European research policy

Brussels to establish order?

Brussels

THE grand strategy for reorganizing and expanding the European Communities' research and development activities has at last been published, ready for its first reading at the next Research Council on 8 February. The new strategy has been under discussion for some two years, ever since Vicomte Etienne Davignon, the European Commissioner for Industry and Energy, added the research portfolio to his remit.

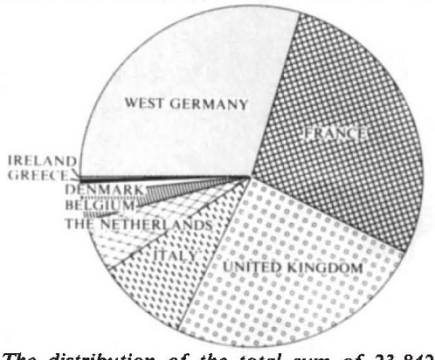
Ever since research became an accepted part of the EEC's activities in the mid-1970s, it has developed in a rather haphazard way. Today it presents a confusing mish-mash of different types of programmes, unevenly covering a growing number of fields and administered by unwieldy number of the Commission's directorate-generals. Some are "direct action" programmes, funded entirely out of the EEC's budget, others are "indirect action" programmes involving shared-cost contracts and the rest are "concerted action" programmes whereby national research is coordinated. And besides the Science, Research and Development Directorate-General (DG XII), four other directorate-generals share responsibility for these programmes.

DG XII is still, however, a junior newcomer with a 2.6 per cent (1982) share of the EEC's budget and taking only 2.2 per cent of the total of publicly funded research in the EEC. The new strategy, which covers the years 1984–87, aims at bringing the first figure up to a modest 4 per cent, assuming a minimum outlay of 3,750 million European Currency Units (ECU) ($3,787.8 million). Although, of course, the significance of a policy cannot be measured solely as a proportion of the total research spending it represents, there is also the multiplier effect of the shared-cost contracts and the political and economic impact of a coordination of national research policies. Above all, though, the Commission sees research and development as "a particularly effective means both of countering the effects of the present crisis and emerging from it".

The new framework is to be based on seven goals; promoting agricultural (130 million ECU) and industrial competitiveness, (1,060 million ECU) improving the management of raw materials (80 million ECU) and energy resources, (1,850 million ECU) reinforcing development aid, (150 million ECU) improving living and working conditions (270 million ECU) and lastly improving the efficacy of the Community's scientific and technical potential (297 million ECU). Each goal will have an action programme and a certain number of objectives which have been allocated a percentage of the budget.

The strategy relates not only to the way Community research and development would be reorganized if the Ten's research ministers adopt it but would also represent a major shift of priorities. For instance, energy now takes 63.6 per cent of the total compared to the 18.46 per cent given to industrial competitiveness but the new framework would grant 1,060 million ECU to industry and 1,850 million ECU to energy.

Eventually Davignon hopes to move further down this road towards boosting the importance of research and development and changing the priorities of the various goals. The Commission's paper itself raises two key questions about Davignon's strategy but answers only one of them — can the choices which have been made up to now be considered both adequate and appropriate in relation to the challenges which the Community must face in the 1980s?



The distribution of the total sum of 23,842 million ECU spent by the governments of nine countries (Luxembourg excluded) on research, development and demonstration during 1981.

The Commission's answer is, of course, a resounding "no". But the Ten's ministers must now be pondering the answer to the second question. Are the scale of the scientific and technological activities of the EEC adequate to the challenges facing the Community and its diverse activities and policies? And can they become so in future? **Jasper Becker**

Soviet satellite

Falling to Earth

RADIOACTIVE fallout from the nuclear reactor of the Soviet Union's disintegrating satellite Kosmos-1402 should not, at the worst, exceed the limits recommended by the International Commission on Radiological Protection, according to Academician Oleg M. Belotserkovskii, rector of the Moscow Physico-Technical Institute. He was taking part in a programme on Moscow television last Saturday which was obviously intended to allay public concern.

Kosmos-1402 was launched on 30 August 1982, with an orbital inclination of 65°, perigee 254 km, apogee 279 km, and a three-month ocean-surveillance programme. Its power source, according to Belotserkovskii, was a uranium-235 reactor with a beryllium reflector shell. It also carried, he said, a safety system "in accordance with international recommendations" which would ensure dispersal of the radioactive material during burn-up, should the normal disposal procedure — insertion of the reactor into a high-altitude orbit — fail.

Kosmos-1402 ended its active life, said Belotserkovskii, on 28 December. The reactor separation system was triggered by the usual signal from the control centre, but the booster which should have transferred the reactor into an orbit at an altitude of at least 800 km apparently did not operate. The satellite remained — split into three parts — in a low-level orbit. One fragment re-entered almost immediately and burned up on 30 December, the main satellite structure is expected to re-enter at the end of January, and the reactor itself is due to re-enter in mid-February. Complete burn-up of the core during descent, and the consequent dispersal of the radioactive material in finely divided particles, is, Belotserkovskii assured his audience, "guaranteed".

Belotsverkovskii's broadcast laid great stress on the fact that the United Nations Technical Subcommittee on the Peaceful Use of Outer Space had approved the use of nuclear-powered satellites, providing that appropriate safety measures were complied with — and implied that the Soviet nuclear power unit used in certain Kosmos satellites met with these requirements. (The designation "Kosmos" covers a wide range of scientific and military satellites, which can differ considerably in design and equipment. According to Western estimates, between 20 and 30 nuclear-powered Kosmos satellites have so far been flown.) Some US experts, however, have hinted that the design of these reactors is more than 15 years old, and under certain circumstances could spread hazardous radioactive material over a wide area — the type of hazard that the UN recommendations are specifically intended to prevent. Inevitably, the accident to Kosmos-1402 has recalled the "unscheduled re-entry" of the nuclear-powered Kosmos-954 which came down in north-west Canada just four years ago, although in that case the malfunction took place before reactor separation was attempted and the spacecraft re-entered as a single unit.

On that occasion, the search and clean-up operations involved 1,200 military personnel and close to 100 civilian experts and cost $6 million (Canadian) of which the Soviet Union paid only half. Canada has already drawn up contingency plans for a similar search for the Kosmos-1402 reactor, including the use of airborne gamma ray spectrometers, although even if debris from the reactor should survive re-entry, there is only a 3 per cent chance that it would land in Canada. **Vera Rich**