Britain and the European Airbus

A Political History

By

Keith Hayward

Britain and the European Airbus: A Political History

By Keith Hayward

This book first published 2025

Ethics International Press Ltd, UK

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

Print Book ISBN: 978-1-80441-710-2

eBook ISBN: 978-1-80441-711-9

Table of Contents

About the Author

Keith Hayward was educated at the Universities of Lancaster and Manchester. He was Professor of International Relations at Staffordshire University from 1971 to 1997 and Head of Economic and Political Affairs at the SBAC from 1997 to 2004. Until his retirement in 2015, he was Head of Research at the Royal Aeronautical Society. He has published several books and over 100 chapters and articles on the defence and aerospace industries. He is spending his retirement either writing about contemporary aerospace issues or crawling through the National Archives at Kew researching the history of relations between the British government and the aerospace industry. He is a Fellow of the Royal Aeronautical Society and of the French Air and Space Academy.

Foreword

I have been professionally associated with the Airbus for almost all my career as an academic, lobbyist for the Society of British Aerospace Companies (SBAC), Parliamentary advisor, Royal Aeronautical Society analyst, and now as a part time aviation historian. I should perhaps immediately apologise for the hints of autobiography that have crept into some of the footnotes. Over the years, I have visited Toulouse and other Airbus factories in the UK and Germany. In this respect I must acknowledge the deep debt I owe to the late Derek Brown, Future Projects Airbus Industrie and ex-Hawker Siddeley, as well as the late Felix Kracht, who was responsible for organising the international production system, for their help in researching my earliest pieces on Airbus. I recall a tour of the original production facility in Toulouse with Felix in the late 1970s, who proudly showed me all four aircraft on the line – from little acorns would mighty oaks spring!

There are many other men and women from the 'Airbus family" who over the years have helped me better to understand the workings of the early Airbus operation, and the technology and industrial processes needed to bring the aircraft into being, to them many thanks. In researching my first book on UK civil aerospace policy, I met several of the British politicians and officials involved in early Airbus decision-making and I am grateful for the candour of their responses. A highlight was an interview with the late Sir Arnold Hall of Hawker Siddeley Aviation, to my mind, a major and still underrated figure in Airbus history. I should also acknowledge the observations of my US colleagues – especially Joel Johnson, formerly of the US Aerospace Industry Trade Association – who have watched the development of the European Airbus from a very different perspective. And in the spirit of full disclosure, I have received money from both sides of the US-European civil aerospace trade dispute.

If there is one person to whom some blame might be attached for my lasting fixation with the political economy of aerospace it must be Roger (latterly Sir Roger) Williams, my research tutor at Manchester University. His suggestion in the early 1970s that a subject for my first academic article

might be the European Airbus was the first step on a long and slippery road. Thank you, Roger, I might just follow up on that idea.

I should also like to thank the nameless staff at the National Archive at Kew for their efficiency in fulfilling all my archival requests. Finally, to my 'team' of readers who have commented on earlier results of my research and drafts of this book – Richard Aboulafia and Ricki Moroni – many thanks for putting up with so much repetition of a private obsession with the European Airbus. I must also thank Eileen Scholes for running her editorial (and informed) eye over a draft of this work. A special thank you must go to Nick Stroud, the editor of *The Aviation Historian,* for his help and encouragement in writing about the politics of the aerospace industry. Several earlier articles on British civil aerospace and the Airbus for *The Aviation Historian* form the bed rock of this book.

However, the final responsibility for the errors and omissions in this book are mine, and mine alone.

Terminology

Modern parlance refers to an aerospace industry, a usage that came into being with the fusion of aircraft and the space industry in the late 1950s. I have chosen to refer to an *aircraft* industry in the text until the narrative reaches the early 1960s. From this point, usage reverts to an *aerospace* industry. Monetary values are expressed as input costs, and unless specified, I have not accounted for inflation.

Ministerial Responsibility for the Aircraft/ Aerospace Industry, 1943–2024

Ministerial responsibility for the aircraft/aerospace industry has been subject to several name changes over the years. I have simplified nomenclature in the text, for example referring to a Department for Trade and Industry (DTI) between 1972 and 2007, even though it was subject to several minor changes in title.

For the record, the exact list of ministry titles is as follows:

1940–45	Ministry of Aircraft Production (MAP)
1945–59	Ministry of Supply (MoS)
1959–66	Ministry of Aviation (MoA)
1966–70	Ministry of Technology (Mintech)
1970–72	Ministry of Aircraft Supply (MAS)
1972–74	Department of Trade and Industry (DTI)
1974–83	Department of Industry (DoI)
1983–2007	Department of Trade and Industry (DTI)
2007–08	Department for Business Enterprise and regulatory Reform (BERR)
2008–17	Department for Business, Innovation and Skills (BIS)
2017–23	Department for Business, Energy and Industrial Strategy (BEIS)
2023-	Department for Business and International Trade (DBT)

Abbreviations

AFVG	Anglo French Variable Geometry (aircraft)
AI	Airbus Industrie
AIWP	Aircraft Industry Working Party
ATMR	Advanced Transport Medium Range
ATP	Advanced Turbo Prop
BAC	British Aircraft Corporation
BAe	British Aerospace
BAES	BAe Systems
B-Cal	British Caledonian
BEA	British European Airways
BOAC	British Overseas Airways
CCSRD	Committee on Civil Scientific Research and Development
CPRS	Central Policy Review Staff
DOC	Direct Operating Costs
DoI	Department of Industry
DoT	Department of Trade
DTI	Department of Trade and Industry
EEC	European Economic Community
ELDO	European Launcher Development Organisation
EU	European Union
GATT	General Agreement on Tariffs and Trade
GE	General Electric
GIE	Groupement d'Interets Economique
HSA	Hawker Siddeley Aircraft
ICJ	International Court of Justice

