

European information technology

Only one dog left in manger

Brussels

WEST Germany will agree to contribute its share towards Esprit, the £1,000 million Brussels-inspired European research programme on information technology, at a meeting of research ministers later this month. So, at least, European Commission sources believe after the visit to Bonn by research commissioner Etienne Davignon two weeks ago.

In the past six months, Britain and West Germany together having been blocking progress on the project pending a wider European agreement on the budgetary problems of the European Communities. But now, it seems, Britain may be the only obstacle.

According to Brussels, West German opposition was limited to tying a release of Esprit funds to an offsetting reduction of the whole Brussels research budget (which is dominated by energy, including nuclear fusion). But, it seems, Bonn has been convinced that such a move would be counter-productive: the Brussels research directorate has recently been putting its house in order, and, Davignon argues, is ready to take on more work.

Thus, with West Germany ostensibly out of the way, Davignon is turning all his attention to Britain where the nut will certainly be harder to crack. Not only has the United Kingdom set up its own information technology programme under the Alvey directorate (on a scale roughly equivalent to what Britain might get out of Esprit), but the British Prime Minister insists on a complete solution to the European budget issue before new spending is approved. Davignon seeks to tackle this policy at its source.

Ironically, the Esprit sums for 1984 are already written into the current Brussels budget, but cannot be released until the ministers agree. Frustrated, the Commission is already unofficially preparing the official "call for tenders" that would follow ministerial approval. The hope is that after 28 February (when research ministers will meet in Brussels) the Esprit motor will be warmed up and running, just waiting to leap off the grid in its race against Japan and the United States.

Meanwhile, the European Commission has managed to get at least one new technology project under way: an eight-laboratory effort, costing £1 million, to produce the semblance of a working, optical computer within two years.

Esprit, although considered advanced and pre-competitive by industry, does not include "optronics", considered by some as the real future of computing and by others as a mere dream. But Esprit has now been all but taken over by the Brussels industry directorate, leaving the research directorate to look further ahead.

This it certainly has done. One goal of optronics is a thousandfold increase in computing speeds (to picosecond rather than nanosecond switching times) but there is at present no demonstrable read-write memory or clock working at these rates. But the optronics programme, which has been under way for little more than a month, will put Europe ahead of the United States and Japan in these fields, according to one of its co-directors, theorist Dr P. Mandel of the University of Brussels.

The eight groups involved, at Heriot-Watt University (Glasgow) (where Dr S.D. Smith is director of the experimental part of the European project), Milan, Pisa, Strasbourg, Frankfurt, Freiburg, Munich and Brussels, knew of one another before the Commission programme was mooted, but they are now working together with a will, claims Mandel. **Robert Walgate**

Soviet computing

Aleksandrov urges speed

ATTEMPTS to computerize the Soviet economy could turn out to involve "vast and futile expenditure", Academician Anatolii P. Aleksandrov, president of the Soviet Academy of Sciences, has been warning. Writing in *Izvestiya*, Aleksandrov alleges that the Soviet Union is failing to make proper use of "even the comparatively small amount of computer equipment" that it manufactures.

The main bottleneck, according to Aleksandrov, is the shortage of trained personnel in the Soviet Union and a lack of awareness of the potential of computers among the population at large; overcoming these deficiencies will be a task comparable with "eliminating illiteracy" after the revolution.

Aleksandrov's article is ostensibly a call for a massive training programme, with the necessary computer manuals produced "before 1985", tuition in computer sciences (already partially implemented in tertiary education) at the secondary level and salary incentives for employees who complete computer familiarization courses.

Computers and automation equipment, Aleksandrov urges, must be "highly reliable", with at least 3-5 years of "trouble-free working". Accidental power failures, he said, should not lead to loss of information or to damage.

The situation with software is more complicated. The introduction of computers into the Soviet economy has taken place piecemeal, so that the various designers and ministries have produced equipment which, although "quite good for its time", is incompatible in software and components.

UK data protection

Reservations over data bill

THE British Government's Data Protection Bill successfully ran the gauntlet of its second reading debate in the House of Commons last week, despite Labour opposition and public reservations by several professional bodies.

The bill, which has been controversial from the start (see *Nature* 302, 641; 1983), sets out to prevent the abuse of personal information held in machine-readable form so as to allow Britain to ratify the Council of Europe's convention on data protection. But many fear that the vague terms employed in the bill and the wide scope of its exemptions from this laudable aim will make it a burden on companies which would be required to register as "data users" while providing no worthwhile protection to people about whom data are held, "data subjects" as they are called.

The need therefore is for a major overhaul of the Soviet computer industry so that all future hardware and software would be compatible. The logistical implications of such a revision of plans would be considerable — particularly in the Soviet context, where quarterly, annual and quinquennial production targets make no allowances for retooling or changes of production lines. If a switch to fully compatible hardware and software is decided, the planners will be hard pressed to incorporate it into the directives for the 1986-1990 five year plan.

The technical quality of existing Soviet software, to judge from Aleksandrov's remarks, is not entirely satisfactory. Existing tasks in the software sphere, he says, include the adaptation of software to automatic search systems and the protection of software against distortion due to voltage or frequency fluctuations, electromagnetic interference and the like.

For Aleksandrov, however, the task is clearly that of education. His programme for computer education (if the comparison with the literacy campaign of the 1920s has any real meaning) would embrace about half the population of the Soviet Union. Such a programme would itself require a major coordinated effort and, according to Aleksandrov, even the production of computer education manuals ("before 1985") must be preceded by work by the State Committee for Science and Technology, the Academy of Sciences, all ministries manufacturing computer equipment and automation facilities and the ministries of higher and secondary education, in order to "integrate" the available technical resources and software. **Vera Rich**