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Directorate-General for
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UPDATED VERSION No. 2 OF ANNEXES I and II

of the Communication from the Commission

to the Council dated 19 July 1972 entitled:

"A COMMUNITY POLICE FOR THE
PROMOTION OF INDUSTRY AND TECHNOLOGY
IN THE AERONAUTICAL SECTOR".

This is the second time that the Commission has updated the Annexes :

I. THE MARKET

II. THE PRODUCTION SET-UP

to the Communication to the Council dated 19 July 1972. The first updated amendment dated 21 December 1972 was in respect of data for 1971 and a few estimates for 1972. This amendment refers to 1972 data with some information on the situation prevailing in 1973.

The lay-out followed in these Annexes of the Communication dated 19 July 1972 has been retained, particularly regarding the order in which the different subjects have been dealt with, but a few modifications have been introduced within the various sections presented, according to the interest or the availability of the information.

Some numerical data referring to the years preceding 1972 have been amended either in line with revisions made or to improve the homogeneousness of data presented.

Unless stated otherwise, the terms "Community" and "EEC" signify the whole of the Nine Member States.

CONTENTS : see overleaf.

CONTENTS

Updated version No. 2 of Annex I to the Communication from the Commission to the Council dated 19 July 1972

A. The aerospace hardware market[1]

1. Numbers of civil aircraft in service or on order

The numbers of aircraft in service or on order, shown in Table 1 below, underwent the following trends between 1970 and October 1973 :

	Long haul aircraft	Short haul and medium haul aircraft	Totals
1970	1478	1995	3473
1971	1559	2620	4179
1973	1972	3157	5129

It should be noted, however, that the above figures are those for complete batches of jet engine aircraft and do not portray the exact changes in respect of fleets or orders since no adjustment is made for aircraft withdrawn from service. The following table shows the changes that took place between 1 January and October 1973 :

Table 1

	In service on 1.1.73[2]	Deliveries up to May 1973[3]	Deliveries up to 31.8.73[4]	Orders up to October 1973[5]
Boeing 707-720	811	865	868	886
Boeing 747	196	209	214	250
DC10-30-40	4	89	106	102
DC10-10	60			103
DC8	524	556	556	556
Lockheed 1011	16	26	40	126(+73)
BAC One-Eleven	204	208	209	210
Trident	75	85	85	96
DC9	646	689	702	761
Concorde	-	-	-	9(+5)
A 300 B	-	-	-	18(+21)
Caravelle	257	279	279	279

1 foll Footnotes appear at the end of Annex I

Table 1 (contd)

	In service on 1.1.73 [2]	Deliveries up to May 1973 [3]	Deliveries up to 31.8.73 [4]	Orders uo to October 1973 [5]
Beeing 727	890	944	964	1092
Boeing 737	310	320	325	368
Mercure	-	-	-	10
Fokker 28	53	59	66	68
VFW 614	-	-	-	26 (options)
VC10	35			
Comet	51	169	169	169
Convair	83			
Totals	4,215	4,498	4,583	5,129

The new orders placed between 1 January 1973 and 18 October 1973 were the following :

Long haul aircraft

Boeing 707	59
Boeing 747	25
DC 10-30-40	14

Short haul and medium haul aircraft

DC 10-10	7
Lockheed 1011	10
A 300 B	2
DC 9	221
Boeing 727	90
Boeing 737	38

It will be observed that it is almost exclusively a question of American machines.

2. Aircraft in service or on order (numbers and worth)

An exact picture of the situation prevailing in the fleets is given by the aircraft in service or on order at a particular date.

In June 1973, the numbers in service or on order of the civil jet engine aircraft described in footnote No. 6 belonging to the countries also shown therein were the following :

	Number	Worth (million EUR)*
Long haul aircraft	1,687	13,913.3
Short haul and medium haul aircraft	2,887	13,273.9
	4,574	27,187.2

A comparison with the situations prevailing in 1970 and 1971 gives in terms of percentage worth the following results[7] :

	1970	1971	1973
Long haul aircraft	55.2	51.1	51.1
Short haul and medium haul aircraft	44.8	48.9	48.9

A certain degree of stability is therefore observed in the breakdown between the two classes of aircraft.

The numbers overall of aircraft in service or on order are shown in the following table :

Table 2

	No.	%	Worth (million EUR)	%
USA built long haul aircraft	1,624	35.5	13,447.7	49.5
European built long haul aircraft	63	1.4	465.6	1.6
USA built short/medium haul aircraft	2,315	50.6	11,930.3	43.9
European built short/medium haul aircraft	572	12.5	1,343.6	4.9
	4,574	100.0	27,187.2	100.0

This reveals the overwhelming domination of American hardware which in June 1973 represented 93.4 % of the worth of aircraft in service or on order.

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* million EUR : see footnote No. 1a in the footnotes to Section 1 of Annex II.

The worth of the aircraft[8] in service or orders therefore in the world's various air fleets (see footnote No. 6 for the list of countries) in June 1973 was the following :

Table 3

(million EUR)	Long haul		Short/medium haul		Total	(%)	(%)
	USA	European	USA	European			
Germany	497.6	-	251.2	119.2	868.0		17.5
Belgium	195.5	-	9.2	5.5	210.2		4.2
Denmark	19.2	-	25.0	93.1	137.3		9.8
France	637.5	120.0	143.0	190.2	1,090.7		22.0
Ireland	76.7	-	34.7	1.7	113.1		2.3
Italy	263.4	-	207.4	21.3	492.1		9.9
Luxembourg	17.5	-	-	1.0	18.5		0.4
Netherlands	432.2	-	98.5	14.0	544.7		11.0
UK	607.1	189.0	232.7	457.1	1,485.9		29.9
EEC	2,746.7	309.0	1,001.7	903.1	4,960.5	18.2	100
Other European countries	1,115.6	-	925.3	151.3	2,192.2	8.1	
Europe	3,862.3	309.0	1,927.0	1,054.4	7,152.7		26.3
United States	6,177.4	-	8,223.6	12.9	14,413.9	53.0	
Rest of the world	3,408.0	156.6	1,779.7	276.3	5,620.6	20.7	
World	13,447.7	465.6	11,930.3	1,343.6	27,187.2	100.0	
	13,913.3		13,273.9		27,187.2		

A comparison at the level of the Community with the previous years is not quite relevant since the percentages for 1970 and 1971 relating to the "Community" represent only the original six Member States plus the United Kingdom but it is, on the other hand, conclusive in respect of Europe :

Table 4

Percentage breakdown of the worth of civil air fleets	1970	1971	1973
Community	14.7	15.4	18.2
Other European countries	6.3	7.1	8.1
Europe	21.0	22.5	26.3
United States	63.9	60.1	53.0
Rest of the world	15.1	17.4	20.7
	100.0	100.0	100.0

The following trends will be observed :

(a) a rise in respect of Europe of 5.3%;
(b) a rise in respect of the "rest of the world" of 5.6%; and
(c) a drop in respect of the United States of 10.9%.

In Europe, the Community fleet represents 69.3% of the European total. The origins of the aircraft comprising the various fleets were the following :

Table 5

Fleets belonging to (percentages)	Origins of the aircraft					
	1970		1971		1973	
	EEC	USA	EEC	USA	EEC	USA
EEC	33.0	67.0	25.7	74.3	24.4	75.6
Other European countries	23.1	76.9	24.0	76.0	6.9	93.1
Europe	30.1	69.9	25.1	74.9	19.0	81.0
United States	2.1	97.9	2.1	97.9	0.1	99.9
Rest of the world	12.2	87.8	12.2	87.8	7.7	92.3
World	9.5	90.5	9.2	90.8	6.6	93.4

Note should be taken that over the most recent years there has been the following double trend :

(a) although the relative worths of the fleets belonging to the Community and to Europe are rising appreciable (+5.3% in respect of Europe), the worth of European hardware in service or on order is dropping in all the markets (-11.1% in respect of Europe); even in its home market, the Community supplies only 25% worth of the hardware. European hardware is now virtually non-existant in the United States market; in respect of the world as a whole, the space left vacant to the European industry by its American contemporary is more than modest, i.e., 6.6%.

(b) on the other hand, although the relative worth of the United States market has dropped considerably (by 10.9%), the American industry takes :

(i) more than 75% of the Community market;
(ii) more than 80% of the European market;
(iii) more than 92% of the "rest of the world" market; and
(iv) more than 93% of the world market.

The following table illustrates this trend :

Table 6

(Percentages)	Market-size			World market-penetration		
	1970	1973	Trend	1970	1973	Trend
EEC	14.7	18.2	+ 3.5	9.5	6.6	- 2.9
Other European countries	6.3	8.1	+ 1.8			
Europe	(21.0)	(26.3)	+ 5.3			
United States	63.9	53.0	-10.9	90.5	93.4	+ 2.9
Rest of the world	15.1	20.7	+ 5.3			
	100.0	100.0		100.0	100.0	

It will observed that the imbalance to the disadvantage of the European industry is still increasing because the expansion of the European market is accompanied by a sharp drop in its share of the world market.

