

Germany pulls back on space programmes

- European shuttle threatened by German cuts
- Space station module may also be trimmed

Munich

GERMAN support for a European space shuttle slipped last week to a new low, reducing the chances that the shuttle project, and the rest of the European manned space flight programme which depend on it, can be carried out as planned.

In his strongest statement yet against the French-led shuttle Hermes, German Research Minister Heinz Riesenhuber said on 11 July that he could no longer rule out a German withdrawal or a significant reduction in support for the shuttle.

Riesenhuber also said that cutbacks may be necessary in the space station module Columbus, the second of three large projects around which the European programme is built. (The third is the heavy launcher Ariane 5.) Germany is the main developer of Columbus, with a 38 per cent stake in the development costs.

A German withdrawal from Hermes could have far-reaching consequences for the European Space Agency (ESA) manned space flight programme as a whole. The renewed rumblings of a German withdrawal come just four months before a crucial meeting of the ESA council of ministers in Munich on 18–19 November to decide the future of the European programme.

A withdrawal at this late stage is possible because of a clause written into the original 1987 agreement on the ESA manned space flight programme. The clause states that any member state may withdraw from a project if the costs go over 120 per cent of the original estimates.

If Germany drops its support for Hermes, then Helmuth Dederra, head of space programmes at the German aerospace company MBB, predicts that an "avalanche" will follow. The French would probably withdraw their support for Columbus (with a 14 per cent stake, France is third behind Italy, which bears 25 per cent of the costs). ESA would effectively collapse, Dederra predicts, or at least require major restructuring.

The change of heart in Germany was brought on by a combination of budget cuts and cost overruns. The 1992 German federal budget left a shortfall of DM200 million (\$110 million) in the roughly DM300 million that Riesenhuber had requested for the three European projects. And Germany's long-range budget left a deficit of at least DM10,000 million for the three projects by the end of the

decade.

At the same time, the main contractor for Hermes, the French company Aero-spatale, two weeks ago submitted a bid of DM13,000 million that was more than 130 per cent of the original projected cost of DM9,500 million.

Officials in the German Research Ministry hinted that the Riesenhuber statements may have just been a negotiating ploy. "We do not really intend to drop both projects," said space policy official Gottfried Greger. Instead, Greger said, Riesenhuber will renew his efforts to persuade Germany's partners, especially France, to find a way to reduce the cost of the projects.

Greger added that Germany sees major problems with the Hermes project as it is now conceived. For one, it is doubtful whether Hermes currently has a large enough payload capacity to service Columbus and its free-flying component, the man-tended free flyer, properly. And if the payload capacity were increased, Hermes could no longer be lifted by the Ariane 5 rocket unless the rocket itself were modified. Such modifications would cost additional money that ESA has not taken into account.

Furthermore, the cost overruns could be just beginning, said Greger. "It is bad news when a project is over budget right from the start."

One possible compromise, said Greger, would be to stretch out the Hermes project for two or three more years. Under this scenario, the first unmanned launch would take place in 2000 instead of 1998 and the first manned launch three years later.

But it is not clear if this would save enough money to satisfy Bonn, and this strategy has its limits. Greger declared — and Dederra of MBB concurred — that it would be "nonsense" to stretch the project for more than two years, as it will cost an estimated \$200 million extra for each year added and it would be impossible to hang onto the required technical and industrial expertise for a long enough time.

For its part, the French government played down the potential for conflict with Germany. Jean-Yves Le Gall, a special adviser to the French Minister for Equipment, Housing, Transport and Space, Paul Quiles, said that he "does not see a conflict" with Germany and that he is confident that the two countries "will arrive at a trade-off".

Le Gall said it was a normal occurrence in all countries that budgets are cut, but that nevertheless "projects go on".

The conflict between Germany and France over the European space programme has been bubbling beneath the surface ever since 1987, when Germany agreed to the projects only after much arm-twisting by the French. It has been primarily fear of a backlash in German-French relations that has kept Germany in line until now. But evidence of a new German attitude is clear in the words of Greger. If ESA and France do not come up with an acceptable plan by November, he said, "we will just pull out. No one can force us to stay in if we don't want to."

Steven Dickman

HIGH-ENERGY PHYSICS

Japan in retreat from SSC plans?

Tokyo

Is Japan going to turn down the United States' request for a substantial financial contribution to construction of the US Superconducting Super Collider (SSC)? When the matter was raised in discussions between Japan's Prime Minister Toshiki Kaifu and US President George Bush last week in Maine, Kaifu made no firm commitment one way or another, but a widely read Japanese daily newspaper says the Japanese government has already decided not to contribute funds.

In a front-page story on Friday, the Tokyo Shimbun newspaper, quoting an unnamed government source, reported that the Japanese government has decided not to contribute to the SSC because Japan needs to concentrate on rehabilitating its rundown national universities. Foreign Ministry officials last Friday (12 July) refused to comment on the article. But on Monday, following Kaifu's discussion of the matter with Bush on July 12, they said the article is "misleading".

At a press conference in Maine on 11 July Kaifu said: "There is growing awareness in Japan that this sort of thing, the Superconducting Collider, is important for science and technology, and researchers in Japan are studying what sort of cooperation would be possible. However, I am not prepared today here to say what sort of financial cooperation would be possible. And I might add that scientific and technological research in Japan is being carried under difficult financial situations as well".

A decision by Japan not to contribute would not be surprising. An official of Japan's Ministry of Education, Science and Culture, speaking on condition of anonymity last year, said he and his colleagues wanted to "run away" when approached by a US delegation from the Department of Energy for financial support in June 1990.

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