



SOWING THE WIND

THE EUROPEAN FIGHTER AIRCRAFT PROJECT, 1980-88

Digging deep into the archives **PROFESSOR KEITH HAYWARD FRAeS** uses official papers and contemporary documents to examine the political manoeuvring behind the multinational development of the European Fighter Aircraft project of the 1980s, which ultimately splintered to forge the creation of the Eurofighter Typhoon and France's Rafale

IN THE EARLY 1980s Europe had an opportunity to create a military aerospace grouping equivalent to Airbus in the civil sector. The failure to reach agreement on a five-nation advanced combat aircraft forced a long-lasting schism in European aerospace between the UK and France. Ultimately the multinational European Fighter Aircraft (EFA) project collapsed, owing to fundamental differences of military, technical and industrial interests. The result was the concurrent launch of two competing projects — the Eurofighter EF2000 (Typhoon) and France's Dassault Rafale — the effects of which continue to divide European aerospace to this day.

advanced concept needing considerable extra development and a new engine. In May 1983 BAe and the Ministry of Defence (MoD) jointly funded a technology demonstrator, the Experimental Aircraft Project (EAP), to support the development of an advanced combat aircraft. The EAP was conceived as a multinational programme to attract the Panavia group, comprising West Germany, Italy and the UK, but as the French had also begun work on a similar concept — Dassault's *Avion de Combat Expérimental* (ACX) — the West German government put pressure on Messerschmitt-Bölkow-Blohm (MBB) to withdraw from the EAP programme "to preserve a status quo vis-à-vis the French and ourselves in the EFA studies".²

THE ORIGINS OF EFA

In the UK the RAF began to consider a new Tactical Combat Aircraft (TCA) in the early 1970s. British Aerospace (BAe) proposed the P.110, a highly agile twin-engined fly-by-wire single-seat design powered by an improved version of the Turbo-Union RB199 turbofan engine. The P.110 was regarded as a vital step to maintain British military aerospace capabilities. Indeed, a Treasury memo of April 1982 states that without it, "BAe will forfeit its design capability in the field of conventional combat aircraft. Any further needs of such aircraft for the RAF will have to be supplied from foreign sources, probably from the USA or France".¹

The P.110 was superseded by the Agile Combat Aircraft (ACA) project, a more

It seemed logical, however, that all four European nations looking for a new fighter should consider a single collaborative programme, and in early 1984 talks began between France and the Panavia group. From the outset there were critical differences between the British and French design concepts. The French wanted to protect exports of the Dassault Mirage 2000 single-engined multi-role fighter, and the French government was also determined to improve indigenous powerplant manufacturer Snecma's military engine capability, in particular its M88 afterburning turbofan designed for the ACX. There were significant divergences in military requirements; the UK wanted the extra range and weight provided by two engines — the "12 tonnes" concept. The French preferred a much lighter single-engined "8.5 tonnes" design, which the West Germans also favoured. In private, the



ARRANGEMENT
designed to demonstrate outstanding performance characteristics. These result from a combination of aerodynamic, structural and weapon carriage features which include:
- standard configuration optimised for carefree manoeuvring and high rates of turn at all speeds and altitudes
- compound sweep wing with active leading and trailing edge controls. These are scheduled with incidence and Mach No. to give optimum lift throughout the flight envelope
- twin advanced RB 199 Mk.104 turbofan engines
- variable geometry chin intake to maximise intake performance at all incidence and speed conditions
- single-seat electronic cockpit with multi-function colour displays
- low drag carriage of a wide range of air-to-air and air-to-ground stores



OPPOSITE PAGE, TOP In a rather stylish white-and-burgundy colour scheme, the full-scale EFA mock-up was displayed at the 1986 SBAC show at Farnborough. OPPOSITE, BOTTOM A collection of promotional items relating to various stages of the European fighter project, including a sticker for the Agile Combat Aircraft (ACA), an artist's impression of the ACA design, an EFA sticker and BAe's EAP brochure. TAH ARCHIVE