Whereas at the end of 1972 it could be said that "it is probable that this does not reflect a medium or long-term trend, but is rather the temporary consequence of the introduction on the market of new generation aircraft from the United States with two or three years lead on the new European aircraft", the situation now prevailing would appear to merit the following judgment : the efforts made by the European industry and the governments of the Member States with a view to offering a range of brand new civil aircraft ought to have as their logical outcome the exploitation at competition level of the relative large size which the worth of the

European market represents in relation to the world, in other words, it is not sufficient to say that the size of the market justifies the existence of a European aerospace industry, but rather that the industry should benefit from the size of the market.

It seems, however, that the Community will remain for a long while more the consumer than the producer of aerospace hardware.

3. Long haul aircraft

Extending the analysis to the level of aircraft types gives the following results (aircraft in service or on order in June 1973). (Simplified table : series of the same type have been lumped together whereas the calculation of worth has been done by individual series ; see footnote No. 6) :

LONG HAUL AIRCRAFT Table 7

Long haul aircraft (million EUR)	Community	Other European countries	Europe	USA	Rest of the World	World
707/720	921.9	196.2	1,118.1	2,172.4	1,332.4	4,622.9
DC 8	257.8	323.5	581.3	1,142.2	705.0	2,428.5
Convair	____	12.5	12.5	12.9	3.9	29.3
747	1,041.9	208.4	1,250.3	2,437.4	1,104.2	4,791.9
DC10/30/40	525.1	375.0	900.1	412.5	262.5	1,575.1
Hardware made in USA	2,746.7	1,115.6	3,862.3	6,177.4	3,408.0	13,447.7
Comet	1.5	____	1.5	___	0.3	1.8
VC10	37.5	____	37.5	___	6.3	43.8
Concorde	270.0	____	270.0	___	150.0	420.0
Hardware made in Europe	309.0	____	309.0	___	156.6	465.6
TOTAL	3,055.7	1,115.6	4,171.3	6,177.4	3,564.6	13,913.3

Carrying out a comparison between the sizes of markets and the penetrations thereof gives the following results :

Table 8

(Percentages)	Market size		Market penetration attained by the hardware	
Market			From the EEC	From the USA
EEC	22.0		10.1	89.9
Other European countries	8.0		—	100.0
Europe		30.0	7.4	92.6
USA	44.4		—	100.0
Rest of the world	25.6		4.3	95.7
World	100.0		3.3	96.7

The orders placed for the Concorde have since 1971 very slightly improved the European industry's share of the Community and "rest of the world" markets.

However, the disproportion in the case of Europe between the market and the penetration made thereof by its industry is even greater for the long haul aircraft than for civil types of aircraft in total :

	All civil aircraft	Long haul aircraft
Size of the European market	26.3%	30.0%
Market penetration	6.6%	3.3%

As the relative worth of the older British long haul aircraft is low, the European share is basically represented by the orders placed for the Concorde.

The breakdown of long haul hardware into generations is the following :

Standard type	51.2% of the worth and	80.5% of the number;
Wide body type	45.8% of the worth and	18.6% of the number;
Supersonic type	3.0% of the worth and	0.9% of the number.
	100.0	100.0

The average worths of the aircraft were the following :

Standard type	5.24 million EUR;
Wide body type	20.27 million EUR;
Supersonic type	30.00 million EUR.

The breakdown into manufacturers was the following :

Boeing 67.7% (747 : 4,700 million EUR; 707/720 : 4,600 million EUR);
MDD 28.8% (DC10 : 30/40 : 1,500 million EUR; DC8 : 2,400 million EUR);
Convair 0.2%
Europeans 3.3%
100.0

4. Short haul and medium haul aircraft

Carrying out an analysis at the level of the types of aircraft gives the following results (aircraft in service or on order in June 1973; simplified table : series of the same type have been lumped together whereas the calculation of worth has been done by individual series; see footnote No. 6) :

Table 9

Million EUR	Community	Other European countries	Europe	USA	Rest of the World	World
727	347.1	55.5	402.6	3,211.2	745.3	4,359.1
737	169.7	160.3	330.0	680.3	336.0	1,346.3
DC9	301.6	659.5	961.1	1,215.5	431.7	2,608.3
DC10.10	33.3	50.0	83.3	1,633.3	____	1,716.6
Lockheed 1011	150.0	____	150.0	1,483.3	266.7	1,900.0
Hardware made in USA	1,001.7	925.3	1,927.0	8,223.6	1,779.7	11,930.3
Caravelle	128.1	42.0	170.1	____	32.0	202.1
A 300 B	174.9	58.3	233.2	____	____	233.2
Mercure	50.0	____	50.0	____	____	50.0
BAC One-eleven	241.1	4.3	245.4	12.9	105.0	363.3
Trident	249.0	____	249.0	____	56.0	305.0
F 28	60.0	46.7	106.7		83.3	190.0
	903.1	151.3	1,054.4	12.9	276.3	1,343.6
Total	1,904.8	1,076.6	2,981.4	8,236.5	2,056.0	13,273.9

Carrying out a comparison between the sizes of the markets and the penetrations made thereof gives the following results :

Table 10

(Percentages)	Market size		Penetration of the market attained by the hardware	
Market			From the EEC	From the USA
EEC	14.3		47.4	52.6
Other European Countries	8.1		14.0	86.0
Europe		22.4	35.3	64.7
USA	62.1		0.1	99.9
Rest of the World	15.5		13.4	86.6
World	100.0		10.1	89.9

Since 1971, the Community industry's share of its home market has dropped from 53.8 to 47.4% and without referring to the United States market where the European industry is absent, a very considerable drop by the European industry is noted in the "Other European Countries" market (14% in place of 40.2% in 1971: Caravelles superseded by Boeings 727, 737 and DC9) and in the "Rest of the world" market (13.4% in place of 24.8% in 1971).

In respect of the short haul and medium haul aircraft, European hardware still represents 10% of the worth of the world's air fleets.

The breakdown of short haul and medium haul hardware into generations is the following :

Standard type 71% of the worth and 92% of the number;
Wide body type 29% of the worth and 8% of the number.

The average worth of the aircraft was the following :

Standard type 3.5 million EUR;
Wide body type 16.5 million EUR.

It will be observed that the re-equipping of the fleet by bringing high-capacity aircraft into service has made less progress in respect of short and medium haul aircraft than it has in respect of long haul aircraft.

The breakdown into manufacturers is the following :

Boeing	43.0%
MDD	32.6%
Lockheed	14.3%
Europeans	10.1%
	100.0

5. The market in civil aircraft of European manufacture

Numbers of aircraft in service or on order in June 1973.

Table 11

	Home market	Community market	Market in other European countries	Europe	USA	Rest of the world	World
Comet	12	12	—	12	—	2	14
VC10	30	30	—	30	—	5	35
Concorde		9	—	9	—	5	14
Caravelle	63	132	54	186	—	49	235
Mercure		10	—	10	—	—	10
A 300 B		12	4	16	—	—	16
B&C One-Eleven	69	83	1	84	31	45	160
Trident	66	66	—	66	—	28	94
F.28		18	14	32	—	25	57
							635

Aircraft built under transnational collaboration are included in the "Community market". The worth per country in million EUR is the following:

Table 12

	D	B	DK	F	IRL	I	LUX	NL	UK	EEC	Other European countries (O.E.C.)	Europe	USA	Rest of the world (Rotw)	World
Comet									1.5	1.5		1.5		0.3	1.8
VC10									37.5	37.5		37.5		6.3	43.8
Concorde				120.0					150.0	270.0		270.0		150.0	420.0

.../...

Table 12 (contd)

	D	B	DK	F	IRL	I	LUX	NL	UK	EEC	OEC	Europe	USA	Rotw	World
Caravelle	7.5	5.5	49.4	52.7		8.0	1.0	4.0		128.1	42.0	170.1		32.0	202.1
Mercure				50.0						50.0		50.0			50.0
A300B	43.7		43.7	87.5						174.9	58.3	233.2			233.2
BAC One-Eleven					1.7				208.1	241.1	4.3	245.4	12.9	105.0	363.3
Trident									249.0	249.0		249.0		56.0	305.0
F.28	36.7					13.3		10.0		60.0	46.7	106.7		83.3	190.0
Total	119.2	5.5	93.1	310.2	1.7	21.3	1.0	14.0	646.1	1212.1	151.3	1363.4	12.9	432.9	1809.2

It will be observed that :

(a) the Community market represents 67% of the sales of European hardware;

(b) the European market represents 75% of the sales of European hardware.

In these circumstances it is in the interest of the European aerospace industry to produce hardware tailored to the requirements of the European network system and the reduction in the share of the "Other European Countries" market held by the short and medium haul aircraft is particularly disquieting.

