

Europe faces up to its future in space

Space science received more funds last week when ministers met in Rome. Now Britain must decide who will pay the bill

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INSPIRED perhaps by the Roman sunshine, Europe gave a vote of confidence last week to space science. At a meeting, organised by the European Space Agency (ESA) in Rome, ministers from the agency's 11 member states agreed to increase the amount they spend on science. The science budget, to which countries must contribute if they are to remain members of ESA, will go up by 70 per cent during the next five years.

Perhaps the sun entered the conference room, because ministers took this decision and others in only three sessions. They backed the idea of European participation in the space station—the space spectacular planned in the US as a follow-up to the space shuttle. At the same time they approved the plans for a European rocket called Ariane 5. Both of these projects are optional, and member states can contribute whatever percentage they wish to the costs of Ariane 5 and the space station.

Few of the political decisions reached were unexpected, but some of the topics discussed caused surprise. Geoffrey Pattie, the minister responsible for space at the Department of Trade and Industry (DTI), brought forward an idea developed by engineers at British Aerospace and Rolls-Royce. The two companies have examined 35 different aerodynamic configurations of a concept that would turn rockets into vehicles resembling aeroplanes. The DTI contributed £44 000 to the work. Hotol, as Britain's new idea is called (horizontal take-off and land), excited interest in Rome. But no one's curiosity was satisfied, because the details of the rocket technology are not being released, even to ESA. Both companies are in the process of protecting their rights to the idea.

Hotol would be powered by an engine fuelled in part by oxygen from the atmosphere. The concept is exciting, because it would give Europe a fully recoverable craft based on advanced technology. Pattie told the ministerial meeting that Britain would carry out validation studies on the concept, and if it proves viable would bring it back to Europe as a potential joint project. The studies are likely to take two years, and industry rather than the government will pay for the work.

Although the decisions taken at the meeting were expected, debate about how they will be put into practice is just beginning. For example, no one in Britain has yet said where the money will come from to pay for Britain's increased contribution to ESA's space budget. By 1988–89, Britain will be paying about £4 million more than the £14 million it sends to the agency now. At the moment, the Science and Engineering Research Council (SERC), which receives its funds from the Department of Education and Science, is

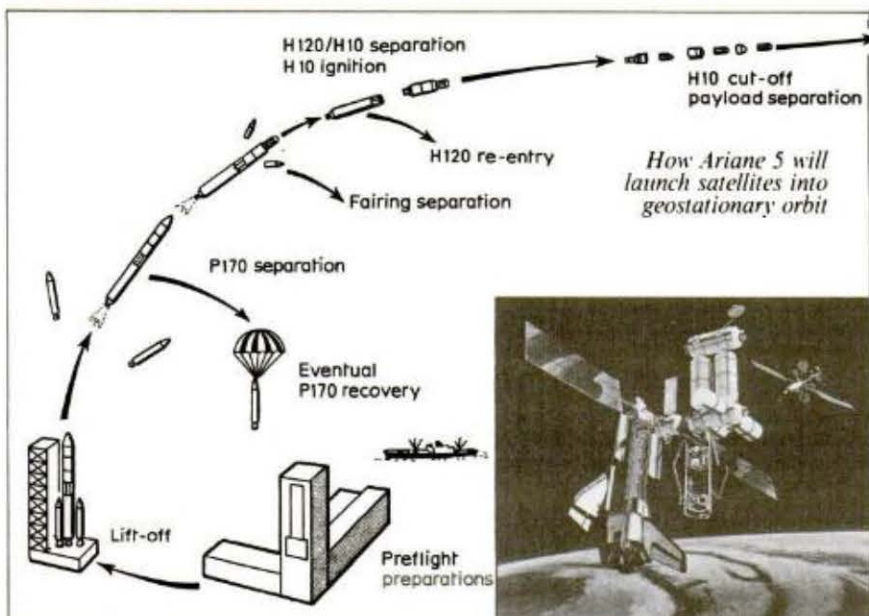
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responsible for paying for Britain's place in the European space programme. But there is no indication yet whether the Treasury will allow more money to reach SERC's coffers to meet the increased demands on its resources, or whether other areas of science will suffer. The money could even come from the DTI. SERC, however, awaits a ministerial decision.

Professor Mark Richmond, vice chancellor of Manchester University, chaired a committee last year to look at SERC's spending on space science. The council is still considering the report. In it, Richmond says that in times of financial stringency,

John Kendrew will report its views on Britain's particle-physics work and its involvement in the European laboratory, CERN. One of the committee's terms of reference is to consider the reallocation of resources released to other areas of science if less money is spent on particle physics (*New Scientist*, 3 January, p 16).

The government departments that are talking about where to find ESA's science budget are also working out the details of Britain's new space agency. Industry and academics have long lobbied for such an agency to formulate Britain's space policy. Pattie announced the formation of the centre on the day he flew out to Rome. Details about funding and the centre's role



Europe is to start studies on a space platform that will dock with space station (above)

Britain should undertake its space science through ESA rather than through bi- and trilateral agreements. However, although he is pleased that European space science is to receive extra money, he says that more funds will be needed from the Treasury rather than from the existing budget. "Otherwise, university research will suffer, and some hard decisions will have to be taken." One of these could be the extent to which Britain continues its involvement in particle physics.

Within a few weeks a committee chaired by Sir



Geoffrey Pattie (top) and Sir Robin Nicholson, scientific advisor to the prime minister

will not be known for three months.

In his opening address to the ministerial meeting, Pattie used the announcement to convince his colleagues of Britain's commitment to space. After the meeting, Pattie admitted: "In Britain, there has not been a political commitment to space compatible with that shown by industry." But, with the formation of the space agency and the mention of Hotol, Britain emerged from the meeting with a higher profile in space matters than it had at the beginning.

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