IAE	International Aero Engines
JET	Joint European Transport
MAP	Ministry of Aircraft Production
MAS	Ministry of Aircraft Supply
MDD	McDonnell Douglas
Mintech	Ministry of Technology
MoD	Ministry of Defence
MoD PE	MoD Procurement Executive
MoS	Ministry of Supply
MoU	Memorandum of Understanding
NEB	National Enterprise Board
P&W	Pratt and Whitney
RAE	Royal Aircraft Establishment (Farnborough)
RLI	Repayable Launch Investment
RO	Royal Ordnance
SBAC	Society of British Aerospace Companies (formerly Society of British Aircraft Constructors)
SNECMA	Société Nationale d'Etudes et de Construction de Moteurs d'Aviation
SST	Supersonic Transport
WTO	World Trade Organisation

Introduction

Dressed in 'hi-vis' vests, British politicians now regularly visit the various Airbus UK factories in the UK, admiring the superb technology and the fine manufacturing and developmental facilities that a large amount of public money has helped to create. There is no doubting the pride they share in seeing the results of a huge government and corporate investment; a tribute to Britain's contribution to a truly European industrial achievement that even Brexit cannot remove. The European Airbus, the product of some 60 years of cooperation between the aerospace industries of Britain, France, Germany, and Spain, represents a triumph of collective European engineering. Flash back to the 1970s, and British politicians would be more likely to have wrung their hands at the costs of supporting anything like the Airbus; indeed, then the Airbus would have been considered one of the Albatrosses of public policy. As the adage has it, 'success has many parents; failure is an orphan'; at the time few British politicians and I suspect many civil servants would have bet in 1971 on a UK civil aerospace industry of any size lasting much beyond the decade. The reason for the pessimism would undoubtedly have been a legacy of failure and the convergence of several embarrassing events associated with civil aerospace projects.

In this context, what constitutes failure? I have a very simple view of what constitutes either success or failure in civil aerospace: it is not just technical advance or technological brilliance, although that certainly a necessary condition for success; to my mind, there is only one criterion that makes any sense, namely sales. If the project makes money for its investors, it has done its job. By this standard, few European airliners built between 1945 and 1980 made much money for their investors, public or private. There have been three clear successes by this touchstone, perhaps five.[1] This is a poor record by any benchmark. The British record was particularly abysmal, with only three reasonably successful airliners launched between 1945 and 1971; the engine sector had greater success, but not by that much. This 'legacy' of failure would cast a very long shadow, affecting Whitehall's view of civil aerospace in general and Airbus in particular up to the mid 1980s. For much

[1] The Vickers Viscount, the de Havilland Dove and the BAC 1–11 were clearly profitable as were the French Sud Aviation Caravelle and the Dutch Fokker F.27. The British HS 146 and the Avro/HS 748 also had some modest success.

of the post 1945 period, save those few honourable exceptions, European civil airliners struggled to match American aircraft. Working together, sharing development costs and widening initial markets should perhaps have made economic sense long before 1962, and advent of the Concorde supersonic airliner. But for the first twenty years after the Second World War, the key players, France, and Britain, were competitors, and several other potentially important European aerospace industries were hampered by post war political restrictions on the re-creation of a domestic aircraft industry. In time, economic and commercial realities drove these reluctant actors together. Even then, the first decade or so of European cooperation, industrial and political factors created major obstacles to effective collaboration, including differences in company ownership and imbalances in national capabilities. As a result, convincing all concerned that working together was altogether a better strategy than carving up a small share of American leftovers, would require many more years to change attitudes and behaviour towards collaboration in a positive direction.

Aerospace was, and still is, fundamentally a 'political industry', touching directly on national security and the promotion of vital national technological and corporate interests. It is inhabited by 'government-orientated' companies, largely dependent on some form of state support irrespective of formal ownership. Although a civil capability was not needed directly to sustain a national defence capability, there were some valuable technical links and counter-cyclical economic effects in possessing both. Civil aerospace could also have an intrinsic political resonance complicating what should be a purely commercial enterprise. In this respect, it was inevitable that the Airbus began life as very much a 'political' venture, albeit with some commercial intentions. Its origins and much of its early development were directly associated with 'Europeanism' – a determination to beat off American domination of civil aerospace.

Ultimately, Airbus became more than just a single collaborative venture, evolving into a highly successful transnational aerospace and defence company. Along with Boeing, the Airbus family now forms one half of a global duopoly supplying large airliners to a world market. Despite heavy investment in civil aerospace, China, the one country with the ambitions

and resources to mount a challenge, is still a distant potential competitor.[2] Since the early 1970s, Airbus has delivered 15,227 aircraft and has a current order book of over 23,826. Considering that the *total* sales of *all* European airliners between 1945 and 1970 were less than 3,000, the scale of this success is obvious. Returns from the Airbus family have repaid with a substantial profit the *entire* UK public investment in British civil aircraft since 1945. While this figure does not allow for the effects of inflation, the direct and indirect returns from the Airbus 'family' will continue for decades, underlining just how valuable a public investment the Airbus has proved to be for the UK. Aerospace generally, with Airbus to the fore, is regarded as one of the few world class manufacturing sectors left in the UK.

Amidst the public relations benefits contemporary British politicians may try to extract from their photo-opps at Airbus factories , there is the less well-known story of how British governments nearly killed or seriously crippled the project twice in its early history and might have stymied the A320 'golden goose' at birth. This book recounts the political history of a European icon and of Britain's often chequered association with the Airbus. It covers in detail the years 1964–90, the most 'political' period in the history of the European Airbus, when its development and future was largely shaped by several governments. Using UK government archival material as well as interviews with people connected with these events undertaken for earlier works, it describes the often-turbulent relationship between the UK and its aerospace neighbours.[3]

---

[2] Embraer of Brazil produces a successful range of small airliners and is debating the launch of a 150-seat aircraft. The Chinese government has stated its intentions of building a capability to match Boeing and Airbus. The wholly state funded COMAC C909 is a medium size, medium range airliner recently introduced into service but has yet to win orders outside of China.

