52.3	48.6
Domestic civil market	9.0	9.5	23.1	23.1
Exports	29.7	31.1	24.6	28.2
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

(continued)	<u>EEC</u>		<u>United States</u>	
	<u>1972-73</u>	<u>1974</u>	<u>1972-73</u>	<u>1974</u>
<u>Equipment</u>				
State:	56.1	67.9	67.4	62.7
Domestic civil market	24.0	10.3	23.5	26.4
Exports	<u>19.9</u> 100.0	<u>21.8</u> 100.0	<u>9.0</u> 100.0	<u>10.9</u> 100.0

Figures for the individual subsectors and Community countries are given in footnote 35.

A number of points can be made before we engage in a more detailed examination of the structure of the part played by the State:

- Although appreciably reduced compared with 1972-73, State backing for the industry is still higher in relative terms in the United States (68.2%) than in the Community (58.9%). This is due solely to the scale of State contracts for space activities; the State plays a relatively less important part in aeronautical activities in the United States (48.5%) than in the Community (58.2%).
- Considering aeronautical activities only, whereas European governments have maintained their proportion of the industry's sales, the United States Government has reduced its proportion.
- The relative importance of the domestic civil market has greatly declined in the composition of sales of the United States industry.
- These two reductions in United States national orders have been offset by a very substantial increase in the proportion of exports, which have risen from 27.6% to 35.8% (+ 8.2%).
- The relative increase in EEC exports, however, was only 3 points, and these were at the expense of the domestic civil market.

This analysis shows that during the recent crisis period for sales (particularly civil sales) the United States industry has succeeded in further strengthening its already dominant position by increasing its exports.

This is particularly evident in the aircraft sector, in which United States exports rose from 35 to 46.3% of the sales of this subsector.

United States exports of civil aircraft have varied as follows:

Table 51

<u>Civil</u> <u>Aircraft</u> weighing 33,000 lb or more: (i.e., mainly airliners)	<u>Number</u>	<u>Value</u> (in millions of current u.a.)
1972	105	1036.2
1973	128	1330.9
1974	228	2128.4
<u>Military</u> <u>Aircraft</u> :		
1972	561	355.0
1973	608	632.6
1974	736	880.9

In the engines and equipment subsectors, the domestic civil market is more important in the United States than in the Community. Whereas exports of engines are of roughly equal importance in the United States and the Community (about 30% of the total), exports of equipment are relatively more important in the Community than in the United States; again, the role of the State is more important on both sides of the Atlantic in this subsector than in the other two aeronautical subsectors.

Structure of the State's role

In the Community, the government role in the civil and military sectors takes the form of maintenance and purchase contracts concluded with the industry and research and development contracts.

In the United States, Federal funding of R & D has been as follows in recent years:

Table 52

(millions of u.a.)	<u>NASA</u>	<u>Department of Defense</u>	<u>Department of Transportation</u>
1972	219	1819	88
1973	250	1439	60
1974	222	1342	59

In the three subsectors military purchase and maintenance contracts are the most important, particularly in the equipment subsector, followed by engines and finally aircraft; on the other hand, military R & D contracts are relatively more important in the aircraft subsector than in that of equipment.

It is only in the engines subsector that civil contracts (purchase, maintenance and R & D) account for more than 15% of total State spending in the industry.

2. Labour force

- Sector as a whole

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

Table 55

	1969	1970	1971	1972	1973	1974	1975
West Germany (36)	52,076	56,206	55,173	52,455	52,985	52,982	51,914
Belgium (37)	4,500	4,700	4,849	4,941	4,380	4,422	
France (38)	96,977	103,364	108,646	108,525	106,132	106,769	106,936
Italy (39)	27,000	29,500	28,000	28,500	30,000	31,500	
Netherlands (40)	7,000	8,000	8,000	6,600	7,000	6,555	
UK (41)	245,600	235,100	217,800	207,500	201,700	210,100	
EEC	433,153	436,870	422,468	408,521	402,197	412,328	
USA (42)	1,402,000	1,166,000	951,000	922,000	948,000	965,000	
Canada (43)	44,400	36,510	28,700	28,800	31,600	28,400	
Japan (44)	23,100	25,600	26,500	26,000	26,026	25,550	

It will be seen that the labour force declined in the Community until 1973, because of the reduction in the British labour force, but this was followed in 1974 by an increase, due mainly to an expansion of the British labour force and to a lesser extent also that of Italy.

