ESA pulls back from 'fair shares' funding

[MUNICH] European space ministers have agreed partly to abandon their commitment to the principle of *juste retour*, the controversial mechanism by which countries receive industrial contracts for projects funded through the European Space Agency (ESA) in proportion to their subscription to the agency.

The decision was made at a special ministerial meeting in Paris last week, and represents a victory for those who have been arguing that the award of contracts should be based more heavily on technical competence and value for money.

Juste retour was introduced into ESA's convention when the agency was set up in 1975 with the aim of ensuring that each member state receives adequate support through ESA for its national aerospace industry. But the system has come under increasing strain over the past few years, as the allocation of contracts on a 'fair shares' basis inevitably drives up costs and reduces competition.

The system is also complicated to run, and several countries have not, in fact, received their 'fair shares'. Italy, ESA's third largest contributor, has seen its industrial return fall in the past few years well below the minimum guaranteed level of 0.96, approximately equivalent to 96 per cent of its contribution to ESA. In contrast, Germany and France have return coefficients well over 1.1, a reflection of both better organized aerospace lobbies and stronger industries.

Some of the smaller countries, particularly Sweden and Switzerland, have fared even worse than Italy. Their industries are too small to act as prime contractors, and they are dependent on prime contractors from larger countries subcontracting to them on a basis that takes account of geographical considerations. ESA has not supervised this process stringently enough.

After more than a year of debate, Europe's space ministers, meeting as ESA's council of ministers, have agreed that the rules of *juste retour* should be relaxed after 2000. Meanwhile, the deficits in industrial contracts accrued by Italy, Sweden and Switzerland will be corrected, and the slate wiped clean.

ESA's science programme, the agency's only mandatory programme, will not abandon *juste retour* entirely, but will operate it with more flexibility. The guaranteed minimum return coefficient will be lowered from 0.96 to 0.9, and the books will be balanced every three years, rather than accumulating indefinitely.

Optional ESA programmes, such as the launcher Ariane and participation in the US space station, in which participation by member states is voluntary, will make a more radical move. Industrial contracts will be awarded

solely on the basis of value for money, and the contributions of participating member states to ESA will be adjusted according to their success in winning contracts.

The procedures for contract procurement will also be revised in the next three years to increase fairness — for example by including potential subcontractors as well as prime contractors — and efficiency, and to protect the interests of small and medium-sized enterprises involved in developing space technologies.

Ian Taylor, Britain's science and technology minister, welcomed what he called a "fundamental change of attitude" in ESA. "Negotiations have been tough," he says. "But member countries have come to realize that the old fixed expectations of guaranteed work and contracts will not do for today's fast-moving world markets." Germany has also welcomed the changes as a chance to

increase competitiveness.

Sergio De Julio, president of the Italian space agency ASI, says that Italy is now satisfied with ESA's plans to normalize Italy's industrial return by 2000. This will be achieved primarily by guaranteeing that Italian industry will receive major contracts to develop parts of ESA's contribution to the space station. At present, Italy's industrial return deficit is well over ECU100 million (US\$88 million).

ESA's council of ministers will monitor the response to the new regulations over the next few years and will consider the possibility of entirely abandoning the geographical considerations in awarding contracts after 2000. But this is unlikely to happen without a fight. Open bidding has many opponents among smaller countries whose industries may not be able to survive in a highly competitive environment.

Alison Abbott

Mars risks are low but not zero, says NRC

[WASHINGTON] A potential threat to plans for a spacecraft mission to bring back samples from Mars has been removed by a report which concludes that Mars landers will not necessarily need to undergo an expensive sterilization process.

But the report, published last week by the US National Research Council (NRC), says that rock samples returned to Earth should still be quarantined until proved harmless, as the risk of an adverse biological effect, while low, "is not zero".

Past planetary missions have been designed to protect against "forward contamination" — the risk of introducing terrestrial microbes to another planet. The Viking landers of the 1970s underwent an elaborate sterilization process in which the entire spacecraft was heated before launch.

Managers at the National Aeronautics and Space Administration (NASA) had been concerned that a Mars mission planned for 2005 would be held to the same standard, as recommended by a 1992 NRC report. But the new report says that other techniques, including radiation and chemical treatment, "may be more effective and less costly".

Kenneth Nealson, a microbiologist at the University of Wisconsin at Milwaukee, who chaired the study, thinks the agency "will be delighted with these recommendations", as it should help the mission to stay within its relatively modest budget. NASA plans to increase its \$100-million annual budget for Mars exploration by about \$50 million a year to make possible a launch in late 2004, with arrival on Mars in 2007 and samples returning to Earth in 2008.

The report makes little mention of last

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Artist's conception of sample return mission.

summer's controversial claim of evidence of fossil life in a martian meteorite. But it says that there are other reasons to suspect Mars may have harboured life in the past, and that it may yet exist beneath the surface or near hydrothermal vents.

Even though "contamination of Earth by putative martian microorganisms is unlikely to pose a risk of significant ecological impact or other harmful effects", the report recommends that no uncontained samples be returned to Earth. Apart from being prudent, such a strategy would help NASA to avoid legal challenges to a sample-return mission, says Nealson.

The panel also advises NASA to establish a research facility for handling returned samples at least two years before the mission is launched, so that a team of scientists can practise working with samples before the real ones arrive. That would help to prevent the mistakes that were made when lunar samples were returned by Apollo astronauts, and quarantine was breached on several occasions.

Tony Reichhardt