[3] These include, in date order, Keith Hayward "Politics and European Aerospace Collaboration", *Journal of Common Market Studies*, June l976; *Government and British Civil Aerospace,* Manchester 1983; *International Collaboration in Civil Aerospace*, Frances Pinter, London l986; "Airbus: Twenty years of International Collaboration*", International Affairs,* (64.l) Winter/Spring l988, pp.11–26; *The British Aircraft Industry,* Manchester 1989. At the time these were published, the public record covering the years from 1964 was closed and my research was based on open sources and interviews with industrialists, politicians and officials associated with the Airbus and the UK aerospace industry. Fortunately, the most vital years of highest political intensity and drama are now well within the 20-year rule limitation on access to UK public records.

It is a long and complicated story. The current success of Airbus has been over 60 years in the making; that is in itself an important point about the formulation of national aerospace policy and of the longevity of commitment needed if public investment in a high technology industry is to have any effect. To make sense of Britain's involvement in the Airbus programme, we must go back to the recreation of a British civil aerospace capability in 1945. Chapter 1 covers this 'back story', tracing the three decades prior to the launch of the first Airbus, which, for the British civil aerospace industry, was largely a history of commercial and sometimes technical failure. The chapter then considers the origins of European civil aerospace collaboration that began with the development of the Supersonic Transport (SST) Concorde, hinting of a breakthrough in the politics, and hopefully the economics, of UK civil aerospace. The chapter ends by describing the political context that triggered British interest in launching a European 'airbus'. Chapter 2 focuses on the origins and background to the Airbus programme and its official launch in 1967, the growing political disillusionment with the Airbus and European aerospace collaboration in general ending with Britain's official withdrawal from Airbus in 1969–70. Chapter 3 describes the political and industrial dilemmas posed by the competing European and American options for the UK civil aerospace industry, culminating in British membership of the Airbus Industrie consortium. Chapter 4 examines the launch of the Airbus A320, the project that finally nailed Airbus' success in world market. Chapter Five looks at the launch of the A330/340, which although politically were a less sensitive pair of projects, brought to the fore British concerns about the structure of the Airbus consortium. The chapter concludes with consideration of the origins of the US-EU civil aerospace subsidies dispute. A final Chapter reflects on the significance of the relationship between the Airbus programme and successive British governments. In recent years, while the relationship has become less direct, it remains an important feature of contemporary UK industrial and technology policy and is likely to remain so for the foreseeable future.

Chapter 1

Foundations of the European Airbus

British civil aircraft industry policy 1936–64 – so nearly but so far from success

The roots of Britain's connection to the European Airbus are long and deep, predating by a long way the official launch of the programme in 1967. An excursion into an earlier period of British aviation history is therefore a necessary precursor to understand the significance of Britain's sixty year involvement in the European Airbus. Bluntly, the past failings and weaknesses of Britain's civil aerospace industry was the primary motive in joining the Airbus consortium. This record, or perhaps better described as a legacy of failure would cast a long shadow over British government deliberations over the Airbus

Post war planning for the civil aircraft industry

The 1930s saw a series of prescient and effective steps in the development of British military aircraft and engines, including the early work by Frank Whittle on jet propulsion. However, British civil aircraft, except for de Havilland's superb range of light aircraft, were obsolete compared to their American contemporaries. Britain won the 1934 London to Australia air race with a custom built two-seat 'racer', but the second placed aircraft was an 'off the shelf' Douglas DC-2 airliner, forerunner of the iconic DC-3. The UK airliner market was largely shaped by Imperial Airways and its specific requirements for aircraft serving politically sponsored and protected services to the Middle and Far East – the so-called 'Empire routes". The aircraft it ordered from companies such as Handley Page were rarely wanted by other carriers.

Realising that UK civil aircraft were fundamentally uncompetitive in world markets, in 1936 the British Air Ministry issued a specification for an

advanced 'mail carrier', which de Haviland turned into the 22-seat Albatross airliner. Seven were produced before the Second World War ended all British transport aircraft development. The wider limitations of British designed airliners were also addressed by the 1938 Commission lead by Lord Cadman. Cadman recommended that the government should support a programme of advanced airliners for Imperial Airways and its Empire routes and that other domestic carriers be given "special grants to keep their fleets equipped with new British aircraft". Cadman also specified the kind of support that the industry might receive from government. This was to centre on a series of prototypes paid for by the Air Ministry, chosen from designs submitted by British aircraft companies.[1] The government responded with an allocation of £500,000 to support a programme covering the main classes of airliners. The government also agreed to increase subsidies to operating companies, with special attention given to "the question of obsolescence and replacement" of their equipment.[2]

However, events intervened to halt any concrete steps towards the supply of up to date British designed airliners. On the outbreak of war in 1939, the War Cabinet suspended most civil operations and decided that all its military transport aircraft needs would be met by American built aircraft. The primary focus of a rapidly expanding aircraft industry would be on combat aircraft. Research and Development would also be confined to projects initiated before the war or directly related to improving the RAF's capabilities, including further work on jet propulsion. However, following Cadman, the principle of direct state involvement in civil aircraft development was up and running and would be adopted by the wartime government and its immediate successor to sponsor a programme of post war civil aircraft projects.