The breakdown in respect of the main European programmes expressed as their percentage worths is the following :

Table 13

	Home market	Community market	Market in other European countries	Europe	USA	Rest of the world	World
Concorde		64.2		64.2		35.8	100.0
Mercure		100.0		100.0			100.0
A 300 B		75.0	25.0	100.0			100.0
F.28		31.5	24.5	56.0		44.0	100.0
Caravelle	26.0	63.3	20.7	84.0		16.0	100.0
Bac One-eleven	57.2	66.3	1.1	67.5	3.5	29.0	100.0
Trident	81.6	81.6	—	81.6	—	18.4	100.0

It will be found that in the case of transnational programmes the major part, if not the whole, of the market is situated in Europe. The same finding is equally true in the case of the national programmes except that, where there is a difference from the British BAC 111 and Trident programmes under which the majority of sales were made on the home market, a large proportion of the sales of Caravelles were made in other Member States of the Community or in the other countries of Europe. It is quite probable that the breakdown of the sales of Airbuses will be similar to that of the Caravelles, and since the United States market appears very difficult to conquer and the possibilities of sales in the "rest of the world" market remain limited, the Community and the rest of Europe are where the sales effort ought to produce the best results.

6. The balance of trade in civil aerospace hardware

The balance of trade in heavier than air machines and spare parts (excluding unmounted jet engines) in 1971 was the following (million EUR)[24]:

Table 14

Origin	Total	Importing countries: France	Bel/Lux.	Neth.	Germany	Italy
France	79.3		23.2	19.4	30.6	6.1
Germany	75.7	55.1	8.1	11.0		1.5
Bel/Lux.	13.8	8.1		2.7	1.6	1.4
Italy	33.4	13.9	5.7	5.0	8.8	
Netherlands	30.8	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	87.8	12.3
USA	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	1,035.6	194.1	104.6	301.8	295.1	140.0

The available statistics do not permit of the origins of United Kingdom imports being identified. It is observed that of the imports into the original six Member States, only about one third of the total originated in the Community (the United Kingdom included).

The imports related for the most part to components and spares of heavier than air machines. On the other hand, the predominant part of the imports into the original Six Member States from the United States were in respect of complete aircraft with an unladen weight exceeding 15,000 kg (see footnote No. 24 referring to imports of hardware according to type).

7. The balance of trade in aerospace hardware taken as a whole

The level attained by the total exports (all aerospace hardware) is for a number of countries high in relation to the turnover (exports in respect of everybody) :

Table 15

Percentages	Germany[10]	Belgium[11]	France[12]	Italy[13]	Neth.[14]	U.K.[15]	USA[16]
1970	9	59	34	33	90	37	14
1971	8	59	35	nd	92	42	19
1972	11	59	44	nd	91	48	17

In the United Kingdom, the vigorous expansion of exports is basically due to the increased sales of new aero-engines, components and spares. The total import-export balance sheet for the countries where this information is available is the following :

Table 16

(Million EUR)	France[17]		United Kingdom[18]		United States[19]	
	Average 1969/70/71	1972	Average 1969/70/71	1972	Average 1969/70/71	1972
Imports	196	480	512	412	316	565
Exports	459	683	694	834	3466	3823
Balance	263	203	182	422	3150	3258

The sum total of the French and United Kingdom balances in 1972 equal 19% of the United States credit balance.

In 1972, the sum total of the French and United Kingdom credit balances equalled 19% of their aggregate turnovers, whereas the United States credit balance represented 16% of its aerospace industry's turnover. In respect of France, the United Kingdom and the Netherlands there happens to be some information available regarding the destinations of their exports :

Table 17

(Percentages)	Six	EFTA	Franc area	Sterling Area	USA	Rest of the world
France[20]						
1969	17.1	30.0	4.3		16.2	32.4
1970	6.6	6.8	1.3		4.0	81.3
1971	15.8	20.7	0.7		1.1	61.7
1972	11.4	31.0	2.3		2.7	52.6
UK[21]						
1969	22.8	2.0		20.7	28.6	25.9
1970	34.8	3.2		19.9	24.2	17.9
1971	32.0	3.8		20.5	26.7	17.0
1972	33.4	4.0		16.7	31.5	14.4
Netherlands[22]						
1971	29.7	All non-member countries : 70.3				
1972	19.3	All non-member countries : 80.7				

It is interesting to note that the breakdowns of exports differ, on the one hand, in respect of aggregate exports of all kinds of aerospace hardware (see above table) and, on the other hand, in respect of complete civil aircraft (see Table 13). Here are some examples:

	Europe	Rest of the world
Caravelle	84%	16%
All French aerospace hardware (1972)	42.4%	57.6%
BAC One-Eleven and the Trident	73.9%	26.1%
All British aerospace hardware (1972)	37.4%	62.6%

It is clear that the combined effect of military exports and civil hardware other than complete aircraft has the result that, at the general level or aerospace exports, the European market only repre-

sents about 40% of the total market, whereas in the case of complete civil aircraft the European market is much bigger.

Where France is concerned, the military orders placed in 1972 still constitute the bulk of the orders for the export market in spite of the fact that marketing operations under the large civil programmes had begun.

In respect of the United Kingdom and the United States the available details are the following (percentages of military hardware over the sum total of exports):

Table 18

	United Kingdom				United States			
	1969	1970	1971	1972	1969	1970	1971	1972
Aircraft new	40	19	33	n.a.*	34	24	26	20
Aeroengines new	7	20	8	n.a.	33	28	25	24
Aeroengines other than new	27	64	35	n.a.				

* n.a. stands for "not available" here and throughout this documents.

B. The air transport market[23]

In 1972, the scheduled airline traffic of the ICAO member countries (the People's Republic of China excepted) comprised 448 million passangers, 561,000 million passenger-kilometres, 15,530 million ton-kilometres of freight and 2,730 ton-kilometres of mail, representing compared with 1971 the following variations :

10.1% up in passengers;
13.3% up in passenger-kilometres;
18.5% up in ton-kilometres of freight;
5.5% down in ton-kilometres of mail.

Nineteen seventy-two was marked by a fairly appreciable spurt in the expansion of air traffic, the rates of increase in traffic compared with 1971 being higher than in the two preceding years, except in the case of mail :

Table 19

(millions)	Passenger-kilometres	Ton-kilometres of freight	Ton-kilometres of mail	Ton-kilometres performed
USSR excluded				
1970	382,000	10,460	2,750	47,900
1971	406,000	10,480	2,560	50,520
1972	460,000	13,000	2,380	57,500
USSR included				
1970	461,000	11,940	3,140	56,690
1971	495,000	13,110	2,890	60,430
1972	561,000	15,530	2,730	68,800

In respect of the ton-kilometres as a whole performed (USSR excluded), the trend in the growth rates has been the following :

1950 - 59 : 13.6%
1960 - 69 : 14.9%
1970 - 69 : 10.5%
1971 - 70 : 5.5%
1972 - 71 : 13.8%

The trend in the number of passenger-kilometres for each of the large geographical areas in 1971 and 1972 was the following :

Table 20

ICAO (millions)		North Atlantic		United States airlines		EARB *	
1971	1972	1971	1972	1971	1972	1971	1972
495	561	7.53	9.50	218.3	248.0	24.92	27.54
71/70	72/71	71/70	72/71	71/70	72/71	71/70	72/71
+7%	+13%	+5%	+25%	+4%	+14%	+13%	+10.5%

* Inter-European services only.

By "ICAO" is meant here the member countries of that organisation with the USSR included but mainland China excluded.

The rate of increase in respect of ICAO of 13% is comparable to the rate for the period 1960-69, which was 13.7%

Over the North Atlantic the rate of increase in 1972 was very considerable, the average passenger load factor was about 60% compared with 50% in 1971.

In the United States the airlines performed 248,000 million passenger-kilometres, i.e., an increase of 14% over 1971. The United States airline companies' traffic increased more rapidly on the international routes (57,900 million passenger-kilometres, i.e., 22.5% up) than on the domestic routes (190,100 million passenger-kilometres, i.e., 11% up).

Air transport in Europe seems to have progressed less and the increase in available capacity resulted in a drop in load factor (53% compared with 55% in 1971). In the international routes the EARB companies showed a 22% increase in traffic in terms of passenger-kilometres (58,600 million in 1972) and the load factor went up from the 1971 figure of 49.8% to 53.4%.

In respect of unscheduled traffic, data for 1971 are available. The estimates of the unscheduled traffic performed by the tariff airlines and the non-tariff airlines are the following :

(Million passenger-Kilometres) Table 21 *

	International traffic	Domestic traffic	Total
Tariff airlines	35,854	7,454	43,308
Non-tariff airlines	41,970	2,330	44,300
Total	77,824	9,784	87,608

Thus, the total traffic in 1971 (USSR and China excluded) would be the following :

(a) Scheduled traffic	406,000 million passenger-kilometres;
(b) Unscheduled traffic	88,000 million passenger-kilometres.
	494,000

* These are estimates from the ICAO on 62 charter companies and 178 international and domestic companies (USSR and China not included).

Future trend as regards traffic : It is thought that in 1980 the grand total of traffic in respect of scheduled and unscheduled services (ICAO excluding the USSR and China) ought to be somewhere between 1,133,000 million and 1,628,000 million passenger-kilometres, the rate of increase being somewhere between 8.4 and 11.8%.

Using an average rate of 10% with the number of passenger-kilometres performed on scheduled services in 1972 (460,000 million) would give a total of 982,000 million passenger-kilometres in 1980. If at the same time the unscheduled traffic about doubled itself in comparison with 1971 and reached 166,000 million passenger-kilometres in 1980, the total would then be 1,148,000 million passenger-kilometres.

