COMMISSION OF THE EUROPEAN COMMUNITIES

A POLICY OF THE COMMUNITY FOR THE PROMOTION OF INDUSTRY AND TECHNOLOGY IN THE AERONAUTICAL SECTOR

Communication from the Commission to the Council
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Introduction

Part 4 of the Memorandum from the Commission to the Council on the Community Industrial Policy (Brussels 1970) stressed the special problems that arise in the major sectors of advanced technology and tried to set out the possible guidelines for a common or concerted policy of industrial development in those sectors.

On this basis, and taking due note of the information gleaned from the discussions and consultations that have been held since the Memorandum was submitted, the Commission carried out a thorough survey of the aviation sector. This report contains the results of its analyis and proposals on the action it thinks should be taken in the common interest.

Such proposals, if they are to carry their full value, must not be too minutely specific. The report therefore tries to define a general sector-wide concept and to place in that framework a number of objectives and measures the implementation of which would be calculated to improve the growth prospects of a sector of importance to Europe.

The analysis and proposals contained in this document are also directly in line with the declaration written into the minutes of the meeting of the Council of the Communities held on 26 January 1972, according to which:

"In regard to Protocol XVII, in annex to the agreement concerning the establishment of List "G" in annex to the Treaty, the Institutions of the Community will in 1972 undertake an examination of the situation, in the light of acquired experience and with a view to taking such measures as may be necessary for the growth and competitiveness of the European aviation industry, with due regard to all the interests involved, including those of the airlines...".

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The document is concerned with the aviation industries in the wider sense of the term - airframes, engines, equipment - but at the aircraft construction level; at a later date, special reports will deal with the problems of the various branches, notably that of engines. Similarly, the aviation industries are considered from the angle of their activities as a whole, including, for instance, the activities connected with space programmes; but this report does not tackle the problems of the space policy, on which a special report will be prepared in due course.

Among the activities of the aviation industries, military aircraft occupy a very important position. Consequently, without going into considerations in the field of defence policy, this report points out that in order to define a policy valid for all sectors it is necessary to incorporate, as far as possible, the data concerning military contracts.

The analyses and proposals contained in the report apply to the enlarged Community ensuing from the signing of the Treaties of Accession.

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CHAPTER 1

SITUATION AND PROSPECTS

1. The difficulties

The trying situation which the aerospace industries of the Member States of the Community (of Ten) have experienced since the end of the second World War is readily illustrated by the following observations.

At the outset of 1970, the formerly powerful European manufacturers had only a small share, 9.5% (of which 5.7% was accounted for by the UK) of the Western world market, the rest being occupied by the United States. Their deliveries on their own market are likewise on a small scale, as regards the Six at any rate - 15% - whereas the British manufacturers still provide over 70% of the equipment purchased in the UK. As to the American market, which alone represents nearly two-thirds of the world market, Europe's share in it is a derisory 2.1%.

Thus, in spite of the efforts of the manufacturers and the governments, and in spite of their technical quality, European products have in general sold badly up to now. The leading position of American hardware on the market is partly due to the fact that, apart from the VC 10, long-haul aircraft are not manufactured in Europe (this type of aircraft has accounted for over 30% in value of the market); but this fact merely serves to highlight Europe's inability to capture a substantial fraction of the market for the other types of aircraft.

The same hard truth is to be seen in the chief indicators of the level of activity in the enlarged Community.

Although it is true that the aggregate turnover of the Six countries' aerospace industry grew a good deal faster than those of the UK and the USA between 1960 and 1968, there is still a wide gap between the levels of activity of the European and American industries, the average turnover (Community of Ten) for the period 1960-68 being only 14.3% of the figure achieved by the same industries in the USA.

As to the added value, the proportion contributed by the aerospace industry to the value added by the manufacturing industry in Europe is less than a quarter of the US figure.

Furthermore, the European aerospace industry's contribution to exports, and hence to the balance of payments, is low by comparison with the United States. In 1968, the USA had a favourable balance of $2,661 million, whereas the Community of Six had a deficit of $251 million vis-à-vis non-member countries; the two chief European manufacturing countries (France and the UK) together only achieved a surplus of $424 million. It will not be forgotten that the US aerospace industry too has experienced very serious difficulties, due in large measure to the cutbacks in the major military and space programmes. As a result, its turnover, which had been growing steadily since 1955, has been on the downgrade since 1968. There would, however, seem to be a revival in prospect in the fairly near future and measures to stimulate this process are now being examined.

Thus, although it has been recovering steadily since 1960, the aerospace industry in Europe is relatively "underdeveloped" if compared with the United States. This would not be particularly worrying if the aerospace sector could be regarded as just one of several; but the gravity of the situation is evident when

one remembers that this is a sector recognized by the Third Medium-Term Economic Policy Programme as being of special importance to economic growth and technical progress and, furthermore, that it is essential to defence and to the Member States' political position in the world context.

Since the end of the war Europe has launched a considerable number of major civil programmes, whose development and production involved heavy spending. Only three or four of those programmes were commercially successful, i.e., with sufficiently long production series to cover the expenditure entailed. The European manufacturers have to face American firms most of whose programmes have resulted in long production series with a rapid development rate. Understandably, this situation has enabled competitors in the USA to expand very fast; the question is, why has a similar situation not come about in Europe?

2. The historical reasons

The origin of the present difficulties can be traced back to the upheavals of the Second World War. At the close of hostilities, Europe, which had previously been in the forefront, found itself - apart from the United Kingdom - with a potential that was largely obsolete if not actually demolished. Subsequently the UK, with the momentum of its war effort behind it, continued to display considerable activity (though without always achieving the commercial results which its potential and efforts might be said to have warranted), while the French industry started on a long climb back, Germany and Italy being constrained to renounce any significant activity for many years.

On the other side of the Atlantic, the American industry, which had made great strides through the war effort, found two powerful stimuli to conversion and expansion, namely, the rapid growth of civil air transport and the military and space programmes.

European industrialists have often blamed the distortion of competition caused by the US military and space programmes. It is quite true that these programmes brought the firms engaged in them substantial funds and technological advances which enabled new aircraft to be put on the civil market.

Nevertheless, we now know that these advantages were often followed by appreciable drawbacks, and that technological innovation has no real economic effect unless, at the market level, it responds sufficiently to explicit or underlying needs. In any case, however real it may be, the advantage conferred on American manufacturers is not enough to account for the lack of commercial success of European aircarft.

3. Competitiveness and the market

The basic fact is that European aircraft have not, as a whole, managed to achieve an equal footing with American aircraft on the market. This competitive inferiority is the more noticeable in that it finds expression even in the European market; for, if we except a few special cases where a "counter-preference" may militate in favour of the American products (agreements on the stationing of US troops in Europe, or offsetting industrial investment with purchases - agreements which seem to have operated mainly in regard to military hardware), it is hard to see why European users should have preferred to purchase abroad if entirely satisfactory European aircraft had been offered to them.

Thus we have to ask ourselves two questions:

Why have American aircraft succeeded in capturing the market?

Why have European aircraft not, on the whole, had the same success?

(a) The master card in the Americans' hand is that they have a large, dynamic home market (see Annex I for figures).

The programmes they put forward soon won a substantial number of orders, making it worth while to set up a large-scale production line; the production series quickly reached high figures, allowing rapid amortization of the capital investment and giving the firms the wherewithal to set about capturing foreign markets with highly attractive commercial terms (selling price, diversification of the basic model into a "family" of aircraft, after-sales service, stocks of spare parts, etc.) and to prepare new projects. The size of the programmes and the production requirements also affected the industrial structures, where mergers enabled standardization to be carried as far as possible. This outline makes it clear that the US aircraft industry was able to reap the full benefit of economies of scale made possible by the big home market, without which the production of high-technology aircraft becomes an intolerable burden.

(b) In Europe we find the very opposite of the American situation, as regards both the market structure and the volume and dynamism of demand.

In contrast to the United States' large single market dominated by competition, the European market is to a great extent compartmented. Admittedly the Common Market has abolished

customs duties and quota restrictions between its members, but even within the Community the trade in aircraft of European origin is on a very small scale.

Military aircraft, which hitherto have accounted for over 50% of the market, depend on national government purchasers; even so, there have been some bilateral (Transall, Jaguar, Alpha-Jet) or multilateral (Atlantic, MRCA) programmes. As to civil aircraft, the demand is piecemeal, coming from a large number of national airlines (most of which, in spite of their status of commercial undertakings, are de jure or de facto dependent on the public authorities for the financing of aircraft purchases) and a growing number of firms whose activity is confined to non-scheduled flights. The most salutary development in this respect is the formation of the ATLAS[1] and KSSU[2] groups, which enter into agreements on the technical specifications of orders; it does not appear that the intergovernmental and industrial cooperative schemes for the production of new aircraft (Concorde, Airbus, etc.) have themselves had any effect on the market pattern as yet.

Although customs duties and quotas have been done away with, the legal environment of air transport is still essentially national. The work aimed at the adoption of European standards for aircraft construction has not been completed; nor has the work on the adoption of a European airworthiness code. The persistence of technical barriers is naturally an obstacle not only to intra-European trade (which is poor) but also to the setting-up of joint construction programmes between two or more countries. It is even less rational in view of the fact that when it comes to importing aircraft of US origin, the European countries have found no difficulty in accepting in principle the American rules and standards.

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[1] ATLAS: Air-France, Alitalia, Lufthansa, Sabena, Iberia.

[2] KSSU: KLM, SAS, Swissair, UTA.

Underlying the market "structure" there is, of course, the present pattern of air transport in Europe. It is easy to point to the example of the United States, where, in highly competitive conditions, air transport has expanded tremendously; but that expansion was made easier by two factors which do not exist to the same degree in Europe - the long distances between densely populated areas and the virtual absence of railway competition. Do Europe's specific characteristics mean that even in the long term she cannot look forward to a more vigorous air transport system?

Such an assumption is by no means confirmed and seems to derive from resignation to the structures set up by the international agreements concluded after the Second World War.

Those structures are based on the reservation of home traffic entirely for the national companies, with strict bilateralism in the granting of traffic rights to international services. For national prestige and profit-making reasons, priority attention has been given to the intercontinental links where the national companies are in competition, and the intra-European links (international or national) have often been planned to fit in with the long-haul services. The international intra-European traffic is subject to the IATA rules, so that the scale of charges is restricted by that rigid framework. All these factors have done little to help the growth of the intra-European network, which is virtually concentrated on a few major routes. It is easy, but over-simple, to say that lowering the rates and rationalizing the network would give the intra-European links a new boost. The heavy charges borne by the national airlines are well known and there is no question of blaming their management. Under these conditions, however, one must ask what is the technical, economic and institutional value of the

present system, whether the present aircraft and infrastructures are suited to short-haul requirements, and more generally, what place should be given to air transport in a modern transport policy. Although it is impossible at this stage to assess the effect that more rational air transport arrangements would have on the volume and nature of aircraft demand, it has to be recognized that these questions have not received sufficient study.

The excessive fragmentation of the market and the small demand have had obvious consequences for European manufacturers as a whole. They did not have the stimulus that their competitors had; hence for most projects they were not in a position to embark on long production series at fast rates, and for many firms this was the determining factor in:

(a) their inadequate financial capacity and productivity, and their perhaps unduly heavy dependence on government aid (and sometimes even purchasing instructions given to the national airlines);

(b) their programme policy - some programmes have been ill-reasoned because of insufficient co-planning with the intended users - and their marketing efforts, which are generally inadequate to win new contracts;

(c) the maintenance of structures that are too puny to handle increasingly large projects at the level of world competition.

The foregoing does not mean that no European aircraft were capable of penetrating the market. A few cases have proved the contrary; but in these cases success was only achieved because the aircraft offered had some additional competitive

element (unique product, technological novelty, particularly good operating costs) which could offset the basic handicap mentioned above.

(c) We have already amply stressed the part played by the big American "home market". Some people nevertheless think it is useless to try to confer the same role on a more open, dynamic European "home market". In their opinion, the aviation market has already attained international dimensions and Western Europe would no longer be a sufficiently large geographical framework.

There is some truth in this assertion, in that aircraft (apart from special types, e.g., those intended for the developing countries) are international products, suitable for selling all over the world. But it would be wrong to say that on that account there already exists an international market on which competition operates without hindrance and where the manufacturers meet on equal terms.

Leaving aside the dominant position acquired by the American industry, there are a number of government measures which make it difficult for European manufacturers to penetrate the US and other markets.

In the first place, there is still a customs duty (5%) on aircraft imports entering the USA, whereas the Community, putting its users' interests first, has voluntarily suspended the duty listed in the common external tariff for aircraft of over 15 tons. Admittedly the US duty is relatively low, but its effect is particularly marked because competition has become keener and this factor comes on top of others militating against European products. The other factors include the part played

by the Export-Import Bank (a noteworthy export credit instrument), the barriers formed by the technical and airworthiness standards, and more generally the context which impels users in the country in question to purchase national products.

An objective study reveals that there are measures on both sides which affect competition. For instance, the European countries were obliged to give financial aid to their industries, which were "underdeveloped" in consequence of the Second World War, a measure which the US government had itself proposed for the development of the SST project.

It is impossible to draw up a complete authoritative list here; it is, however, fair to conclude that in aviation, competition at the manufacturing level is accompanied by a more "political" rivalry at government level, and that "rules of the game" giving the manufacturers genuinely equal opportunities could only be introduced through comprehensive high-level negotiation.

4. Size of firms

Both the complexity and the high and rising cost of hardware call for increasingly big production lines. This need has been felt more keenly in recent years as the tendency has been to turn the aerospace industry into a "systems industry" rather than a conventional manufacturing industry. (It is now asked to produce "armament systems" or "transport systems".) Even if the company acting as project leader works with a considerable number of subcontractors, it still has to assume the overall industrial risk and carry the main development burden; hence it is preferable for this type of firm to be of large unit size and highly concentrated. This view is borne out by the difficulties observed in managing programmes carried out jointly by separate firms.

The size requirement does not, however, stem solely from the programmes cost and the risk level. It is also directly related to the broadening of the market. In Section 3, we mentioned the pressure exerted on industrial structures by the requirements of a large market; it must now be stressed that where the market is fragmented, costly equipment can only be produced if the various manufacturers combine their forces to reduce the diversity of supply and widen the market.

The more costly the systems to be built, the more they need an extensive market and great skill in judging the right time and conditions for entering the market. Hence there is no longer room for large numbers of medium-sized firms competing wastefully against one another on narrow markets.

As can be seen in Annex II (dealing with the production set-up), the European aerospace industry is at a great disadvantage as regards size by comparison with its chief competitor. This can be illustrated by two points:

(1) four US firms each have a turnover greater than that of the whole Community (of Six), i.e., about $2,000 million ($2,000 million in 1968, $2,293 million in 1970);

(2) the average size of the five leading firms in the Community of Six is one-seventh of the average size of the five leading US firms (this ratio is 1:5.2 for the Community of Ten).

The need for much greater concentration in the aerospace sector has been recognized by most of the European manufacturing countries, in the chief of which there are now to all intents and purposes only two airframe makers. But Europe-wide concentration is only just beginning; it was as late as 1969 that two agreements

were signed, one for VFW and Fokker to set up a holding company in possession of all the shares in the founder companies, and the other for the Dassault-Breguet and Fokker-VFW groups to hold the bulk of the shares in SABCA's capital.

The mergers carried out within individual countries have revealed the snags in this type of operation. One can see the economic, financial, fiscal and human problems inevitably arising out of a merger, and the result it should produce, namely, a rationalized production system. One can also see that these problems may be tougher where transfrontier groups are formed and where public and private undertakings are involved. Because of this, governments and firms have tended to work through cooperative agreements, but this can only be a temporary stage.

5. International cooperation

The need for this is recognized by the European governments and firms concerned. A government report[1] states that "the European firms have no choice but to work together if they wish to avoid shutting themselves out of major civil aircraft construction for good and all". No clearer witness is needed to the existence of the "structural" problems described in Section 4 above.

The advantages of cooperation (see Annex III, details of cooperation and programmes) are unarguable:

(a) through the pooling of technical and financial resources, more costly, higher-risk production lines can be undertaken;

[1] Basic programme for the German aerospace industry 1970-74 (July 1970).

(b) there is the chance of a wider market (buyers in the cooperating countries);

(c) firms of different countries learn how to work together, thus laying the basis for durable combinations;

(d) the various parties in an advanced project achieve a higher level of technology.

But cooperation also has appreciable drawbacks:

(a) it generally entails extra costs and time-lags, which may weigh heavily on the marketing end of the programme. These extras may spring from two sources:

(i) where governments are directly involved in the cooperative scheme, experience has shown that trouble can arise from the instability of the parties' line of action, from their political or budgetary indecisions, and from the "fair return" or job-splitting requirements arbitrarily imposed on a management system which is already intrinsically efficiency-resistant;

(ii) where cooperation is between manufacturing firms, its value will depend on the degree of integration of the project, i.e., the ability to subject it to a common authority accepted by all the parties and to achieve unity in the development and production work. In this respect, the best cooperative schemes are probably those run on subcontractor lines, but this solution seems to be effective only in cases of cooperation between parties that are quite different in size. The joint subsidiary method was adopted successfully in the case of the Jaguar and the MRCA, but although it permits joint integrated management, it is nevertheless liable to suffer from the diverging interests of the parent companies;

(b) it has not the same market-penetration strength as a single firm. The customer cannot form a lasting connection with a supplier whose identity changes with each project; moreover, the customer prefers to deal with a firm which has a genuine individuality and can answer for its own product;

(c) the biggest drawback of cooperation is that it forms only precarious links between the firms concerned and does not permit rational long-term planning of activities and investments.

To sum up, cooperation offers many advantages, more especially as it involves a higher degree of integration of activities. But it is still only a half-measure in a movement in which the requirement of size calls for a concentration of potential and a widening of the market, i.e., structural measures capable of ensuring the long-term future of the industry.

Pending this restructuring, the methods of cooperation must be improved as much as possible, and for this purpose the industrial character of such cooperation must be accentuated. In effecting this improvement, however, we must not lose sight of the real goal. In the long run, it is clear that enhanced productivity and efficiency can only be attained by changing the industrial and commercial lay-out of the European aerospace sector.

This change is particularly urgent because in the meantime some firms have been prompted to form industrial alliances with companies in non-member countries rather than seek durable links with one or more European partners. There are, of course, certain advantages in such alliances - transfers of technology, access to external markets - but they entail risks if the European party is not in a strong enough position to secure a well-balanced agreement, and in any case they may block the way

to optimum restructuring in Europe. After the industry's structure has been adjusted to the European scale, that will be the time when alliances with countries outside the Community will prove just how beneficial they can be.

The Commission has already recommended, in the context of its work on industrial policy and scientific and technical research policy, that the opening of any negotiations with non-member countries involving action by the public authorities should be preceded by consultation within the Community. This procedure, which should lead gradually to a common policy for cooperation with non-member countries, would be particularly appropriate in the aerospace sector.

6. Government intervention

In all the European manufacturing countries the State is constrained to give substantial backing, by various methods and in various degrees, to the development, production and marketing of aircraft and aircraft components (see Annex V). This support was and is still vital to the recovery of an industry that has suffered from the handicaps mentioned above. It is generally accepted that public aid is necessary for the launching of major programmes in advanced technology; in this connection, reference was made earlier on to the project for aid for the SST programme in the United States.

Although indispensable, this aid has so far always been of a national character, both in the decision-making process and from a procedural standpoint; even in the case of an intergovernmental agreement, such as for Airbus, once the mutual commitments have been established, the support given by each government to the firms concerned has been provided through the national machinery.

It cannot be sufficiently stressed that by maintaining national aid systems we actually encourage the persistence of fragmented production potential and small fenced-off markets.

But beyond these more or less indirect effects of the nationally-structured aid systems lies the plain fact that these systems reveal the whole drift of the policy in this sector. In Western Europe so far there have been cases of cooperation, but none of common concept or common objectives. Each country has defined its own policy for the sector, usually without looking to see whether its aims tallied with those of its European partners. The relative inefficacy of certain programmes is not surprising, considering that in many cases aid appears to have been given for social or regional reasons (maintaining employment) or for defence (maintaining military capacity) rather than to ensure the commercial success of an operation or meet an existing market or public service demand. With such policies the European countries could scarcely be expected to withstand the pressure of competition from the United States. The considerable funds and effort invested have not yielded proportionate results; a better course would have been to define common objectives based on a careful analysis of the requirements, aim the programmes at these objectives and be ready to abandon such operations as do not meet a real need or are an unnecessary duplication.

7. Prospects

The foregoing remarks mainly refer to the past, and it is impossible to close without looking briefly at the prospects ahead of the aerospace sector.

These prospects contain some encouraging aspects, but also some uncertainties and matters for concern.