The labour force in the United States has been slowly rising again since its low point in 1972.

The distribution of the labour force by subsectors was as follows on 31 December 1974, except as stated in notes:

Table 56

	<u>West Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u> ⁴⁵	<u>UK</u>	<u>EEC</u>	<u>USA</u>
Aircraft	34,977	2,772	59,993	19,215	6,000	93,992	216,949	448,000
Engines	6,902	1,023	22,352	5,040	-	93,992	129,309	226,600
Equipment	9,676	413	24,424	5,985	400	22,116	63,014	149,500
Space	1,427	214(cf texte)	1,260	155	(cf texte)	3,056	140,900	
Total	52,982	4,422	106,769	31,500	6,555	210,100	412,328	965,000

The difference in the distribution of the labour force among the subsectors makes it difficult to compare the workforces of the EEC and the United States; the detailed breakdown for the latter is as follows:

- airframes 289,300
- aero engines and parts 146,200
- other parts of aircraft and equipment 96,500
- missiles and space 91,000
- communications equipment 132,000
- other 210,000

965,000 persons employed in the
aerospace industry

Labour engaged on missile and space products manufacture is included in the aircraft subsector in France and in the other subsectors in the UK.

B. FIRMS

1. Sales, value added and staff numbers of the principal firms

The following table shows the variation of sales (in millions of current u.a.) of the principal European and United States aerospace firms listed in descending order in accordance with 1974 figures.

Table 57⁽⁴⁶⁾

(millions of u.a.)

Country	Firm	1971	1972	1973	1974
USA	Boeing	3,039.8	2,194.0	2,668.1	2,984.5
USA	Lockheed	2,852.3	2,289.5	2,205.4	2,623.2
USA	McDonnell Douglas	2,069.0	2,523.7	2,402.1	2,460.0
USA	General Dynamics	1,869.0	1,425.0	1,313.4	1,574.4
USA	Pratt & Whitney	1,480.0	1,353.0	1,358.0	1,552.0
USA	General Electric	1,620.0	1,402.0	1,289.0	1,533.0
USA	Rockwell Int.	—	631.0	761.0	935.0
USA	Grumman	799	632	870	890
UK	Rolls Royce (1971)(47)	444.4	857.8	845.4	878.2
F	Aérospatiale	582.6	613.0	641.4	780.9
F	Dassault-Breguet	316.3	391.4	623.8	608.1
UK	BAC	382.0	350.8	341.2	509.0
"G"	MBB	316.6	331.4	366.3	462.5
PB /"G"	VFW Fokker	276.3	346.7	420.2	422.3
UK	Hawker Siddeley	546.0	419.0	395.0	352.0
F	SNECMA	248.0	286.2	312.6	295.0
"G"	MPU Munich	106.4	120.8	167.0	164.2
"G"	Dornier	85.8	133.8	147.3	161.6
UK	Westland	138.2	141.2	134.7	154.2
I	Aeritalia	—	128.1	115.3	99.4
F	Turbomeca	68.7	73.3	86.3	107.1
I	Agusta	70.1	83.8	78.7	88.9
UK	Short Brothers	—	56.0	54.0	46.0
B	SABCA	19.0	28.0	25.0	27.0
B	Fairey	9.0	11.0	9.0	18.0

Table 58 shows how staff numbers have varied in the same firms.

Table 58⁴⁸

Country	Firm	1971	1972	1973	1974
USA	Boeing	56,300	58,600	63,200	75,400
USA	Lockheed	74,400	69,600	66,900	62,100
USA	Mc. Donnell Douglas	92,105	86,713	78,799	70,739
USA	General Dynamics	66,900	60,900	62,400	n.d.
USA	Pratt & Whitney	51,000	n.d.	33,000	33,500
USA	General Electric	26,000	23,000	23,000	23,000
USA	Grumman	24,000	25,400	27,000	30,000
UK	Rolls Royce (1971)	62,000	63,282	61,446	61,924
F	Aérospatiale	43,389	42,701	41,399	40,242
F	Dassault-Breguet	15,033	14,963	14,855	15,161
UK	BAC	34,993	33,955	34,124	34,994
"G"	MBB	20,265	18,128	18,697	19,978
PB / "G"	VFW Fokker	19,200	17,200	17,120	17,978
UK	Hawker Siddeley	35,000	35,000	35,000	35,000
F	SNECMA	14,700	17,188	19,068	19,095
"G"	MTU Munich	4,900	6,000	11,871	11,333
"G"	Dornier	7,726	7,603	7,136	7,000
UK	Westland	12,532	12,247	11,414	11,904
I	Aeritalia	n.d.	8,140	8,100	n.d.
F	Turbomeca	4,097	4,329	4,436	4,558
I	Agusta	2,443	2,877	3,097	3,392
UK	Short Brothers	n.d.	n.d.	6,500	6,000
B	SABCA	1,960	1,850	1,800	1,750
B	Fairey	1,100	930	960	1,150