The British aircraft industry ended the Second World War employing over two million people, a massive transformation from the largely 'cottage

---

1 *Report of the Committee of Inquiry into Civil Aviation* (the Cadman Report) Cmnd 5685, March 1938, paras. 49–62

2 Government Observations on The Report of the Committee of Inquiry into Civil Aviation by Lord Cadman, 1938 Cmnd. 5685, National Archives (NA) CAB24/275/23, paras 15–16. There was an indirect precedent; in 1924, the Labour government commissioned the construction of the R101 airship under contract to the Air Ministry at the Royal Airship Works, Cardington. At the same time, a Vickers subsidiary would build the R100 as a private venture.

industry' of the early 1930s. An industry of this scale was was clearly unsustainable in the post war world, especially when the government declared that there would be only a limited need for further production of military aircraft and postponed development of newer types. However, the problems of postwar industrial demobilisation and the needs of a greatly expanded British aircraft industry had been anticipated by the wartime Coalition government. Late in 1942 Lord Brabazon of Tara, one of the pioneers of British flight, was asked to consider what might be done to relaunch the civil aircraft industry after the war. His committee soon focused on a programme of possible civil prototypes. The Brabazon Committee had limited data on which to base its deliberations, but it was aware of the potential promised by jet propulsion and had some access to technical reports from the US, as well as the experience of American military transports operating in the European theatre. This information, however, offered little in the way of a commercial appreciation of the likely pattern of future civil requirements. Nevertheless, the Committee understood that unless something radical was done to address the deficiencies in British civil aircraft design, the UK would enter peacetime at a major technical and commercial disadvantage to the Americans.

From the outset, the political dimension of the Brabazon Committee's task was clear and explicit. Lord Beaverbrook, the first Minister for Aircraft Production, painted a picture of a post-war world where the US would use their technological superiority to dominate the market for air travel. He concluded,

> "We cannot give a lead to the Dominions unless we are in a position to supply British airplanes with British engines. If we fail to provide British airplanes and British engines for the Dominions at the end of the War, then the leadership of air routes in the Empire will pass to the US".[3]

It was evident to the Committee that meeting this 'threat' would require a massive investment in money and technical resources. In two reports between 1943 and 1944, Brabazon outlined a comprehensive programme of civil aircraft from long range trans-Atlantic land planes to smaller 'feederliners'. The Brabazon Programme eventually comprised eight aircraft,

[3] Memorandum by the Lord Privy Seal, 3rd December 1943, NA CAB 66/43/31

including the later addition of the huge Saunders Roe Princess flying boat. The inclusion of 'advanced' flying boats in the post-war plans underlined the mixture of radical and conservative thinking about the direction of post war aviation inherent in the Brabazon programme.[4] The 'advanced types' earmarked by Brabazon would be complemented by a series of 'interim aircraft', converted bombers or derivatives to meet the immediate post war needs of the revived UK airline industry. The final Brabazon 'programme' was thus a mixture of conventional and innovative designs, but too many proved to be obsolete on arrival and unlikely to provide effective competition against US aircraft. The best ideas exploited the British lead in jet propulsion, a technology that offered significantly more power, range and payload than the most advanced piston engines then available or under development. The two outstanding examples of these designs were the turboprop Vickers Viscount and the pure jet de Haviland Comet.

The government also acted to revive British airline operations, focusing on two new Public Corporations, British Overseas Airways (BOAC) and British European Airways (BEA).[5] The nationalised airlines, while required to operate in a commercial fashion, operations and especially aircraft procurement could be subject to ministerial direction 'in the national interest'. In practice, this meant the implementation of a 'buy British' policy wherever possible, creating a base domestic market for the Brabazon programme. This was exercised through direct ministerial direction, or effected by Treasury control over dollar expenditure, as a gatekeeper in any proposed purchase of foreign, almost invariably American, equipment. BOAC and BEA would be consulted in the development of UK aircraft, and their interests would be noted, even if they did not necessarily have a decisive role in shaping aircraft development policy or the design of specific airliners.

In 1945, the newly elected Labour government endorsed the Brabazon programme, allocating funds for prototype development along the lines suggested in the Cadman Report, backed by launch orders from the nationalised airlines. The direct role played by officials in shaping the aircraft industry's new projects was a wartime inheritance but was consistent with

---

[4] See Keith Hayward "British Flying Boat Development and the Impact of Rapid Technological Change; 1935–1953", *Nacelles* , Issue 11, 2022

[5] There was a third, British South African Airways, which was later absorbed by BOAC.

the Labour government's general views about the role of the state in the economy. The Atlee administration adopted the Brabazon types in the expectation of saving and generating foreign exchange and as a way of maintaining strategic capacity in the aircraft industry available for mobilisation in the event of another war. An ambitious civil programme would also provide some compensation for the deep cuts that affected military procurement from 1946. In terms of ownership, while the government instigated a wave of nationalisation encompassing the transport system, and coal and iron production, the aircraft industry, although clearly dependent on the state, escaped public ownership.[6] As an aviation minister told the House of Commons in 1948, "private enterprise does not exist in the aircraft industry: government power over funding and contracts afforded sufficient control over the industry to remove the need for nationalisation".[7] This was an early sign of what would become a deeply ambiguous relationship between the state and the British aircraft industry characterising much of the post 1945 period and lingering well into the 1980s.

Only two of the 'Brabazon programme' were unequivocal commercial successes, the de Haviland Dove 'feeder liner' and the Vickers Viscount. Several, such as the eponymous Bristol Brabazon trans-Atlantic airliner and the Saunders Roe Princess only flew as protypes; the Armstrong Whitworth Apollo and the Avro Tudor were technical as well as commercial failures. Airline input to aircraft development had mixed results. BOAC was enthusiastic about the Comet from the start, and swiftly endorsed de Havilland's proposal to turn a proposed jet 'mail carrier' into a fully-fledged airliner. The Comet would become the flagship of the post-war civil programme and with it, hopes for a market breakthrough. On the other hand, BEA's second thoughts about the Viscount encouraged the Treasury to suggest that the rival and technically deficient Armstrong Whitworth Apollo would be a better choice. The Treasury felt that too many aircraft had been started and this was an opportunity to cut numbers. Fortunately, the Ministry of Supply (MoS) which had taken over the MAP's functions in 1946,

[6] The exception was Shorts, nationalized in 1943 as an emergency measure triggered by chronic managerial failings.