If we look at the world scene, and assuming that the fears of a long economic recession can be set aside, it appears that air transport will continue its advance in all areas, including Europe, and that the demand for new civil aircraft, which had fallen off owing to the premature renewal or introduction of certain equipment, will surge again over the next few years. However, both carriers and manufacturers will have to face new constraints which are likely to affect the pattern of demand: the requirements of environmental policy, the development of high-speed forms of surface transport, planning policies, etc. None of these new conditions exist at present, but they are currently taking shape and should be incorporated in the transport policy for 1985-2000. Moreover, it would appear that unless defence policies undergo considerable changes, the market for military hardware will continue to shrink or at least stagnate, as will the appropriations for space activities.

The commercial future of European in relation to American products is clouded with uncertainty. It should be added in this connection that certain Soviet and Japanese products could appear on the markets previously occupied by the Americans and Europeans.

The five major European programmes about to enter the market (Concorde, Airbus, Mercure, Fokker F 28 and VFW 614) would appear to have a reasonable chance over a fairly long period. However, commercial success implies sales outside Europe, and above all on the American market.

In this respect, current developments in monetary and commercial relations may call for a certain amount of reflection. The realignment of exchange rates has had the effect of increasing the competitiveness of US products and making it more difficult to export to that country - a situation aggravated by the continued imposition of customs duty on imports to the United States. One outcome of the trade negotiations has been the emergence of certain tendencies towards bringing about a situation weighted in favour of products of US high technology, whereas negotiations of this type should be aimed at re-establishing true equality of opportunity on a mutual basis - the only valid foundation for international work-splitting which is acceptable to all. Likewise, the implementing of the measures essential for protection of the environment could lead to the introduction of new factors of inequality and barriers to international trade. Only by agreements on reciprocity and harmonization at an international level can fair conditions of competition by maintained.

The development of aerospace activities in Europe concerns not only industrial production potential but also employment prospects. If the aim is to protect the future of this sector's manpower as much as possible while achieving the increase in productivity necessary in order to bolster up competitive capacity, a highly vigilant policy for the sector will be required at Community level, as regards not only conditions of competition but also cooperation with outside organizations and work-sharing among Europeans.

There would in particular be a serious risk of a substantial expansion of production capacity - at considerable cost - in certain Member States, while excess capacity existed in others. There can, of course, be no question of freezing certain dynamic

growth activities artificially and it is essential to contribute towards regional development. Nevertheless, it is legitimate to ask whether such action would further harmonious development in the Community if public intervention were to render existing capacity unproductive, when the resources devoted to new capacity could be better employed by allotting them to other sectors in the common interest. The problem involved in the creation of new aerospace capacity is, indeed, only one facet of a more general problem, i.e., the extent to which the Member States are able to accept interdependence in the high-technology sectors. Should there be no such interdependence one cannot hope to see Europe make the best use of its resources and achieve economies of scale, both of which are essential prerequisites if she is to regain her position in the world.

Chapter 2

LONG-TERM OBJECTIVES AND WAYS OF ATTAINING THEM

In order to give the European aerospace sector a genuine shot in the arm, it will not be sufficient to recommend a hotchpotch of measures. On the contrary, it is essential to take an overall view of things and define a long-term strategy in which structural measures designed to bear fruit in the medium or long term are linked with projects of a more immediate nature, which are aimed at ironing out individual difficulties while pointing towards the same goals.

1. The choice of strategy

The first question which arises and which certain parties do not hesitate to raise expressly is whether Europe must endeavour to pursue the production of large civil aircraft and high-thrust engines, despite the high cost, bearing in mind the important consideration of the "international division of labour" which it is desirable to develop in the free world.

It would appear that a qualified answer must be given to this question.

The future outlook for the market and the relative size of the European industry do not justify even the enlarged Community's attempting to produce a complete range of large-capacity aircraft and high-thrust engines. The Community can continue to satisfy a major part of its needs through imports without any serious drawbacks.

However, the successes already achieved, the very serious social and regional problems inherent in a policy of withdrawal and the importance of this sector to the economy and to defence warrant an active presence of the European aerospace industry on the world market.

Although taken at intervals, the decisions already reached and the resultant launching of programmes entering the market (Concorde, Airbus, Mercure, F28, VFW 614, RB 211 engine), which will be joined by new projects, notably AERITALIA, BOEING and EUROPLANE (BAC/MBB-SAAB/SCANIA), provide a starting-point which is far from being mediocre or negligible.

In order to develop a healthy, dynamic and competitive industry on this basis without excessive cost to the public authorities, the Community and Member States will in the coming years have to organize the mobilization of Europe's resources in a suitable manner: i.e., assist the industry to consolidate its structures at a European level, ensure that the European market makes a better contribution to the development of the European industry, make programme development more systematic and improve the granting of aid and other subsidies, so that as regards the programmes adopted the manufacturers enjoy the fair conditions of competition, which are essential to the achievement of commercial success.

2. The conditions needed for success

Europe certainly possesses in sufficient measure the resources - human, technical and financial - required to recapture part of the world market, but this goal will only be achieved if these resources are properly utilized. The experience of the last twenty years (see the analysis in Chapter 1) shows that the following three main guidelines are to be recommended:

a) Against the competition from the US, and soon from the Soviet Union and Japan, the factor of size must be exploited to the full. This means the size of the European market, the manufacturing companies and the States' aid policies.

b) Since the aim is competitiveness, primary consideration must be given to the industrial and commercial nature of the operations to be undertaken. The major burden must devolve upon industry, which must be liable for the risks involved and also responsible for project organization and management.

Action by the public authorities should continue to be in the form of a back-up role and diminish as the revamped industries become better able to hold their own with their competitors. Similarly the methods employed in such action should allow industry to exercise the greatest possible measure of responsibility. The first priority must be to dispense with protectionism and captive markets, which could have an adverse effect on the competitiveness of the industry's products, and to

limit public financial assistance (reimbursable aid and guarantees) and whatever measures may be necessary to counteract interference with competition as a result of action by the public authorities in other countries. In this respect it would be appropriate to seek international agreement on avoiding an escalation of aid and protection. On the other hand, in order to place the firms concerned in an "environment" corresponding as closely as possible to market conditions, it would be desirable to examine the desirability of handing over the granting and management of public-sector aid to an industrial or banking organization employing as far as possible the methods used in the private sector.

c) Since resources are limited, a highly selective programme policy must be pursued which is aimed towards specialization in the types of equipment corresponding to both the capacity of the European industry and the real needs of the market. This postulates first of all that programme decisions should not be taken until exhaustive market surveys have been carried out which take account of the needs of and restrictions imposed upon the users, both European and other, incorporate the requirements of other policies such as that for the environment. This also means that useless duplication must be avoided: Europe must not squander its resources by funding too great a number of competing programmes. Finally, since the object is to re-establish a foothold on the world market, there must be a certain proportional subdivision of the work in relation to the main competitors. Apart from a simple "hole-filling" policy, collaboration with non-member countries can be considered desirable in certain cases on condition that it is on a balanced basis. Such collaboration could thus be instituted between the reshaped European industry and major concerns, notably American. Industrial agreements could involve product specialization and consequently easier access to the markets of the two groups of partners. Cooperation could be extended to agreements between the authorities of non-member countries and those in the Community, thus enabling the "rules of the game" to be defined within which the industries of the various countries could work together and compete in a situation offering equality of opportunity.

Action by the enlarged European Community to implement these guidelines involves the definition of objectives and the setting-up of procedures, which form the subject of the following sections.

3. The aim as regards the market

It was seen in Chapter 1 how fragmented the market for aerospace equipment is in Europe and this should be the main natural outlet for European manufacturers, as well as a shop window for the promotion of sales outside Europe.

The procurement policies of the armed forces have always been fundamentally nationalistic to date, but allow room for cooperation on a bi- or multilateral basis in the case of certain costly items. The development within a suitable framework of the closest possible European collaboration is desirable with a view to defining and financing large-scale programmes which meet the needs of the armed forces of Europe and, subsidiarily, are calculated to maintain or capture certain external markets.

The market for large civil aircraft is assuming increasing signficance for the manufacturers. European companies should accordingly be able to find in Europe not a patchwork of small orders extending over protracted periods, but important customers capable of placing substantial orders which could form a firm basis for the development of production.

A main step in this direction was taken by the consortia trading under the banners of ATLAS[1] and KSSU[2]. The object of these consortia is to share the cost of maintaining equipment and to coordinate technical definition of requirements for new equipment. However, the participating companies remain independent as regards purchasing policy, finance and the timing of purchases. Since collaboration within the groups in question appears to be completely satisfactory, an attempt to extend it to cover all aspects of equipment policy would be desirable.

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[1] ATLAS: Air-France, Alitalia, Lufthansa, Sabena, Iberia.

[2] KSSU: KLM, SAS, Swissair, UTA.

Another matter for concern is that of the dynamism of the European market, i.e., the volume of demand. There can, of course, be no question of making the airlines in any way subservient to the manufacturers and priorities would be topsy-turvy if an attempt were made to modify their structure or function with the aim of putting them in a position to buy more aircraft. However, although we are dealing here with a matter coming more particularly under the head of transport policy, we need to examine the conditions which shape the market, and particularly to try to determine what arrangements would be appropriate for improving air transport and also would provide a stimulus to the development of the European industry.

Quite apart from the problem of the market for aircraft, it is undeniably a fact that the organization of air transport in a European context has for many years been the subject of surveys and projects which it is not possible to recapitulate here. These various activities have concerned both the overall organization of air transport in the European countries and the way in which this mode of transport is used within the geographical area of Europe. Moreover, the problems affecting air transport are a focus of interest just now and the Transport Committee of the European Parliament has instructed one of its members to draw up a report on the subject.

The present document is not the place to adopt a fundamental attitude to this matter; it must be restricted to pointing up the principal problems which deserve examination:

a) Since the conclusion of agreements on the subject after the second world war, airspace has been used on a strictly national basis, subject to traffic agreements on a country-to-country basis, and an operating monopoly of scheduled services has been granted to one or two national companies known as "flag carriers". Having regard to the difficulties encountered by the companies and to Europe's overall interests, this structure is not the best which can be achieved; its continued existence would prevent rationalization of resources. It is possible that as European unification progresses this situation will change. It is appropriate to examine in economic and political terms the gains which would result from the pooling of operating rights and company mergers, as well as the stages by which such a state of affairs could be brought about.

b) The intra-European routes seem to be operated essentially on the basis of relationships between individual countries and as a general rule link one capital with another or with another major town. Moreover, the European flag-carriers appear to attach less economic importance to intra-European routes, which are considered, to some extent at least, to be "feeders" for intercontinental traffic. There would seem to be a case for exploring the conditions in which it would be possible to set up a European route network on a scale taking into account transport requirements in Europe and to operate this network more rationally, using the hardware available in the various countries.

It is clear that the setting-up of new routes would depend on the existence of sufficient demand and that the extent to which this demand showed itself to be a function of, among other things, the level of the fares and the quality of the links between the airport and the city centre. Fare levels themselves could be favourably influenced by the introduction of specially designed short-haul aircraft and suitable infrastructures. Whatever the difficulties, only an exhaustive study based on reliable traffic forecasts and using simulation techniques will provide clear indications of future potential[1].

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[1] A very important first step has been taken by the French in this respect: an interministerial committee dealing with regional planning took the decision on 21 December 1971 to open up routes between Strasbourg, Brussels and London and Strasbourg and Milan. These routes will be operated by Air France, but their forecast deficit will be covered partly by the local authorities and partly by regional planning funds. The interministerial committee has also expressed interest in opening up a number of other routes, such as Lille-Brussels-Amsterdam, Grenoble-Turin, Lyons-Brussels, Marseilles-Barcelona, etc. Aid from public funds on a depressive scale would be granted for up to three years.

As early as the Council meeting on 4 June 1970, the Commission's representative had stressed the need to arrive at Community-level action in the field of air transport, and had cited improvement of the intra-Community route network as one of the major objectives. Such action would have to be preceded by a general, systematic study of inter-regional traffic potential on a Community scale. This line still holds good and in this connection the Commission refers to the Council draft decision which it forwarded to the latter on 3 July 1972. The draft text in question, which relates to the fundamentals of joint action in the field of air transport, is based on Article 84(2) of the Treaty. The proposal made to the Council is that the Commission should be instructed to examine, together with experts appointed by each of the Member States, the measures to be taken at Community level in the field of air navigation to implement the measures designed to achieve:

a) improvement of the schedule services within the Community;
b) consultation between the Member States on fares policy;
c) consultation on policy for developing services with non-member countries.

Industrial agreements could involve product specialization and consequently easier access to the markets of the two groups of partners. Cooperation could be extended to agreements between the authorities of non-member countries and those in the Community, thus enabling the "rules of the game" to be defined, within which the industries of the various countries could work together and compete in a situation offering equality of opportunity.

Action by the enlarged European Community to implement these guidelines involves the definition of objectives and the setting-up of procedures, which form the subject of the following sections.

4. The aim as regards the structure of the industry

Chapter 1 has shown that, as compared with the industry in non-member countries, the European industry is too restricted in size and the results which can be expected from precarious, ad hoc cooperation agreements are limited.

Size is not an end in itself, but in the aerospace sector the costs involved are so great and widening of the market so essential that an effort towards concentration in Europe is necessary on a scale larger than what has been attained in the major countries. Realignments are also necessary in order to form entities capable of entering into cooperation with the large American concerns without running the risk of quickly being reduced to the status of subsidiaries of sub-contractors.

The aim should therefore be to direct the trend of production structures towards the formation of a small number of large, transnational companies with sole responsibility for major programmes. At first sight it would seem desirable and possible to secure the grouping together of two or even three large airframe manufacturers and one large engine manufacturer. In this respect it is certainly desirable that conditions of competition should be maintained in Europe, but only provided massive concentration and the size of firms in the rest of the world do not transform the maintenance of intra-European competition into a position of weakness.

It is important to examine the nature of the competition which should obtain between the two (or three) large groups of European airframe manufacturers. In future, as at present, it would be difficult to justify in economic terms the production in Europe of more than one type of aircraft for each category of the market for large machines. On the other hand, competition at the technological design and market research stages will remain crucial. Consequently, the large European groups would compete, e.g., in design and market survey in the field of QTOL (quiet take-off and landing) aircraft, while only one model would be developed and built in Europe.

Industrial combination operations require cautious handling and cannot be carried out in an authoritarian manner. In order to yield maximum benefit, they must take into account human, technical and economic factors, the companies' external links and the special problems which may arise from differences in their status (public or private). Such combinations may come about through a trend in which increasing collaboration leads to amalgamation.

Although caution and a certain amount of the time will be needed in order to achieve worth-while results, no doubt must be left today as to the course to be followed and conditions and procedures must be created to encourage and facilitate realignments. In this connection we must not lose sight of the fact that the State possesses considerable holdings in certain companies and thus can do more to influence their attitude than it can in the case of companies backed purely by private enterprise.

If there is a genuine desire to progress in the direction outlined above, the Member States should declare themselves expressly in favour of such a movement and the Commission should, in conjunction with the governments, be made responsible for keeping track of trends in the sector concerned and for considering the steps the Community and the governments could take in order to promote or facilitate such mergers as the industry, with which the initiative lies, may wish to carry out.

There is scarcely any need to point out here that while structural mergers can currently be effected by means of techniques deriving from national laws, these solutions are far from being completely satisfactory. Representatives of circles in the aircraft industry have stressed the importance and urgency of having adequate tools for bringing about transnational mergers and cooperation. The Commission can only keep stressing the necessity for speeding up the process. We will restrict ourselves here to pointing out the various types of legal machinery currently being developed at Community level: the European Company, the "groupement d'intéret économique" and the Joint Undertaking (an extension of the concept contained in the Euratom Treaty); a draft directive dealing with common tax treatment for mergers, the disposal and contribution of assets as between companies in different Member States, and other proposals for fiscal directives affecting trans-frontier amalgamations.

It is proposed that the Council should approve the ideas set out above by adopting the recommendation contained in No. 1 of the appended "Implementing texts".

5. The aim as regards action by the public authorities

It was shown in Chapter 1 that, like the structure of the industry, public support has remained essentially national in its aims, decision-making processes and procedures.

It was also emphasized that this aid structure encourages the maintenance of national structures as regards production capacity and markets.

Despite the development of forms of cooperation, which are expedients and not the result of a comprehensive European-scale view of the situation, the chief sufferer from the effects of this state of affairs is programmes policy. The piecemeal nature of public support, ie., in fact of policies themselves, runs counter to the essential need, which is for Europe to concentrate on a few rationally chosen programmes, thus securing for itself maximum opportunities as regards market outlets.

The medium-term objective is thus to set up a Community planning and financing system in which joint action can be pursued. In order to be effective such a system will have to include decision-making. It will also need to possess its own funds in order to cover large-scale projects concerning the development of European aerospace products.

As a first stage, the Commission considers it to be of immediate importance to coordinate the national policies, in particular by thoroughly concerted effort on new programmes and instruments for financial support which would enable Community action to be set up and which, although incomplete and modest, would be able to act as a catalyst and confer on future projects a sort of recognition that they work in the public interest where the Community is concerned (see recommendation in No. 1 of the "Implementing texts").

The Commission will shortly propose that the Council should set up a system of "Community innovative and industrial development contracts" as an instrument of industrial and technological policy. These contracts would be placed in the case of innovative projects to be carried out on a cooperative basis, in accordance with criteria and procedures laid down in a Council regulation and financed out of a limited amount of funds which would be derived annually from the Community budget. In view of the limited volume of funds envisaged for the initial phase, such contracts would, in the aerospace sector, be particularly appropriate for industrial projects concerning the development of components on equipment and possibly for definition or feasibility studies fitting into the initial phase of development of the programmes proper.

The funding of the development of large prototypes will, at least for the initial phase, continue to be effected by means of national aids - applied, needless to say, jointly and on a coordinated basis - until it can be done at Community level, either via contracts of the type mentioned above or by Joint Undertakings (see page 28).

Despite the incomplete and limited nature of the aid which could be granted by the Community via innovative and industrial development contracts in the initial phase, this aid will play an increasingly significant role as it is applied to larger projects: it will combine national-scale public aid with truly concerted action, stimulate mergers between European companies and facilitate the creation of a useful joint management tool.

6. The dovetailing of programmes

Programme definition is a central factor in the European aerospace policy. The future of the sector is bound up with soundness of choice, i.e.:

a) the quality of the programme largely determines the competitiveness of the product on the market;

b) too many competing programmes mean a dispersal of effort and a waste of resources;

c) the programmes form the basis of inter-company collaboration and a sound choice of programmes will be of particular value in the promotion of realignments and industrial concentration. This holds equally good for the formation of European groupings and for the agreements to be reached between these groups and industry in non-member countries.

Hitherto, such programmes have been spawned by private initiative and it is more by fortunate accident than by design that the major programmes entering the market complement each other. However, as regards the latest type of aircraft the danger that there will be too many projects competing in Europe under the banner of STOL (short take-off and landing) is already looming up.

The planning of new production lines is not only of importance from the standpoint of strengthening the aerospace industry; it should also ensure greater conformity of the hardware produced with the needs of society and thus guarantee the qualitative aspects in the development of civil air transport. So far the principal concerns of the manufacturers and carriers have been with increased speed and lower user costs. New requirements are emerging: a reduction of pollution, and above all noise pollution; faster communications with city centres, greater security in spite of congested air space, etc. The satisfaction of these needs, which goes beyond the purely economic requirements of the air transport system, can only be achieved through a systematic planning process which takes into account all the factors influencing project design.

It is therefore necessary to carry out, within the framework of the Community's institutions, a genuine alignment of the Member States' attitudes regarding the launching of new aerospace programmes and to secure coordination and harmonization of financial aid on the basis of joint determination of objectives and methods, whether such aid is granted by the Member States or by means of Community instruments (Community innovative and industrial development contracts, Joint Undertakings, etc.). It goes without saying that the harmonization recommended above relates only to the stance which the public authorities would be called upon to adopt when examining future projects and that there is no intention at all of encroaching upon responsibilities which are properly those of the manufacturers, upon whom the initiative for conceiving and launching projects devolves in the first place.

Of the projects engaging their attention, the Institutions of the Community will naturally be particularly interested in those of a trans-national character.

7. Preparations for the harmonization of programmes

Programme harmonization in the sense envisaged above can only be carried through properly if the Member States and Institutions of the Community have in their possession all the necessary background information and data. It should be laid down that, in order to "clear the way" for their work the Commission will consult all the interested parties and then compile reports incorporating all the useful data and proposals.

These reports will be particularly concerned with the following points:

a) Situation and future development prospects of the aerospace industry.

Any study of future programmes requires an overall view of the situation and future of the sector.

An analysis of the work-load and available capacity of the European industry calls first of all for an examination of the needs and purchasing plans of the airlines with regard to current production programmes. The information supplied by the users would naturally not constitute any obligation to purchase on their part.