The largest European firms are typically about 30% of the size of the largest US companies, and this ratio has not changed significantly since 1972. The following table shows the importance of the part played by the largest companies:

Table 59

<u>Percentage of final sales</u>	<u>1972</u>	<u>1974</u>	<u>1972</u>	<u>1974</u>
	<u>Community</u>		<u>United States</u>	
- largest company	17.6	16.0	13.5	16.7
- two largest companies	30.3	30.8	25.7	31.5
- three largest companies	38.9	41.9	37.5	45.3
- four largest companies	47.0	51.2	45.1	54.1
- five largest companies	54.4	59.7	52.6	62.8
- six largest companies	61.6	67.6	59.9	71.4
- seven largest companies	68.4	74.0	63.2	76.7
- eight largest companies	74.3	79.4	66.6	81.7

There has been a slight increase in concentration in the Community since 1972, although this only begins to become significant at the level of the five largest firms. In the United States, however, concentration has increased substantially (15.1 points for the eight largest companies), and this increase is quite evident even when the two largest companies only are considered.

In 1972 the degree of concentration was slightly lower in the United States than in the Community, but in 1974 it was comparable in the two areas; now, however, it is higher in the United States than in the Community.

However, these considerations of company size and degree of concentration are not indicative of the competitiveness of the European industry compared with that of the USA. In particular, two major factors do not emerge from these figures:

- The level of a firm's sales gives no indication of the nature of its activities - in particular, the volume of subcontracting, production under licence and R & D.
- A listing of firms by sales figures takes no account of the major factor of collaborative projects. For instance, if Airbus-Industrie were regarded as an aerospace company by adding together the sales figures of all the collaborating companies, the total would be comparable with the level of sales of the US companies.

Moreover the only method of comparison which seems valid is to examine companies from the standpoint of figures for their annual average added value, taken over a reasonably long period and using published company accounts.

The services of the Commission have carried out this exercise. They feel that they should publish the results as soon as possible and in any event include them in the next version of this document. In the meantime, they will attempt to clarify for industry all the details of the method of analysis used.

2. Helicopter manufacturers

Almost all the helicopters made in Europe are built by four companies:

- Aérospatiale's helicopter division in France
- Agusta in Italy
- MBB (Helikopter Technik, Munich) in Germany
- Westland Helicopters Division in the UK

Sales and staff numbers of these divisions or companies were as follows in the years stated (millions of u.a.):

Table 60

	<u>SALES</u>			<u>Staff numbers in 1975</u>
	<u>1973</u>	<u>1974</u>	<u>1975</u>	
Aérospatiale	200.7	222.1	264.7	8,200
Agusta ⁴⁹	78.7	88.9	111.2	5,516
MBB	66.3	77.9	62.1	1,500
Westland	93.2	100.2	125.6	7,461
	<u>438.9</u>	<u>489.1</u>	<u>563.6</u>	<u>22,677</u>

Staff engaged on helicopter manufacture in the United States amount to about 27,000, some 9600 of whom work for Bell Helicopters, 6500 for Sikorsky, 5000 for Boeing-Vertol, 3000 for Hughes and 2500 for Kaman.

Sales of the United States helicopter firms were as follows in 1973 and 1974 (millions of u.a.):

Table 61

	<u>1973</u>	<u>1974</u>
Civil helicopters	96.8	151.2
Military helicopters	244.8	159.8
	<u>341.6</u>	<u>311.0</u>

The figures in table 61 do not include the value of helicopters manufactured under licence outside the United States (mainly in Europe). They also do not include the value of parts and spares.

The latter probably amounts to about 30% of the value of new helicopters produced. Helicopter production in the United States was thus probably worth some 404 million u.a. in 1974 (in the same year the value of European production is estimated at 489 million u.a.).

