

Scientists press ESA to restore budget to 1971 levels

ESA's future is in the balance. The end of the decade set aside for developing space applications is in sight. At the end of this year, the ESA Council will have to make some fundamental decision on the future.

Exactly how scientists should influence that future was discussed last week at a meeting of ESA's Science Advisory Committee (SAC) in Nice. "Now is the time to say that science needs more support from the member states", is how Professor Klaus Pinkau, a member of the SAC summed up the conclusion of the meeting.

The SAC would like to see some of the funds now spent on applications diverted to science in the future. In 1971, ESA's science budget was cut to make room for the new space applications. Now that many of those applications are nearing the end of their development there is a strong case for

some of the money which will be released to be spent on science.

The other factor which distinguishes ESA's present predicament from the past is how to incorporate the 'new' fields of materials and life sciences and earth resources into the science programme. It is essential that the new fields should at least be screened for their scientific worthiness by ESA's scientific advisory bodies. If they are funded outside the mandatory science budget the situation could arise where a project in one of the 'new' fields would be funded, even though scientifically it was not as worthy as a geophysics or astrophysics experiment, simply because a separate budget had been set aside for it.

The West German government is likely to support the scientists' view. It has already said that it would like to divert funds from applications to



science. The French government, however, might need some hard persuasion from its scientists. And in the UK, diverting funds from industry to science is likely to produce many administrative difficulties because of the way it pays its ESA subscriptions.

The SAC will present its ideas to the Science Programme Committee (SPC) in November. At the end of the year, it will report to the ESA Council outlining its ideas for the future. □

What the critics say

EUROPEAN space scientists are far from content with the service they receive through the European Space Agency (ESA). According to Professor Martin Rees, who until last year was chairman of ESA's Science Advisory Committee, ESA's science budget is only about a tenth of NASA's. And many claim that ESA spends it inefficiently.

ESA was created in 1975 out of the European Space Research Organisation (ESRO) and the European Launcher Development Organisation (ELDO). The former had been solely responsible for space science: the latter for developing an independent launcher capacity for Europe. Since these two objectives have been under the umbrella of one agency, there have been fears that too much attention is being paid to the industrial programme (it takes 85% of ESA's budget) at the expense of science. According to one West German official "science developed a good reputation in ESRO, but ESA is not taking enough care of it". In 1971 ESRO defined a 'minimum viable budget' which amounted to only two-thirds of its expenditure, and ESA has kept to it since.

The scientists' dissatisfaction is matched by the frustration of some of ESA's staff who feel that ESA is blamed for many ills for which it cannot be held entirely responsible. They have the exceedingly difficult task of

trying to implement a European science programme within the constraints of a very limited budget (about £50m per year, compared to CERN's £190m for high energy physics). And in recent years the reduction in many national programmes has put an even greater burden on that budget.

So far all ESA's scientific missions have been paid for out of the mandatory science budget. Each of the 11 member states (Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Spain, Sweden, Switzerland, and the UK) contributes to the mandatory budget in proportion to its gross national product up to a maximum of 25%.

But as time goes on, European space scientists need larger space missions more often because they need to build on the previous research of European and national missions. On top of that, scientists in fields which have never been catered for by a European space mission, in particular planetary science and climatology, are putting pressure on ESA to provide them with opportunities. And looking further to the future materials and life scientists might well be applying similar pressure if they gain their entrée into space through the launch of a manned laboratory—Spacelab in 1983. According to one West German scientist "a multiplicity of disciplines are now knocking on the mandatory science budget's door".

The difficult position ESA is in is illustrated in the long term planning

reports produced by its astronomy and solar systems working groups in 1976. They both concluded that a basic programme in each of their respective fields over the next ten years would take up the entire mandatory budget available over that time.

It is also claimed that ESA is inefficient. In recent evidence to the Committee on Science and Technology, US House of Representatives, Dr Wolfgang Finke, speaking in his capacity as Head of Space and Transportation of the Bundesministerium für Forschung und Technologie (BMFT), said that a conservative estimate of the cost of an international project "is more or less equal to the product of the 'true' costs of the project done nationally and the square root of the number of participating countries". For ESA with eleven member states this rule implies very expensive projects indeed. However, a direct comparison of the costs of ESA's satellites and NASA's or those built in an individual country, is very difficult because of differences in accounting and charging overheads. Nevertheless ESA is in the process of making such a comparison.

A major factor contributing to high costs is ESA's industrial policy. The policy was created to help develop the European aerospace industry and states that industrial contracts have to be distributed throughout member states in proportion to the size of their contributions to ESA's subscription. Thus an ESA satellite may be built in

*This report was compiled
by Judy Redfearn*