Additionally, realistic prospects should be plotted by using all the studies concerning the market, production facilities, infrastructures, etc., as a basis. Such forecasting should take account of the needs and trends emerging from the various policies which are likely to affect air transport and the aerospace industry (transport, the environment, regional planning, employment, industrial, technological and scientific development, etc). A particularly important aspect is the examination of future needs in order to map out transport strategy for inter-city links for the period 1985-2000. The result of the COST study (Project 33) as regards the analysis of the future transport needs of passengers travelling between large population centres in Europe will be of special importance.

The studies carried out at a national level would have to be compared, and the bodies consulted would have to contribute by making available the data in their possession. The representative professional organizations would be able to play a considerable part in preparing the information, which the competent departments of the Commission could have consolidated.

b) Types and characteristics most appropriate to the forecast needs and demands.

The reports would have to supply all appropriate information on the projects likely to find sufficient demand on the European and world markets, bearing in mind the restrictions imposed by the various policies. These projects would be defined by their principal characteristics.

The first problem requiring examination would naturally be those linked with the protection of the environment - reduction of noise and gaseous pollutants - and airport congestion. An initial survey of these matters would be desirable in the near future.

The data supplied by the users would be of the greatest use in this connection, and participation in this work would not prevent users from maintaining their direct contacts with the various manufacturers in any way, both at the preliminary study and the project implementation stage.

Needless to say, the participation of the airlines in the definition of future programmes could not be construed as involving any obligation to purchase at a stage so far removed from delivery of the final product. The operators would only be called upon to take up options and place their orders as the programme and tests progressed.

c) Funds required for the projects.

The reports would have to provide information on the financial, technical and manpower capacity for enabling the projects to be carried through within the deadlines and costs determined at the outset. Thus the prospective work-load for the European industry over a fairly long period (10-15 years) would emerge.

The industrial cooperation or mergers necessary for the fulfilment of the projects would have to be taken into consideration. This survey would concern not only the industrial structures of the Community, but also the links needing to be established with firms outside the Community and with the governments of their countries. Care should be taken in this connection to ensure that relationships with non-member countries do not develop in the form of sub-contracting agreements or situations involving dependence, but as balanced agreements representing an equitable sharing of research and development work and of the commercial return. This proposal is part of the more general concept of harmonization of industrial and technological agreements with the non-member countries (see report of the Working Party of Senior Officials on Industrial Policy and the Commission's proposals under the head aims of and resources for a common policy on scientific research and technological development, forwarded to the Council on 19 June 1972.

Finally, the reports could survey, in addition to industrial funds, the nature and extent of the financial support from public sources required for the implementation of the projects, together with the most effective forms for such support. It will be the Commission's task to organize the consultations in the light of the activities described above and to do so in such a way as to bring about closer collaboration between the manufacturers, operators and responsible public authorities. The participants in the consultations would be representatives of:

a) companies engaged in aircraft manufacture (airframes, engines, equipment) in the Member States of the Community;

b) airline companies (companies operating scheduled and charter services) in the Member States;

c) the governments of these States, by virtue of the various forms of intervention (air transport, industry, infrastructures, finance, etc.).

The foregoing analysis of the tasks involved in the harmonization of programmes has been restricted to civil requirements. It is, however, clear that in order to develop an overall strategy for the Community aviation sector's structure and world-load it would be necessary to take into consideration the military needs and programmes which are a very important

source of activity in this sector. It would be desirable if the Member States were to explore the possibility of extending harmonization to include military programmes by appropriate procedures. Such an extension would not appear to raise any major obstacles, since the large-scale production of military aerospace hardware is more often than not the subject of bi- or multilateral cooperation.

Chapter 3

PROJECTS OF IMMEDIATE CONCERN

The steps recommended in the previous chapter relate to the "structural" reinforcement of the aerospace sector in the enlarged Community. However, it would also be useful to examine whether, in view of the problems facing the manufacturers at the moment - and in particular as regards the implementation of the programmes currently under development - the Community is in a position to provide solutions likely to resolve either wholly or partly the difficulties which have been observed.

1. Financing problems

As shown above, the manufacturing nations have systems of public support with differences depending on the scope of their activities - for the R&D phase up to the marketing of the aircraft - the necessity for which can be explained by the level of capitalization (for R&D alone the cost is 30-70 times the value of the series-production aircraft).

If examined from the point of view of their contribution to the success of the programmes in progress, these aid systems raise two issues:

1) Are the divergences in system between the various countries prejudicial to the sector's activities?
2) Are the nature of these systems and the underlying procedures best suited to the furtherance of commercial success?

a) The divergences between the systems of aid.

In general terms there is hardly any doubt that the fragmented heterogeneous nature of the aid systems, which is accompanied by a lack of clarity, constitute an obstacle to the expansion of the aerospace sector in Europe.

With regard to the programmes currently under way, a distinction should be made between those based on inter-governmental agreements and those conducted by private industry.

On the whole, the programmes arising out of agreements between governments are on a clear footing, since the public authorities have entered into specific commitments as regards the financial support to be given to industry. In general terms, these same agreements should also provide guarantees on the continuance of the aid until the programme is completed, but experience has shown that there is a risk of this being queried or withdrawn, especially if it appears that the forecast costs or deadlines are liable to be exceeded. Although agreements of this type lay down a common funding basis, it would seem that in certain cases they show differences from country to country in proportion to the aid granted. In these instances, the party obtaining the least favourable terms will tend to consider himself to be less well treated than the other party. One cannot see from the facts how such differences in treatment are justified as regards manufacturers bearing a proportionally equivalent risk in a joint operation.

The discrepancies between aid systems are regrettable in the case of private agreements. Here the manufacturers reach an agreement, each one approaches his government for aid, and the government reacts according to habit or as dictated by the prevailing concept as regards the relationship between state and industry. The position of the cooperating parties is naturally less balanced in that each bears a different proportion of the risk.

When the Community possesses its own machinery for financial intervention - as mentioned in Chapter 2 - the drawbacks of the anomalies described may be removed. In the meantime the programme harmonization procedures outlined in Chapter 2 would have to be directed towards levelling out the differences between the systems.

Where programmes are in progress, it is suggested that the coordination of national aid should be proceeded with as required.

b) The effectiveness of public support.

Generally speaking, the Member States grant specific aid in order to enable the aircraft manufacturers to bear the costs and risk involved in prototype development (i.e., design studies, definition, feasibility studies, and the building and testing of prototypes).

The tendency in the subsequent phases i.e., series production and marketing, appears basically to leave the manufacturers to take care of themselves as best they can with the funds which they are able to extract from the money market and the national export-credit machinery. However, it is during these phases that the manufacturers encounter certain problems which it is essential to resolve if they are to enter the market: the need to achieve a sufficiently high rate of output, to produce a versatile type of aircraft which can be matched to the requirements of several customers, to contain their prices despite abnormal price rises and alterations in the exchange rates, and to offer every potential customer credit facilities equal to those offered by their competitors.

The principal aim of the following remarks is not to bring about an increase in public aid to the aerospace industry; it has been specifically stated in this connection that it should be possible in future to reduce public aid to firms in this sector as they become stronger. However, such a future is dependent upon the reasonable success of the programmes in progress, and it is with regard to these that the public authorities in Europe should fully enact their role of "sleeping partner" in the activities of industry (without failing to meet their obligation regarding repayment in the event of commercial success). A policy of half-measures could only have adverse consequences.

(1°) Series production

In certain countries the setting-up of the first series production line and the building of the protoype are both funded at the same time. This system of aid recognizes the difficulty encountered by European manufacturers in obtaining adequate funds on the money market during a phase when the industrial and commercial risks are still considerable. Although the American manufacturers launch series production with a large number of orders on their books, the Europeans generally receive their orders in small packages over a fairly long period. In addition, the European money market would appear to be largely closed to operations involving a high proportion of "technological risk".

In order to cope with these problems, it is clearly desirable that in the case of aerospace programmes to be carried out on a cooperative basis - otherwise known as "transnational" programmes - the governments of the Member States should agree on:

a) a common concept of the aid earmarked for R&D - such aid having to cover all expenditure, including the initial tooling-up for production, arising out of the implementation of the programme up to the type certification stage (prototypes of the various versions, static test airframes, ground and flight testing);

b) the granting of State guarantees for the loans contracted by the manufacturers with financing bodies. (See the Commission's note concerning the outline plan for aid in No. 2 of the "Implementing texts").

Furthermore, involvement on the part of the European Investment Bank would appear to be highly desirable; as demonstrated by a recent case, there is nothing to prevent it from becoming involved in the aerospace sector, since one of its tasks is to fund projects of common interest to several Member States (Art. 130(c), EEC Treaty). As part of its activity under this heading, the Bank has taken steps to further projects in a European context based on mutual dependence and technical and financial cooperation, and aimed at the same time at increased productivity through optimum size. It has made a point of underwriting activities which in the same spirit are designed to renew industrial structures, notably by a speeding up of the introduction of advanced technologies.

However, under its statute, the EIB confines its activity to investment projects (e.g., plant construction, modernization, etc.) and never funds a project in its entirety. Furthermore, if it participates in the funding of projects, the Bank cannot assume any part of the risk which these projects may involve; it requires the borrower to provide the usual banking sureties. A State guarantee in the territory where the loan is granted may be demanded. Despite these understandable restrictions, if the governments were disposed towards granting the guarantees requested, the activities of the EIB in the aerospace sector could be intensified, since recourse to the Bank would in particular make it possible to prevent parallel procedures from being followed in several Member States. The Commission reserves the right to make any appropriate recommendation to the Bank regarding the intensification of the latter's role in industrial development.

(2°) Marketing

Financial problems also arise at the marketing stage. These basically concern:

1. The conditions attached to credits granted to the customer;
2. The clauses dealing with prices (firm or revisable prices).

a) With regard to exports to countries outside the Community, the manufacturers are handicapped in relation to their competitors in non-member countries by the absence of a European organization able to provide credit conditions which are as favourable as those accorded by the US or Japanese Eximbanks.

On the othr hand, the US Eximbank (an agency which is independent of the government but closely associated with the general economic policy of the country) has for years practised a consistent policy with regard to the exporting of aerospace hardware; its general directives are as follows:

1. Five-year credits for propeller-turbine engines.
2. Seven-year credits for jet engines.
3. Payment of 10% on account.
4. A 5-7% rate of interest.

However, and notably as a result of recommendations submitted by the US National Export Expansion Council, certain of these directives have been waived: funds have been allotted over periods of ten years, there have been contracts without down payments being made, etc. Certain US airlines have protested against the credit conditions applied by the Eximbank, their view being that they constitute a factor of distortion in competition between the US airlines and those of other countries. Certain non-member countries have followed the example of the United States and also offer their customers export credit conditions which do not conform with the relevant international agreements.

There are marked differences in the Member States as regards the methods of financing medium- and long-term credits. These differences relate to the terms of the credits, the sums involved, the advances required, and the rates of interest. They are particularly regrettable in the case of the aircraft industry since they hamper the export of aircraft produced under transnational programmes.

On 27 October 1970, the Council adopted two directives concerning common credit insurance policies for medium- and long-term operations by public and private purchasers. These two directives set out the framework within which the general lines of action by the Member States as regards credit insurance must develop. However, it became clear to the Commission that, given the special problems in the aerospace sector, specific measures aimed at closer harmonization were necessary. Accordingly, the Commission is submitting to the Council under number 4 of the "Implementing texts" a proposed directive which would supplement the two directives dated 27 October 1970 with regard to transnational European aerospace programmes.

Furthermore, the problem of the guarantees relating to prices quoted arises at the marketing stage. The European industry has drawn the attention of the Commission to the difficulties encountered as a result of the disparity between or absence of the guarantees offered by the Member States against the risk of abnormal rises in the prime cost and fluctuations in exchange rates. These difficulties are particularly acute in the aerospace sector owing to the length of the economic cycle and the need for the manufacturers to offer their hardware for sale five or six years in advance while guaranteeing a firm price (with escalation clauses not exceeding 3-4% a year). They also make themselves felt in the relations between companies cooperating in a programme, since the relationships between the parties are liable to be seriously impaired by variations in prices or exchange rates.

Movements in economic conditions and in particular in labour costs, together with wide fluctuations in exchange rates are factors beyond the control of the industry and cannot be put on a par with the risks which the firms in a sector as precarious as aerospace are normally able to bear. Under these conditions it would seem appropriate to introduce measures likely to provide subsequently at least partial compensation for the losses suffered in this respect by the manufacturers.

On 27 July 1971, the Commission adopted and forwarded to the Council two proposals for general directives concerning commercial export operations with non-member countries:

1. With regard to guarantees against rises in costs, it is provided that the Member States will take the necessary steps to bring their codes of practice, where they must, into line with certain common principles. The granting of the guarantee would be restricted to export transactions carried out either under a cooperation agreement or within certain economic sectors. The sum involved in the export transaction would have to be at least 1,000,000 u.a. and the production dead-time not less than 15 months;

2. As regards exchange guarantees, it is provided that the Member States will take the necessary steps to bring their codes of practice into line with certain common principles. The granting of the guarantee is governed by the same conditions as for the guarantees against rises in costs.

The Commission considers it necessary to be explicit about the general proposals mentioned above concerning transnational civil aerospace programmes. For this reason it proposes to the Council in Articles 4 and 5 of the proposed directive set out in No. 4 of the "Implementing texts" more specific measures, the adoption of which is an urgent necessity in order to promote sales of the hardware about to come on to the market.

b) Sales to purchasers established in the Community: The need for public aid is likewise manifest if the competitiveness of European products is to be safeguarded vis-à-vis export-aided products from non-member countries.

The solution to this problem cannot be found within the common commercial policy since export subsidies can only apply to sales to non-member countries and not to transactions within the common market. In addition, a valid solution must of necessity conform with the provisions of the EEC Treaty governing competition and not give rise to any disparities within the Community.

Machinery for aid at Community level would constitute the most adequate solution since it would enable the competitive position of the European manufacturers to be maintained in the face of their rivals outside the Community while at the same time avoiding distortion of competition among companies in different Member States. In the absence of such Community machinery, and bearing in mind the necessity for ensuring that Community manufacturers are competitive on the world market, the Commission considered it advisable to afford the Member States the opportunity of granting marketing aid in the Community, provided:

a) such aid would apply to sales of civil aircraft manufactured under European transnational programmes;
b) this aid would constitute uniform, concerted support for the various programmes on the part of the Governments involved;
c) the Commission would reserve the right to judge each case on its merits from the standpoint of compatibility with the Treaty rules.

In point III of "Implementing texts" No. 2, the Commission specifies the conditions upon which it is prepared to extend the benefit of marketing aids to transnational programmes, on the grounds of the exception provided for in Article 92(3)(b), which states that "aid to promote the execution of an important project of common European interest" may be considered to be compatible with the common market.

Such aids may assume various forms: opening of long-term credits, with or without interest rebates, in favour of the producer or buyer; insurance against commercial risks; guarantees against fluctuations in exchange rates; and even, when circumstances require, guarantees against abnormal and unforeseen rises in costs.

Aids of this kind, which may be particularly necessary during the period in which the current transnational programmes find outlets on the market, may be considered by the Commission to be compatible with the common market by reason of the specific nature of the problems with which the European aviation industry is at present confronted.

Guarantees with respect to fluctuations in exchange rates and rises in costs are in principle incompatible with the common market. The exception acknowledged in the light of present circumstances where the aerospace industry alone is concerned is justified by the combination of the following factors: the time which elapses between the signing of a contract and delivery (several years); the size of the markets (transactions of values ranging up to several million units of account); and, above all, the state of the sector and competition (existence of the same conditions of competition on the internal market and on external markets, in particular because of the absence of customs protection and the dominant position of firms established in non-member countries on world markets).

The Commission lays special stress on the exceptional nature which such price and exchange guarantees must have in the Common Market, account being taken of the trend towards economic and monetary unification and of the necessity to pursue a policy of stability.

2. The removal of the obstacles to market penetration

(a) Customs problems

The customs duty on a complete aircraft with an unladen weight exceeding 15,000 kg (fixed unilaterally = 12%, or by treaty = 5%) imposed between 1960 and 31 December 1972 is to be suspended entirely, whereas the American industry will continue to enjoy 5% tariff protection.

It will be recalled that in this connection the customs duties relating to the "aircraft" sector were fixed via the Agreement on List "G" dated 2 March 1960 together with its Annex, Protocol No. XVII, which contains special provisioning concerning the products of the sector in question. These provisions stipulate in particular that the actual application of the customs duties relating to aircraft exceeding 15,000 kg in weight, is to be accompanied, at whatever date it may become operative, by the granting, decided upon at the time the Protocol came into force in 1960, of a zero-duty Community tariff quota.

This Protocol is still in force and its application to date has been in the form of a total suspension of customs duties, extended periodically. The current moratorium expires on 31 December 1972. If no other decision is adopted by the Council for the period following this date, the provisions of Protocol No. XVII could be invoked by all the Member States concerned. A summary of the contents of Protocol No. XVII and of the current situation as regards the customs duties relating to products of the aerospace sector (aircraft, helicopters, engines, components and spares) will be found in Annex IV.

Specific provision was made for maintaining the Protocol in force during the entry negotiations (see Article 49 (2) of the Act of Accession).

However, the Council has adopted, in connection with Article 49 mentioned above, a declaration, which is to be recorded in the minutes of its meeting held on 31 January 1972, making provision for the Community Institutions to undertake during 1972 an examination of the situation in the light of the experience acquired, with a view to taking any steps appropriate to the development and competitiveness of the European aerospace industry, while duly respecting all the interests involved, and in particular those of the airlines.

It is therefore desirable to tackle the problem of the tariff measures which might have to be considered, bearing in mind both the provisions currently in force and the terms of the declaration just referred to.

The situation described above points up the imbalance prevailing as regards tariff protection between the United States and the Community - an imbalance which is very much to the disadvantage of the European manufacturers, particularly in view of the size of the US market. Furthermore, the Community aircraft manufacturers themselves have advanced the idea of re-introducing the duty on aircraft - with the exception of types not competing with hardware produced in the Community, and components, engines and equipment needed for purposes of manufacture or operation - with a view to using this as a bargaining counter as regards the complete removal of customs duties on aerospace products at a later date.

The European manufacturers rightly stress the difficulties raised by the tariff protection mentioned above for exports to the American market, which alone accounts for two-thirds of the world market and in which existing European programmes would have to find a suitable niche if they are to achieve commercial success.

It is true that the 5% barrier is not very high and that the potential customers probably attach more importance to the operating cost of the aircraft than to its purchase price; however, since the competition is currently very fierce, the additional sum represented by the duty could influence purchasers' decision to a considerable extent.

It was stated earlier that in order to strengthen the European aerospace sector effectively, it will be necessary to dispense with all protectionism and market preferences which would hamper the essential drive towards the achievement of competitiveness. In addition, a reintroduction of duties would constitute a heavy burden for European customers.

Priority must therefore be given, not to the actual reintroduction of duties, but to a speedy opening of negotiations with the principal outside competitors with a view to the mutual abolition of the tariffs. It would, however, be anomalous for the Community to be deprived of customs protection in the future while the competing non-member countries continued to apply their protective measures (see "Implementing text" No. 4).

This problem should be in the forefront of the trade negotiations due to take place soon between the Community and the United States.

(b) The certificate of airworthiness

In each country, every type of civil aircraft must be awarded by government authorities a certificate of airworthiness issued on the basis of conformity with the airworthiness requirements laid down by these authorities.

The lack of uniformity between these regulations may have the effect of setting up barriers to the sale of aircraft manufactured in one or more European countries (whereas such barriers do not exist for American aircraft, since the European countries have, generally speaking, accepted US criteria). Furthermore, it constitutes a complication where transnational European projects are concerned. The cost, delays and uncertainty caused by this situation have become a heavy burden on manufacturers and operators of aircraft.

Moreover, in anticipation of an international agreement which would facilitate the penetration of the market in non-member countries, a harmonizing of the points of view of the interested parties in Europe is essential to the formulation of a common attitude towards the United States FAA regulations on the part of the manufacturers and authorities.

These are the main reasons which have led the AICMA (International Association of Aerospace Equipment Manufacturers) -- an official association of European manufacturers -- to propose that there should be created in Europe as quickly as possible a joint airworthiness code which is acceptable to all the official authorities concerned with civil aviation.

The countries taking part in the work upon which the AICMA has embarked are, both the authorities and industry being involved: Belgium, France, Italy, the Netherlands, Sweden, the United Kingdom and West Germany. A Joint Steering Committee, i.e., both the industry and the authorities responsible for certification being represented, was set up on 26 June 1970.

The outcome of the work of this Committee could form the basis for further work on the part of the Commission, which recently

proposed to the Council an extension of the general programme for the removal of barriers to trade, with special reference to aircraft manufacture. In this context, the Commission will propose to the Council as soon as possible a directive on a European Airworthiness code, which would be supplemented by a European Certificate.