3. Light and executive aircraft manufacturers

Sales by these manufacturers were as follows (in millions of u.a.):

Table 62

	<u>1972</u>	<u>1973</u>	<u>1974</u>
	161.0	216.5	223.0

It is estimated that between 18,500 and 20,000 persons are engaged in the manufacture of light and executive aircraft in the Community. There are 13 firms, 5 of which are in France, 4 in Italy, 2 in the UK, one in West Germany and one in Belgium.

In addition to civil light and executive aircraft, the estimated total sales given in Table 62 cover aircraft of these kinds for military applications and subcontracted assemblies for commercial aircraft and helicopters, as well as engines for light aircraft in some cases.

The following numbers of aircraft were manufactured in the years stated:

Table 63

	<u>1972</u>	<u>1973</u>	<u>1974</u>
Light aircraft	1,400	1,500	1,200
Executive aircraft	45	100	70
	<u>1,445</u>	<u>1,600</u>	<u>1,270</u>

About a third of the light aircraft made in the Community are manufactured under Cessna licence. In terms of numbers, the United States produces about ten times as many planes as the Community.

The number of aircraft produced in the United States and their value were as follows in recent years:

Table 64

	<u>1972</u>	<u>1973</u>	<u>1974</u>
Number	9,774	13,645	14,165
- single-engined	7,357	10,633	11,000
Total value (millions of u.a.)	516.3	661.1	726.2
- value of single-engined planes	152.6	188.9	198.4

Cessna, Beech and Piper account for about 68% of the total value of United States production of these aircraft. These three companies (of the 13 in the United States) service over 80% of the domestic market and also hold 47% of the light and executive aircraft market in the Community.

4. Airborne equipment firms

There are in the Community 300 airborne equipment firms whose sales of airborne equipment exceed 400,000 u.a.; half of these firms have sales of airborne equipment exceeding 2 million u.a. .

Table 65

	Airborne equipment sales (in millions of u.a.)						Total number of companies
	0.4 - 2	2 - 4	4 - 10	10 - 20	20 - 40	>40	
Belgium	5	3	-	-	-	-	8
Denmark	5	-	-	-	-	-	5
France	34	10	19	9	5	3	80
Ireland	3	-	-	-	-	-	3
Italy	21	10	7	2	-	-	40
Netherlands	5	-	-	-	1	-	6
West Germany	30	14	13	6	2	-	65
UK	46	11	19	8	3	6	93
Total EEC	149	48	58	25	11	9	300

2 million u.a.; these are classified in Table 66 according to the proportion of their total sales

accounted for by airborne equipment (the figures relate to 1973):

Table 66

Number of companies by percentages of total sales accounted for by airborne equipment								
	< 10%	10 - 20	20 - 30	30 - 50	50 - 75	75 - 90	> 90%	Total
Belgium	3	-	-	-	-	-	-	3
Denmark	-	-	-	-	-	-	-	-
France	5	5	3	6	8	6	13	46
Ireland	-	-	-	-	-	-	-	-
Italy	4	2	5	1	2	1	4	19
Netherlands	1	-	-	-	-	-	-	1
West Germany	12	2	2	4	4	6	5	35
UK	11	4	1	4	6	3	18	47
Total EEC	36	13	11	15	20	16	40	151

A high proportion of the companies which manufacture airborne equipment are obviously greatly diversified. The least diversified firms - i.e., the ones for which airborne equipment manufacture accounts for over 75% of total sales, these companies thus being very dependent on the level of activity in the aerospace industry - represent 45% of the total number of firms in the UK, 41% in France, 31% in Germany and 26% in Italy.

Finally, Table 67 gives an impression of the degree of concentration in the four main Community countries producing airborne equipment, based on average sales of the top eight companies in each country.

Table 67

(millions of u.a. in 1973)				
	Average sales for all activities	Average sales for airborne equipment	% airborne equipment	Proportion of total airborne equipment sales in each country accounted for by the top 8 companies (%)
UK	762	55	7.2	62
France	104	35	33.6	47
West Germany	1,010	14	1.4	44
Italy	38	8	21.0	55

Two points emerge:

- the high degree of concentration in the UK compared with the other three countries
- the relative independence of the German and British industries from a slump in the aerospace sector.