[7] House of Commons, 27th July 1948

maintained support for the Viscount until BEA reversed its opinion and confirmed its orders for the aircraft.[8]

In the late 1940s, following a fatal Tudor prototype crash, the government undertook a review of its civil aircraft and aviation practices. The Hanbury-Williams report of 1948 recommended a re-evaluation of the Brabazon programme and especially, the relationship between aircraft development and airline procurement. This led to the adoption of a more commercial orientation, with the needs of BEA and BOAC expected to have a more direct role in the development of aircraft, and not just procedures reflecting solely ideas from the aircraft industry. In future, the Air Corporations would initiate work on new aircraft based on their requirements; these ideas would then be discussed with the MoS and other relevant ministries, leading to specific requests for proposals put out to industry. The Corporations would fund prototype development as 'launch orders', but with "highly speculative" concepts still supported directly by the MoS. This system was in fact much like the procedures used by the MoS and the military Services to develop and buy military aircraft.[9] The government would also underwrite a programme of general civil aircraft R&D carried out primarily by the Royal Aircraft Establishment (RAE) Farnborough and some universities.

These principles were enshrined in the Civil Aviation Acts of 1948 and 1949, assigning legal authority for state intervention in civil aircraft development. The legislation was permissive in that the government was "authorised to use public money to support the design, manufacture and maintenance of civil aircraft and engines", without specifying the exact form that this might take. The 1948 and 1949 acts provided the legislative authority for intervention in civil aerospace that has lasted to the present. The Air Corporations now formally had the freedom to choose aircraft that satisfied their commercial and technical requirements, but, and a very important qualification, with ministers retaining powers to issue "general directives in the national interest". Continued government control over airline borrowing (as well as Treasury authorisation for the dollars needed to order foreign

---

[8] Treasury Memorandum, *Viscount Prototypes*, 27th January 1948, NA T225/644; Memorandum from MoS to Treasury, 13th January 1948, NA T225/644

[9] Keith Hayward, "More of an Art than a Science – from MAP to MoS, Britain's Post-war Procurement Policy", *The Aviation Historian*, Issue No, 49, pp 10–18

airliners), still left considerable scope for exerting political leverage over airline procurement; the 'Buy British' policy was never that far from shaping BEA and BOAC purchases.[10]

The private venture era

The Conservative government elected in 1951 was set on changing the way civil aircraft development was funded. The new government was unimpressed by the Brabazon Programme and wanted to abandon the systematic promotion of British airliners. There were a few hopeful signs that the Viscount, the long-range turbo prop Bristol Britannia and above all the Comet, might create a self-sustaining, export orientated civil sector. These few successful projects would be the basis of the "private venture" policy – never formally prescribed as such, but which was the touchstone of policy towards civil aircraft development until 1960. Private capital, orders from the nationalised airlines, and possible links between the development of military transports and a civil project, would finance future British airliners. This was exactly the format underpinning the launch of the Boeing 707, which was based on a military tanker-transport design and in some respects seen as a model for the new approach to UK civil aircraft development.[11] To some extent, industry welcomed the shift in policy; Vickers was chaffing at the rate of return specified in the original Viscount MoS contract and was more than happy to launch a bigger turbo prop aircraft, the Vanguard, as a private venture underpinned by a launch order from BEA. However, a lot hung on a long and consistent run of successful 'private ventures' to justify ending direct support for civil projects.

This still left the de Havilland Comet as the flag ship of the old Brabazon programme. At this distance, and in the light of hindsight, it is perhaps difficult fully to appreciate the powerful impact the Comet had on the post 1945 imagination. This was *the* glamorous product of an otherwise lacklustre Brabazon programme. From its first flight in July 1949 politicians and newspapers alike viewed it as a gleaming symbol of Britain's re-emergence

[10] Hayward (1983), *op cit*, p. 18

[11] Boeing still had to invest heavily in the 707, which constituted something of a gamble. Douglas launched its DC-8 wholly as a private venture.

as a technological power and of its economic recovery generally from post war austerity. It was regarded as a potential world-beater, the vanguard of a glowing future for the UK aircraft industry. Lord Swinton, the Minister for Materials told the House of Lords in July 1952, "we may not only get orders which airlines all over the world may want to place, but we may have collared the market for a generation. This is one of the greatest chances we have ever had". Optimism was buoyed by orders from the leading US airline Pan Am, and other overseas airlines such as Air France.[12]

By the early 1950s, the Comet 1 was coming along well; according to MoS officials "at present the Americans have no aircraft which could compete with the Comet, but it would be wise to assume that in three years' time their development would have caught up and perhaps have passed the Comet in its present form". This was a hint of the limitations of the de Havilland Engines Ghost that powered the aircraft; for all its wonderful 'modern' lines and smooth flight at altitude, the Comet 1 was limited in terms of passenger capacity and range. Its performance would have to be greatly improved to satisfy operators (including BOAC) flying the Atlantic. Further developments of the Comet 1 and a possible successor were on the MoS's agenda as early as 1950. The main change in design were brought on when BOAC and the MoS combined to replace the Ghost engine with the more powerful Rolls-Royce Avon. This was the basis for a larger, long-range Comet 3 that could fly across the Atlantic, and which was due to be in service well before the Boeing 707 or the Douglas DC-8.[13]

The Comet tragedies of early 1954 destroyed these ambitions and had a near catastrophic effect on de Haviland. Although the Conservative government wanted to wean the industry off public money for civil development, the possible collapse of an important military supplier like de Havilland was unacceptable. The government also wanted to save as much of the public money sunk in the Comet as it could. There was no question of half measures; "it is fair to say that any substantial nibbling at the details will result in a failure of the whole plan". Finally, from the MoS's point of view, a de Havilland bankruptcy would have a knock-on effect for the UK aircraft industry, and "endanger the plans of others – e.g. Bristols – to break into

[12] Keith Hayward, (1983) *op cit*, p.19

[13] MoS Note, 18th September 1950; Minutes of a Meeting between MoS and BOAC, 4th October 1950; MoS Note, 15th September 1950, NA AVIA 55/8

world markets".[14] Although the MoS elevated saving the Comet almost to a patriotic act, it was conscious of the political sensitivity of bailing out a privately-owned company:

> "It seems essential that we should give de Havillands no more help than is necessary to preserve our interests and that we should avoid at all costs avoid laying ourselves open to the charge that de Havilland shareholders have been aid their dividends out of public funds. If Ministers decide to proceed with a plan on these grounds, they stand in danger of being attacked. Equally obviously they will be attacked if it is decided to let de Havilland fail – not only on absence of courage but also because of the very big investment we already have in de Havillands which will be lost – or largely lost – if they do fail".[15]

The bailout comprised a £1.6 million government loan to de Havilland; there was some risk that this might not be repaid or repaid slowly, "but in all the circumstances it seems that this would be a very small price to pay for safeguarding the major interests at stake". The MoS also demanded that de Havilland had to concentrate on delivering Comet 2s for the RAF, a requirement that helped further to delay the arrival of the Comet 4, which in the event was only just ahead of the Americans.[16]

The Comet 1 failure and the protracted development of the Comet 4 ended hopes of dominating world markets. Adding more woes to the UK civil aircraft industry, a civil version of the Vickers V.1000 military transport (itself based on the Valiant bomber), the VC.7, which might have entered the market before the Comet 4, was rejected on cost grounds by both the

---

[14] Note by MoS official 21st October 1954, NA AVIA/63/26; The government and de Havilland would argue about the levy until the late 1950s, with at one stage the company pleading for a reduction of the Comet 4 levy to compete for sales to American airlines. See Keith Hayward, "The Knife's Edge; the DH Comet and the British Government – the bail out", *The Aviation Historian,* Issue No. 40, Summer 2022, pp. 100–108 and "A Life in Politics, the De Havilland Comet & the British Government," *The Aviation Historian,* Issue No. 39, Spring 2021, pp. 83–88

[15] MoS review of Comet Programme, 7th October 1954, NA AVIA/63/26; MoS Note, 21st October 1954, AVIA/63/26

[16] MoS review of Comet Programme, 7th October 1954, NA AVIA/63/26; Hayward (2021) *op cit*. The Comet was the first jet airliner in service on Atlantic routes in October 1958, a few weeks ahead of the Boeing 707.

RAF and BOAC. The V.1000/VC7 would have followed the exact route as the Boeing 707, perhaps vindicating the 'private venture' policy.[17] The cancellation in November 1955 caused the government considerable embarrassment, described by one Tory MP as "one of the most disgraceful, most disheartening and most unfortunate decisions ever taken by a Minister responsible for aviation". He went on to predict that BOAC would soon be looking to buy an American aircraft, which was exactly the case, when, early in 1956, BOAC asked permission to order the Boeing 707 to cover its long-range services. As a face saver, the BOAC aircraft would use Rolls-Royce Conway engines. BOAC was also directed to buy a British design to meet its other specialised route requirements.[18]

In the mid 1950s, BOAC and BEA were both in the market for new aircraft. BOAC needed an aircraft for its 'Empire routes' down to South Africa, an especially demanding specification requiring a challenging 'hot and high' airfield performance. In 1956, BOAC and Vickers agreed to launch the VC.10 'tailored' to meet these special needs – many of which were obviated by airport improvements sponsored by American aid enabling less specialised aircraft to operate safely on the 'Empire routes'. Although the basic design was later modified at some cost as the 'Super' VC.10 to compete against the American jets on the Atlantic, it was a commercial failure. More egregiously, the British response to the French Sud Caravelle, the de Havilland Trident, was so 'tailored' to meet BEA's changing requirements that cost the UK another lead over a Boeing competitor. 'Tailoring' was an inevitable result of the 'Buy British' policy – the *quid pro quo* for supporting domestic suppliers. Both BOAC and BEA lost money following delays in deliveries of British airliners such as the Vickers Vanguard and the Bristol Britannia. They also had to carry the costs of 'proving' new airliners, in effect performing and paying for the pre-service testing of new aircraft. The private venture policy and the perhaps inevitable 'tailoring' of designs to a single airliner requirement was disastrous for both the aircraft and the airline industries; it was one of the main reasons for the parlous state of the British civil aircraft industry in the early 1960s.

---

[17] See Keith Hayward, "The Blame Game – Vickers V.1000: the ultimate political football?" *The Aviation Historian,* Issue 14 January 2016. It is debatable whether the VC.7 would have matched either of the American jets.

[18] Hayward (1983) *op cit*, p.23

Rationalising the aircraft industry

By the mid 1950s, it was evident that British firms lacked the scale and scope to compete with the Americans. Early attempts to rationalise the industry were put on hold in response to the Korean War rearmament programme; however, by 1955 the "candidates for relegation", identified by the MoS in 1950, were back in the frame. There were, however, few attempts strategically to direct industrial rationalization, forcing firms with matching capabilities to merge, as the French were doing. The aim was to "nudge or edge" the industry into stronger units using a "selective allocation of contracts to bring about the measure of coalescence in the aircraft industry".[19] This approach worked best on the military side of the industry, where the MoS could directly influence events, forcing English Electric and Vickers to collaborate on the TSR.2 bomber. Ministers had less success in shaping the consortium assembled by de Havilland to develop the Trident. The MoS wanted the contract to go to a Hawker-Bristol partnership but had to settle for Airco, a de Havilland led consortium of smaller companies such as Hunting. However, the effect of other government decisions, primarily major changes in the size and direction of defence spending called into question the appropriateness of such a 'hands off' approach.

The 1957 Defence White Paper, announcing a swathe of cancelled military aircraft projects, had a serious impact on the industry. In response, the government set up an inter-departmental committee, the *Aircraft Industry Working Party* (AIWP), chaired by Sir Thomas Padmore, a senior Treasury official, to review the impact of the Sandys cuts on the aircraft industry and to suggest ways of ameliorating the situation.[20] In 1958, Padmore delivered his report, which concluded that the way forward for the industry was to encourage an export-led civil sector.. The civil market was expected to grow quickly into the 1960s with air traffic doubling between 1955 and 1961 and again up to the end of 1967, implying a potential market for some 8,000 aircraft. The UK was preeminent in aeroengines, but "a comparable status has not been won for British civil aircraft". Padmore had to admit that of the leading British airliners, only the Viscount had achieved much success.