(c) Laying-down of standards

The AICMA has drawn up a number of recommendations covering various types of aerospace hardware and is attempting to convert these into standards after pinpointing the difficulties on a country-by-country basis.

The procedure envisaged in this respect is as follows:

(a) Submission of the AICMA standards to the CEN (European Committee for Coordination of Standards);

(b) Official examination, conversion of the AICMA recommendations into European standards by CEN procedures;

(c) When the CEN has adopted these standards, work will be undertaken under the supplementary general programme for the removal of the technical barriers to trade as proposed by the Commission to the Council in order to ascertain the extent to which it is possible to draw up directives in this field, using the work of the AICMA and the CEN as a basis. The method of solving the harmonization problem by "adoption of standards" would appear at the outset to be quite adequate to the purpose.

3. Promotion of advanced research

The production of certain prototypes incorporating major innovations (speed, power, payload, reduced noise and atmospheric pollution, take-off and landing distance, etc.) involves the application of the fundamental knowhow required.

During recent years, technological innovation seems to have become more closely bound up with programme objectives than with the results of research carried out in such fields as aerodynamics, materials, electronics, etc. This situation is not, generally speaking, open to criticism, since the research expenditure is directed towards specific applications.

However, we have seen the high technological risks which certain advanced programmes must bear, and also the resultant costs. It is therefore clearly important, if only in the interests of the success of the programmes, to possess a sound foundation of scientific skill in the principal fields determining the long-term developments in aircraft production and operation. This underlying skill is thus necessary for rapid assimilation of progress achieved outside the Community.

It should be added that experience has shown that major progress at a technical level is often more easily achieved through programmes of an experimental nature than through programmes aimed at a specific market. The latter type of programme is carried out under more reliable and more economic conditions when based on technology which is already known. It is true that a large proportion of the most advanced research is prompted by military requirements but a judicious programme of applied research into general and civil needs would be of great value to the Community and its industries.

For this reason the AICMA has it in mind to propose the joint construction of a hypersonic wind-tunnel. This proposal would, strictly, have to be considered concurrently with an effort at adequate rationalization of the use of existing wind-tunnels. Another project which has been brought to the notice of the Commission concerns the use of data-processing for inventory control. Also noteworthy, although it relates to a project of quite different dimensions, is the potential value of the space shuttle in the solution of problems inherent in the use of very high speeds.

The programme alignment proposed above should bring out the needs which will arise in future programmes. However, it is desirable that there should be Community-level consideration of both basic or fundamental research projects to be carried out, in order to guarantee the required level of competence, and methods which will enable useless duplication to be avoided.

The R&D projects to be undertaken and the appropriate action to be employed should be studied in conjunction with Community activities relating to scientific and technological research (see document concerning aims and resources for a common policy on scientific research and technological development, forwarded to the Council on 19 June 1972).

4. Statistics

It would appear that this sector could benefit more than any other from a special effort in the field of statistics, as recommended in general terms in the Memorandum on Industrial Policy.

No valid analysis of the problems affecting the aerospace sector, and in particular the activities recommended in Chapter 2 with regard to programme alignment, can be performed unless it is based on a detailed knowledge of the situation and on as realistic a prognosis as possible. For this purpose a fully developed statistical tool acceptable to all parties concerned would be needed.

The Commission proposes to take all appropriate steps for the establishment of a joint statistical basis for collecting and processing data relating to the aerospace sector. It will call upon the assistance of governmental experts and qualified persons representing the industry and operators.

IMPLEMENTATION OF THE PROPOSALS

contained in the present Communication

I. For the purpose of implementing the proposals contained in the present document, the Commission is submitting to the Council, in the appended "Implementing texts":

1. For adoption: a draft Council recommendation on the coordination of the development policies of the Member States and on structural alignments in the aviation sector (text No. 1);

2. For information purposes: a Communication from the Commission to the Member States on the Community outline plan for aid to research and development, to investment and for sales in the Common Market in respect of civil aircraft constructed in the Community under transnational programmes (text No. 2);

3. For adoption on the basis of Article 113 of the EEC Treaty: a proposal for a Council directive on the adoption of common arrangements concerning credit insurance, credit, exchange guarantees and guarantees against rises in costs in respect of exports to third countries of civil aircraft constructed in the Community under transnational programmes (text No. 3);

4. For the institution of the procedure provided for in the declaration dated 26 January 1972*: a Communication from the Commission to the Council concerning the situation as regards customs duties on aircraft and related equipment (text No. 4).

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*Entered in the minutes of the Council meeting held on 31 January 1972.

II. Other proposals form the subject of separate documents.

These are:

(a) As regards the studies to be undertaken on air transport: a draft Council decision on the initial aspects of joint action in the field of air transport, forwarded to the Council on 3 July 1972 (COM 695 final);

(b) As regards the airworthiness certificate and standards: a general programme covering the removal of technical barriers to trade (proposal for a Council resolution supplementing the Council resolution dated 28 May 1969 laying down a programme designed to remove the technical barriers to trade in industrial products resulting from divergences among the legislative, regulatory and administrative provisions of the Member States) (COM 296 final - 24 March 1972);

(c) As regards research: proposals forwarded by the Commission to the Council on 19 June 1972 (document concerning aims and resources for a common policy on scientific research and technological development - COM 700 final).

I M P L E M E N T I N G T E X T S

Text No. 1

Draft Council recommendation on
the coordination of the development policies of the Member States
and on structural alignments of firms in the aviation sector

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

HAVING REGARD to the Treaty establishing the European Economic Community;

WHEREAS at the meeting held at The Hague, the Heads of State and Government "reaffirmed their readiness to continue more intensively the activities of the Community with a view to coordinating and promoting industrial research and development in the principal pace-making sectors", and in a resolution on the achievement of the economic and monetary union reference is made to "action necessary at the structural and regional level under a Community policy with adequate resources";

HAVING REGARD to the importance of the aircraft industries to economic, technological and social development, to external trade, and, in general, to the maintenance of the political and economic position of Europe in the world, and the difficulties encountered by the European aircraft industries in competing with producers outside Europe;

WHEREAS it is necessary for a harmonious development of the aircraft industry in the Community that the Member States should coordiante their development policies in this sector, having due regard to the guidelines contained in the second medium-term economic policy programme;

WHEREAS the success of the efforts undertaken by the Community industries will depend to a great extent on the choice of the

programmes best suited to the demand and on the pooling of resources for implementing them;

WHEREAS the launching of programmes by the undertakings concerned depends basically on the financial support granted them by the authorities, so that it is necessary to align the attitudes of the Member States with regard to projects for which public aid is requested or contemplated;

WHEREAS such alignment should be clarified by detailed studies, carried out in consultation with the producers, users and public services concerned, on the analysis of requirements, the market prospects, the industrial resources available and, in a wider sens, the effects of present and future policy lines on transport, employment, the environment and regional development;

WHEREAS the competitive capacity of the undertakings in the sector under consideration depends not only on the size and liberalization of the market but also on the size of such undertakings; and whereas European undertakings in the aviation sector cannot be said to have attained the optimum size, by comparison with that of undertakings in certain third countries;

WHEREAS combinations in the various European producing states have helped to increase the size of undertakings, but it is now necessary to unite the potential in Europe across national frontiers so as to secure the formation of a small number of European entities;

WHEREAS only large transnational European undertakings will be able to obtain the necessary resources for the development, production and marketing of large civil aircraft for the world market and will in the long term be able to depend to a lesser extent on public financial aid and to enter into the necessary cooperation with undertakings in third countries;

1. Recommends that the Governments of the Member States, in order to coordinate their development policies in the aviation sector,

a) align within the Council their attitudes concerning the choice of new programmes on civil transport aircraft and on the engines for such aircraft;

b) communicate to each other for this purpose all necessary information on projects submitted to them;

c) carry out this alignment on the basis of reports to be drawn up by the Commission after appropriate consultation of the producers, users and public services concerned with aircraft construction and air transport;

2. Call upon aircraft construction undertakings to submit to the Community all draft transnational programmes of common interest from the European point of view;

3. Declare themselves in favour of structural realignments between the aircraft undertakings in the various Member States of the Community, with a view to the formation of a small number of European undertakings large enough to compete on a world scale;

Initiate within the Council the appropriate consultations with a view to promoting an agreement among the governments concerned regarding the realignments to be envisaged;

Step up their efforts to bring about the rapid adoption of Community measures designed to create a legal framework for such European undertakings and to reduce the obstacles to structural regroupings.

Text No. 2

Commission communication to the Member States on the Community outline plan for aid to research and development, to investment and for sales in the Common Market in respect of civil aircraft constructed in the Community under transnational programmes

1. Necessity and scope of the present measure

1.1 The aid granted by the public authorities for European aircraft production is of material importance in meeting competition from non-member countries. Similarly, programmes planned and carried out on a cooperative basis contribute substantially to the growth of the industry.

The need for public financial support arises from the amount of capital tied up and the long lead times involved in aircraft production. For research and development alone, the costs amount to 30-70 times the value of the series-production aircraft. Any large-scale development programme for civil aircraft intended for operation by commercial airlines costs several hundred million dollars. A Member State on its own would have difficulty in devoting such capital to a particular programme.

Maximum cooperation at EEC level, in various forms (such as intergovernmental agreements and agreements between companies), enables the participating manufacturers to enjoy a number of advantages:

(a) the possibility, thanks to the pooling of technical and financial resources, of carrying out costly and technically advanced production programmes, without which the part played by the European aircraft industry would be diminished;

(b) the hope of expanding the market;

(c) a chance to acquire experience of collaboration between companies in different countries which could form the basis of lasting groupings;

(d) a rise in the technological level of the various partners in an advanced project.

1.2 To ensure effective cooperation and facilitate its expansion the Commission considers it necessary, with regard to the aid granted, to propose to the Member States - in the context of the tasks allotted to it under Article 93 (1) of the EEC Treaty - certain "appropriate measures required by the progressive development or by the functioning of the Common Market".

These measures are aimed at the aids granted by the Member States to facilitate both research and development work on prototypes and investment in series production as required by the civil aircraft programmes carried out on a cooperative basis in the Community (i.e., transnational programmes).

By the term "transnational civil aircraft programmes carried out in the Community" the Commission means programmes carried out by associated or multinational companies engaged in activity within the meaning of the preceding paragraph in two or more Member States and in which each of the parties concerned underwrites a proportion of the technical and commercial risks involved in the overall project.

Programmes for the construction of the engines for civil aircraft are treated as aircraft construction programmes.

1.3 Disparities in the systems of aid or their application may reduce the advantage of cooperation or, when such cooperation has been decided on, even hamper the execution of the programmes which they concern. A harmonized framework for the granting of aid may therefore help to extend cooperation for the purpose of implementing projects of Community interest.

In the present communication, the Commission sets out to determine a number of conditions making it possible for the aid granted for these projects to comply with the requirement specified above and to be regarded as compatible with the Common Market. These conditions are defined with a view to:

(a) guiding the Member States in the planning of their aid;

(b) guiding the Commission in the assessment of such aid. The enumeration of these criteria is, of course, without prejudice to the provisions of the EEC Treaty, in particular those of Article 93 (3). It is no sort of substitute for the positions which the Commission may decide to adopt with regard to aid pursuant to the powers vested in it by the EEC Treaty.

The Commission has decided to produce this communication because of the specific features of the aircraft industry; hence the ad hoc nature of the solution chosen, which in no way prejudices the Commission's attitude with regard to aid to other sectors.

2. Conditions applicable to aid granted for the execution of transnational civil aircraft programmes carried out in the Community

2.1 The aid granted to such programmes should, in the common interest and for the sake of efficiency, be planned and applied in accordance with the following procedures:

Research and development aid

For research and development under civil aircraft programmes, the aid granted may consist of advances up to an amount

equivalent to the total research and development costs, repayable from the revenue obtained from the sales of aircraft when they are placed on the market.

Research and development costs are taken to mean all the expenses, including those for tooling-up, arising from the execution of the programmes up to type certification (construction of prototypes of various versions and static test airframes, ground tests and flight tests).

Investment aid

To help manufacturers to finance the jigs and tools required for series production, aid may be granted in the form of sureties for loans contracted by the manufacturers concerned for the purpose of such financing.

2.2 The aid granted to promote the execution of transnational civil aircraft projects carried out in the Community should be such as to enable all the partners in the cooperation scheme to participate in it on equal terms, enjoying the same advantages from the public authorities.

3. Aids to marketing within the Common Market for aircraft built in the Community under transnational aerospace programmes

The Commission further notes that the manufacturers in certain non-member countries receive direct aid for the sale of their products abroad. This aid enables funds to be made available at rates of interest which are appreciably lower than the lowest rates in the Community. Furthermore, owing above all

to the suspension of the common external tariff duties, manufacturers established in the Community enjoy less favourable conditions as regards sales in the Common Market than those enjoyed on their own home markets by certain manufacturers in non-member countries.

The Commission thus feels that when civil aircraft are produced under national programmes within the Community, aids to the marketing of such aircraft on the Common Market represent a case for exeptional treatment under Article 92 (3), (b) of the EEC Treaty, provided that:

(a) They are aimed at placing the Community manufacturers in as favourable a position as that enjoyed by manufacturers in non-member countries.

(b) These programmes may be considered important in the common interest from the standpoint of the development of the European aerospace industry or the Community air transport industry.

These marketing aids may consist of measures in favour of the supplier or purchaser in the following forms:

(a) The opening of long-term credits, with or without interest rebates.

(b) Insurance against commercial risks.

(c) Guarantees against fluctuations in exchange rates or, when required by circumstances, guarantees against abnormal and unforeseeable price rises occurring during the period elapsing between the signing of the contract and the delivery date.

The application of guarantees of this type can, however, only be envisaged if the process of economic and monetary union has not reached a sufficiently advanced stage to enable Community aerospace firms to operate under uniform economic and monetary conditions.

Where companies engaged in transnational programmes, the marketing aids thus guaranteed by the Member States will have to be harmonized as regards form and extent, so that the companies concerned participate on equitable conditions.

The provisions of Article 93 (3) continue to apply to the aid which the Member States plan to grant in accordance with the terms and procedures outlined above, even when such aid arises out of the implementation of national arrangements already in existence.

Text No. 3

Proposal for a Council directive on the adoption of common provisions concerning credit insurance, credit, exchange guarantees and guarantees against rises in costs in respect of exports to third countries of civil aircraft constructed in the Community under transnational programmes

Draft proposal by the Commission for a Council directive on the adoption of common arrangements concerning credit insurance, credit, exchange guarantees and guarantees against rises in costs in respect of exports to third countries of civil aircraft constructed in the Community under transnational programmes

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

HAVING REGARD to the Treaty establishing the European Economic Community, in particular Article 113 thereof;

HAVING REGARD to the proposal from the Commission;

WHEREAS the European aircraft industry should be able to offer its products on the markets of third countries on terms which are competitive, i.e., not less favourable than those enjoyed by manufacturers in third countries;

WHEREAS the commercial success of transnational aircraft construction programmes carried out in more than one Member State is closely linked with joint action by the Member States, resulting in the taking of effective measures, in accordance with uniform principles, by the public authorities of the Member States concerned;

WHEREAS in the case of transnational civil aircraft programmes such measures presuppose not only the adoption of common rules laying down a framework for credit insurance but also the adoption of identical conditions to ensure that the charges arising out of such credit insurance are proportional to the part played in construction by the industries of the various Member States concerned;

WHEREAS the authorities should by all appropriate measures facilitate the procurement of export credit in accordance with uniform principles, in order to place European producers in a position not less favourable than that of producers in third States.

WHEREAS the competitiveness of the industry requires that firm prices be fixed and maintained and European producers should accordingly be guaranteed against fluctuations in exchange rates and abnormal and unforeseeable cost increases,

HAS ADOPTED THIS DIRECTIVE:

Article 1

The provisions of this directive are applicable to sales operations outside the Community involving civil transport aircraft and engines and sub-assemblies constructed under transnational programmes.

Transnational programmes shall be considered to be programmes carried out by associated or multinational undertakings pursuing their activity in not less than two Member States of the Community and in which each of the parties concerned underwrites a proportion of the technical and commercial risks involved in the overall project.

The companies referred to in the foregoing paragraph shall be entitled to benefit from the measures provided for by this directive in proportion to the part played by each of them in the production process.

Article 2

1. The application of the joint credit insurance policies provided for by the directives adopted by the Council on 27 October 1970 (70/509/EEC and 70/510/EEC) to the sales operations referred to in Article 1 shall entail in all the Member States:

   (a) the same guaranteed pro rata amount;

   (b) the same term for sureties;

   (c) the same rate of repayment, in accordance with the principles of the Berne Union. The data of commencement of the repayment period shall be that laid down by the Berne Union.

2. The provisions for applying the foregoing paragraph shall be laid down in accordance with the procedure set out in Article 113 of the Treaty.

Article 3

The uniform principles relating to the degree of and methods employed in the action taken by the Member States for the purpose of financing the sales operations referred to in Article 1 shall be determined in accordance with the procedure set out in Article 113 of the Treaty.

Article 4

1. In order to insure manufacturers against the risk of fluctuations in exchange rates during the period between the conclusion of a sale and payment of the price therefor,

the Member States shall apply a system of exchange guarantees in order to compensate for any damage suffered by:

(a) the various parties concerned in the event of a change in the parity of the currency used in the contract of sale;

(b) the parties in a Member State the currency of which undergoes a change in parity in relation to the currency used in the contract of sale.

However, the guarantee specified above shall not be applicable to undertakings established in the country whose currency is used in the contract of sale.

2. The arrangements specified in paragraph 1 shall be applied in accordance with the common principles set out in a Council directive concerning exchange guarantees for exports to third countries (proposed by the Commission on 3 August 1971 - Doc. COM (71)260), with the proviso that they shall be applicable to contracts of sale in convertible currencies and in US dollars.

Article 5

1. In order to insure manufacturers against the risk of abnormal and unforeseeable cost increases during the period between the conclusion of an export sale and payment of the price therefor, the Member States shall apply systems of price guarantees in order to compensate for the losses suffered.

2. The provisions laid down in paragraph 1 shall be applied in accordance with the common principles set out in a Council directive concerning guarantees against cost increases in respect of commercial export transactions with third countries.

Article 6

The Commission may consult the Advisory Committee on Credit Insurance for Exports on any question concerning the application of this directive.

Article 7

This directive is addressed to the Member States.

Text No. 4

Commission communication to the Council on the tariff situation as regards aircraft and related equipment

1. In its communication to the Council concerning measures relating to industrial and technological policy to be undertaken by the Community in the aviation sector, the Commission described the current situation as regards customs duties on products in this sector, in particular:

   (a) the maintenance of Protocol XVII agreed at the accession negotiations (Article 49 (2) of the Act of Accession;

   (b) the declaration entered in the minutes of the Council meeting of 31 January 1972 according to which "the Community institutions will in the course of 1972 examine the situation, on the basis of experience gained and with a view to adopting measures designed to further the development and competitiveness of the European aircraft industry, due consideration being given to all the interests involved, in particular those of aircraft operators".

2. The Commission proposes that the Council should undertake the examination provided for in this declaration without further delay on the basis of the information documents submitted to the Council by the Commission. Moreover, it states below its position with regard to the possible measures to be taken.

   In 1971, the Community's aircraft companies requested "the reintroduction of duties on aircraft with a tare weight exceeding 15,000 kg and the amendment of the provisions of Protocol XVII concerning the grant of Community quotas for aircraft with a tare weight exceeding 15,000 kg and

for helicopters with a tare weight exceeding 2,000 kg".

The companies also stated that "the reintroduction of duties on aircraft competing with those built in the Community is basically a means of subsequently negotiating the complete dismantling of customs duties on aviation equipment".

The Commission shares this point of view as to the desirability of negotiating the complete abolition of customs duties on aviation equipment. It hopes, however, that it will not first be necessary to reintroduce duties in order to arrive at this result.

The Commission considers that, to strengthen the European aircraft industry effectively, protectionism and market preferences should be avoided, since these would be detrimental to the essential competitive effort. Moreover, an actual reintroduction of duties would impose a heavy burden on European buyers of equipment not produced by the European industry. Priority should be given not to the actual introduction of the duty but to the early opening of negotiations with the main competitors outside the EEC with a view to the mutual abolition of customs duties.

The main competing countries should be informed of the Community's fundamental position on the matter, which might be expressed as follows: recent developments in the European aircraft industry have fundamentally changed the existing situation and the Community considers that it is not normal for its market to be deprived of customs protection any longer, while the competing non-member countries retain their own protective machinery. In view of their specific nature, European aircraft and related products should, in a system of free competition, be competitive on the markets of non-member countries, just as those of non-member countries should be on the Community market.

A N N E X E S

C O N T E N T S

ANNEX I: THE MARKET

This Annex sets out the characteristics of:

A. the commercial transport aircraft market

B. the air transport market, i.e., of air traffic.

It is necessary to relate the evolution of the demand for aeronautical equipment to that of the demand for air transport.