Footnotes

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

	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
DM (West Germany)	3.93	3.66	3.65	3.49	3.32	3.21	—————
FF (France)	5.17	5.55	—————	—————	—————	6.01	5.68
Lira (Italy)	625	—————	—————	631	729	813	863
Guilder (Netherlands)	3.62	—————	3.61	3.52	3.47	3.35	—————
BF/LF (Belgium/ Luxembourg)	50.0	—————	49.9	48.6	48.6	48.6	48.6
£ (UK)	0.416	—————	—————	0.437	0.511	0.534	0.597
Krone (Denmark)	7.5	—————	—————	7.57	—————	—————	—————
\$ (USA)	1.00	—————	—————	1.08	1.25	1.25	1.32
Yen (Japan)	360	—————	359	334	339	363	389

Values are expressed in u.a., the unit of account used for statistical purposes by the European Communities (1 u.a. = 0.888671 g of fine gold). Values expressed in floating national currencies are converted into u.a. by the SOEC on the basis of the market rates between the floating currencies and those linked by the European agreement on the narrowing of margins (see explanatory note in "General Statistics" 5/1975, page 171).

¹ Source: ITA Bulletins.

² Source: ITA Bulletin dated 10 November 1975.

³ ITA Bulletin dated 26 April 1976.

⁴ 1080 million tonne/kilometres.

⁵ Including 167 Boeing 720s, 35 VC10s, 51 Comets and 83 Convairs - total 336.

⁶ Analysis of civil aircraft in service and on order in October 1974 and February 1976
Source: Aérospatiale (figures processed by the Commission)

a) The analysis covers the following countries:

- the nine member states of the Community
- other European countries: Austria, Cyprus, Finland, Greece, Iceland, Malta, Norway, Portugal, Spain, Sweden, Switzerland, Turkey and Yugoslavia
- United States

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53a

- Rest of the world: in October 1974, 104 countries including USSR
and People's Republic of China

: in February 1976, 108 countries including USSR
and People's Republic of China

- b) The analysis covers only the top 400 airlines in October 1974 and the top 362 airlines in 1976.
- c) The analysis covers the following western aircraft only:

Long-haul

United States aircraft

- Boeing 707 - 720, subdivided as follows for calculation of the value of aircraft in service and on order:

707 - 120 - 220 - 420

707 - 720

707 - 320

- Boeing 747

- DC6

- DC7

- DC8 series 20 - 30 - 40

50

60

63

- DC10 - 30

40

- Lockheed 100

- Convair series 880 - 990

European aircraft

Britannia

VC10

Comet

Concorde

Aircraft from other western countries

CL44

Short and medium-haul

US aircraft

Boeing 727 - 100

727 - 200

Boeing 737 - 100

737 - 200

DC3

DC4

DC9 - 10 and 20

DC9 - 30 and 40

DC9 - 50

DC10 - 10

Lockheed Electra

Lockheed 1011

Convair 440

European aircraft

Caravelle 3 and 6

Caravelle 10 and 11

Caravelle 12

A 300

Mercure

Vanguard

Viscount 700 and 800

BAC 111 - 200 and 300

BAC 111 - 400 and 475

BAC 111 - 500

Herald

Trident 1 and 2

Trident 3

HS748

F27

F28

VFW614

Aircraft from other western countries

YS11

⁷ The SAS fleet is included under Sweden.

⁸ Six former members + UK. Exact comparisons can be made for 1970-76 for Europe and for 1974-76 for the EEC.

⁹ The difference between 1974 and 1976 in the share of the rest of the world market is due to the non-confirmation of 5 orders for Concorde.

¹⁰ 1974 orders: 4 from Iberia and ^{one from} Air Charter International not confirmed since.

¹¹ F. Legrand, Manager, Helicopter Division, Aérospatiale: "European prospects in the field of helicopters" - lecture on 21 November 1975 at Berlin Technical University.

¹² Interavia March 1975.

- 13 Westland: growth of world civil helicopter fleet (excluding USSR, China and eastern European countries).
- 14 From DMS (Greenwich, Conn.)
World Aircraft Forecast to 1984 - 1975 edition.

15 The fleets of these countries include aircraft made by the Swedish company Saab.

16 This section concerns only the western world, i.e., excluding the USSR, eastern European countries and China. However, it should be remembered that the USSR in particular has a formidable aerospace industry.

17 United States: Aerospace Industries Association of America
Aerospace facts and figures 1975-76
1972 and 1973: revised figures
Aerospace products and services only.