These forecasts will be reviewed shortly in the light of the effect the energy crisis is having on the trend in air traffic.

Footnotes to Annex I

[1] Excluding general aviation

[2] Aircraft in service as at 1 January 1973. Source: United Aircraft Co.

[3] Interavia, 11/1973, p. 1194.

[4] Interavia Data.

[5] Flight, 18 October 1973.

[6] Breakdown of the civil aircraft in service or on order in June 1973.
Source : Aérospatiale, edited by the departments of the Commission.
The breakdown is in respect of the following countries :

(a) the nine Member States of the Community;

(b) other European countries : Austria, Finland Greece, Iceland, Norway, Portugal, Spain, Sweden, Switzerland, Turkey and Yugoslavia (N.B. the SAS air fleet is covered under 'Sweden");

(c) the rest of the world : Afghanistan, Algeria, Argentina, Australia, the Bahamas, Bangladesh, Barbados, Bolivia, Brazil, Burma, Cambodia, Cameroon, Canada, the Central African Republic, Ceylon (Sri Lanka), Chad, Chile, China (People's Republic of), Colombia, Congo (Brazzaville), Costa Rica, Cuba, the Dominican Republic, East Africa, Eastern Germany, Ecuador, Equatorial Guinea, El Salvador, Ethiopia, Gabon, Ghana, Guatemala, Guinea, Guyana, Cyprus, Honduras, Hong-Kong, Hungary, India, Indonesia, Iran, Iraq, Israel, the Ivory Coast, Jamaica, Japan, Jordan, Kenya, Korea, Kuwait, Laos, Lebanon, Libya, Madagascar, Malawi, Malaysia, Mali, the Marianas, Mauritania, Mexico, Mongolia, Morocco, Nauru, Nepal, New Zealand, Nicaragua, Nigeria, Pakistan, Panama, Paraguay, Peru, the Philippines, Poland, Polynesia, the Republic of the Niger, Rhodesia, Romania, Saudi Arabia, Senegal, Singapore, Somalia, South Africa, the Sudan, Syria, Taiwan, Thailand, Trinidad and Tobago, Tunisia, United Arab Republic, Uruguay, the USSR, Venezuela, Vietnam, Yemen, the Republic of the Yemen, Zaire and Zambia ;

(d) the United States.

The breakdown is in respect of the following Western aircraft only :

Long haul aircraft

United States hardware

Boeing 707-720, subdivided for the purpose of calculating the worth of

the aircraft in service or on order into :

(i) 707 - 120 - 220 - 420;

(ii) 707 - 720;

(iii) 707 - 320.

DC8, series : 30 - 40
50
60
63

DC10 - 30
10 - 40

Boeing 747

Convair : series : 880 - 990

European hardware : Comet, VC10 and the Concorde.

Short Haul and medium haul aircraft :

727.100	Caravelles 3 and 6
727.200	Caravelles 10 and 11
737.100	Caravelle 12
737.200	A 300 B
DC 10-20	Mercure
DC 9-30-40	BAC One-Eleven 200 and 300
DC 10-10	BAC One-Eleven 400 and 475
Lockheed 1011	BAC 111.500
	Tridents 1 and 2
	Trident 3
	F.28

[7]1970 : in respect of aircraft in service only.
1971 : in respect of aircraft in service or on order.
1973 : aircraft in service and on order.

[8]Aircraft in service or on order in June 1973 : in the case of aircraft no longer being made, the worth adopted in respect of each series or group of series set forth in footnote No.6 is taken to be that of a machine at the half-way stage of its service life (calculations made by the departments of the Commission).

[9]The SAS air fleet is counted in under Sweden.

[10]BDLI, revised series.

[11]Belgian Government in respect of 1970 ; GEBECOMA in respect of 1971.

[12]USIAS, "Exports" series.

[13]Italian Government.

[14]The Netherlands Government in respect of 1970 and 1971; Fokker VFW in respect of 1972.

[15]Returns published in the Department of Trade and Industry "Exports" series, omitting the aero-engines other than new.

[16]AIAA Facts and Figures, 1973-74.

[17]USIAS "Exports-Imports" series.

[18]As for footnote No. 15.

[19]As for footnote No. 16.

[20]USIAS - from orders placed.

[21]UK - United States column superseded by North America.

[22]Fokker-VFW - from the breakdown of the turnover.

[23]Source : ITA.

[24]Imports broken down into types of hardware :

IMPORTS
Importing countries

1971

Helicopters

(1,000 EUR) Origin	Total	France	Belgium Luxembourg	Nether-lands	Germany	Italy
France	1,945		819	501	609	16
Germany						
Belgium Luxembourg	143	140		3		
Italy	611	112			499	
Netherlands	21		21			
Intra-Ec	2,720	252	840	504	1,108	16
United Kingdom						
United States	9,132	159	115	96	2,597	6,165
Others	306	6				275
Extra-EC	9,413	165	115	96	2,597	6,440
World	12,133	417	955	600	3,705	6,456

Airplanes, Seaplanes and Autogyros

Unladen weight not exceeding 15,000 kg.

	Total	France	Belgium Luxembourg	Nether-lands	Germany	Italy
France	9,204		359	256	6,878	1,711
Germany	495	188	133	159		15
Belgium Luxembourg	161				115	46
Italy	946	304	595		47	
Netherlands	7,451	3,037	32		4,382	
Intra-Ec	18,257	3,529	1,119	415	11,422	1,772

(continued) Airplanes, Seaplanes and Autogyros

Unladen weight not exceeding 15,000 kg.

	Total	France	Belgium Luxembourg	Nether-lands	Germany	Italy
United Kingdom	1,267		85	3	1,125	54
United States	24,395	8,970	211	474	12,912	1,828
Others	54,282	1,834	190	49,949	1,654	655
Extra-Ec	79,944	10,804	486	50,426	15,691	2,537
World	98,201	14,333	1,605	50,841	27,113	4,309

Airplanes, Seaplanes and Autogyros
Unladen weight exceeding 15,000 kg.

	Total	France	Belgium Luxembourg	Nether-lands	Germany	Italy
France	12,282			12,282		
Germany	35,409	35,409				
Belgium Luxembourg						
Italy	3,796			3,796		
Netherlands	12,398				12,398	
Intra-EC	63,885	35,409		16,078	12,398	
United Kingdom	19,892		3,000		16,892	
United States	407,583	38,352	3,750	164,071	120,716	80,694
Others	36,033	400	35,505			128
Extra-EC	463,508	38,752	42,255	164,071	137,608	80,822
World	527,393	74,161	42,255	180,149	150,006	80,822

Components and spare parts of heavier than air machines and rotochutes.

	Total	France	Belgium Luxembourg	Nether-lands	Germany	Italy
France	55,991		22,049	6,371	23,154	4,417
Germany	39,988	19,525	8,039	10,937		1,487
Belgium Luxembourg	13,655	7,980		2,719	1,528	1,428
Italy	28,162	13,502	5,159	1,241	8,260	
Netherlands	11,044	3,551	2,652		4,251	590
Intra-Ec	148,840	44,558	37,899	21,268	37,193	7,922
United Kingdom	55,321	29,801	3,697	11,289	7,823	2,711
United States	173,656	24,974	14,507	29,806	67,209	37,160
Others	21,452	6,071	4,037	8,199	2,294	851
Extra-EC	250,429	60,946	22,241	49,294	77,326	40,722
World	399,269	105,404	60,140	70,562	114,519	48,644

Source : Statistical Office of the European Communities.

THE PRODUCTION SET-UP

Second Updated version of Annex II of the Communication from the Commission to the Council dated July 19, 1972 relative to "A Community Policy for the Promotion of Industry and Technology in the Aeronautical Sector"

1. Activity levels in the main producing countries

The general situation prevailing in the West within this sector (1) is characterized by the dominant position held by the United States industry.

The United States share, while falling slightly, is still greater than 75% of the total for the West. The turnovers are the following (monetary unit is a million EUR; see footnote n°. 1a. In this document, 1 EUR = U.S. $ 1 up to and including 1971; in 1972, 1 EUR = U.S. $ 1.08):

Table 1

	I969	%	I970	%	I97I	%	I972	%
United States(2)	26,I26	83.6	24,930	82.3	22,I82	79.5	20,660	76.6
Canada (3)	692	2.2	659	2.2	596	2.1	555	2.1
Community of Nine (4)	3,856	I2.3	4,039	I3.4	4,227	I5.2	4,775	I7.7
Other European Countries (5)	I43	0.5	I57	0.5	204	0.7	204	0.7
Europe	(3,999)	(I2.8)	(4,I96)	(I3.9)	(4,43I)	(I5.9)	(4,979)	(I8.4)
Japan (6)	274	0.9	306	I.0	309	I.I	406	I.5
Other Western Countries (7)	I47	0.5	I87	0.6	382	I.4	382	I.4
	3I,238	I00.0	30,278	I00.0	27,900	I00.0	26,982	I00.0

(1) The footnotes relating to each section will be found at the end of that section.

.../...

The figures set out in Table 1 have been revised from those given in the document dated December 21, 1972 in accordance with the available information.