A. The market for civil aviation aircraft[1]

1. Aircraft in use by the airline companies consist of jets and turboprops. Since the value of the latter - so far as aircraft in use in the Western World in 1970 are concerned - no longer represents more than 8.6%, the following considerations apply only to jets[2]. There are two major categories of jets: the intercontinental long-haul aircraft and the medium and short-haul types, and the second category can be subdivided into aircraft ranging from transcontinental jets (Lockheed 1011 or DC 10-10) to regional aircraft (VFW 614).

The distribution of aircraft between these two major categories in 1970 was as follows:

	number	value ($m, at current rates)
Long-haul	1478	13,501
Medium and short-haul	1995	10,937

It is noted that 55% of the value of aircraft in service in 1970 was accounted for by long-haul aircraft, the average unit value of which was 65% higher than that of the medium and short-haul types.

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[1] General aviation excepted (1a) Sources and additional information at the end of Annex I.

[2] The important role of the Fokker F 27 on the short and medium-haul turboprop market should, however, be noted: 580 F.27's sold as at 18.11.71.

The value of the aircraft in service in 1970 in the various civil air fleets of the Western World was as follows ($m, current rates):

			%		%
EEC	2,523.8)	3,601.0	10.3)	14.7	49.2
UK	1,077.2)		4.4)		21.0
Other European countries	1,524.4		6.3		29.8
Europe		5,125.4		21.0	100
United States	15,616.4		63.9		
Rest of Western World	3,696.0		15.1		
Western World	24,437.8		100.0		

The value of the civil air fleet of the United States is thus approximately two-thirds of that of the fleet of the western world. The value of the EEC and UK fleets exceeds two-thirds of the European total.

The origin of aircraft in service in those fleets in 1970 was as follows: (percentage of the value of fleets represented by aircraft produced in various countries)

Market[1]	Origin of aircraft				
	EEC	UK	EEC + UK	US	Total
EEC	15.2	1.4	16.6	83.4	100
UK	-	71.9	71.9	28.1	100
EEC + UK	10.6	22.4	33.0	67.0	100
Other European countries	18.0	5.1	23.1	76.9	100
Europe	12.8	17.3	30.1	69.9	100
United States	0.5	1.6	2.1	97.9	100
Rest of Western World	5.2	7.0	12.2	87.8	100
Western World	3.8	5.7	9.5	90.5	100

[1] fleet

The following percentages should be emphasized:

(a) 90.5% of the value of the Western fleets is accounted for by aircraft constructed in the US; 9.5% of the value of the Western fleets is accounted for by Community and UK aircraft (5.7% UK aircraft);

(b) the share of Community and UK equipment in the biggest market, namely the US market, is insignificant;

(c) in the second largest market, that of the Community, American aircraft predominate (83.4%), whereas Community aircraft represent only 15.24% of the value of the Community fleet;

(d) in the United Kingdom, the share of British-built aircraft is very considerable, namely 71.9%.

The difference noted between the position occupied on their respective markets by the Community industry on the one hand and the UK industry on the other, is due to the fact that the British industry supplies aircraft of every category, whereas until 1971 the Community industry supplied only medium and short-haul aircraft. Moreover, the Community industry supplies only 37% of the medium and short-haul aircraft required, whereas the UK industry covers more than 92% of Britain's requirements in that category.

The introduction of the Concorde should improve the situation on the long-haul market, and that of the Airbus, the Mercure and the VFW 614 (as well as new sales of the F 28), should do the same for the medium and short-haul market.

The relation between the relative size of the various markets and the position occupied in the market of the Western World by the products of the various industries needs to be emphasized:

	Size of market %		Position occupied on the market of the Western World %	
EEC + UK	14.7		9.5	
Other European countries	6.3		-	
Europe		21.0		9.5
United States	63.9		90.5	
Rest of the Western World	15.1		-	
Western World	100.0		100.0	

Europe is thus shown as a consumer rather than as a producer of aeronautical equipment; the United States, on the other hand, supplies a share of the market which far exceeds its own share in the total demand.

2. The Community Market

We have seen that EEC products account in value for only 15.2% of EEC requirements, the remainder being imported from non-member countries. Of this 15.2%, approximately half consists of purchases made within the producer countries (Caravelle in France, F 27 and F 28 in the Netherlands) and the other half of purchases of such aircraft by other Community countries.

The breakdown of orders for European aircraft was as follows (number of orders as at 18.11.71):

	National market	Other Community markets	Exports to non-member countries	Total
F 27	14	50	516[1]	580[1]
F 28	2	18	27	47
Caravelle	63	37	179	279

[1] 200 of these were built by Fairchild in the United States

The breakdown according to type of purchaser is as follows (in percentage of value):

	National market	Intra-Community imports	Imports from non-member countries
Government purchases	8.5	8.1	1.0
Purchases by national airlines	85.5	50.0	90.0
Purchases by private airlines	6.0	41.9	9.0
	100.0	100.0	100.0

The value of intra-Community trade in aircraft is around 200 million dollars (1968). This level must be considered as low, since that of trade with countries outside the Community is around 600 million dollars (1968).

It must also be pointed out that the Community market is completely open to free external competition, customs duty on aircraft of over 15 tons having been suspended up to 1 January 1973, whereas the United States applies a 5% duty and the United Kingdom a 7% duty.

3. Exports to non-member countries

As we have seen, European aircraft play a small part in external markets (in % of value):

	EEC products	UK products
In other European countries	18.1	5.1
In the United States	0.5	1.6
In the rest of the Western World	5.2	7.0

However, the level of exports from the EEC and the United Kingdom to non-member countries is far from negligible in relation to their turnovers. These exports represented the following percentages of the turnovers:

	1960	1965	1967	1968
EEC	23	16	22	23
UK	30	24	33	43
USA	11	9	10	10

These figures show the relatively greater importance of European exports in relation to turnover, although in absolute figures European exports (EEC + UK) amount to only 1,000,000,000 dollars (1968), whereas United States exports amount to 2,700,000,000 dollars.

4. Balance of trade in aeronautical equipment

The EEC shows a consistently negative balance of trade in aeronautical products (trade with countries outside the Community), the average deficit (1964-1968) being 153 million dollars, owing to the difference between the following items:

		Year 1968
in regard to the United Kingdom:	- 50	- 42
in regard to the United States:	- 297	- 461
in regard to the rest of the world:	+ 194	+ 252
	- 153	- 251

However, the position of the two principal European producer countries (United Kingdom and France) is very different from that of the Community of the Six; those countries have a positive trade balance which is fairly small in absolute value in comparison with that of the United States, but is considerable in relation to turnover.

Amount of positive balance ($m, current rates, and IMF rate of exchange)

	France	% of turnover	UK	% of turnover	USA	% of turnover
1964	266	30.5	165	11.8	1,518	7.3
1965	302	30.5	291	18.4	1,459	7.0
1966	341	30.7	447	27.5	1,370	5.5
1967	315	25.0	262	16.7	1,961	7.1
1968	283	22.0	141	9.0	2,661	9.1
1969	327	26.1	102	6.2	2,831 (1)	10.8
1970	434	32.4	231	15.1	3,092	12.4

In the enlarged Community, therefore, it will be necessary to take account of the producer and exporter status of France and the United Kingdom and of the status of the other Member States as importers and consumers. In view, however, of the participation of West Germany, Italy and the Benelux countries in the major civil aviation programmes the situation will not be a static one.

B. The transport aircraft market

1. Situation in 1969

In 1969 the scheduled airline traffic of the 119 ICAO member countries (USSR excepted) amounted to 43,128 million tonne-km (passengers and excess baggage + freight + mail), which corresponds to a 249% increase over 1960, or an average annual increase of 14.9% for the whole decade, a higher increase than that recorded for the period 1950-59 (13.6% a year).

The itemized average annual growth rates for from 1960-69 were as follows:

passengers	passenger-km	tonne-km freight	tonne-km mail	total t-km performed
+ 11.8	+ 13.7	+ 18.8	+ 16.9	+ 14.9

(1) See page 14.

Traffic development between 1960 and 1969, broken down by major regions (domestic and international services of ICAO countries' airlines), was as follows:

	Average annual growth rates (t-km performed)	in % of total	
		1960	1969
North America	+ 15.1	61.5	62.1
Europe	+ 14.8	22.6	22.4
Far East	+ 22.2	3.5	6.0
South America	+ 8.1	5.4	3.1
Oceania	+ 11.3	3.6	2.7
Africa	+ 14.5	2.2	2.1
Middle East	+ 18.6	1.2	1.6
World	+ 14.9	100.0	100.0

In 1969 the domestic traffic of the airlines of ICAO member countries represented more than half (55.5%) the total traffic, but during the decade there was a greater increase in tonne-km performed in the international services (+ 16.1% against + 14.0%).

The participation of major States or groups of States in air traffic in 1969 was as follows:

	% of total traffic	% of international traffic	% of domestic traffic
USA	57.2	27.1	81.3
EEC	11.2	22.4	0.9[1]
UK	5.0	10.3	0.8
Others	26.6	40.2	17.0
	100.0	100.0	100.0

[1] Figure for France

	Total traffic	International traffic	Domestic traffic
Traffic, million t-km	43,128	19,175	23,953
%	100	44.5	55.5

The United States airlines thus account for 57.2% of world traffic, but US aircraft account for 90.5% of the value of the world fleet. As against this, the EEC and UK airlines account for 16% of world traffic, although European aircraft account for only 9.5% of the value of the world fleet.

It is noted, moreover, that the European airlines hold their position in international traffic because they account (EEC + UK) for a larger share of world traffic than the United States airlines.

Among the major international air routes, the North Atlantic run should be mentioned for the importance of the traffic it carries: in 1969 this link accounted, in terms of passenger-km - assuming an average distance of 6,000 km per passenger - for 27% of the world international total, or for 10.3% if all domestic and international services are considered. Moreover, in 1969 the number of tonne-km of freight carried on North Atlantic routes represented 42.9% of world international traffic and 25.7% of all services combined.

The great importance of the share taken by United States airlines in world traffic is due to the vast magnitude of United States domestic traffic (81.3% of the world total of domestic traffic). American internal traffic represents 45.2% of the total world traffic, and it will be recalled that European aircraft account for only 2.1% of the value of the United States civil air fleet.

Regular intra-European traffic of EARB[1] member airlines, amounting to 2,127.5 million t-km performed in 1969, makes up about 5% of world traffic (domestic and international services) and 11% of ICAO international services alone. Nevertheless, its relative share has diminished, since in 1960 it accounted for 5.5% of the total and for 13.7% of world

[1] European Airlines Research Bureau

international traffic. From 1960 to 1969 the intra-European services of the EARB airlines developed at a slower rate than world traffic (+ 13.4% against 14.9% a year), the contrast being still more marked in relation to international services: + 13.4% against 16.1%.

2. Recent development and prospects for the future

As regards passenger-km, the average annual growth rate of the traffic of the airlines of the 119 countries belonging to ICAO was 13.7% for the period 1960-69; nevertheless, a reduction in the annual growth rates has been noticeable in recent years: 1966-67: 19%; 1967-68: 14%; 1968-69: 13%. Compared with 1969, the 1970 rate of 9% is decidedly below the average for the ten preceding years. The 1971 rate is very low, namely 3%.

For the years 1972-80, the FAA confirmed in 1971 a 1969 estimate according to which the annual traffic growth rate would be 8%. Among the many forecasts plotted in graph form by ICAO and American constructors, the most closely packed set of curves indicates a growth of scheduled traffic from 386,000,000,000 passenger-km in 1970 to approximately 1,000,000,000,000 passenger-km in 1980, which would mean an average annual growth rate of around 10%. Despite this decline in the growth rate of traffic in passenger-km, it must be emphasized that at this rate of increase the growth of demand during the present decade would be much greater in absolute value than that during the last: 1960: 109,000,000,000 passenger-km; 1970: 386,000,000,000 passenger-km; 1980: 1,000,000,000,000 passenger-km. Under these conditions it is clear that in the long term the increased demand for air transport is likely to generate substantial expansion of aircraft production.

Additional data broken down by country, and sources of the data given in Annex 1

Section A.1. : Source: SORIS

Section A.2. : Sources: Flight, 18.11.71,
Statistical Office of the European Communities - Analytical table of imports and exports, 1960-68; SORIS

Section A.3 : Export percentages in relation to turnover:
SORIS
For the EEC it is a question solely of exports to non-member countries; the percentage is thus lower than that of the item "exports" in Table 7, Annex II.

1. French exports (Source: USIAS) ($m, current rates)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Orders (excl. tax)	346	299	355	305	387	514	341	571	384	992
Deliveries	202	223	251	293	337	386	398	420	435	453

The 1970 export turnover (533 million dollars) declared by the firms exceeds the total for deliveries (453) recorded by the USIAS export service at the beginning of 1971. The former includes deliveries under the heading of cooperative ventures which are not included in USIAS statistics.

The share of civil orders was approximately as follows:

1967: 40%; 1968: 26%; 1969: 43%.

In 1968 the breakdown of deliveries was as follows:

civil equipment: 26%, military equipment: 74%. Orders received break down as follows:

	EEC	EFTA	Franc area	United States	Rest of world
1969	17.1	30.0	4.3	16.2	32.4
1970	6.6	6.8	1.3	4.0	81.3

The breakdown of 1970 orders is as follows (%):

air-frames and complete aircraft	engines	helicopters	missiles	elec-tronics	equip-ment
57.4	14.9	10.7	8.1	5.5	3.4

Only direct orders are included for equipment and electronics. The order figures for 1970 (992 million dollars) take no account of options. As regards cooperative production ventures, only the French share, not offset by the foreign share, in included. Foreign components (engines, equipment) included in exported aircraft are not deducted: they represent only 26.4 million dollars, since the majority of the orders relate to military aircraft which are almost 100% French (87% of the contracts signed in 1970 concerned military aircraft).

2. United Kingdom exports:

Three sets of statistics ($m, current rates) have to be considered

	SBAC (a)	Official figures (b)	Official figures for (c) "turnover"
1968	703	738	478
1969	732	784	607
1970	667	625	528

(a) SBAC figures, based on Customs and Excise figures relating to aviation products, including some manufactured by other industries (aeronautical instruments, for air navigation, launching equipment, etc.).

(b) These are also based on Customs and Excise Overseas Trade Statistics, but they exclude airborne equipment unless it forms part of complete aircraft, and they may or may not include used aircraft (see Page 32 of "Survey of the United Kingdom Aerospace industry", July 70, and Air (2) 2 Statistics - SR(71/3). The above figures include re-exports, but exclude used aircraft (see p.25 of document SR (71/3).

(c) Exports of aviation products are much higher than is shown in the "turnover" figures, for the following reasons: used products are included; the price of Spey engines sent to the United States for assembly in Phantoms intended for the RAF are included, although considered by the constructors as government sales; the products sent abroad within the context of collaborative construction ventures are considered as exports, although no actual sales are involved.

United Kingdom exports (b figures) since 1961 have been as follows:

1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
425	339	348	317	449	644	596	738	784	625

The breakdown according to sector was as follows:

	complete new aircraft	aircraft parts	aircraft engines new	aircraft engines used	aircraft engines parts	guided missiles	total
1960-70	23.9	24.0	16.9	13.4	17.9	3.9	100.0
1970	19.7	31.4	13.2	9.5	21.1	5.1	100.0

The military share in aerospace exports was as follows:

	new aircraft	used aircraft	new engines	used engines	airframe and engine spares	guided missiles
1969: %	40	37	7	27	57	100
1970: %	19	19	20	64	56	100

Percentage of total: military exports in 1969: 40%; 1970: 44%. The military component in aerospace exports varies considerably from year to year. Export destinations were as follows, in percentages:

	Sterling area	North America	EFTA	EEC	USSR and Eastern Europe	Latin America	Rest of world	Total
1969	20.8	28.7	2.1	22.8	1.7	6.3	17.6	100
1970	19.9	24.2	3.2	34.8	1.1	5.5	11.3	100

This breakdown varies greatly from year to year except for exports to the EEC, which are constantly increasing.

3. United States exports ($m) (Source: Aerospace Facts and Figures 1972/72)

	1966	1967	1968	1969	1970
total	1,672.6	2,248.1	2,994.4	3,138.4	3,400.0
	%	%	%	%	%
military total	38.1	38.6	25.6	35.4	26.2
complete aircraft	13.2	14.4	13.6	19.1	13.8
engines	1.9	1.2	1.0	1.6	1.3
spare parts	15.0	13.7	6.5	9.7	7.9
missiles	8.0	9.3	4.5	5.0	3.2
civil total	61.9	61.4	74.4	64.6	73.7
complete aircraft	33.0	35.1	46.9	39.5	45.0
engines	4.6	4.5	3.9	3.3	3.3
spare parts	24.3	21.8	23.6	21.8	25.4

An upward trend is noted in civil aircraft exports from the United States. The percentage of civil exports is higher in the United States (approximately 70%) than in the United Kingdom (approximately 60%) and in France (approximately 30%).

The value of new civil transport aircraft exported from the United States was as follows ($m):

1966	1967	1968	1969	1970
420.8	611.4	1,200.2	946.9	1,294.7

Eximbank credits and guarantees amounted to:

131.1 811.2 400.9 318.1 736.4

and 401.2 million dollars for the first six months of 1971.

The breakdown of credits and guarantees was as follows:

Eximbank ($m)	Credits		Guarantees	
	jets	others	jets	others
1966	94.4	4.9	27.9	4.9
1967	789.1	17.2	2.2	2.7
1968	336.8	-	50.0	13.6
1969	197.5	7.2	111.2	2.2
1970	598.2	38.0	79.2	21.0
6 months 1971	200.7	4.7	181.1	14.7

4. Table of French, British and United States exports

	France			United Kingdom			United States		
	1968	1969	1970	1968	1969	1970	1968	1969	1970
Exports									
Civil	109	152	103	443	470	350	2228	2027	2508
Military	311	283	360	295	314	275	766	1111	892
	420	435	463	738	784	625	2994	3138	3400

Altogether, French and UK exports for these three years amount on average to 36.2% of United States exports (24.8% for civil exports, 64% for military exports).

Section A.4. Trade balance for aviation equipment at EEC level; source: SORIS

Section B. Source: ITA 1971/4 F.

Page 6: France: Positive trade balance for 1964-69:

- These are civil and military exports.
- The imports are of equipment intended for French constructors for incorporation in their products, with the exception of purchases by French air transport companies.

In 1970, French exports totalled 452 million dollars, of which 103 million were accounted for by the civil sector; since imports intended for constructors represented 18.4 million dollars, the positive balance amounts to approximately 434 million dollars for a turnover of 1,339 million dollars (Source: USIAS).

ANNEX II: THE PRODUCTION APPARATUS

1. Level of activity in the principal producer countries

Characteristic of the general situation in this sector in the Western World[1] is the strength of the United States industry. Turnover figures for 1970 are as follows ($m, current rates, IMF rate of exchange):

Table 1

United States[2]		24,848	82.9	
Canada[3]		645	2.2	
EEC[4]		2,293	7.7	
United Kingdom[5]		1,524	5.1	
Other European countries[3]		164	0.5	
Western Europe:	3981			13.3
EEC + UK:	3817			12.8
Japan[3]		306	1.0	
Israel[3]		100	0.3	
India[3] (1969)		87	0.3	
		29,967	100.0	

The aerospace turnover of the United States, which had shown a continuous increase since 1955, is declining and will probably continue to do so until 1973[6]. The decrease in 1970, as compared with 1968, amounts to 14%. "Manufacturers of large civil aircraft, together with their suppliers, can expect turnovers to resume their upward trend in 1975. Manufacturers of other aircraft types and their suppliers can expect an improvement as of 1973. In the case of spacecraft and missile manufacturers, no improvement is expected before 1972"[7].

The footnotes to each Section will be found at the end of the Section concerned.

Short-term development prospects include the fulfilment in 1972-73 of most of the orders for the DC 10 and a good many of those for the Lockheed 1011. As regards the Boeing 747, numerous deliveries have already been made[8].

Table 2

	Orders	Options	Deliveries
DC 10	134	95	13
Lockheed 1011	105	49	-
Boeing 747	207		162

As far as Europe is concerned, the trend of the total turnover in the aerospace industry (aviation, civil and military space operations) during recent years has been as follows ($m, current rates and IMF rate of exchange):

Table 3

	D (9)	B (10)	F (11)	I (12)	NL (13)	EEC	UK (14)	EEC + UK	USA (15)
1967	419	49	1265	160	60	1953	1565	3518	27,267
1968	414	42	1281	171	97	2005	1558	3563	28,959
1969	500	42	1250	208	105	2105	1644	3749	26,126
1970	567	40	1339	232	115	2293	1524	3817	24,848

Taking the average for these four years, the EEC and UK turnovers amount respectively to 7.8 and 5.9% of that of the United States. The turnover of the enlarged Community is thus 13.7% of that of the United States (over a longer period, i.e., 1960-1968: 14.3%). A slight increase in the EEC + UK turnover is, however, descernible in comparison with that of the United States over the periods 1960-61 and 1969-70, namely 12.7% for 1960-61 and 14.8% for 1969-70.

