

Space Station Plan Upsets Europe

European Space Agency claims it is being treated as a junior team member in NASA's plans for running its orbiting microgravity research facilities

EUROPEAN and U.S. space officials are trying to break a deadlock in negotiations over Europe's participation in the space station, which is being planned by the National Aeronautics and Space Administration (NASA) for launch in the mid-1990's. At stake is the question of how much say the European Space Agency (ESA), whose total contribution to the space station is expected to be more than \$2 billion, can expect to have over decisions about the way the station is operated—including the choice of experiments to be carried out in its two laboratory modules.

According to ESA officials in Paris, NASA remains insistent that, even though it intends to consult with other participants at every stage (Japan and Canada are also to play significant roles), it should retain the ultimate right of veto over all major decisions. These would include decisions about activities on board the European-built life sciences laboratory module, which is planned to be an integral part of the space station.

"When you have a number of partners, you also have to protect certain minority rights," Reimar Lüst, the director-general of ESA, said at an international space technology meeting here in early December, shortly after returning from a meeting with NASA and State Department officials in Washington in an attempt to iron out the differences. "We could never give a blank check to NASA; we need some guarantees."

Europe was invited to participate in the space station by President Ronald Reagan in early 1984, largely at the prompting of then NASA administrator James Beggs. The invitation was formally accepted by the minister responsible for space of the 11 ESA member states at a meeting in Rome in January 1985 as part of a broader agreement on space priorities for the next decade (*Science*, 18 January 1985, p. 271). It was subsequently agreed that Europe would offer a set of hardware pieces known collectively as "Columbus," with four separate components: a pressurized laboratory module which will be attached to the space station, a co-orbiting

platform for space experiments, a separate polar-orbiting platform, and eventually a second, independent module which will become the basis for a European station.

Since then, ESA and NASA officials have been meeting regularly in an attempt to draw up a memorandum of understanding that will specify the terms and conditions of European participation. The latest meeting was scheduled to take place in Washington on 8 and 9 December. European officials say they are keen to avoid a replay of their experience with Spacelab, built as a shuttle payload in the mid-1970's. "Suddenly we found that we were being required to make changes in Spacelab because of alterations to the design of the shuttle, making it much more expensive than we had planned," says Lüst.

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ESA has already made two concessions to NASA in the basic design of the space station. The first is that its laboratory module will be "permanently attached" to the station; the European agency has dropped its original proposal that the module should be detachable, and thus capable of independent operation. The second has been agreement to NASA's proposal (insisted on by Congress) that experiments in the European module should be restricted to the life sciences; research into materials processing will be carried out in a separate U.S. laboratory module.

Yet European officials are still demanding that they be accepted as full partners in the space station, which would give them a greater say than NASA is currently prepared to accept in the operation of the program. Their demands cover areas such as the distribution of operating costs and the choice of experiments to be carried out in the laboratory modules.

There are also questions of access to be resolved. "Perhaps we will need American passports to visit parts of the space station," jokes one German aerospace official. West Germany, along with Italy, is expected to pay for much of the European hardware.

NASA believes it is important to have a clear chain of command, and says that this belief has only been strengthened by the recent shuttle disaster. It has also argued that, since the United States will be covering at least two-thirds of the overall costs of the space station, it is appropriate for the agency to be given final authority for all aspects of its operation.

Europe is suggesting a more flexible approach. "Perhaps in some areas it would be possible to have a rotating chairmanship" says Lüst, pointing out that ESA frequently uses this device in its own activities.

Both sides are reported to have softened their original stance in recent negotiations. But the gap between them remains significant. NASA, for example, feels that several of the demands being pursued by the European side would not be acceptable to Congress.

Europe, in turn, feels that NASA is being too inflexible in the requirements it is making for participation. "The authority needed in the design phase is not necessarily needed in the utilization phase," says George van Reeth, director of administration at ESA. "We agree that when there is an emergency, for example, someone must be in control; but to go on from there to say that the same person must have full say, even after consulting the others, on everything in the program, that to me is a dogmatic attitude," he says.

There are pressures on both sides to reach agreement before too long. NASA needs a firm commitment from Europe on the extent of its involvement in the space station before final plans can be completed. Pressure on the European side is even greater, since a precise definition (and costing) of the Columbus package must be ready for the space ministers to approve or disapprove when they meet again early next year. ■

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