The turnover of the United States aerospace industry, which has experienced a constant upward turn ever since 1955 was in a decline from 1968 to 1971. In 1972, it was found that there was a stable level in the figures when expressed in actual dollars ($ 22,313 million compared with $ 22,182 million) but a drop when expressed in terms of constant worth (EUR 20,660 million compared with EUR 22,182 million).

With regard to the Community, the trend in the gross turnovers of the aerospace industry over recent years has been the following (million EUR; revised series; see footnote relating to particular country) :

Table 2

	(8) Germany	(9) Belgium	(10) France	(11) Italy	(12) Netherlands	(13) United Kingdom	EEC
1969	598	42	I,252	208	I09	I,647	3,856
1970	787	40	I,339	232	II5	I,526	4,039
1971	842	54	I,4I8	224	II4	I,575	4,227
1972	I,021	62	I,564	238	I47	I,743	4,775

The comparison made with the trend in the turnovers of the United States industry gives the following results :

(million EUR) Table 3

	Community	United States	%
1969	3,856	26,I26	I4.7
1970	4,039	24,930	I6.2
1971	4,227	22,I82	I9.0
1972	4,775	20,660	23.I

.../...

The average turnover in the Community for the four years under review works out at 17.9% of the United States turnover; the reason for the appreciable rate of increase of the Community turnover compared with the United States is the increase in the Community turnover (I969-I972:-23.8% up) and the decrease in the United States turnover (I969-I972:-20.9% down).

The comparison made between the averages for the two-year groups, I960-6I on the one hand and I97I-72 on the other hand, gives the following results:

Table 4

(million EUR)	Community Turnover	United States Turnover	%
I960-6I average	I,975	I7,66I	II.I
I97I-72 average	4,50I	2I,42I	2I.0

It will be found that over the eleven years under review, the relative size of the Community turnover has increased tremendously. However, compared with the United States aerospace industry, its European opposite number is relatively underdeveloped, even when the difference in the GNPs is taken into account:

Table 5

(million EUR)	Community	United States	%
I970-7I average aerospace turnover	4,I33	23,556	I7.5
I970-7I average GNP (I5)	660,800	I,029,700	64.I

.../...

Were the Community aerospace industry as proportionally developed as it is in the United States, its turnover would be 3.6 time greater than the volume achieved in I970-7I.

The relative grouwths of the aerospace industry in respect of the various countries are as follows :

Table 5a

Turnover of the aerospace industry expressed as a % of the GNP	Germany	Belgium	France	Italy	Netherlands	UK	EEC	USA
I97I	0.4	0.I	0.8	0.2	0.3	I.I	0.6	2.I

Note will be taken of the relatively larger growths shown by the United Kingdom and France.

The available data permits the evaluation of the importance of the aerospace turnovers in respect of the original Community of the Six, some of the particular Member States and the United States being assessed against their manufacturing industries taken as a whole (I97I) :

Table 6

(million EUR)	Aerospace turnover	GDP: manufacturing industries (I6)	%
Six	2,652	I93,400	I.3
Germany	842	87,I26	0.9
Belgium	54	8,890	0.6
France	I,4I8	57,590	2.4
Italy	224	30,988	0.7
United States	22,I82	695,000	3.I

In the case of the United Kingdom, the comparison may be made with the part of the GDP attributed to "industry" (building included), giving a percentage relating to its aerospace industry of 2.7%.

.../...

Footnotes to Section 1.

Sources and further data.

1. This document covers the West only; it should be borne in mind, however, that there is in the USSR a powerful aerospace industry with, in 1971, a payroll of 600,000. The cumulative export sales of Soviet civil aircraft up to March 31, 1973, were the following :

Turboprop Antonov 24	60
Twin-jet Tupolev 134	30
Tri-jet Tu 154	18
Yakolev Yak 40	25
Four-jet Il-62	19

Source : Interavia Data IND 73-S-03.

It should be noted that Interavia Data no longer quotes information on Soviet aircraft in view of the difficulty experienced in obtaining anything valid.

1a. See footnote n°. 1a to document III/2457/72-E.

The parities used (value in the national currency equal to 1 EUR) are the following :

	1969	1970	1971	1972	1973
Germany	3.93	3.66	3.65	3.49	3.39 (3.21 after June 29)
France	5.17	5.55	5.55	5.55	
Italy	625	625	625	631	
Netherlands	3.62	3.62	3.61	3.52	
Belgium and Luxembourg	50.0	50.0	49.9	48.6	
U.K.	0.416	0.416	0.416	0.416	
United States	1.00	1.00	1.00	1.08	1.20 after February 14.
Japon	360	360	359	334	

.../...

2. United States : Aerospace Industries Association of America.
Aerospace Facts and Figures, 1973/74.
1971 : revised figure.

3. Canada : Interavia Data IND-70-A.I. in respect of 1969.
In respect of 1970 and 1971 : issue of Interavia Courrier Aérien dated October 20, 1972.
In respect of 1972 : Government of Canada - 555 million EUR, split as follows : airframes : 302
engines : 194

4. Community (Nine) : see table 2.

5. Other European Countries : the countries basically at issue areSpain, Sweden and Switzerland. In the absence of further information, the assessment made for 1971 was repeated for 1972.

6. Japan : 1969, 1970 and 1971 : Interavia, 10/1973.
1972 : USIAS

7. In the absence of further information, the assessment made for 1971 was repeated for 1972.

8. Germany (Fed. Rep. of) : Source : BDLI
1970 and 1971 figures revised.

9. Belgium : GEBECOMA.

10. France : USIAS

11. Italy : Italian Government.

12. Netherlands : Trade Source

13. United Kingdom : Department of Trade and Industry.

14. EEC : see footnote n°. 20, document III/2457/72-E, page 27.

15. Gross National Product calculated on market prices (on current prices and rates of exchange). The 1972 Basic Statistics of the Community.

16. S.O.E.C. National financial returns, 1961-71.

2. Analysis of the turnover figures

2.1 Whilst the action being taken to improve the statistical data covering this sector has shown some progress since this document was last updated, the available results still do not permit a complete analysis to be made.

To begin with, the following remark should be made about the data set out in table 2 for the individual countries : the figures given originate from either the competent Ministries, the trade associations or the managements. Some of the figures do not include the sum total or certain of the amounts attributable to the development work carried out in connection with major civil projects (e.g., Airbus, Mercure, CFM 56, F 28). Table 2 should therefore, in the interest of homogeneity, be amplified in the case of a number of the countries as follows :

Table 7

Turnover in million EUR (State contributions to civil R & D included)

	Germany	Belgium	France	Italy	Netherlands	U.K.	EEC
1971	842	54	1,504	224	n.a.	1,575	
1972	1,021	62	1,672	238	173	1,743	4,909

The Community turnover then equals 23.7% of that of the United States. The breakdown of the 1972 figures between the Member States is as follows :

Table 8

Germany	Belgium	France	Italy	Netherlands	U.K.	EEC
20.8	1.3	34.1	4.8	3.5	35.5	100.0

These percentages should be viewed with a certain amount of scepticism because, according to the information we have received, these figures represent :

- gross turnovers, i.e., in the case of Germany, Belgium and Italy, turnovers embodying the proceeds from the sales of aerospace goods and services made in the country concerned between firms engaged in the aerospace business;

.../...

- net turnovers, i.e., in the case of France, the Netherlands and the United Kingdom, turnovers not embodying the proceeds from the sales of aerospace goods and services made in the country concerned between firms engaged in the aerospace business.

As an example, it can be shown in the case of France that the net turnover, i.e., the turnover corrected for the duplicate bookings within the industry, equals in 1972, 80.2 % of the overall turnover.

In these circumstances, any comparisons made by subsectors between one country and another will be limited to few Member States.

2.2 Analysis of the gross turnover figures

The breakdown between the various subsectors within the Member States shown is as follows :

Table 9

		Aircraft and space vehicles	Aero-engines	Equipment	Total
		(percentages)			
1969	Germany (17)	71	14	15	100
	France	61	20	19	100
1970	Germany (17)	65	11	24	100
	France	62	18	20	100
1971	Germany (17)	59	15	26	100
	France	58	20	22	100
	Belgium	47	34	19	100
1972	Germany (17)	63	15	22	100
	Belgium	50	29	21	100
	France	58	20	22	100

Taking France as the example, it can be demonstrated that the changeover from using the gross turnover figure to using the net turnover figure has the effect of :

(i) very slightly increasing the percentage for aero-engines;
(ii) increasing by several percent the percentage for aircraft and space vehicles;
(iii) reducing by several percent the percentage for equipment.

.../...

Taking the gross turnover figures given above, it may be shown that the proportion represented by "aircraft and space vehicles", which in Germany in 1968 equalled 71 %, shows a tendency to come closer to the level found in France and Belgium (50-60 %), that the "aero-engines" sector appears to be relatively underdeveloped in Germany compared with France and Belgium, and that the "equipment"sector represents 20-25 % in all three countries.