These values can be placed alongside a comparison of certain European and American overall economic indicators:

- in 1969 the GNP of the EEC plus that of the United Kingdom was about 57% of that of the United States (GNP at current market prices and rates of exchange)[16];
- in 1960 and 1967 the relative share of the aerospace industry in the value added by manufacturing industry was as follows[17]:

Table 4

	EEC	UK[18]	EEC + UK	USA[19]
1960	0.6%	3.7%	1.4%	5.8%
1967	0.9%	3.7%	1.5%	6.6%

It emerges that in 1967 the share of the European aerospace industry in the value added by manufacturing industry, although on the increase since 1960, was still only a quarter of the corresponding figure for the United States.

Footnotes to Section 1:

1. The present report is concerned only with the Western market; it should be borne in mind, however, that the USSR has a powerful aviation and space industry: 590,000 employees in 1968[3].
2. AIA - Aerospace Facts and Figures, 1971-1972.
3. Interavia data IND.70-A-1; Swedish share: 135.
4. Departments of the Commission, see Table 2.
5. Air[2] 2 Statistics, SR (71)3.
6. AIA - Estimate for 1971: 23,300; forecast for 1972: $22,900. According to AIA the reduction is due to the decline in sales of commercial aircraft and space hardware. For the American industry, 1972 is expected to mark the "nadir" of the decade.
7. US Industrial Outlook, 1971
8. Sources: Flight, 18.XI.71 and Interavia Data IND 71-S-12; to be added for the DC 10: 3 DC 10-30's ordered in January 1972 by IBERIA + 5 options.
9. BDLI: German airframe, engine and accessories firms only; excluding equipment firms.

10. GEBECOMA
11. USIAS
12. 1967 and 1968: SORIS - 1969 and 1970: Associazione Industria Aerospaziale.
13. 1967: SORIS; 1968, 1969, 1970: estimates.
14. Air (2) 2 Statistics, SR(71)3 - 1970 - : provisional.
15. AIA - Aerospace Facts and Figures, 1971-72; it should be noted that the United States aerospace industry supplied non-aerospace services and products to the following values: 1967: $m2,579; 1968: $m2,549; 1969: $m2,699; 1970: $m2,676.
16. Statistical Office of the European Communities, National accounts, p.2.
17. Value added by manufacturing industry. Source: Departments of the Commission. Value added by aerospace industry. Source: SORIS.
18. According to the "Survey of United Kingdom Aerospace Industry", July 1970, p.38, the value added to materials by the production process in the United Kingdom aerospace industry represented 3% of the corresponding value in 1968 for the entire manufacturing industry (net output)
19. "Aerospace Facts and Figures" 1971-72, page 7; the turnover (sales) of the United States aerospace industry accounted for the following percentages of the turnover in manufacturing industry as a whole: 1967: 5%; 1968: 4.8%; 1969: 4.0%; 1970: 3.7%.

2. Analysis of turnover

2.1 In 1968 the breakdown of the turnover by sub-sectors was as follows in percentages[20]:

Table 5

	Airframes	Missiles	Engines	Equipment
Germany	77.4	8.4	14.2	(21)
Belgium	39.4[22]		60.6	
France[23]	49.2	18.8	21.5	10.5
Italy	51.5	11.1	24.5	12.9
Netherlands	100.0			
EEC	57.6	14.7	19.9	7.7
UK[24]	49.7	6.0	38.6	5.7
United States[25]	39.8	19.5	22.4	18.3

International comparisons are difficult here owing to the lack of uniformity in the definition of sub-sectors. Some degree of uniformity in the definitions, however, allows the following comparisons to be made (percentages of the total for the sector):

Table 6

		France (23)	UK (24)	United States(25)
Aircraft[26]	1967	58.6	47.7	43.5
	1968	61.2	50.8	47.2
	1969	60.1	48.4	45.1
	1970	61.9	46.5	46.4
Engines	1967	20.7	37.9	13.5
	1968	20.3	37.3	12.9
	1969	19.8	38.1	13.0
	1970	18.2	40.2	14.3

The "aircraft" sector has developed to roughly the same extent in the three countries (slightly further in France). The "engine" sector is somewhat more highly developed in the United Kingdom than in France and the United States. The "missile and space" sector is much more highly developed in the United States than in Europe.

2.2 Moreover, the final turnover of aerospace production is broken down on the basis of sales to users (percentages for 1968).

Table 7[27]

	State						
	Military and space R&D	Military purchases	Civil R&D	Total	Other national clients	Exports	Total
Germany	29.6	60.6	2.9	93.1	-	6.9	100.0
Belgium	-	34.4	-	34.4	-	65.6	100.0
France	20.4	26.7	10.8	57.9	4.0	38.1	100.0
Italy	3.5	64.3	-	67.8	2.9	29.3	100.0
Netherlands	-	21.3	4.7	26.3	-	73.7	100.0
EEC	19.9	37.4	7.7	65.0	2.8	32.2	100.0
UK	12.1	30.8	10.7	53.6	15.0	31.4	100.0
United States	26.4	44.7	0.4	71.5	17.2	11.3	100.0

A comparison with the relevant data for 1960 gives rise to the following remarks:

The State is by far the most important client for:
military purchases: 30 to 60% of the total, according to country (Benelux excepted),
Military and space R&D: 12 to 29% of the total, according to country (Benelux excepted),
Civil R&D: 2 to 11% in Europe, very low in the United States

- Purchases by other national clients (chiefly airlines) are very low in the EEC, but almost as considerable in the United Kingdom as in the United States.

- European exports exceed 30% of the turnover, while United States exports represent only 11% of the turnover of the US aerospace industry (in absolute value, however, United States exports amounted in 1968 to 2,995 million dollars whereas those of the EEC + UK totalled 1,138 million dollars) (27a).

For certain countries, data are available for 1969 and 1970 (in percentages):

Table 8

		R&D	Purchases	State participation in civil R&D and production	State	Other national clients	Exports
United Kingdom[28]							
	1969	11.7	26.6	12.1	50.4	12.7	36.9
(prov.)	1970	12.6	27.6	12.6	52.8	12.6	34.6
France[29]	1969			(13.5	57.7	2.6	39.7
	1970			(	56.7	3.5	39.8
United States[30]		NASA and other govt. agencies		D.O.D.		Commercial activities	
	1969	14.2		67.3	81.5	18.5	
	1970	13.3		66.0	79.3	20.7	

It will be seen that the role of the State as client is still far more important in the United States than in the United Kingdom and France.

In West Germany, State expenditure on the aerospace industry was higher in 1968 and 1969 than the turnovers of German airframe, engine and accessories firms (exluding equipment); the breakdown was as follows[31]:

		Civil R&D	Ministry of Defence	Space
1968	%	2.9	88.3	8.8
1969	%	3.9	86.9	9.2

2.3 For France, the United Kingdom and the United States, the documents available allow an estimate to be made of the breakdown between the various items constituting on the one hand the "military and space turnover" and on the other the "civil turnover" (percentages relate to the average for the years 1968-69).

Table 9

	Mil. and space R&D	Mil. purchases	Mil. exports	Mil & space turnover	Civil R&D	Sales to national clients	Civil exports	Civil turnover
UK[32]	12	29	13	54	12	14	20	46
France[33]	13	33	27	73	12	3	12	27
United States[34]	18	57	4	79	5	7	9	21

The following comments can be made on this breakdown of the turnover:

- the most balanced distribution between "military and space turnover" and "civil turnover" exists in the United Kingdom[35];
- exports play the greatest role in France;
- sales to national clients other than the State are relatively highest in the United Kingdom and lowest in France.

There is, however, one fact which seems to be of even greater importance, notably as regards the development prospects for European civil aviation:

The magnitude of government military purchases in the United States is such that, notwithstanding the high percentage of the military and space turnover in Europe (in this case France and the UK), the difference between the amount of turnover in the United States and in Europe is greater in the military and space sphere than in the civil sphere:

The average turnovers during 1968-69 were, in fact, as follows ($m):

	France + UK	United States	difference
Mil. and space turnover	1,790	19,646	17,856
Civil turnover	1,076	5,272	4,196

The percentage breakdown is given below:

Table 10[35a]

	Mil.& space R&D	Mil. pur-chases	Mil. Ex-ports	Mil.& space turn-over	Civil R&D	Sales to national clients	Civil ex-ports	Civil turn-over	Total
United States	18	57	4	79	5	7	9	21	100
France + UK	12	31	19	62	12	9	17	38	100
Turnover: France & UK / Turnover: United States	8	6	59	9	24	15	23	20	12

In view of the relationship between the size of the turnovers of the aerospace industry of the United States on the one hand and of France and the United Kingdom on the other (12%), in addition to the reason for the greater disparity between the turnovers in the military and space sphere than in the civil sphere, we note the very great importance acquired by "European" military exports and, to a lesser extent, the importance of civil exports; moreover, the extent of the effort made by the British and French governments in civil research and development is evident, and this constitutes a guarantee for the future in view of the growth of civil activities in relation to the whole. This fact is confirmed by the breakdown of the civil turnover between R&D and production (average for 68-69 - R&D in France and UK, public funds only.)

Table 11

	France + UK	United States
R&D	31	26
Production	69	74
	100	100

Apart from the effort made by the two governments in the civil field, it should be remembered that whereas major civil programmes in the United States and the United Kingdom were in the production stage in 1968 and 1969, French civil production was then relatively low (France: R&D = 44%, production = 56%).

In the military and space field, no great difference is noted in the breakdown between R&D and production in the United States on the one hand and in France and the United Kingdom on the other; the volume of DOD purchases in fact offsets the size of the NASA budget. In both cases, approximately 24% of the military and space turnover is accounted for by R&D activities.

Footnotes to Section 2:

20. Source: SORIS - (21) not included - (22) includes space activities and missiles

23. USIAS Reports: the breakdown in percentages was as follows on turnover (excl. tax), excluding electronics:

	on overall turnover (including transactions between companies within the field			on final turnover (excluding transactions between companies within the field		
	airframes missiles	engines	equipment	airframes missiles	engines	equipment
1967	58.6	20.7	20.7	66.4	23.0	10.6
1968	61.2	20.3	18.5	67.9	21.6	10.5
1969	61.0	20.0	19.0	67.8	20.8	11.4
1970	62.0	18.2	19.8	69.0	19.4	11.6

In 1969, 18% of the overall turnover was accounted for by missiles and space hardware and 82% by aviation equipment, whether or not airborne.

24. According to SBAC the breakdown was as follows:

	Aircraft	Aero-engines	Other equipment	Missiles and space
1967	47.7	37.9	4.4	10.0
1968	50.8	37.3	4.8	7.1
1969	48.4	38.1	4.7	8.8
1970 (prov.)	46.5	40.2	3.9	9.4

25. In Table 5, for the United States: Missiles + space vehicles. According to AIA (Aerospace Facts and Figures, 1971-71), the general breakdown is as follows (excluding non-aerospace activities):

	Aircraft	Missiles	Space vehicles	Total
1967	60.7	17.9	21.4	100.0
1968	62.8	17.9	19.3	100.0
1969	60.2	21.6	18.2	100.0
1970	59.7	24.2	16.1	100.0

However, the breakdown of the turnover of the major aerospace companies is as follows:

	Aircraft	Engines	Space Missiles	Other aero-space activities
1967	43.5	13.5	29.0	14.0
1968	47.2	12.9	26.4	13.5
1969	45.1	13.0	25.8	16.1
1970	46.4	14.3	24.6	14.7

26. Airframes and missiles for France

27. Source: SORIS; Civil R&D = government funds made available to, and repayable by, the commercial aviation sector

27a United States: Aerospace Facts and Figures; EEC + UK: SCRIS

28. Air Statistics SR(71)3.

29. USIAS report, 1970-71

30. AIA - Aerospace Facts and Figures, 1971-72
DOD = Department of Defence

31. Deutscher Bundestag. Drucksache VI/1044

32. From the following documents: Survey of UK Aerospace Industry - July 70; Air Statistics SR(71)3; information supplies by SBAC. The item "Civil R&D" (Government assistance), which amounts to 26-27% of the civil turnover, does not include company funds, which might themselves amount to 5-6%.

33. From the following documents: USIAS Reports; L'Industrie aéronautique et spatiale francaise (1971)"; VIe Plan, Rapport du Comité de L'Industrie aéronautique et spatiale
34. From AIA - Aerospace Facts and Figures, 1971-72
35. Estimates of UK civil turnover for 1970: 46%
35a. For France and the UK, the item Civil R&D includes only public funds.

3. Manpower

The total labour force of the aerospace industry in 1969 and 1970 was as follows:

Table 12

	Germany (36)(43a)	Belgium (37)	France (38)	Italy (39)	Nether-lands(40)	EEC	UK (41)	EEC + UK	USA (42)
1969	52,000	4,500	97,000	27,000	7,000	187,500	247,000	434,500	1,354,000
1970	56,000	4,700	103,000	29,500	8,000	203,200	237,000	438,200	1,159,000

International comparisons of the turnover per person employed are very difficult to give at the present stage of the statistical work, owing to the lack of international definitions of turnover and manpower in the aerospace industry. Similarly, comparisons of value added per person employed do not appear to be reliable because of the lack of uniformity in the definitions. As a result, it is difficultto present comparisons on "productivity" as far as the European producer countries are concerned; compared with that of the United States, European "productivity" would appear to be approximately half as great.

Although Europe compares unfavourably in this respect, this disadvantage is partly offset by lower labour costs (index for 1968)[43]:

EEC	UK	United States
53	37	100

According to information from British sources within the field, the United States/United Kingdom ratio of average annual labour costs (total employed) was 3.2:1 in 1963. However, if account is taken of the difference in

the quantities produced, the United States/United Kingdom productivity ratio, as determined by various independent methods, is between 1.2:1 and 1.5:1, and this represents the true manpower "efficiency" ratio between the two countries. No comparable figures on data for 1968 are available, but it is believed that the situation is in general unchanged. It is, however, important here to define what is meant by "labour costs".

Footnotes to Section 3:

36. BDLI

37. GIFEBCOMA

38. USIAS Report 1970-71

A survey covering 80% of the labour force shows the breakdown to be as follows (31.12.70): design office: 18.2%; protoypes: 12.9%; production: 48.8%; general services: 20.1%.

The breakdown by firms and by employment categories is as follows:

SNIAS and branches:	38.9%	workers:	53,000	
Dassault-Breguet:	12.7%	technical supervisory grades:	23,500	
Reims Aviation:	0.4%	clerical grades	13,500	
Robin Aircraft:	0.2%	qualified engineers:	12,000	
MATRA:	2.4%			
Equipment:	22.0%	nationalized sector:		50.5%
SNECMA:	12.4%	private sector:		49.5%
Turbomeca:	4.0%			
SEP:	1.6%			
Miscellaneous:	5.4%			

39. Associazione Industria Aerospaziale

40. Interavia data 70-A-1

41. Air(2) 2 Statistics SR(71)3

Distribution of manpower	1969	1970
- administrative, technical and office staff including 11,000-14,000 scientists, engineers and technologists:	105,000	107,000
- technical supervisory grades and skilled workers	83,000	80,000
- workers	29,000	26,000
- other employees	30,000	25,000

Distribution of manpower by sector in 1967 and 1970

	airframe firms		engine firms		equipment firms	
production personnel	35	32	30	27	37	35
design office	12	14	11	13	20	23
indirect labour	53	54	59	60	43	42

42. AIA. Aerospace Facts and Figures

1969: 93,600 engineers and scientists in aerospace activities

1970:

	aerospace total	aircraft, of which:	engines	missiles & space	others
(1000) total:	1,159	511	101	479	169
of which: production workers:	578	282	53	212	84
others:	581	229	48	267	85

43. Source: SORIS

43a. The exact manpower figures of the German aviation and space industry announced on 11.2.1972 by BDLI are as follows:

	1966	1967	1968	1969	1970
Total manpower:	43,745	45,373	48,182	52,076	56,206
of which: airframes	32,470	33,517	35,249	38,352	40,670
engines	4,675	5,856	6,133	6,124	6,336
equipment	6,600	6,000	6,800	7,600	9,200

4. Structure

In the United States, apart from certain mergers, takeovers or regroupings (e.g., McDonnel-Douglas, Republic and Hiller with Fairchild; Sikorsky and Pratt & Whitney with United Aircraft), the factor which contributed most to the development of the enterprises was the concentration of public orders on a few firms (with considerable recourse to sub-contractors) and the programming of government orders over a number of years.

In Europe, during the past twenty years, there have been a number of regroupings, chiefly at a national level: in the Community (of the Six) the number of airframe companies dropped from twelve to three in Germany between 1963 and 1970 and from five to two in France between 1952 and 1970; in Italy there are still five groups, one of which is much larger than the others as a result of a movement towards concentration. In the United Kingdom the number of aircraft manufacturers dropped from 16

to four between 1959 and 1961. In the engine sector there is only one large firm left in Germany, two in France and three in Italy which work partly under licence. In the United Kingdom we have witnessed the concentration of almost the entire engine production potential in Rolls-Royce.

Manpower and turnover (excluding taxed) of the most important of these firms are as follows (turnover in $m, current rates, IMF rates of exchange):

Table 13

	Labour force		Turnover	
	1969	1970	1969	1970
S.N.I. Aérospatiale[44]	37,420	39,170	513	600
Rolls-Royce[45]	88,000	87,000	723	645
Hawker-Siddeley Aviation[46]	49,000	n.a.	412	496
B.A.C.[47]	36,600	n.a.	441	n.a.
Dassault-Breguet[48]	11,536	12,757	258	283
VFW-Fokker[49] Düsseldorf	19,409	20,300	229	258
MBB[50] and [59a]	18,944	19,602	230	250
SNECMA[51]	13,154	16,500	229	216
AERITALIA[52]	n.a.	8,500	n.a.	128
DORNIER[53] and[59a]	6,053	7,043	99	97

The other firms in the aircraft sector are as follows:
Italy: Costruzioni aeronautiche G. Agusta, Aermacchi, Piaggio and SIAI Marchetti.
Belgium: SABCA and Fairey.
United Kingdom: Westland Aircraft and Short Bros. & Harland, the latter being 69% state-owned.

In the engine sector, the other principal firms are:
Germany: MTU; France: Turboméca; Italy: Fiat, Alfa-Romeo and Piaggio; Belgium: Fabrique Nationale d'Armes.

Moreover, the aerospace sector includes equipment firms, missile firms (e.g., MATRA, with a turnover in 1970 59 million dollars and an aerospace labour force of 3,100[54]) and firms specializing in R&D and the production of space hardware (e.g., ERNO). In Britain, moreover, the industrial classification includes the firm that produces hovercraft[55].

The turnover figures in 1969 and 1970 for the three largest firms in the EEC, the United Kingdom and the United States respectively were as follows:

Table 14 (see N.B. below)

	Community			United Kingdom		United States[56]			
	1969	1970		1969	1970	1969		1970	
SNIAS	513	600	RR[57]	586	522	M.D.D.	3024	Boeing	3677
DASSAULT-BREGUET	258	283	H.S.	412	496	Boeing	2835	Lockh.	2540
VFW-FOKKER	229	258	BAC	441	441[58]	N.A.R.	2667	N.A.R.	2411
Total:	1000	1141		1439	1459		8526		8628

Taken on the average for the years 1969-70, these totals represent the following shares in the turnover of the respective aerospace industry: EEC: 49.1%; United Kingdom: 91.5%; United States: 33.6%.

A comparison between the turnovers of the EEC and UK firms on the one hand and US firms on the other, also provides the following information (average, for 1969-1970):

N.B. The above figures represent the turnover figures of the companies and not their value added; their purchases are included, and consequently the table cannot be compared with total turnovers of the industry (Table 3) which contain no double accounting. Table 14 is interesting for the comparison between the Community, the United Kingdom and the United States.

Table 15

	EEC and UK firms	United States firms
Percentages of the industry's aerospace turnover		
- 5 leading firms:	60.4%	52.5%
- 6th to 10th firms:	24.7%	26.7%
- 10 leading firms:	85.1%	79.2%

Table 16

Turnover of EEC and UK firms as a percentage of the turnover of United States firms:

Entire aerospace industry:	16.5%
- 5 leading companies:	19.0%
- 6th to 10th companies:	15.2%
- 10 leading companies:	17.7%

Concentration in the aerospace industry has thus gone further in Europe than in the United States, particularly in the group comprising the five leading firms. It should, however, be emphasized that the average turnover of the five leading European firms is 455 million dollars, whereas that of the five leading United States firms is 2,392 million dollars.

