

NEWS AND VIEWS

Airbus Launched

NOBODY can claim that the negotiations about the European Airbus have been easy. Sometimes they have seemed endless, but when they were finally concluded on July 25 after a further eight hours of talks in Lancaster House, agreement was apparently secure. Mr John Stonehouse, for the Ministry of Technology, announced that the project will go ahead in the autumn. It will be a two engined 300 seater, using the Rolls-Royce RB 207 engine (a condition of British agreement), and will cost £190 million to develop, £130 million for the airframe and £60 million for the engines.

The aeroplane should make its first flight in 1971 and be in service in 1973. Airframe costs will be shared 37.5 per cent each by Britain and France and 25 per cent by Germany, and engine development will be shared 75 per cent by Britain with the remainder equally divided between the other two countries. In concrete terms, Britain will pay £91.25 million, France £53.75 million and Germany £45 million. Clearly Mr Stonehouse was willing to concede a good deal to get the project off the ground, including design leadership for the airframe, which goes to France. To make the project viable, British European Airways, Air France and Lufthansa will have to buy 75 aircraft, so that unit costs are likely to be about £2.5 million. Mr Stonehouse hopes to sell 300 models of the airbus by 1990, and expects at least some of these to go to American airlines. This may be unduly optimistic; airlines in the US are much more interested in three engined aeroplanes with greater range, and several of these are already on the drawing boards of American companies.

Cern Goes On

UNDETERRED by uncertainties about the 300 GeV proton accelerator, the management of Cern at Geneva is pushing on with schemes for the further development of high energy physics. For one thing, Cern has now signed an agreement with the Soviet Union for a joint programme of research on the 70 GeV proton accelerator which will be completed later this year at the Serpukhov Institute of High Energy Physics, 100 km south of Moscow. The organization has also signed a contract with the French and German governments for the development and construction of a bubble chamber filled with no less than 20 m³ of liquid hydrogen and intended for use with the existing 28 GeV proton accelerator. It will cost £7 million.

The Russian agreement, valuable in itself, will no doubt be followed by a similar agreement operating in the opposite direction if ever the 300 GeV machine is built in Europe. Negotiations have been under way for 18 months, and the agreement now signed will be valid for five years. Under the terms of the agreement, teams from Cern will be entitled to bid for experimental time on the Serpukhov machine, competing for the privilege before the appropriate laboratory committee with teams of Russian experimentalists. A programme

of counter experiments has already been designed. In return for access to the machine, Cern will provide for the Serpukhov accelerator pieces of equipment concerned with beam manipulation. A device based on a rapidly increasing magnetic field for extracting fast protons from the machine, of a type which has been operating successfully at Geneva for several years, will be a permanent gift. Cern will also supply a beam separator designed to prepare a beam of high-energy kaons, and this will remain on loan to Serpukhov for ten years.

Less Defence Science

RESEARCH and development financed by the British defence budget is likely to remain at a standstill for the next three years at least. As part of the cost cutting operation announced in a government White Paper on July 18, research and development costs will be reduced by £30 million from the level planned for the year 1970-71. This represents a cut of just over 10 per cent of the intended budget, which can therefore be assumed to have been in the range £290 to £300 million. The budget for 1967-68 is £260 million, so Mr Healey will be holding expenditure at a constant level at least until 1971.

The ministry is not saying where the cuts will be made—indeed it is doubtful whether that has yet been decided. One problem may be that a large slice of the budget is not directly under Mr Healey's control. A sum of almost £245 million, £188 million of it directly concerned with research and development, is paid through the Ministry of Technology vote, although it is included in the global totals for defence expenditure. Most of this sum—£171 million—is for research and development carried out by industry, and only £17.2 million covers work done in the ministry establishments. Thus, although the establishments cost a grand total of £56 million to run, the defence figure includes only £17 million of it. On this basis, the work of the establishments—including the Royal Radar Establishment, the Explosives Research and Development Establishment, and the Royal Aircraft Establishment—is 70 per cent civil and only 30 per cent military. Even this £17 million does not come under Mr Healey's control. Unless Mr Benn himself starts to wield the axe (which is not impossible) the establishments look relatively safe.

The industrial research and development work looks a more likely target, although again it is Mr Benn and not Mr Healey who will have to make the decisions. Of the total research and development figure for the defence budget, aircraft take the lion's share—£107 million, or 41 per cent. Great savings could clearly be made by dropping aircraft projects, or simply by admitting that the swing wing aircraft which Mr Healey was hoping to build with France is now a lost cause. Other projects in this section of the budget include development work on the Spey engined Phantom aircraft, the vertical take off Harrier (P 1127), the Sea King, a helicopter being developed for the Royal Navy, and two experimental hovercraft designed for military purposes. A limited amount of work on the F 111 and the Anglo-French helicopter agreement have also been approved. Guided weapon research this year will cost £53 million and electronics research £27 million.