2.3 Analysis of the net turnover figures

The comparison relates to the following three Member States : France, the Netherlands and the United Kingdom (no information is available in respect of Italy) :

Table 10

		Aircraft and Space vehicles	Aero-engines	Equipment	Total
			(percentages)		
1969	France	68	21	11	100
	United Kingdom	57	38	5	100
1970	France	69	19	12	100
	United Kingdom	56	40	4	100
1971	France	66	21	13	100
	United Kingdom(18)	55	41	4	100
	Netherlands	96	—	4	100
1972	France	67	23	10	100
	Netherlands	96	—	4	100
	United Kingdom	n.a.	n.a.	n.a.	100

Assuming that the difference in breakdown by sectors was the same in 1971 between the gross turnover figures and the net turnover figures in Germany and Belgium on the one hand, and in France on the other hand, the breakdown by sectors would be as follows (net turnover figures) :

.../...

Table 11

	Aircraft and Space vehicles	Aero-engines	Equipment	Total
	(million EUR) (1971)			
Germany	564	135	143	842
Belgium	30	19	5	54
France	936	298	184	1418
Netherlands	109	—	5	114
United Kingdom	866	646	63	1575
Total for Member States	2505	1098	400	4003
Italy	n.a.	n.a.	n.a.	224
Community				4227

Table 12

	Aircraft and Space vehicles	Aero-engines	Equipment	Total
		(percentages) (1971)		
Germany	67	16	17	100
Belgium	55	35	10	100
France	66	21	13	100
Netherlands	96	—	4	100
United Kingdom	55	41	4	100
Total for the 5 Member States	63	27	10	100
United States	73	12	15	100

The breakdown by subsectors in respect of the five Member States referred to in Table 12 above may be analysed thus :

(i) aircraft and space vehicles : a subsector relatively more developed in the Netherlands, Germany and France than in the United Kingdom and Belgium;

(ii) aero-engines : a subsector relatively more developed in the United Kingdom than in the remaining Member States;

.../...

(iii) equipment : the low percentage figure quoted for the United Kingdom ought not be misinterpreted; since the figure represents the net turnover, it does not include any supplies and services provided by equipment manufacturers to the airframe and aero-engine builders situated in the same country.

Referring to the breakdown in respect of the United States, a comment may be made as follows :

The percentage in the United States of 73 % for "aircraft and space vehicles" is strongly influenced by the figures covering space vehicles and a more exact picture of the situation prevailing in a number of countries is given by the following breakdown (percentages) :

Table 13

	Aircraft	Space Vehicles	Aero-engines	Equipment	Total
	Breakdown (percentages)				
1970 France (20)	49	20	19	12	100
United Kingdom	46	10	40	4	100
United States	47	24	14	15	100
1971 France (20)	47	19	21	13	100
United Kingdom	45	10	41	4	100
United States	47	26	12	15	100
1972 France (20)	39	19	20	22	100
Netherlands	95	1	—	4	100
United States	41	30	12	17	100

Leaving aside the Netherlands where this subsector is, relatively speaking, much larger, the "aircraft" subsector represents in the Member States concerned and in the United States about 40-45 % of the total.

The "space vehicles" subsector is much more developed in the United States than in France and particularly more so than in the United Kingdom. The "aero-engines" subsector is particularly well developed in the United Kingdom. The "equipment" subsector is more developed in the United States than in Europe.

2.4 Aerospace output is also characterized by the breakdown of the net turnover figure into the sales made to various customers :

.../...

Table 14

	R&D	Military purchases	State aid towards civil R & D	State	Other Domestic customers	Exports
			(percentages)			
France (21) 1970	48		9	57	3	40
1971	47		12	59	5	36
1972	41		9	50	6	44
United Kingdom 1970	13	27	13	53	13	34
1971	14.5	26	14.5	55	11	31
1972	15	25	10	50	13	37
Netherlands (23) 1972	0.1	3.1	17.8	21	1.4	77.6
	NASA and other Agencies		D.o.D.	Civil Aeronautics		
United States (24) 1970	13.5		65.7	79.2	20.8	
1971	14.1		64.0	78.1	21.9	
1972	13.2		62.2	75.4	24.6	

(For information in respect of those Member States not shown here, see footnote 25).

It will be observed that the role played by the State is still much greater in the United States than in Europe, particularly by virtue of the sizes of the military and space programmes, the expenditure on which in absolute values is tabulated below :

Table 14 a

(million EUR)	NASA and other Agencies	"Department of Defense"	Total
1970	3,000	14,643	17,643
1971	2,777	12,584	15,361
1972	2,413	11,343	13,756

It will be noted, on the other hand, that in Europe, more particularly in this context in the Netherlands, the United Kingdom and France, the role played by the State in 1972 was less than or equal to 50 % in the make-up of the aerospace industry's turnover.

.../...

There can be no doubt about it that the American military and space programmes have a deep effect on the activities of the firms putting them into effect and give these an indirect advantage in the realm of civil aircraft construction.

In the said realm, the ratios between Europe and the United States in terms of strength are more balanced. The available information in respect of certain Member States and the United States is set out hereunder :

Table 15

Estimates of Turnovers in civil aeronautics (million EUR)

	Germany (26)	Belgium (27)	France (28)	Italy n.a.	Netherlands (29)	UK (30)	5 MS	U.S.A. (31)
1970								
Civil R&D (32)	41	n.a.	180		n.a.	192		
Civil output	61	n.a.	234		n.a.	493		
Total	102		414			685		4,643
1971								
Civil R&D	52	2	259		n.a.	228		
Civil output	100	32	422		107	554		
Total	152	34	681		107	782		4,302
1972								
Civil R&D	60	3	254		26	180		
Civil output	107	37	326		139	673		
Total	167	40	580		165	853	1,805	4,477

The footnotes, in particular footnote n°. 26, explain the reasons for the apparent anomalies.

In the realm of civil aeronautics the gap between the Community and the United States is narrower than in respect of the aerospace industry taken as a whole. It can be deduced, bearing in mind the incompleteness of some of the information set out in Table 15, that the ratios would be the following :

Table 16

Ratios EEC : USA (1972)	Aerospace industry	23.1 %
	Civil aeronautics	40.0 % (approx)

.../...

It should be added finally that the American home market absorbs a much larger proportion of the civil aeronautics turnover than do the European markets :

Table 17

	United States	France	United Kingdom
1970	46	11	28
1971	29	10	28
1972	39	16	27

Footnotes to Section 2

17. Accessories are included in "Aircraft-space vehicles".

18. Provisional figures.

19. The figures given are the results of the calculation made in respect of the aerospace services and products alone supplied by 55 American aerospace companies. (N.B. Equipment = aerospace products not otherwise specified).

20. "Space vehicle" percentages calculated on gross turnover.

21. France : in actual fact, the percentages in respect of civil R&D are slightly higher as certain development work performed under major civil projects (e.g., the Airbus and Mercure) have not been accounted for in here.

22. United Kingdom : 1971 and 1972 figures are provisional.

23. Netherlands : the column "State aid towards civil R&D" includes some civil purchases made by the State.

24. United States : AIAA - Aerospace Facts and Figures, 1973/74; percentage calculated on the "aerospace products" total exclusively.

25. In the case of Germany and Belgium (no information is available in respect of Italy), the only breakdown of turnover available is the one done on the gross turnover figures, i.e., the picture portrayed of the real breakdown between the various customers of the industry is distorted by the overlapping due to transactions being performed between firms in the same line of business in the country concerned :

.../...

(percentages)	Military R & D	Military purchases	Civil R & D	Space	State	Other Home customers	Exports
Belgium							
1971	0.39	32.84	4.21	3.57	41.01	0.36	58.63
1972	0.00	31.29	5.38	3.30	39.97	1.08	58.95
Germany							
1970	——— 59 ———		5	12	76	15	9
1971	——— 53 ———		6	15	74	18	8
1972	——— 58 ———		6	9	73	16	11

In respect of Germany, this breakdown is an estimate made from various German documents.

26. A breakdown between civil and military turnover is not available is respect of equipment and accessories which together in 1970 represented 28 % of the total turnover; hence, the real civil turnover of the German aerospace industry is higher than the figures shown in Table 15.

27. Assumed that exports are entirely civil.

28. Estimates made from U.S.I.A.S. and French Government documents.

29. Assumed that exports are entirely civil. The total of 165 in respect of 1972 has to be compared with the figure stated in Table 7 and not the one stated in Table 2.

30. 1972 : provisional estimate.

31. AIAA - Aerospace Facts and Figures, 1973/74.

32. This relates to State aid towards civil R & D only.

.../...

3. Manpower

The total manpower employed by the aerospace industry in 1969, 1970, 1971 and 1972 was as follows :

Table 18

	Germany (33)	Belgium (34)	France (35)	Italy (36)	Nether-lands (37)	U.K. (38)	E.E.C. (39)	U.S.A. (40)	Canada (41)
1969	49,800	4,500	96,900	27,000	7,000	247,000	432,200	1,411,000	
1970	54,500	4,700	103,400	29,500	8,000	237,000	437,100	1,199,000	34,600
1971	56,100	4,800	108,600	28,000	8,000	220,000	425,500	969,000	n.a.
1972	53,600	4,900	108,600	28,500	6,600	213,000	415,200	922,000	24,000
1973	51,200	n.a.	107,800			206,000		950,000	

It will be observed from the above figures, the most recent of which are in respect of the position as at mid-1973, that the manpower is going down in the United Kingdom, Germany and the Netherlands but remaining steady in the other Member States of the Community. The fall-off in manpower in the United States, according to this information, must have apparently ceased.