It is the relative size of the firms rather than the degree of concentration that shows the limitation of potential from which the European industry is suffering:

Table 17

	EEC and UK firms	United States firms
average turnover of the five leading firms:	$m455	2,392
the next five firms:	186	1,219
the ten biggest firms:	320	1,806

The average size of the five leading firms is thus 5.2 times as high in the United States.

The average size of the next five firms is thus 6.5 times as high in the United States.

In the aircraft sector, the average size of the six leading firms is 5.8 times as high in the United States.

In the engine sector the average size of the two leading firms is 6.1 times as high in the United States.

In view of the investments needed in this sector, a restructuring of European firms would appear to be necessary, particularly in the case of companies whose turnover is still below 200 million dollars a year.

Moreover, the possibilities of balanced cooperation with United States firms are reduced by the excessive disparity of size between potential partners, as is shown below:

Table 18

		Number of firms in each range of turnover (1970	
		EEC and UK	United States
Turnover $m	100-200	4	6
	200-300	4	4
	300-400	-	4
	400-500	2	3
	500-1000	2	5
	1000-2000	-	3
	2000-3000 and over	-	4

In the engine sector the potentials are:

RR = $600 (1971); SNECMA = $m216 (1970); MTU = approximately $m131 (1970), together with those of other (Italian and Belgian) firms. In view of the size of engine firms in the United States (General Electric: $m1,660), the formation of a European-scale engine corporation would appear to be indicated.

In the aircraft sector, the firms of Dassault-Breguet, VFW-Fokker and MBB, which are next in importance to the three leading companies (SNIAS, Hawker Siddeley Aviation and BAC), are definitely not large enough; they compare in size with United States companies which do not act as principals in major civil projects.

Footnotes to Section 4

44. Report by the Board of Directors to the General Meeting of 28 June 1971: NB: turnover (excl. tax) of the Group, including subsidiaries, for the financial year 1970: 640 million dollars; labour force: 45,680.
45. Labour force and turnover for all RR activities, including non-aerospace activities: Interavia data IND 70-T 2; Rolls-Royce Ltd. Review of Activities 1968-69; Rolls-Royce Ltd. "Power for Flight", March 1970. In 1968 the turnover of the aero-engine divisions amounted to 626 million dollars; in February 1970 the labour force in these divisions stood at 74,000. In 1971, Rolls-Royce (1971) Limited was formed; motor-car and diesel activities were not resumed. The company's labour force is around 63,000 and the turnover for the first year is estimated at 600 million dollars.
46. Labour force: estimated. Turnover: Interavia data IND.70-T.2
47. Labour force: Interavia data 69.S.2. Turnover: President's Report 1970.
48. The French aviation and space industry. USIAS 1971 and USIAS reports.
49. 1970 Annual Report. Labour force in April 1971: 21,280.
50. Labour force 1969: Interavia data 69.S.2; 1970: estimated. Turnover: Interavia data 70 T I.

51. SNECMA: 1970 labour force manpower is that of the group and not of the aviation division, which stands at only 13,500. The turnover is for "all activities"; the aviation turnover was 198 million dollars in 1969 and 180 million dollars in 1970.
52. Aeritalia.
53. Interavia data.
54. French aviation and space industry. USIAS 1971. 1970 aviation turnover: 52.2 million dollars.
55. British Hovercraft Corporation.
56. Interavia data 70-T.2. All activities.
57. Estimated aerospace turnover.
58. 1969 turnover.
59. Percentages calculated on the average for the years 1969-70. For United States firms, where Interavia data IND 70-T-2 indicates turnover for "total activities", the figure has been reduced by 10% to obtain the aerospace turnover (cf. Aerospace Facts and Figures 1971-72).

59a. BDLI. Table of 11 February 1972.

Turnover, $m:	1966	1967	1968	1969	1970
M.B.B.	136	174	178	212	236
VFW-Fokker (Bremen)	80	84	101	107	150
Dornier	28	73	54	85	91

5. Research and Development

It would be inaccurate to say that in the field of aviation generally, Europe lags behind the United States technologically$ the most that can be said is that certain sectors of technology have reached a greater or lesser degree of development on one side of the Atlantic than on the other.

The overall funds for aerospace R&D in 1968 were as follows:

Table 19[60]

($m)	EEC	United Kingdom	United States
Military projects	559	456	3,857
Space "	247	45	5,348
Civil "	210	225	1,253
Total	1,016	726	10,458
% of public funds	93.0	92.1	89.0

A portion of these overall funds is absorbed by official institutes and by sectors of industry other than aerospace, so that the aerospace industry's R&D expenditure is much lower, as is shown below (1968, $m):

Table 20[61]

	EEC	United Kingdom	United States
Public funds	559	358	7,066
Company funds	71	57	1,148
Total	630	415	8,214
Military projects	339	171	3,008
Space projects	81	19	3,953
Civil projects	210	225	1,253
Total	630	415	8,214

It emerges that the EEC + UK/United States percentage, which was 16.6% of the overall funds, is only 12.7% of R&D expenditure in the aerospace industry.

Moreover, the EEC + UK/United States percentage of R&D expenditure in the aerospace industry was 8.7% for military and space projects and 34.7% for civil projects.

In 1969 and 1970, R&D expenditure in the aerospace industry in the United Kingdom and in the United States was as follows:

Table 21

($m, current rates)	United Kingdom[62]		United States[63]	
Public funds:	R&D	"Assistance"	Federal funds	Company funds
1969	192	199	4,524	1,277
1970	192	192	n.a.	n.a.

For 1969, R&D expenditure in the aerospace industry on civil projects can be estimated at:

Table 22

($m, current rates)	Germany[64]	France[65]	UK[62]	Total	United States[63]
Public funds:	20	173	199	392	180
Private funds[66]:	n.a.	66a	66a	128	1,277
Total				520	1,457

The R&D expenditure of these European countries in the civil sector is relatively high, namely 35.7% of the corresponding expenditure of the United States.

For France and the United Kingdom, it can be estimated that in 1969 civil R&D expenditure (public and private funds) amounted to 39% of the civil turnover; the percentage would thus be slightly higher than the corresponding percentage for the United States, i.e., 32%; in absolute terms, however, the French and British industries together would have had only about 450 million dollars at their disposal as against the United States industry's 1,457 million dollars[66b].

Knowing that only some of the civil projects are carried out jointly by the two countries, we can estimate that the resources available per civil project in the French and British industries are greatly inferior to those available in the United States industry (except in the case of Concorde).

The importance of State aid to civil R&D should, however, be emphasized.

By way of example, the amounts of the project authorizations in France shows the following trend ($m, current rates):

	1966	1967	1968	1969	1970	1971	1972
Total credits	83	143	159	168	180	177	254
Collaborative projects	75	136	152	164	177	173	254

Of the 254 million dollars for 1972, Concorde accounts for 158.2 million, Mercure for 31.3 million and Airbus for 64.5 million.

In the United Kingdom, State aid to civil aviation construction has been as follows ($m, current rates):

1966	1967	1968	1969	1970 (provisional)
92	143	168	199	192

In Germany, according to Government estimates calculated in 1970[64], the total amount of Federal Government aid to civil aviation construction should evolve as follows:

1963 to 1969	1970	1971	1972	1973	1974 ($m, current rates)
60.3	52	52	62	62	62

The major part of these appropriations is intended for the Airbus: 57 million dollars in 1972 and 60 million dollars in 1973.

Footnotes to Section 5

60. Source: SORIS

61. SORIS
Air Statistics SR (71) 3 - Non-aerospace work and development carried out with company funds excluded. According to SBAC, only a very low percentage of government-financed R&D is accounted for by civil projects. "Assistance" refers to development, testing and production of transport aircraft.

63. Aerospace Facts and Figures: it is estimated that in 1969 approximately 4% of US Federal funds went on the SST.

64. Deutscher Bundestag Drucksache VI/1044.

65. The French aviation and space industry, USIAS 1971.

66. Estimated.

66a. Can be assessed at 40-50 million dollars both in France and in the United Kingdom.

66b. It should be noted that the share of R&D in the civil turnover of the United States varies greatly from year to year; 1968: 20.8%; 1969: 32.2%; average for 1968/69 = 25.7% of Table II.

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6. Production process and production costs

The complete cycle of aerospace activities (basic research, specific research and development, production, marketing) is exceptionally long compared with that of other industries (between 10 and 20 years). This shows the importance of long-term planning and underlines the magnitude of the industrial risk involved in aerospace production.

There is little difference between the United States and Europe as regards research and development lead-times for similar aviation projects (e.g., Trident and Boeing 727) up to the first flight.

The lead-time up to the first delivery, on the other hand, is much shorter in the United States. This represents a decisive advantage and is all the more remarkable in that United States production is usually geared to longer runs than in Europe, and this involves more extensive tooling.

In view of the characteristics of aircraft production, automation of assembly lines is not as advanced as in the automobile industry, for instance; final assembly requires much special and costly tooling and a large and skilled labour force. Under these conditions, constructors are gradually abandoning the production of parts and sub-assemblies and are specializing increasingly in project definition, R&D work, assembly and marketing of the aircraft. This division of labour makes it possible:

- to spread R&D and production risks over several firms;
- to effect considerable savings on special equipment and products as a result of specialization;
- to reduce overall production times.

The increasing complexity of aircraft means that the aviation industry normally employs between 25 and 35% of its manpower in R&D.

The development of military aircraft is a very lengthy process (4 to 5 years) and is very costly: the total development cost of a new combat aircraft (including engine, equipment and production tooling) usually amounts to 200 million dollars.

In the case of high-performance aircraft the cost may exceed 400 million dollars. The figures for aircraft in process of development, such as the MRCA 75, are much higher.

Having regard to the volume of home demand, all European countries need to export military production in order to facilitate the amortization of such sums.

The same applies to civil transport aircraft, the complexity of which increases with the levels of performance and safety.

Concorde holds the record for production costs, which in this case represent 60 to 70 times the price of the production aircraft (31.3 million dollars x 64 = $2,000 million), and also for the pre-production lead-time, which exceeds ten years. Even for technically less ambitious aircraft such as the Airbus, R&D costs are still 30 to 40 times the price of the production aircraft, and the development times are around five years (similar figures apply to the DC-10).

In the case of engines, the development cycles of which are also protracted (5 to 8 years) and which call for very heavy investments (notably for test beds), the ratio between the R&D cost and the price of the production engine may run into values of the order of several hundreds. It should be added, however, that a successful engine normally spawns an entire family of engines, different versions of which are mounted in various types of aircraft, and that the turnover in complete spare engines and engine components is higher than that in engines installed as original equipment (about one and a half times higher)[67 and 67a].

The evolution of launching costs in overall aircraft construction costs is an important feature of this activity, and the following ratios are noted between the various costs as a function of the number of aircraft produced[68]:

Units produced	Production costs(a)	Launching costs(b)	Total costs
1	9.63	200.00	209.63
30	8.35	6.66	15.01
100	8.00	2.00	10
200	7.85	1.00	8.85

(a) Direct work, raw materials, parts and components, general production costs (variable and fixed), overheads.

(b) R&D jigs and tools, sales and promotion costs, "learning costs".

It is clear that the critical factor in any aviation project is the amortization of launching costs. The need for sufficiently long production runs to absorb these launching costs is evident.

Unfortunately, the average length of civil aircraft production runs in Europe between 1955 and 1968 was 138 units, as against 492 in the United States[69].

Furthermore, apart from the length of the run, only a high rate of production can justify large-scale tooling; failure to undertake such tooling because it would not be profitable for a low rate of production, entails the risk of being unable to meet the demand at the right time and, eventually, plant modernization is compromised. To give an example, 150 DC-9's were built during the first two years of production, as against only about 40 Caravelles during the corresponding period[70].

Footnotes to Section 6

67. From "Rapport du Comité de l'industrie aéronautique et spatiale - VIe plan francais".

67a. According to certain estimates, the total development cost of the RB 211 will exceed 600 million dollars.

68. SORIS.

69 and 70. SORIS.

ANNEX III: MAJOR AVIATION PROJECTS BASED ON EUROPEAN COOPERATION*

Most of the major European aviation projects, particularly for civil aircraft, are carried out on a basis of international cooperation. Such cooperation takes various forms, and we shall examine the projects according to the type of cooperation entered into.

A. Projects for entire aircraft

I. International industrial cooperation

Several firms in various countries cooperate in the implementation of a project, sharing both construction work and financial risks. This form of cooperation is adopted when the principal is unable to shoulder the entire financial burden himself. The partners may obtain State assistance, but the State is not directly involved in the project, nor does it intervene in relations between the partners.

This is the form of cooperation entered into in the case of the Mercure, the F 28 and the VFW 614.

1. MERCURE (short-haul aircraft, approximate seating capacity 150, at flight-testing stage).

In 1966, Société des Avions Marcel Dassault put in hand a study to design the best short-haul civil transport aircraft with a seating capacity of 60 to 180. This company then formed an association with FIAT, SABCA (Belgium) and CASA (Spain) for this work.

The Mercure is a short-haul aircraft seating 134 to 155; this is a private-sector project which is supported by the French Government. Aeritalia and SACA (Italy), SABCA (Belgium), CASA (Spain), the Swiss Federal Aircraft Factory at Emmen and Canadair participate in production and, with the exception of the Swiss firm, also share the financial risks in proportion to their participation in production.

*Footnotes are given at end of the Annex.

Dassault-Breguet is entirely responsible for design work, production and sales.

The French share in production is 70% of the total cost, the Government assuming 80% of this share, i.e., 56% of the total. Dassault bears the remaining 20%, i.e., 14% of the total. Italian participation is 16.8% of production and approximately 10% of financing; the Spanish share slightly exceeds 10%; the Belgian share is approximately 6% and the Canadian share approximately 5%. The Swiss share in production is included in the amount covered by SABCA[1].

The development costs of the Mercure, including the construction of two prototypes and static test frames are around 200 million dollars[2].

The first of the two prototypes made its first flight on 28 May 1971 and the second prototype will fly within a few months. Work on the production aircraft has started; the initial rate of production will be three aircraft a month and may possibly be doubled.

Certification will take place from March to September 1973 and the first aircraft should be delivered to AIR INTER in October 1973. The ten aircraft ordered by AIR INTER to a total value of approximately 78 million dollars (1972) should be delivered before the end of 1975 (2[1]) and (2[11]).

A stretched version of the Mercure with seating for 180 could be constructed at minimum cost; it would not, however, beplanned for production before 1978. This new aircraft would not be powered, as is the present model, by Pratt and Whitney jet engines (SNECMA participation approximately 20%), but by the 22,000 lbs thrust CFM 56 engine developped by SNECMA and General Electric, possibly with Rolls-Royce, Volvo Flygmotor and MTU participation[3].

The market for aircraft of this type is estimated at approximately 1,500 units. In addition to the AIR INTER order, it is likely that numerous Caravelle aircraft will be replaced by the Mercure, particularly in the French and Spanish fleets.

The potential French market for this aircraft is estimated at 80 units. The total market for the Mercure is estimated by its constructors at approximately 300 aircraft.

Export credits could amount to 80-84% for a period of seven to eight years, with a 7% interest[3].

2. The F.28 Fellowship (twin-jet short-haul aircraft, at series-production stage)

The A1 prototype of the F.28, for which Fokker-VFW (Amsterdam) is the principal, made its first flight on 9 May 1967 and a type certificate was issued on 15 November 1968[4]. The first version, the F.28-1000, allows 60 passengers to be carried over a distance of 2,000 km; the new version (1970), the F.28-2000, can carry 75 passengers over a distance of 1,360 km[5].

The F.28 project is carried out jointly with VFW-Fokker (Bremen), MBB and the British firm of Short Brothers & Harland. The engines are bought from Rolls-Royce.

"The Netherlands share amounts to 67% of the development costs and represents 40.5 million dollars. Netherlands Government financing covers 50% of that share, which will be repaid by Fokker-VWF from the proceeds of the sale of the 26th to the 215th aircraft. For the remaining 50%, Fokker-VFW had recourse to the capital market, notably by issuing a State-guaranteed loan, the interest on which will be repaid after the sale of the 126th aircraft"[6].

The F.28 project will in principle be amortized as from the 175th aircraft[5]. According to the most pessimistic market studies, the firm can be certain of selling at least 250 aircraft during the next ten years[7].

In January 1972, 50 orders had been placed for the F.28 and 35 aircraft had been delivered[8].

On 18 November 1971, 47 orders were placed for the F.28, the breakdown being as follows:

- Netherlands: 2
- Other Community markets: 18
- Non-member countries: 27 (8a).

3. VFW 614 (twin-jet aircraft for regional service and feeder lines, 40 seats, at flight-testing stage).

This project is carried out on a basis of international cooperation between the following firms: VFW Fokker (as principal), MBB, SABCA and FAIREY (Belgium); Rolls-Royce and SNECMA for the M 45 H jet engine.

The form of cooperation adopted for the VFW 614 project is shown below[9]; the breakdown of costs is based on the cost of the aircraft:

Participation by the various countries in the development costs of the airframe, engine and equipment, as well as in expenditure on market research and the setting-up of sales and after-sales services, is as follows:

	Airframe	Engine	Equipment	Sales and After-sales services
100:	54.4	16.9	22.7	6.0
Germany	70			100
Netherlands	16			
Belgium	8			
United Kingdom	6	72	35	
France		28	8	
United States			53	
	100	100	100	100

The Governments of the participating countries bear 60 to 80% of the amount of these R&D costs.

Development costs, including production installations and the manufacture of three prototypes, have been estimated at 165 million dollars, of which 80 million is for the airframe and systems and 85 million for the jet engine. The German Government is granting aids of 80% for the airframe and systems and 50% for the jet engine[10]. As a result of the increase in final development costs, however, the German Government has agreed to release an additional 35.6 million dollars by 1975 and would also agree to give a guarantee of 41.4 million dollars; subject to approval by the Finance Committee of the Bundestag, the German Government would also provide a sum of approximately 68 million dollars needed to finance the sales of the aircraft[11].

The final development costs of the RR-SNECMA M 45 H engine have increased by approximately 33 million dollars and now amount to more than 109 million dollars. The German Government would be ready to pay its share of the additional costs provided that the constructor obtains performance and price guarantees from the engine manufacturers and that the question of a purchasing guarantee by VFW-Fokker for a minimum number of engines is settled[11]. To our knowledge, this problem had not been solved by the end of January 1972.

As regards the series production stage, work on the airframe will be apportioned as follows: Germany 64%, Netherlands 22%, Belgium 10%, United Kingdom 4%[10].

The world market for aircraft of this type is estimated at 1200-1400 units, and VFW-Fokker consider that they can take one-third of that market. The break-even point would be around 175 aircraft[12].

The first prototype made its first flight on 14 July 1971; unfortunately, it crashed in the course of flight testing on 1 February 1972.

II. Intergovernmental cooperation

Several governments and the manufacturers are associated in intergovernmental cooperation. The governments play the leading role: they define and finance the projects, select, supervise and assist the manufacturers.

The two principal European projects carried out on the basis of intergovernmental cooperation are the Concorde and Airbus projects.

1. Concorde (supersonic long-haul aircraft, seating capacity 128 to 144)

The Concorde project was organized on a fully integrated basis, the principles of which were laid down in an Anglo-French intergovernmental agreement in November 1962. Costs and revenue are to be shared equally between the two countries in respect of the entire programme. The British Aircraft Corporation and SNIAS are jointly responsible for the development and production work (SNIAS 60%; BAC 40%); the Bristol division of Rolls-Royce and SNECMA are sharing the responsibility for the Olympus jet engine (RR 67%; SNECMA 33%). Each firm has responsibilities for systems development and production. Concorde R&D costs are assessed at approximately 2,000 million dollars (1971).

In addition to the two prototypes (001 and 002, which have been flying since 1969) and two pre-production aircraft (01 is already flying), the production of 10 units has been undertaken and these are at various stages of manufacture at the BAC and Aérospatiale factories (Concorde 2 has been rolled out).

It is envisaged that flight testing will be completed at the end of 1973 and that certification and the first deliveries will take place in the spring of 1974. At the beginning of December 1971, the two prototypes had completed 700 flying hours, of which 200 were at supersonic speeds.

According to present estimates, 18 aircraft will be delivered by the end of 1974, 38 by the end of 1975, 73 by the end of 1976 and 150 by the end of 1978. Production of three aircraft a month is planned for 1976[13].

Fourteen airlines hold a total of 74 options on Concorde. All the options were renewed in 1971.

At the beginning of December 1971, the French and British Governments agreed on a price formula covering the entire production cost and a part of the R&D costs; the price was to be in the region of 33 million dollars (1972).

BAC and Aérospatiale estimate that there is a potential market for approximately 250 Concordes over the next ten years.

2. AIRBUS A 300 B

The A 300 B is a medium/short-haul aircraft with seating capacity for 250 to 300. The project is at an advanced stage of construction of the first prototype.

