Spacelab project

West German involvement faces uncertain future

THE launch earlier this week from Cape Canaveral in Florida of the shuttle craft carrying the Spacelab experiment probably marks a turning point in collaboration on space projects between the European Space Agency (ESA) and the National Aeronautics and Space Administration (NASA) in the United States.

European pleasure that the instrument has finally been carried aloft is real enough, if tinged with regret at the delay there has been and the less than satisfactory state of the communications system originally planned for the transmission of data in real time between Spacelab and the ground.

But there is also some resentment that the first version of Spacelab has already become the property of NASA and that further use of it by European experimenters will have to be paid for. This is why Dr Heinz Riesenhuber, the West German minister for research and technology, has taken to describing Spacelab as one of the most generous of all gifts to the United States. West Germany, which has been the chief contributor to the DM1,000 million (£250 million) cost of Spacelab and largely responsible for its development and construction is especially concerned.

The apparently faultless construction of Spacelab will have enhanced even the West German reputation for precision engineering, thus authenticating ESA as a fit partner for collaboration on space ventures. But there are questions, especially in France, about whether the cost of the machine might more profitably have been spent indigenously.

At the beginning of the venture in 1972, the circumstances were very different. Then, the potential of the Ariane rocket system seemed less than immediate, while the prospectus then advertised for the space shuttle offered the prospect that the first version of Spacelab would stay aloft for much longer than the five days now planned. One senior French scientist said last month that he "felt sorry" about West Germany's investment in Spacelab.

Part of the trouble is that the costs of the project have escalated. While part of the philosophy of the design has been to use as many standard components as possible, such components have not always been inexpensive. One official in Bonn explained last month how gas cylinders costing DM600 each had turned out to cost more than DM100,000 each after they had been fitted out with the accompanying sheaf of documentation required for certification.

Among the European members of ESA, West German interest in the design and development of orbital machines is matched only by French enthusiasm for the Ariane launching system.

According to spokesmen at the Bundesministerium für Forschung und Technologie (BMFT — the ministry for research and technology) in Bonn, the objectives of West German policy in space hitherto have been to acquire and demonstrate a competence in the construction of satellites and other space vehicles, to develop the means for using these commercially and to prepare for the time when ESA might have an indepedent competence in space.

West German achievements in the field are considerable. The point has already been reached at which, after the launch of the next direct broadcasting satellite in 1985, responsibility for further communications satellites will pass to the Ministry of Posts in Bonn. West Germany is chiefly responsible for the substantial X-ray satellite called Rosat due to be launched in 1987, as well as being principal contributor to the Galileo mission to Jupiter due in 1985.

Even so, policy in the years ahead is likely now to be closely scrutinized in Bonn. While the new largely Christian Democrat coalition does not carry its belief that industry should meet a larger share of the cost of research and development to the point of declining to support long-term projects, Dr Werner Gries said last month in Bonn that the government would be issuing a new policy statement "before the end of the year".

John Maddox

Max-Planck-Gesellschaft

Closer ties with universities

THE Max-Planck-Gesellschaft (MPG), West Germany's largest academic research organization outside the universities, will have a new president when Heinz Staab takes over from Reimar Lüst in July 1984. The MPG has an annual budget of DM950 million (£240 million), of which 6 per cent comes from internal funds and 47 per cent each as lump sums from the Federal Ministry of Research and Development and from the regions (Länder).

Reimar Lüst, scientific director of the European Space Research Organization from 1962 to 1964, returns to become general president of its successor, the European Space Agency, for four years from July 1983. Here Lüst faces a challenging transition period involving decisions on, for example, the future of scientific satellites, applications, particularly in telecommunications, and the development of the launcher. A major question concerns participation in a space station.

Lüst has led MPG adroitly through a period of adjustment to the twilight of the West German economic miracle. Since his appointment in 1972, MPG funds have just kept pace with inflation.

Adaptation has been achieved both by execution and creation. While maintaining its traditional emphasis on the promotion of basic research, of excellence and of the work of gifted individuals, MPG has closed 12 departments but opened 10 more in its 55 institutes. New institutes include one for quantum optics at Munich, an offshoot of the plasma physics institute, and one for polymer research in the federal republic's chemical heartland at Mainz on the Rhine. The institute at Cologne has also been given strong support in the development of plant genetic engineering, providing a focus of excellence unique in Europe.

Heinz Staab's own institute for medical research in Heidelberg, which will shortly have lost three of its five directors, may well also find a new role possibly related more directly to the complex of surrounding biomedical centres at Heidelberg.

MPG is in the process of introducing a system of extramural supervisory boards (Fachbeiräte) with strong international membership to make reviewing procedures more stringent. There is also a programme of 20 five-year trial directorships which gives younger scientists the chance to show their potential for leadership. MPG's other contribution to solving the problems of young scientists, is the Otto Hahn prizes for overseas work.

Heinz Staab, who is 57 years old and who originally qualified in both medicine and chemistry, heads the department for organic chemistry at the Heidelberg institute. MPG has agreed that he should continue to spend a quarter of his time on his own "bio-organic-chemical" research into intermolecular relations of significance in biological processes. A particular emphasis is, for example, on hydrogen-bonding in model systems.

Staab has a reputation for fast thinking and brilliant public speaking in German and English. He has been a member of the Deutsche Forschungsgemeinshaft, of the Alexander von Humboldt Foundation and of the committee of the German national academic advisory body, the Wissenschaftsrat. Since 1966, he has been a member of the Minerva Society which promotes scientific links with Israel and since 1977 a governor of the Weizmann Institute. He is the elected president of the German Chemical Society.

Staab sees little possibility for change in the present financial situation. He plans to continue present policies, but also to strengthen MPG's links with the universities.

Sarah Tooze