3.1 In 1972, the breakdown of the manpower into subsectors was the following :

Table 19

	Aircraft (space vehicles)	Aero-engines	Equipment	Total
Germany	35,600	6,800	11,200	53,600
Belgium	2,600	1,400	900	4,900
France	62,700	21,800	24,100	108,600
Italy	n.a.	n.a.	n.a.	28,500
Netherlands	5,850		750	6,600
United Kingdom	92,200	63,600	57,200	213,000

	Aeronautics	Missiles & space	Communications equipment	Misc.	Total
United States	501,000	90,000	132,000	199,000	922,000

.../...

In the United States, the breakdown of the manpower employed exclusively by the aeronautics industry is as follows :

Table 20

	Airframes	Aero-engines and parts	Aircraft parts and equipment not otherwise specified	Total
1971	290,700	153,400	93,900	538,000
1972	272,200	138,500	90,500	501,200

International comparisons are again difficult to make since the breakdown within the Italian industry is not known and the manpower attributed to "equipment" is likely to be covered by different definitions; however, some attempt can be made at an overall estimate :

Table 21

1972	Airframes, missiles and space vehicles	Aero-engines	Equipment	Misc.	Total
EEC	214,650	99,000	101,550		415,200
United States	362,000	138,500	222,500	199,000	922,000

The overall breakdown of the aeronautics and space manpower (increased in the case of the United States by the aeronautics and space manpower working in the telecommunications industries) would be as follows :

Table 22

(percentages)	Airframes, missiles and space vehicles	Aero-engines	Equipment	Total
(1972)				
EEC	52	24	24	100
United States	50	19	31	100

The higher proportion in the "aero-engines" subsector within the Community is attributable to the development of this subsector in the United Kingdom. The higher proportion in the "equipment" subsector in the United States is said to be due to the wider use made there of subcontracting.

.../...

3.2 It would also be valuable to be able to compare the various activities of aerospace personnel. The various countries where this information is available give the following percentages (N.B. The remarks in the footnotes should be borne in mind as the various percentages are not directly comparable) :

Table 23

(percentages) (1972)	Personnel on production	Personnel on R & D	Personnel otherwise employed	
Germany (43)	33	21	46	including "servicing" 19
France (44)	52	28	20	
United Kingdom (45)	45	19	36	
United States (total)	49			
Aeronautics	54	---------- 46 ----------		
Missiles and space	30	---------- 70 ----------		
Communications' equipment	43	---------- 57 ----------		

As in 1971, some agreement is seen between the percentages for personnel on production in the United States and France. As in previous years, the percentage of personnel on production in the United Kingdom seems lower but this might be caused by differences in definitions.

3.3 Finally, the breakdown of the manpower into the various skills is a factor to be taken account of in any studies made on the current position and future prospects of the sector :

Table 24

(%)	Manual Workers	Office Staff	Technicians, draughtsmen and foremen	Engineers and managers
Germany (46)	43	20	----------37----------	
France (47)	43	14	30	13
United Kingdom (48)	45	30	14	11

Some agreement can be seen in the percentages in respect of manual workers; where the other categories of personnel are concerned, the descriptions run risk of not being exactly comparable.

.../...

In the case of scientists and engineers (other managerial grades excluded), the only comparison it is possible to make from the available sources is between the United Kingdom and the United States in 1972 (percentages of the overall aerospace manpower) :

United States	7.8 %
United Kingdom	4.9 %

The proportion of scientists and engineers is seen to be higher in the United States than in the United Kingdom; the directions the percentages have taken are interesting :

Table 25

Percentages of scientists and engineers in the total manpower

	1965	1968	1970	1972
United Kingdom	2.7	2.8	5.8	4.9
United States	8.2	6.5	7.5	7.8

The percentages in respect of 1972 confirm the earlier findings and tend to show that during any period of difficulties the industry strengthens in particular its force of engineers and scientists, whereas during any period of overall vigorous activity the proportion of engineers and scientists will drop.

.../...

Footnotes to Section 3

33. BDLI

34. GEBECOMA

35. U.S.I.A.S. : March 31, 1973.

36. Italian Government.

37. Estimate.

38. Department of Trade and Industry.

39. In the case of Germany, France and the United Kingdom : manpower as at the month of June in each year.

40. AIAA : 1973, estimate.

41. Canadian Government : avionics excluded in the case of 1972.

42. Estimate.

43. BDLI

44. U.S.I.A.S. : R & D = research +prototypes.

45. Department of Trade and Industry : R & D = Scientists, engineers and technologists + design offices.

46. BDLI.

47. U.S.I.A.S.

.../...

4. Structure

4.1 Manpower employed in the companies

The year 1973 has passed without any paricularly noteworthy changes having taken place in the structure of the industry in either Europe or the United States. The directions which the manpower strengths of the principal European companies have taken have been as follows :

Table 26

	1969	1970	1971	1972
Aeritalia (48)	8,000	8,500	8,730	8,140
Aérospatiale (SNI) (49)	37,420	39,171	39,172	38,699
BAC (50)	36,600	37,099	34,993	34,000
Dassault-Bréguet (51)	11,536	12,757	15,033	15,000
Dornier (52)	6,053	7,043	7,726	7,603
Hawker-Siddeley Aviation (53)	49,000	36,000	27,500	32,000
MBB (54)	20,050	20,870	20,400	18,128
MTU (55)	n.a.	n.a.	4,974	6,010
Rolls-Royce (56)	74,000	63,000	62,000	63,600
SNECMA	13,154	13,826	14,700	14,600
VFW-FOKKER (58)	19,409	20,296	19,205	17,211
Westland (59)	n.a.	n.a.	10,700	12,500

In the majority of the larger companies a drop in manpower is seen from1971 to 1972-73, thus reflecting the overall drop in the manpower of the Community : 425,000 in 1971 to 415,200 in 1972.

Out of the overall manpower in each Member State mentioned below its three largest companies together employ the following percentages :

Table 27

Germany		France		United Kingdom		Belgium	
1971	1972	1971	1972	1971	1972	1971	1972
65	72	65	68	56	61	92	90

.../...

The increases in the percentages are altogether too small and determined over too short a period for it to be judged whether there is a trend towards merging. Other companies in the aircraft manufacturing sector are :

i) Italy : Costruzioni Aeronautiche G. Agusta, Aermacchi, Piaggio and Siai Marchetti;

ii) Belgium : SABCA and Fairey (61);

iii) United Kingdom : Short Brothers and Harland (69.5 % State owned). Fairey Britten-Norman and Scottish Aviation.

In the aero-engines sector :

i) Germany : Klöckner-Humbolt-Deutz;

ii) France : Turboméca;

iii) Italy : Fiat, Alfa-Romeo and Piaggio;

iv) Belgium : Fabrique Nationale d'Armes (61).

The aerospace sector also includes firms making equipment of missiles (e.g., MATRA : 1972 turnover was 65,2 million EUR) and others specialising in R & D or the production of space equipment (e.g., ERNO in Germany with a payroll in 1973 of about 1,000 and a turnover in 1971 of 18.6 million EUR). In addition, the company in the United Kingdom building hovercraft falls under this industrial classification.

4.2 Company turnovers

The changes in turnover of the main aerospace companies in the Community were as follows (the figures given are the turnovers of the companies in the aerospace sector before taxation) :

.../...

Table 28

(million EUR)	1969	1970	1971	1972
Aeritalia (48)	**n.a.**	**128**	**120**	**128**
Aérospatiale (62)	513	631	670	723
BAC	441	362	382	368
Dassault-Bréguet	258	283	316	391
Dornier	99	99	86	134
Hawker-Fiddeley Aviation (63)	412	496	546	560
MBB	212	236	317	331
MTU (Munich)	——	81	104	126
Rolls-Royce (64)	586	522	650	720
SNECMA (65)	229	213	248	286
VFW-Fokker (Düsseldorf)	210	238	293	358
Westland	——	——	139	148

The importance of the role that the largest firms in the industry play is evident from the following table :

Table 29

Percentages of aerospace total	Community	United States
Largest of all	15.1	13.8
Two largest	30.1	26.4
Three largest	41.8	38.4
Four largest	49.9	50.1
Five largest	57.6	57.9
Six largest	65.0	65.5
Seven largest	71.9	72.9
Eight largest	77.8	76.3

The interesting part about Table 29 lies more in the comparison it affords between the consolidations found in the Community and in the United States than in the percentages expressed in relation to the total of the sector (everything not aerospace excluded). The percentages have been based on the turnovers and not on the added values of the firms concerned; purchases by them are included

.../...

whereas in principle the total turnover of the sector should be corrected for double bookings. Thus, these percentages are in actual fact somewhat lower.

As Table 29 shows, the consolidation up to as far as the three largest firms is somewhat less pronounced in the United States than in Europe although, generally speaking, the levels of consolidation in the two areas are pretty comparable. Incidentally, there has been no apparent marked change in consolidation within the Community or in the United States from the situation prevailing in 1971.