The agreement of 29 May 1969 concluded between the French and German Governments has since been supplemented by agreements with the Netherlands and Spain.

According to an estimate by Deutsche Airbus (60% MBB and 40% VFW-Fokker), development costs for the Airbus amount to 479.21 million dollars, distributed as follows[14]:

	Origin of funds		Expenditure	
West Germany	$193.80 million:	40.5%	$151.84 million:	31.65%
France	$193.80 million:	40.5%	$199.57 million:	41.70%
Sales of prototypes	$ 32.39 million:	6.8% (engine and nacelle)	$ 10.33 million:	2.16%
Netherlands	$ 29.64 million:	6.2%	$ 18.31 million:	3.82%
Hawker-Siddeley	$ 29.58 million:	6.2%	$ 22.01 million:	4.59%

The percentages do not as yet take account of Spanish participation, which will amount to 2% of the financing[15]. A 4.2% participation by Spanish industry in the manufacture of the A 300 B is envisaged[16]. The CASA company would then be entrusted with the production of certain components of the aircraft.

All the aircraft will be equipped with two jet engines of American design, the General Electric CF 6-50, which will develop a thrust of between 22 and 23 tonnes, depending on the version. SNECMA will be responsible for the assembly of these engines in France and has been allotted a 30% manufacturing share, while the German company MTU has been allocated a 10% share[16].

On 30 October 1971, all the partners between them were employing 10,523 persons on work connected with the Airbus, and approximately 300 million dollars (1972) had been spent[16]. The first prototype is in the final assembly stage at Toulouse and will be rolled out in June 1972. The first flight will be made before the end of the year. The first delivery will take place in 1974. According to official estimates, ten aircraft will have been delivered by the end of 1974, 40 by the end of 1975 and 73 by the end of 1976. The production rate envisaged is between 6 and 10 aircraft a month[15].

Aircraft No. 1, now in the process of assembly at Toulouse, corresponds to the version designated A 300 B1, which can carry 259 passengers over distances of 2,200 km. Version A 300 B2, chosen by Air France in November 1971 (six orders and ten options), can carry 270 to 290 passengers over the same distance as the B 1. The B 4 version, chosen by IBERIA (4 orders and 8 options), will be capable of carrying 270 to 290 passengers over maximum distances of 4,000 km, owing to the use of the wing centre-section as a fuel tank in addition to the other four wing tanks[16]. The development cost of the modified versions is estimated at 40.3 million dollars (1972)[14].

The market for Airbus twin-jets is estimated by various sources at 850 to 1050 units, and Airbus Industrie (the "Groupement d'Intéret Economique de droit francais" which coordinates the work of the partners), hopes to sell at least 400 and possibly even 600 (70 to 80 of them to the ATLAS group)[15].

On 21 December 1971 a loan agreement was signed in Luxembourg by the President of the European Investment Bank and the Chairman of Aérospatiale. This agreement provides for a loan of 14.4 million u.a., repayable within 12 years. It will be used for financing the investments needed for the construction and testing of the Airbus in the Aérospatiale factories at Toulouse, Nantes and St. Nazaire[16].

On 22 December 1971, the German Government decided to give a financing guarantee for the series production of eight aircraft and to approve the financing of derived versions. The German share of the guarantee for the financing of sales amounts to 620,000 dollars (1972) per aircraft[14].

3. This Annex considers only the major civil aviation projects undertaken on the basis of European cooperation. It does not deal with the characteristics of big national projects such as the Caravelle, the BAC 111 or the British Trident, nor with the programmes carried out in cooperation with non-member countries. In this connection, however, it should be mentioned that the Italian Government recently agreed to the construction jointly by Aeritalia and Boeing of a short take-off aircraft with 100 to 150 seats, to be available as from 1975.

Footnotes to Annex III

1. Interavia data, 15 XII 71
2. Aviation week and Space Technology, 31 May 1971.
2'. Le Monde, 1 February 1972
2". Handelsblatt, 2 February 1972
3. Interavia data, 15.XII.71
4. Interavia Monthly, 6.1970
5. Air and Cosmos, 16 May 1970
6. SORIS studies, Annex 4, p.120
7. Interavia, 10 1969, p.1630

8. Interavia data IND 71-S.12
8a. Flight, 18.11.1971
9. Interavia, 3 1970
10. Aviation Week and Space Technology, 31 May 1971
11. Interavia Air News Letter, 27 September 1971
12. Interavia data, 15.XII.1971
13. Interavia data, 15.XII.1971
14. Flugrevue, 2 1972
15. Interavia data, 15.XII.1971
16. Aérospatiale - Monthly Review, January 1972.

B. Engine projects

To date, international cooperation at European level has not gone nearly as far in the engine sector as in that of complete aircraft.

The RB 211 is a British project; the new SNECMA project for an engine with a thrust of 10 tonnes, the CFM/56, will be carried out in cooperation with General Electric and it is still not certain that it will become the subject of European cooperation. This engine is believed to be intended primarily for a second version of the MERCURE and possibly for STOL aircraft projects.

The two principal civil aero-engines for which European cooperation has been responsible are the Olympus 593, i.e., the Concorde jet engine, and the M.45 H, the jet engine for the VFW 614. These two power units are being developed by the two leading European firms in the engine sector, namely Rolls-Royce and SNECMA.

Olympus 593: Rolls-Royce is responsible for two-thirds of the design and development, SNECMA for the exhaust system of the engine[17].

R&D costs were estimated in September 1970 at 240 million dollars for SNECMA (1969 value, excl. tax) and at 440 million dollars for Rolls-Royce[18].

Twenty-eight engines have already been employed in the test flight programme. The construction of a further 16 engines has been authorized. Moreover, another 17 engines are being used for tests at sea level, altitude tests and flight tests in the Vulcan.

A series of 40 production engines has been put in hand, 20 of which will be combined with the development engines for the certification of the two pre-production aircraft and the first three production aircraft. The other twenty will be used in production aircraft No. 4 onwards. From the 41st aircraft on, the Mk 621 Olympus engine, with a thrust of 39,940 lbs, will be available and will bring Frankfort within the range of Concorde's transatlantic flights[19].

The type certification of the engine is expected in 1973 after 32,000 hours of flight and bench tests.

Rolls-Royce and SNECMA have set up a joint subsidiary, "Concorde Engines Support Organization Ltd.", with the task of negotiating and administering supply contracts for installed ore replacement engines and for engine spares.

M.45 H (Rolls-Royce/SNECMA)

Derived from a military engine, the M.45 H is a civil engine produced by SNECMA in cooperation with Rolls-Royce. It is in the 3,500 kg thrust category. It is particularly suitable for short-haul transport aircraft. It will be used for the VFW 614. Its low noise level will enable it to comply with the new FAA and ICAO specifications[20].

Rolls-Royce is assuming technical responsibility for the project. SNECMA is responsible for the design, final development and production of the low-pressure assembly[21].

The final development cost of the engine, estimated in 1967 at 50 million dollars, amounted in 1971 to 82 million dollars[22].

The breakdown for the development of the M.45 H engine is, in principle, as follows:

	Rolls-Royce	SNECMA	German Government
Financing	25%	25%	50%
Design and manufacture	55%	45%	

The amount envisaged for the final development includes the supply and testing of 21 engines (6 for bench testing and 15 for flight testing, but excludes the launching of series production.

Although certain sources mention the possibility of an agreement, discussions between the German authorities and Rolls-Royce regarding the financing of the engine's development and increased costs had not been concluded up to the beginning of February 1972.

Except in the case of VFW-Fokker, collaborative operations have so far taken the form of agreements between firms whose activities are confined to the execution of a project; they have not involved the setting-up of European transnational structure.

Footnotes to Annex III, Section B.

17. Jane's All the World's Aircraft, 1967-68 and 1969-70
18. Symposium on the problems of supersonic commercial aviation, Toulouse, April 1971
19. Flight, 22 April 1971
20. L'industrie aéronautique et spatiale francaise
21. Interavia, 7 1971
22. Interavia, 6 1971.

Communication from the Commission
to the Council
concerning
the implementation of Community industrial and technological policy
in the AERONAUTICAL sector

ANNEXES : IV Legal provisions applicable in the aeronautical sector and current level of duties on products in this sector

V Existing forms of assistance to this sector in the Member States

C O N T E N T S

ANNEX IV

Legal provisions applicable in the aeronautical sector and current level of duties on products in this sector

I. Protocol No. XVII annexed to the Accord on the G List

a) In the case of finished aircraft the provisions still in force lay down the following main requirements, namely, that:

"... the reintroduction, at whatever date in the future, of duties on aircraft weighing more than 15,000 kg unloaded shall be accompanied by the creation of a non-dutiable Community quota, decided as of now. The volume of this Community quota will correspond to the total import requirements drawn up by the Governments of the different Member States".

"All types of aircraft may be exempted from the quota if similar aircraft fulfilling all the required conditions of competitiveness are produced within the Community".

"Applications for exemption from the quota must be submitted and justified to the Council, whose decision shall be unanimous".

The customs duty on aircraft weighing more than 15,000 kg unloaded is completely suspended until 31 December 1972 (see B1 below).

In the event of no other decisions being taken by the Council for the period after 31 December 1972, all interested Member States would be entitled to invoke the provisions of the above-mentioned Protocol.

b) Provisions similar to those referred to in point 1 above also apply to helicopters weighing more than 2,000 kg unloaded. Currently, however, no tariff measures (either

in the form of a tariff quota or suspension of duty) are in force.

c) With regard to

- spare parts and components (tariff heading 88.03) for aircraft

- engines, jet engines and gas turbines for aircraft and their spare parts and components (tariff headings ex 84.06 and ex 84.08),

the Protocol lays down that "the imposition of customs duties is temporarily suspended for articles imported for assembly on aircraft which have themselves been exempt from duty or have been built in the Community".

II. Tariff position as of 1 January 1972

A. 1) Aircraft:

In accordance with EEC Regulation No. 2780/71 of the Council dated 20 December 1972[1], the independent customs duty on powered aircraft weighing more than 15,000 kg unloaded (tariff heading 88.02 B II c) is completely suspended for the period 1 January-31 December 1972.

2) Certain equipment:

In accordance with the aforesaid regulation independent customs duties for the products listed below are completely suspended for the period 1 January to 31 December 1972:

Tariff No.	Description of goods
ex 38.19 T	Amines, of unspecified chemical composition, intended for incorporation in the construction of aircraft or for use in aircraft maintenance or repairs;

[1] Official Journal of the European Communities, No. L 287/71, pp. 22-23

ex 39.01 C VII	Epoxy resins in the form of liquid, paste or powder intended for use in the construction of aircraft or for use in aircraft maintenance or repairs;
ex 40.11 B	New tyres intended for aircraft maintenance use: type of tyres - 24 . 7.7; 14 PR;
ex 44.15	Wood panels covered on each side with aluminium foil and intended for use on aircraft;
ex 62.05 C	Evacuation ramps and passenger lifejackets for use in aircraft;
ex 73.24	Containers for use in the pressurization of aircraft;
ex 89.01 B II a) and b)	Lifeboats for use in aircraft;
ex 89.05	Floating rescue appliances for use in aircraft.

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3) Engines, jet engines, etc.

By virtue of the provisions of Protocol No. XVII on spare parts and components for aircraft (tariff heading 88.03) and for engines, jet engines and gas turbines for aircraft and their spare parts and components (tariff headings ex 84.06 and ex 84.08), the imposition of customs duties is temporarily suspended for articles imported for assembly in aircraft which have themselves been exempt from duty or have been built in the Community.

B. Exemption from duties of certain products used in aircraft maintenance, repairs or construction

Other tariff measures taken by the Council provide, under certain conditions, for the partial or total exemption from

duties of a certain number of products listed under 67 tariff headings or sub-headings. A list of these products, compiled in a single text, can be found in Annexes I and IA of the common customs tariff[1].

These Annexes contain:

1) the list of products allowed in completely free of customs tariff duties, where these products are used for the maintenance or repair of aircraft weighing more than 15,000 kg unloaded;

2) a list of products allowed in completely or partially free of common customs tariff duties, where these products are intended for use in the construction of aircraft or for use in the maintenance or repair of aircraft or helicopters weighing from 2,000 kg (excl.) to 15,000 kg (incl.).

These lists give rise to the following observations:

1) <u>Products used for the maintenance or repair of aircraft weighing more than 15,000 kg unloaded</u>

So as to take account of the possibilities of developing Community industry and its ancillary industries, the provisions laid down initially by Council Decision 66/74/EEC dated 22 December 1966[2] cover a limited period of three years. For practical reasons, however, agreement has been reached enabling the complete suspension of these customs duties to be tacitly renewed for successive three-year periods, unless one or more Member States give notice to the Council, at least six months before the expiry of the initial three-year period, of their opposition to such a renewal. This opposition may be directed against all of the products or merely against some of them.

The measures provided for in 1966 have been renewed for a first time so as to remain in effect until 31 December 1972.

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[1] Official Journal, No. L 1/72, 1 January 1972

[2] Official Journal, No. 246, 31 December 1966

2) Products allowed in completely or partially free of common customs tariff duties and intended for incorporation in the construction of aircraft weighing more than 15,000 kg

The provisions setting up a system of complete or partial exemption, initially for a period of three years, by virtue of Council Decision 68/261/EEC dated 18 June 1968[1], have been tacitly renewed in accordance with the procedure laid down in (1) above for an equivalent period expiring on 31 December 1974. The provisions apply only to certain products intended for incorporation in the construction of the type of aircraft which, as on 1 July 1968, had completed their initial flight tests.

Since 1 January 1971 these provisions have also applied in the case of products intended for use in the manufacture of spare parts or components to be employed in the construction of aircraft.

3) Products intended for use in the maintenance or repair of aircraft or helicopters weighing from 2,000 kg (excl.) to 15,000 kg (incl.)

The provisions listing these products, initially for a period of three years by virtue of Council Decision 68/261/EEC, shall only apply to products intended for aircraft registered in the Community after 1 July 1968. Notwithstanding the expiry of these provisions on 31 December 1971 and the absence of any automatic renewal procedure, in the case of most of the products the provisions have nevertheless been renewed up to 31 December 1972 and made effective irrespective of the date of registration of the aircraft.

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[1] Official Journal No. L 141, June 1968

ANNEX V

Existing forms of assistance to this sector in the Member States

Several Member States grant financial assistance to the sector in the form of organized aid, most of which is specific in character and relates to research and development before the industrial production stage. State involvement in this area is motivated essentially by the need for aircraft manufacturers to be able, while research and development are going on, to tie up large sums of capital for periods extending over several years on projects which, by reason of their importance and the commercial risks attaching to them, could not be financed through normal credit channels.

During this stage the involvement of Member States (mainly, France, Germany and the Netherlands) which grant aid to the sector according to the importance of its place in the national economy takes the form either of interest-free credits repayable in the event of the projects financed turning out to be commercially profitable, or of outright grants (see tables attached).

In certain cases the extent of this involvement covers the entire cost of research and development and is determined by the public authorities upon consideration of the importance of each project.

More recently the authorities have, by and large, been paying particular attention to joint projects carried out at Community or international level.

The types of involvement mentioned above, in each case of a specific character, constitute the basic essentials of state aid to the aircraft manufacturing industry. However, certain Member States also come to the assistance of the sector by enacting regulations of a general nature. Particularly in France, and with an eye on the foreign export market, aircraft manufacturers

enjoy protection against the risk of price increases through the COFACE insurance scheme. (As a rule this system is not applied to internal trade among the Community Member States.) In West Germany credits are allocated for civil aviation development under various general schemes. In the case of important projects the Federal Government and the Länder also provide guarantees covering series production.

Finally in Belgium, where the sector enjoys no specific forms of assistance, the public authorities implement various general measures for the benefit of the sector. In particular, under the Belgian laws governing expansion, assistance is provided in the form of advances repayable under certain conditions and intended for the development of a civil transport aviation programme.

"In the field of civil aviation, however, the role of government is closer to that of financier than that of customer. It has l ng been UK Government policy to support promising civil airframe and aero-engine projects which require funding on a scale such that it would be unreasonable for a commercial company to lock up so large a proportion of its available funds in a single project; hence Government is prepared to step in and bear part of the equity risk. Under the present system of launching aid, which dates from 1960, the initiative lies with aircraft manufacturers to submit a proposal for Government assistance on a particular project. The technological factors, commercial prospects and total costs of the project are then thoroughly appraised by the Government and, if it is decided to support the project, the Government normally agrees to contribute up to 50% of the estimated total launching costs - these comprise the cost of design and development, jigs and tools and "education", that is, the higher labour costs which occur on early production aircraft. Government launching aid is given within a fixed maximum which is not normally increased if the project costs exceed the initial estimate, i.e., the company bears the risk of overruns.

"In return for its contribution, arrangements are made for the Government to recover its investment by taking a share of the proceeds from sales. This share is agreed in advance and is set at a level which will ensure that the Government's contribution to the launching costs is repaid when a predetermined number of aircraft are sold. If more than that number are sold, Government makes a "profit"; if less, the Government will recover only a proportion of its outlay. Launching aid is thus a risk-sharing partnership; it is not intended to be a subsidy." (Extract from a Department of Trade and Industry document.)

Differences in the resources employed as well the wide variety of percentages in respect of the costs covered add to the considerable disparities existing between the various systems of national aid.

Aid earmarked for the manufacture of aircraft in the EEC

Germany

1. Credits entered in the national budget for the development of civil aircraft prototypes up to the series production stage.

2. Subventions from public funds, the State and the Länder.

Form of aid

Interest-free loans to manufacturers or grants to a maximum of 60% of the development costs. This figure may be exceeded in the case of experimental projects or projects carried out jointly at international level.

Repayment

Aid is repaid in proportion to sales success. In the event of failure, the loans may be converted into outright grants.

France

- Credits entered in the national budget for the research and development of civil aircraft equipment.

- Credits granted in accordance with the so-called "Art.90" procedure for the development of certain aeronautical equipment.

- Under the heading of development and in the case of large-scale programmes of national interest in the field of civil aircraft manufacture, assistance with series production is available in France in the form of Treasury loans and government guarantees in the event of sales losses.

Form of aid

State participation in the costs of research and development on a sliding scale basis (in some cases up to 100%) depending on the nature of the programme under consideration.

Repayment

Repayment of state loans takes the form of deductions on the proceeds from sales. The number of sales required for total repayment of state loans can vary according to the programme under consideration.

Netherlands

- "Revolving" funds drawing on state resources and placed at the disposal of a specialized agency: "Dutch Institute for Aeronautical Development NIV" (civil and military aircraft). This agency was set up by act of law.

Form of aid

Funds placed at the disposal of the NIV enable this agency to direct and facilitate research and the production of aircraft and aeronautical equipment by placing orders with industrial firms. Projects approved by the NIV receive 100% financial backing from this agency.

Repayment

Funds committed by the NIV are recouped, as far as possible, on series production sales and through the granting of licences on aircraft manufactured as a result of an NIV order.

Germany

Basis in law

1. Directives of 15 July 1968 by the West German Ministry of Economic Affairs (Bundesanzeiger, 26 July 1968, No. 137).

   Annual figures:

   1967 : DM 30 million
   1968 : DM 54 million
   1969 : DM 79 million
   1970 : DM 150 million

2. Directives of 29 May 1969 by the West German Ministry of Economic Affairs (Bundesanzeiger, 11 June 1969, No. 104).

France

Basis in law

a) Overall budgetary provisions.

b) Application orders in the Conseil d'Etat.

c) Interdepartmental application orders.

d) Credits granted in accordance with the so-called "Art. 90" procedure (Art. 5 of the amended appropriation bill No. 63.1293 of 21 December 1963, superseded by Art. 90 of the appropriation bill No. 67.114 of 21 December 1967, application order No. 64.1123 of 12 November 1964, superseded by order No. 70.388 of 24 April 1970).
   32 million francs earmarked for 1970 (civil aviation).

Overall budget for 1970 (covering, in particular, the Concorde, Airbus and Mercury projects): FF 1,000 million authorizing the programme.

Netherlands

Basis in law

Law of 24 February 1955.

Official Journal No. 107, 29 March 1955.

General or regional aid for the manufacture of aircraft in the EEC

Germany	Belgium	France	Netherlands	Italy
1. Credits in the form of loans repayable under certain conditions for the development of civil aviation. 2. In the case of important projects it is intended that the Federal Government and the Länder shall provide guarantees. These guarantees will also cover series production.	Under the law of 17 July 1959 governing expansion the aircraft manufacturing sector (development) received aid amounting to FB 30 million in the form of a loan. In 1970, under the same law, aid totalling FB 452 million was granted in the form of a repayable advance.	Existing regional aid is not lumped together with aid granted for specific purposes.	The sector is not subject to the regulations governing general or regional aid.	The sector is not subject to the regulations governing general or regional aid.