---

[19] House of Commons Select Committee, *The Supply of Military Aircraft*, Session 1956–7, HC34, para. 115; Keith Hayward (1983) pp. 29–30

[20] *First Report by the Aircraft Industry Working Party*, 18th April 1958, NA AVIA 65/1084. For similar reasons, the MoS also supported the Fairey Rotodyne.

As a result, the UK had less than 14% of the world airliner market. Looking to the future, Padmore concluded that new projects would cost much more than the current generation and to meet the technical and financial challenges implied by this trend, British aircraft companies would have to be larger and less dependent on the state. The UK had to adapt quickly or lose its aircraft industry,

> "For reasons of history and because of the multiplicity of the military requirements which have hitherto been its main business, the aircraft industry at present consists of many units, most of which are too small and too weak to carry unaided the great costs and risks in the development of new aircraft."[21]

Padmore's grim assessment underlined the need for larger and more capable companies., but without specifying how this might be best accomplished.

The MoS remained optimistic that the indirect approach to rationalisation would still be strong enough to induce the necessary changes in industrial structure. 'Nudging and edging', albeit not always in the direction desired by officials seemed to be working. English Electric and Vickers were forming the core of a military grouping; even if the Airco group was not on the same scale, it was better than nothing. The MoS was still set on reducing the overall level of spending on civil aircraft and engines; the private venture policy, combined with the emergence of a stronger more concentrated industry, would produce a more competitive industry able to fund its own civil projects. The government would still also support civil aircraft R&D, then to the tune of between £117–147 million a year, as well as selected "advanced projects" such as research on a supersonic airliner.[22] Events soon exposed this to be totally optimistic and unrealistic; a more direct approach was urgently required. By 1960, pent up financial problems were blowing a gale through the industry; several of the leading aircraft firms were in a dire condition financially, with Bristol and Vickers very close to bankruptcy. Forced by this crisis, the government was forced to take a more active role to create larger and hopefully more economically sound units. Step forward Duncan Sandys, who, as Minister of Defence in

---

[21] *Ibid*

[22] NA AVIA 65/1084 Memoranda from Treasury to Ministry of Supply, 5th and 13th June 1958; AVIA 65/1084, MoS note, 3rd July 1958

1957, had cut spending on military aircraft, now, as Minister for Aviation, he was going to save the aircraft industry.

Duncan Sandys was more than willing aggressively to force the pace of rationalisation.[23] Between 1959 and 1961, he used a mixture of inducement and coercion to create two aircraft and two engine groups. While in theory the exact composition of the rationalised industry was left to market forces and to the choices of individual firms, Sandys was prepared ruthlessly to employ Ministry power over contracts to 'punish' firms that did not fall in line and join one of the two aircraft groups emerging from his "marriage bureau". For example, Sandys did his best to bully de Haviland into a merger with Vickers and English Electric. De Havilland resisted Sandy's threats but was eventually forced to join the Hawker Siddeley Aircraft group (HSA). Vickers and English Electric formed the core of the British Aircraft Corporation (BAC), sweeping up Bristol (together with its SST research contract) and Hunting (along with a promising airliner design, which became the BAC 1–11). Westland acquired the helicopter assets of de Havilland and Bristol.

The government conceded that to complete rationalisation, the process needed a large carrot as well as threats; this came in the form of "launch aid" for civil projects.[24] The principles of launch aid were,

> "(1) In order to bring about the development of a project important in the national interest which it is reasonable to suppose would otherwise not take place; (2) To assist in financing a desirable project where the financial resources and prospects of the Company are such that without assistance it would be unable to undertake the whole of a desirable programme, or where the risk element is so great that the Company could not reasonably be expected to undertake it without government assistance. "[25]

---

[23] Keith Hayward, "Offers they couldn't refuse": Mergers in the British Aircraft Industry, 1957–62", *The Journal of Aeronautical History*, 2013.

[24] The major casualty was Handley Page, whose founder Sir Frederick Handley Page refused the terms on offer from HSA. The company eventually going into bankruptcy. See Keith Hayward, "The Collapse of Handley Page", *The Aviation Historian*, Issue 30, January 2020

[25] House of Commons Trade and Industry Committee, *British Aerospace Industry*, July 1993, HC 563, paras 80–86

Launch Aid was therefore conceived as a risk sharing partnership between the state and the aircraft industry. The government would advance a proportion of the estimated cost of a new aircraft or engine, which would usually be around a quarter and no more than a half of the cost. The fact that the company had to find the rest was there to preserve "financial discipline", reining back over optimistic and commercially dubious proposals. The government's share would be repaid through a levy on sales. Under launch aid the state was again directly funding individual projects, even if at some distance from detailed technical and commercial decisions. Launch Aid also ensured that the government retained an indirect influence over the strategic direction of privately owned companies.[26]

The merry-go-round of pressure and inducement with little central direction over the members of each group or the effects of each combination, was in stark contrast to the French approach to the same problems; across the Channel there was a clear plan to create 'national champions' in the various industrial sectors. Instead, the UK was left with two major civil aircraft design centres, Vickers Weybridge and de Havilland Hatfield. The failure to unite these in a single strong unit would be one of the many 'what ifs' of the Airbus story; the following decade of competition between the BAC and HSA design centres would be a disruptive factor in the coherence of government policy towards the Airbus until the creation of British Aerospace (BAe) in 1978. Ostensibly each group was supposed to fight for government business; in practice, the government would tend to distribute contracts to ensure a roughly equal workload for the big companies. – described by commentators as the principle of 'Buggins' turn'. On the aircraft side, this appeared to make some sense, with the semblance of competition, but in the engine sector the results were not even superficially as effective.