The size of the firms, however, is a much more significant factor than consolidation when it comes to competition and a comparison of the average size of firms in Europe and in the United States is an important item to consider in assessing the situation prevailing in the industry :

Table 30

Comparative average sizes of the largest firms

(turnovers in million EUR)

	Community a	USA b	(%) a/b	Community a	USA b	(%) a/b
Largest of all	670	2,736	24.4	723	2,523	28.6
Two largest	660	2,651	24.8	721	2,419	29.8
Three largest	622	2,431	25.5	667	2,344	28.4
Four largest	562	2,289	24.5	598	2,295	26.0
Five largest	513	2,196	23.3	552	2,121	26.0
Six largest	480	2,110	22.7	520	2,001	25.9
Seven largest	453	2,040	22.2	493	1,909	25.8
Eight largest	427	1,893	22.5	467	1,750	26.6

Although it is too early yet to speak as if there were a trend, the average size of the European firms will be seen to have risen in comparison with the average size of the United States firms :
1971 : percentages from 22.2 % to 25.5 % depending on the turnover bracket;
1972 : percentages from 25.8 % to 29.8 % depending on the turnover bracket.

In the case of airframes, it is necessary to make the comparison with the United States firms in charge of major civil projects which top the list :

.../...

MDD with 2,523 million EUR;
Lockheed with 2,315 million EUR;
Boeing with 2,194 million EUR.

The three largest European firms building airframes are :

Aérospatiale with 723 million EUR;
Hawker-Siddeley with 560 million EUR;
Dassault-Bréguet with 391 million EUR.

The average turnover of these three European airframe firms works out at 24 % of the average turnover of the three above mentioned United States firms.

To take an example, it can be shown that the combined turnovers of the European airframe firms of the Community participating in the building of the Airbus is 1,972 million EUR. This example goes to show that in order to build giant airliners the means available to individual European firms are no longer adequate to face up to international competition.

In the case of aero-engines, the turnovers of the two large United States firms, United Aircraft and General Electric, is approximately 1,400 million EUR, i.e., not only the firms on the European continent but even Rolls-Royce are in a relatively weak position compared with the United States firms.

Were the structure of the European aerospace industry to move towards the setting-up, on the one hand, of transnational airframe companies and, on the other hand, of transnational aero-engine companies, the outcome could theoretically be the setting-up of several airframe groups. These in turn might, on the basis of the 1972 returns, achieve turnovers of somewhere between 1,000 and 1,500 million EUR, bringing them decisively near to the sizes of their American competitors while other less powerful groups would be able to reach the sizes of the largest European firms of today.

At the present time, the opportunities offered for balanced working partnerships with United States firms are lessened by the too great differences in sizes of any potential partners, as will be seen hereunder :

.../...

Table 31

Number of firms falling within given turnover brackets

Turnover bracket (million EUR)	Community			United States		
	1970	1971	1972	1970	1971	1972
2,000 and over	—	—	—	4	2	4
1,000 to 2,000	—	—	—	3	5	3
700 to 1,000	—	—	2		4	n.a.
600 to 700	1	2	—	5	2	n.a.
500 to 600	1	1	1		1	n.a.
400 to 500	1	—	—			
300 to 400	1	3	4			
200 to 300	4	2	1			
100 to 200	4	4	4			
	12	12	12			

The trend in the United States is seen to be as follows :

a) two large firms whose turnover in 1971 had fallen below the 2,000 million EUR mark found themselves back later in the 2,000 million EUR and above bracket;

b) three further firms have a turnover of between 1,000 and 2,000 million EUR (actually between 1,357 and 1,425 million EUR).

Thus, the seven largest United States firms all achieve turnovers almost equal in magnitude to twice the turnover of the largest European firm of all.

Within the Community, it can be seen that there is a regrouping inside some turnover brackets :

i) two firms exceed the 700 million EUR mark;
ii) one firm falls between 500 and 600 million EUR;
iii) five firms fall between [illegible] and 400 million EUR;
iv) four firms fall between 100 and 200 million EUR.

.../...

Footnotes to Section 4

48. Aeritalia

49. Aérospatiale : payroll of the consortium including its subsidiary firms :
i) as at end December 1971 : 45,174;
ii) as at end December 1972 : 44,085.

50. BAC : source, "Flight".

51. Interavia.

52. Flight : in June 1973 : 7,000

53. Flight : in 1973.

54. Flight : in 1973.

55. MTU (Munich) only.

56. Flight : in 1973.

57. Interavia : end 1972.

58. Flight : in 1973.

59. Flight : in 1973.

60. Calculation based mainly on the payroll of VFW-Fokker (Bremen).

61. GEBECOMA. Information regarding the three largest Belgian firms :

	Payrolls		Turnovers (million EUR)	
	1971	1972	1971	1972
SABCA	1,961	1,892	19.3	20.9
FAIREY	1,096	1,216	9.5	11.5
FN	1,422	1,352	18.5	17.6

62. SNIAS. Report submitted by the Board of Management to the Ordinary General A Assembly of Shareholders held on June 28, 1973. Group turnovers before taxation (million EUR):

1970	1971	1972
671	708	764

63. Hawker-Siddeley Group : 1971 : 1,134 million EUR; 1972 : 1,120 million EUR.

According to one source, Hawker-Siddeley Aviation are said to have achieved a turnover of 469 million EUR in the aerospace sector alone during 1972.

64. Estimate. The figure from another source is 841 million EUR.

65. Air et Cosmos :

Group turnovers (million EUR)			Group payrolls		
1970	1971	1972	1970	1971	1972
231	263	314	16,400	17,400	17,200

.../...

5. Research and development

5.1 As will have already been gathered from Table 15, the various State contributions to civil R & D are relatively large sums of money :

Table 32

(1972)	Germany	Belgium	France	Netherlands	UK	Community	USA
(milli EUR)	60	3	254	26	180	523	1,012
As percentage of civil turnover	36	8	44	16	21	n.a.	24

It should be noted that in the case of the European countries the State aid is for the civil R & D , whereas in the case of the United States it takes the form of company funds. It will be observed that in respect of the Member States concerned the percentages are, on average, not less than for the United States (the more so that there should be added thereto the amounts contributed by the firms themselves to civil R & D out of their own financial resources).

5.2 However, State influence in the United States is largely exercised by awarding firms military and space contracts :

Table 33

(million EUR)	Aerospace goods and services		Independent research and development
	NASA and other Agencies	Department of defence	Federal Government Contracts
1970	3,000	14,643	4,032
1971	2,777	12,584	3,928
1972	2,413	11,343	

The differences between the two columns in Table 33 represent the amounts spent by the State in respect of purchases and the servicing of military and space hardware.

The percentages of the sector turnovers representing the civil and military R & D expenditures in 1972 can be calculated overall for the following countries :

France	United Kingdom	United States (67)
29	26	35

.../...

The following conclusion is thus reached : in relation to sector turnover, European industry carries out as much R & D work as its United States counterpart. The bulk of the R & D funds in Europe stems from the States whereas in the United States 20.4 % of the funds are provided by industry; however, it is above all through making tremendous purchases and spending on servicing military aeronautical hardware that the Federal Government aids its industry :

Table 34

	Goods and Services for defence and space	Total turnover in the sector	(%)
	EEC (68)	EEC (68)	
1971	1,902	4,003	47.5
1972	2,036	4,537	44.8
	United States	United States	
1971	15,361	19,663	78.1
1972	13,756	18,233	75.4

Such enormous differences in percentages may be partly offset in some countries as against others by a larger proportion of military exports in relation to total exports. The information available on this is as follows :

France

"Military orders still represent the largest share of export orders notwithstanding the fact that sales of large batches of civil transport aircraft have already begun."

United Kingdom

In 1971, approximately 45 % of all exports were military.

Germany

The level of exports is insignificant : 10.52 % of the total turnover (France = 44 %; UK = 37 %).

United States

The level of total exports is relatively low (19.4 % of the turnover in 1972 in respect of aerospace goods and services) and the breakdown of exports is : civil = 77 %; military = 23 %.

.../...

This information reveals that the basic difference in the volume of aid which the military and space activities constitute for the sector taken overall stems from the military and space purchases or servicing work with which the United States Government benefits its industry. Federal American public funds paid to the aerospace industry in respect of R & D and civil, military and space purchases and expenditure on servicing are, even relatively speaking, much g greater than the public funds paid by the Community to its industry :

Table 35

	EEC (68)	United States	EEC/United States
Public funds	2,559	13,756	18?6 %
Aerospace turnover	4,537	18,233	24.8 %

Thus, industry in the United States receives much more "aid" than in Europe. Although such aid is directed mainly to the space and military programmes, this is in itself an enormous advantage to the United States aeronautics industry which has repercussions on its capability to develop civil programmes.

.../...

Footnotes to Section 5

66. The Italian Government has stated that it has as yet not granted any aid to building civil aircraft.

67. Figure for 1971 and in respect of the aerospace turnover only.

68. Except in respect of Italy where no information is available.

69. Aerospace goods and services only.