

## European research

## Community agrees on Esprit

## Brussels

COULD research bring Europe together again? It almost seemed so in Brussels last week, where an extraordinary meeting of research ministers saw Britain not only giving the go-ahead for the Esprit programme for research in information technology but actually suggesting an increase in its budget.

At the Athens summit last December, which ended in chaos, Britain and West Germany had blocked the start-up of Esprit pending agreement on much wider financial issues — including Britain's "subscription" to the Community and the matter of vast agricultural surpluses. Since December, West Germany has indicated that it would lift its objections to the programme but the British position showed no signs of moving.

That was changed last week by the British information technology minister, Mr Kenneth Baker, who agreed that Esprit should go ahead with a Commission commitment of 750 accounting units (AU) over five years (approximately 1 AU = US\$1), 50 million more than had been asked for by the Commission, much to its officials' surprise. The Commission's con-



Commissioner Etienne Davignon

tribution is to be backed unit for unit by European industry — making a total budget of 1,500 million AU (£868 million).

Baker enthused about "an important day for Europe, an important day for collaboration". This was "the best day for European research for a long time", said French research minister and council president Laurent Fabius.

So why did Britain hesitate at Athens? According to Conservative Member of the European Parliament, Mr Robert Moreland, the Conservatives (who form the British Government) had always been firmly behind Esprit, and the programme had been temporarily blocked only as a protest at the failure of Athens.

According to M. Fabius, the European Community has lost two million jobs because it has fallen behind the United States and Japan. Esprit is part of the plan to get these jobs back. Mr Baker is "absolutely convinced" that the information technologies will be the main motive

force for the economy in the next 20 years and pointed to the investment of £1,500 million in related British industries in the past four years.

Even so, total spending on Esprit is dwarfed by that of at least two US companies. Officials here see Esprit more as a psychological aid to Europe's pre-competitive research. The programme will concentrate on getting the best responses to calls to tender for projects in just five key sectors (see below) but there will also be discretionary funds for high-risk innovative work in fields such as artificial intelligence.

Restoring European confidence is the objective of another project suggested by Vicomte Etienne Davignon, the Commissioner for science and research, over the ministers' lunch — a European video-communications network to link the ten member governments with Community institutions. It will be, according to M. Fabius, "a world first, symbolic of European attainments".

Esprit itself has sprung in just over three years from an idea tossed around by a few European civil servants to round table discussions to define industrial needs in October 1981, last year's £7 million pilot projects and, now, a fully-fledged programme spanning the decade to 1994.

The programme is thus one of what M. Fabius called the three pillars of European

research. The others are the so-called stimulation programme aimed at creating greater mobility and multidisciplinary collaboration and the biotechnology programme. After an experimental phase which got under way last June, the council is now looking for more scientific exchanges through laboratory twinning and by means of multinational centres of excellence, while biotechnology is regarded as an important engine of European economies in twenty years' time — as well as a way of turning agricultural surpluses into industrial raw materials. Further decisions on both these programmes are expected later this year, perhaps before the French presidency runs out at the end of June.

Last week's council made little progress on other programmes on its agenda such as basic technological research, radiation protection and non-nuclear energy. But some £4 million extra was found for work on acid rain and toxic substances.

Further ahead, there is likely to be a debate about priorities for European research. The Commission has committed itself to "budgetary stringency" on Esprit, implying that no extra research money will be called for, so that other research programmes will come under closer scrutiny. The European Commission says that there is no question of making economies elsewhere, but member states will be anxious to settle priorities for Community research so as to settle the research budget between now and 1988.

David J. Price

## What will Esprit achieve?

ESPRIT is a radical step for the European Community. The only other on a comparable scale is the nuclear fusion programme, but that does not promise quick returns.

The details of the five-year programme will be redefined each year. So each year there could be surprises. One already in the 1984 programme just defined is the inclusion of an effort in optoelectronics, until recently considered far-fetched.

The principal objectives of the 1984 rolling programme, which demands international cooperation on projects and divides research for management purposes into microelectronics, software, advanced information processing, office systems and computer integrated manufacture, are:

- To give Europe a substantial place in the microchip market, by producing (by 1988) "a soundly-based industrial 1 micron capability in a number of sites" with substantial progress towards sub-micron capability (that is, very high density chips) by that date.

- Optoelectronics, aiming at an "optical system on a chip" within 5 years.

- To integrate natural language interfaces with expert systems within four to seven years. Dialogue with such systems should be able to offer "cooperation

and understanding of personal behaviour. . .".

- The production by year five or six of "full-scale commercially valuable" software that is able to "learn" from experience.

- In the study of interfaces, to be in a position by year five to start design of a system to recognize handwriting; and the modelling of human aural and visual perception.

- The development of an operational "advanced workstation", including voice recognition and speech synthesis, for the office within five years.

- The development of wideband optical local area networks.

- The development of flexible machining systems and robotics, including a generalized robot language.

- The establishment of centres of expertise, continuing education and research in computer-integrated manufacture.

Eager Commission officials had already issued informal requests for tenders for the Esprit projects before the favourable research council decision on Esprit (see above), so the programme should be up and running by this summer.

Robert Walgate