Rolls-Royce was untouched by the 1960 mergers; however, the MoS brought together several other engine firms forming Bristol Siddeley Engines (BSE), hopefully to provide more effective domestic competition. Even so, Rolls-Royce remained unquestionably the jewel in the UK aircraft industrial

[26] For a detailed review of the launch aid system, see Keith Hayward, "Funding British Civil Aerospace Projects: The Politics of Launch Aid" *Journal of Aeronautical History Paper* 2023. Despite the limitations of launch aid, companies have consistently opposed the idea of a 'budget' for aerospace on the grounds that this might make investment in civil programmes even more vulnerable to Treasury interference.

crown; unlike much of the aircraft sector, during the 1950s it had performed well technically and commercially in both military and civil markets. BSE, on the other hand, while highly competent in military engines, was much weaker on the civil side. BSE's civil potential was soon bolstered by selection of the Olympus engine for the Concorde in partnership with SNECMA. This also brought a link with the American company Pratt & Whitney (P&W) with the possibility that BSE and SNECMA might build civil engines under licence from P&W. However, from the mid 1960s, disrupting this Franco-American connection would become a major Rolls objective.

Finally, the near bankruptcy of BOAC in 1963 stimulated a change in relations between the government and the nationalised airlines. The government had to reconfigure the role of the Air Corporations as automatic sponsors of British airliners; the 'Buy British' policy, if not replaced, had to be modified and its costs clearly laid out and paid for. Both BOAC and BEA demanded more forcefully and often very publicly, commercial autonomy over aircraft choices and if compelled against their wishes by ministerial direction, to be fully compensated for any additional costs. Following its near financial death (although legally as a nationalised company it could not be declared bankrupt as such) BOAC was the first to win some protection from government pressure to 'buy British'. Its independence was aided by the fact that the UK would not be involved in developing another long haul aircraft until the late 1980s. The Concorde would be the last order 'forced' on BOAC, and which would be backed by a comprehensive financial guarantee from the government covering its price and additional operational expenses. As the BEA fleet was entirely comprised of short and medium haul aircraft, it would remain more exposed to government policy directed at building precisely this class of airliners. It would bear the brunt of government intervention requiring the airline to order the European Airbus despite strong preferences for domestically produced alternatives.

Britain's Airbus partners

This book is primarily about the political history of British involvement in the European Airbus, but to understand events, we must consider the

character and interests of the other key members of the Airbus consortium, France and Germany.[27]

France

France was one of the pioneering aeronautical nations, leading development in aerodynamics and aeroengines. The aircraft industry was of comparable size to the UK and much of it nationalised in 1936 and public ownership remained the dominant form of political control in the post 1945 period was primarily a defence contractor. Although not entirely devastated by the war, much of the national industry was subsumed into German wartime production and re-establishing a domestic aircraft industry was a central objective of the French government after the War. Sud and Nord Aviation, the two main manufacturers of transport aircraft were in public ownership, and subsequently merged in 1970 to form Aerospatiale. The privately-owned Dassault, focusing on combat aircraft and executive jets, was not interested in large civil aircraft manufacturing until the 1970s, when it launched the commercially Mercure airliner. The Mercure proved to be a total commercial failure, but during the early 1970s the French government would briefly include Dassault in discussions about European possible airliner projects.

The French aero engine industry was largely nationalised in 1945, with the formation of the *Société Nationale d'Etudes et de Construction de Moteurs d'Aviation* (SNECMA). Initially based on German wartime designs, SNECMA developed a family of military jet engines mainly for Dassault and other French military aircraft but was technically the junior to either of the two British groups in civil engines. In 1961, SNECMA and BSE were chosen to develop the Olympus for the Concorde. French sensitivities over the relative weakness of its engine sector would affect later negotiations with the UK over both military and civil aerospace collaborative projects. France would also seek to improve the quality of its avionics and equipment sectors, with all three industrial sectors eligible for the French equivalent of launch aid. Founded in 1933 and one of the world's oldest airlines, Air France built an international airline network covering its colonies and South America. In the 1950s, Air France bought a mixture of American and British equipment,

[27] This is not to forget Spain, which joined Airbus Industrie in the early 1970s, but has been a relatively unimportant player in the *political* history of the programme,

including the Comet 1. As a publicly owned company, it was expected to choose French aircraft if available. The airline rarely confronted the government over aircraft procurement.

From the late 1940s, French governments adopted an overtly interventionist and synoptic approach to building up the national aerospace industry. The governments of both the Fourth and, from 1958, Fifth Republic conceived large scale plans for post war economic and industrial modernisation, which included military and civil aerospace. Under General de Gaulle, French President from 1958 to 1969, this had more deliberate nationalistic overtones, embracing strategic independence from the US and promoting a French-led European aerospace industry. Aerospace exemplified all the totems of an advanced technological and military leader; as a 1977 French Parliamentary report noted, "more than any other sphere of activity, aerospace is a test of strength between states in which each participant deploys his technical and political forces"; as such the state was "an omnipresent actor" in aerospace affairs. [28] The desirability of maintaining strategic autonomy would clearly shape French military aircraft policy, where most French requirements were supplied from domestic sources. However, while transport aircraft and civil airliner programmes were more open to international collaboration, wherever possible they should ideally be led by French companies.

From 1946, the French government sponsored several civil projects but with little initial success. In 1951, the governmental *Comité du Matériel Civil* (civil aircraft committee) took a decisive step to remedy this deficiency, issuing a general specification for a mid-range, 55–65-seat airliner fully funded by the state. In March 1952, three designs out of 20 submissions were short-listed. As specified by the *Comité*, all three were to use the Rolls-Royce Avon engine. The winning submission was the rear-engined Sud Aviation Caravelle, incorporating the Comet nose area and cockpit design under licence from de Haviland as well as the Avon. The French government ordered two prototypes and two static test vehicles. The Caravelle flew for the first time in May 1955 and entered service with Air France in 1959. The aircraft had an immediate impact on the market, promising 'jet' speeds and enhanced comfort. Although as a pure jet it was more expensive to operate

[28] Cited in Hayward (1986), *op cit*, p.38