18 Canada: Canadian mission to the European Communities
Sales of the Canadian aerospace industry (in millions of Canadian dollars)

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u> (provisional figure)
	659	596	625	662	729
including					
aircraft and airframes:			306	298	
engines:			194	232	

19 Community: sum of final sales of the member States - see Table 36.

- 20 Other European countries: sales for Spain, Sweden and Switzerland in 1972, 1973 and 1974 estimated.
- 21 Japan: source: GIFAS report.
- 22 "Other western countries": 1972, 1973 and 1974 sales for Brazil, India and Israel estimated.
The principal other countries having an aerospace industry are Australia, Argentina, New Zealand and South Africa.
- 23 West Germany
Sources: 1969-71: Federal Economics Ministry
1972-74: BDLI
- 24 Belgium: GEBECOMA.
- 25 France: source: Groupement des Industries françaises aéronautiques et spatiales (GIFAS).
- 26 Italy: source: 1969-71: Italian government
1972-74: Associazione Industrie Aerospaziali (AIA).
- 27 Netherlands: industry source.
- 28 UK: 1969-71: Department of Industry, Business Statistics Office - Survey of the United Kingdom Aerospace Industry 1975, page 27, Table 23: total + launching aid
1972-74: Society of British Aerospace Companies Ltd (SBAC).
- 29 EEC: sum of sales of the member countries.
- 30 West Germany: Federal Economics Ministry
UK: Department of Industry, Business Statistics Office - Survey of the United Kingdom Aerospace Industry 1975, page 27, Table 23: total + launching aid. (1974 provisional figure)

The differences between the figures of the manufacturers' associations and ministry figures are due to differing classifications of industrial activities; for instance, the classification of the British Department of Industry does not include electronic equipment.

³¹ Table 38: Conversion of national sales in current u.a. (Table 36) into national sales in constant 1969 u.a.: the national sales figures from sources 17 and 23-28 in national currencies at current values were converted into national currencies at constant 1969 values by the price index for GDP at market prices (SOEC - national accounts 2-1974 and 1-1975). The results were converted into u.a. at 1969 exchange rates.

³² Sales of goods and services between aerospace companies in each EEC country amount to the following percentages of total sales:

	<u>Aircraft</u>	<u>Engines</u>	<u>Equipment</u>	<u>Space</u>	<u>Total</u>
West Germany	27.5	6.9	11.4	12.9	21.1
Belgium	0.5	0.3	0.2	0.2	0.4
France	4.6	9.9	54.9	-	15.1
Italy	8.3	8.9	24.4	-	10.4
Netherlands	-	-	-	-	-
UK	1.3	14.9	26.5	0.9	13.3

³³ Transactions between companies in different EEC countries were as follows in 1974 (millions of current u.a.)

	<u>Aircraft</u>	<u>Engines</u>	<u>Equipment</u>	<u>Space</u>	<u>Total</u>
West Germany	67.5	47.8	20.1	35.7	171.1
Belgium	22.4	9.0	3.2	5.4	40.0
France	114.1	61.3	25.6	-	201.0
Italy	25.8	7.5	4.2	0.5	38.0
Netherlands	7.6	-	-	-	7.6
UK	119.3	128.3	75.3	2.1	325.0
	<u>356.7</u>	<u>253.9</u>	<u>128.4</u>	<u>43.7</u>	<u>782.7</u>

³⁴ Breakdown of EEC final sales in the space subsector in 1974:

State	: 79.0%
Domestic civil market	: 17.2%
Exports	: 3.8%

35 Final sales of the EEC (millions of current u.a.)

Aircraft subsector

<u>State</u>	<u>Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>
Civil R & D	1.5	-	104.8	0.1	7.3	48.7	162.4
Military R & D	249.8	-	232.1	-	-	113.6	595.5
<u>Purchases and maintenance</u>							
- civil	7.8	0.1	4.7	1.0	-	8.4	22.0
- military	280.4	11.2	289.0	79.0	6.6	197.6	863.8
<u>Governments of other member states</u>							
	1.7	4.5	6.8	1.6	1.9	20.2	36.7
Non-EEC firms	31.2	0.2	-	46.0	0.7	5.6	83.7
<u>End users</u>							
- national	6.7	-	178.4	0.1	5.2	35.3	225.7
- EEC (civil activities)	0.1	-	1.7	-	-	5.8	7.6
- non-EEC	24.6	-	497.0	69.3	94.1	386.5	1071.5
	603.8	16.0	1314.5	197.1	115.8	821.7	3068.9

35 continued Final sales of the EEC (millions of current u.a.)

