

## European space

# Another Franco-German deal

Paris

FRANCE and West Germany have reached "a very good agreement" on collaboration in space and on the European response to the invitation to participate in the US space station, French science minister Hubert Curien said last week.

No figures were discussed between Curien and his German opposite number, Heinz Reisenhuber, when they met in Bonn on Wednesday, but there was agreement in principle that the French should join in with the "Columbus" space station project proposed by Germany and Italy, while Germany would take a share in the HM60 cryogenic motor under development in France for the Ariane-5 space launcher.

Thus it seems that a continental, Franco-German-Italian plan has emerged for a space programme for the European industry in the 1990s, with the other potential major partner, Britain, left on the sidelines. Curien was "sure", however, that Britain would participate "though I'm not certain at what percentage". British government sources have said that the nominal 2 per cent that Britain took in Ariane would certainly be too small.

But whatever share Britain takes, it is clear that European mainland is now calling the tune. No British proposals have emerged that could be traded against Columbus and Ariane-5 to provide a package more suited to Britain. British Aerospace's HOTOL concept of an air-breathing, runway-using hybrid between the space shuttle and Concorde is too distant a prospect to be of use in negotiations, and the proposed free-flying robotic platform may be too like parts of Columbus.

Meanwhile, Europe's space scientists are attempting a defence of their territory, the mandatory science budget of the European Space Agency. In principle, the space station is part of ESA's optional programme. Microgravity and Earth resources research are also optional, coming under the transportation and applications budgets, but the "traditional" space sciences of high-energy astronomy, magnetospheric research and planetary sciences are mandatory to ESA members. Space scientists in this traditional area fear an erosion of mandatory budget — whereas in fact it has long been claimed that it should be increased.

Just by chance, the ESA space science directorate has now come forward with a rational plan as to how that budget should grow. Called the "Horizon 2000" study, it was prepared from 77 responses from the larger space science institutes around Europe to a request for realistic projects for the 1990s. Whittled down by an ESA committee, it is a proposal for a 50 per cent growth in real terms over eight years. The

programme would be based on four cornerstones:

- A solar terrestrial programme (space plasmas)
- A mission to asteroids and comets including return of material to Earth
- A high throughput X-ray mission for spectroscopic studies at 0.1–20 keV
- A high-throughput heterodyne spectroscopy mission to cover the last remaining unexplored region of the electromagnetic spectrum.

## Mrs Indira Gandhi

# A sharp-witted democrat

MRS Indira Gandhi, killed last week, had the sharpest wit. I met her at the end of February when her attempt to negotiate a settlement of the Sikh rebellion with community leaders from the Punjab had collapsed. It would have been forgivable that she should have cancelled a meeting with a visiting journalist interested only in her expectations of Indian science. Perhaps she welcomed a chance to talk about something completely different.

Disconcertingly, this did not prevent her from reading and signing her mail while keeping command of the conversation. Occasionally, members of her staff would creep into her office with messages and



would be told what to do by signals, a movement of the hand or eye that did not interfere with the flow of words.

There was an awkward moment at the beginning, when it seemed as if the Prime Minister thought that *Nature* is a magazine devoted to environmental causes; she launched on an eloquent speech about the beauty of the Indian landscape that threatened to use up the 45 minutes available. But, when prompted, she changed the course of her conversation without batting an eyelid.

Quite apart from Mrs Gandhi's belief (taken over from her father) in the importance of research and development in India, she exuded affection for the field and its practitioners — "my scientists" she called them. Her gratitude to people like Professor M.G.K. Menon (who has held

Such missions would not be in competition with United States or Japanese projects, it is claimed, but could be part of a balanced world programme of space research.

The Horizon 2000 study has been very well received in West Germany and Switzerland, where both countries are willing to provide the 7 per cent budget increase a year it implies, but other ESA members are proving more reluctant. M. Curien, for France, says he might find 5 per cent "at a great stretch", and a clutch of other states are talking of a mere 3 per cent. Britain has nothing to say just yet.

Robert Walgate

almost every senior scientific post in the government that there is) was evident. So was her pleasure at having as colleagues people such as Dr T. Koshoo, now Secretary at the Department of the Environment, whom she had inveigled to Delhi over a period of two years.

Mrs Gandhi was astoundingly knowledgeable about the vast programme of research her government mounted. Her willingness to visit laboratories and construction sites was renowned. One consequence was the high morale of those who worked there.

With some of her problems, Mrs Gandhi was plainly impatient. University administrations had let authority slip from their grasp, she implied; they should be more vigorous, more like her perhaps. But then, visitors from overseas should beware of the trap of applying in India the standards conventional in the West. The real wisdom of India rests with the village peasants, hardly any of whom can hope that their children will find their way to a university. It was easy to see how other Indian politicians, allies and critics alike, acknowledged that her electoral strength lay in the villages.

So how to reconcile the poverty with India's ambitions in high technology — nuclear power, space technology, electronics and so on? Mrs Gandhi was eloquent on the theme that a sovereign state as powerful as India could not allow itself to remain in thrall to the West. "Look at what they did to us over the fuel for Tarapur", a reference to the ham-handed administration of the US Anti-Proliferation Act towards the end of the Carter presidency.

Mrs Gandhi's demeanour throughout this conversation was in my experience extraordinary. She was direct to the point of being unguarded; no doubt she had heard it all before, but she gave no hint of calculating what to say. She was practised at tormenting the British about colonial rule, yet able to talk as a woman of the world. She gave no sign of trading on her political power. Manners aside, her courtesy was her frankness.

John Maddox