Engines subsector

<u>State</u>	<u>Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>
Civil R & D	0.4	-	25.0	-	-	76.8	102.2
Military R & D	7.9	-	77.2	8.2	-	48.3	141.6
<u>Purchases and maintenance</u>							
- civil	0.3	-	7.7	6.7	-	15.8	30.5
- military	125.8	4.6	110.6	33.2	-	186.1	460.3
<u>Governments of other member states</u>							
	-	-	19.3	-	-	7.7	27.0
Non-EEC firms	4.0	0.2	-	9.3	-	148.3	161.9
<u>End users</u>							
- national	2.6	-	35.8	-	-	65.0	103.4
- EEC (civil activities)	0.1	-	4.2	-	-	13.7	18.0
- non-EEC	0.8	-	83.7	2.0	-	151.3	237.8
	141.9	4.8	363.5	59.4	-	713.1	1282.7

35 continued Final sales of the EEC (millions of current u.a.)

Equipment subsector

<u>State</u>	<u>Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>
Civil R & D	3.0	-	0.5	-	-	0.4	3.9
Military R & D	32.6	0.1	6.7	6.5	1.2	88.8	135.9
Purchases and maintenance							
- civil	16.7	1.0	9.8	0.3	-	2.9	30.7
- military	110.6	5.2	95.8	25.0	-	201.5	438.1
Governments of other member states	4.4	0.1	3.0	0.8	5.7	9.1	23.1
Non-EEC firms	8.2	-	35.6	1.7	0.6	44.0	90.1
<u>End users</u>							
- national	9.3	0.1	35.0	0.7	-	36.5	81.6
- EEC (civil activities)	-	0.4	-	-	-	13.6	14.0
- non-EEC	3.5	1.7	9.0	1.7	0.6	96.1	112.6
	<u>188.3</u>	<u>8.6</u>	<u>195.4</u>	<u>36.7</u>	<u>8.1</u>	<u>492.9</u>	<u>930.0</u>

35 continued Final sales of the EEC (millions of current u.a.)

Space subsector

<u>State</u>	<u>Germany</u>	<u>Belgium</u>	<u>France</u>	<u>Italy</u>	<u>Netherlands</u>	<u>UK</u>	<u>EEC</u>
Civil R & D	50.0	0.7	59.4	3.7	1.0	11.3	126.1
Military R & D	1.2	-	-	-	-	4.5	5.7
Purchases and maintenance							
- civil	1.1	0.1	-	0.6	-	-	1.8
- military	-	-	-	-	-	0.3	0.3
Governments of other member states	-	0.1	19.0	-	-	-	19.1
Non-EEC firms	1.3	0.3	-	-	-	1.5	3.1
<u>End users</u>							
- national	-	0.1	-	0.9	2.0	0.2	3.2
- EEC (civil activities)	0.1	0.1	7.9	8.5	-	13.5	30.1
- non-EEC	0.6	-	-	-	-	3.7	4.3
	<u>54.3</u>	<u>1.4</u>	<u>86.3</u>	<u>13.7</u>	<u>3.0</u>	<u>35.0</u>	<u>193.7</u>

³⁶West Germany: BDLI.

³⁷Belgium: GEBECOMA.

³⁸France: GIFAS.

³⁹Italy: AIA.

⁴⁰Netherlands: Fokker-VFW.

⁴¹UK: Survey of the United Kingdom Aerospace Industry - Department of Industry.

⁴²United States: Aerospace facts and figures 1975-76.

⁴³Canada: Canadian mission to the European Communities
1974: provisional figure.

⁴⁴Japan: GIFAS report.

⁴⁵Netherlands: Distribution estimated by the Commission.

⁴⁶The sales figures set out in Table 57 are taken from the firms' balance sheets (processed by DAFSA), except for the following firms:

- Pratt & Whitney, General Electric, Rockwell International and Hawker Siddeley: aerospace sales have been estimated as these represent only a part of their total sales.
- Grumman, Short Brothers, SABCA and Fairey: information from miscellaneous sources.

⁴⁷Rolls-Royce: 32 weeks only in 1971.

⁴⁸Same comments as for Table 57.

⁴⁹The labour force was as follows in 1975:

3703 persons at Agusta itself

713 persons at Elicotteri Meridionali

and about 1100 persons at SIAI-Marchetti engaged on subcontract work for Agusta.

⁵⁰The information in this paragraph is taken from a BIPE study for the Commission.