Remote sensing satellites

Landsat at centre of storm

Washington

THE Reagan Administration's plan to include the government's weather satellites in a possible sale of the Landsat remote sensing satellites to private business has run into trouble on Capitol Hill. Two panels of the House of Representatives Committee on Science and Technology last week launched hearings on the proposal and expressed "serious concern" about how the decision had been taken.

Representative James Scheuer, the New York Democrat who is chairman of the hearings, said the decision to include the weather satellites to make the purchase of the Landsat system more alluring appeared to have been taken despite a series of government studies concluding that the weather satellites should not be turned over to the private sector. In April 1982 the same conclusion was endorsed by the cabinet council on commerce and trade.

"Eight months later, that decision was apparently reversed, even though neither the cabinet council nor any of its work groups had met in the interval. In fact, if one examines the advice which the administration received in the interval, it is almost inconceivable to me that the decision could have been reversed", he commented.

Committee investigators trying to reconstruct the steps leading up to the decision to include the weather satellites in a sale have discovered that one potential buyer, Comsat Corporation, was allowed to take part in executive branch discussions of the issue, to which neither Congress nor other interested companies were invited. And Mr Malcolm Baldrige, the Secretary of Commerce, revealed during last week's hearings that his deputy secretary, Mr Guy Fiske, and several assistants had been taken off the Landsat negotiations after Comsat offered a job to Fiske while talks with the department were still in progress.

Disclosure of the close ties between the commerce department and Comsat makes it unlikely that Mr Baldrige will be able to press ahead rapidly with a search for potential Landsat and weather satellite buyers. Testifying for the first time since President Reagan announced the controversial proposal last month, the commerce secretary insisted that only by putting the Landsat system in the hands of a competent company with marketing expertise could the United States beat off competition from foreign countries seeking customers for data produced by their own satellites.

France would be launching the first in a series of four land sensing satellites next year, Mr Baldrige said. Japan, Canada, Germany, the European Space Agency, India and the Soviet Union are also planning remote sensing programmes. "It would be ironic if these countries, building on the skills developed in the United States,

established the kind of market that the National Oceanic and Atmospheric Administration (NOAA) can't and turned us into a net importer of satellite data products and services", he said.

But even Mr Baldrige had to admit that an acceptable buyer for Landsat might not turn up, because of all the military and diplomatic strings which the government would have to attach to a sale. Diplomatically, the United States would have to ensure that the proprietary claims of an owner would not undermine the "open skies" policy which made Landsat data available to the many foreign countries which depend on it for vital agricultural information.

The military strings would have to be knotted even tighter. The Department of Defense, in interagency talks on the sale, is insisting that some way be found to return the satellites to government control in an emergency. More difficult still, it wants to be able to screen new sensors attached to the satellites to ensure that they cannot detect information the Pentagon wants to keep secret.

According to Mr Baldrige, the only way to discover whether private companies could meet these conditions is to write them into a specification for bids and test the market. Members of the science committee, having learned that Comsat officials have met defence department experts to examine the military problems, have questioned whether a request for bids will give all companies an equal chance.

The administration argues that many organizations use Landsat data — mineral and energy companies, hydrologists, timber companies, fibre and food crop interests — but that NOAA is not able to exploit this potentially lucrative market as efficiently as a private company.

Many scientists, including officials within NOAA, believe that selling Landsat now would be premature since most of its custom comes from the federal government and it is likely to be six to ten years before the satellites could break even as a commercial venture. The administration concedes that buying Landsat might not appeal to the private sector unless the deal was sweetened by the inclusion of the weather satellites and a guarantee that the government would purchase the data the systems produced.

Representative Scheuer has made no secret of his view. He told Mr Baldrige last week that he agreed on the importance of an initiative to maintain the United States' dwindling technological lead in the satellite area. But he added: "I do not agree, nor do any of the experts who have looked at this problem, that we should sell a weather satellite system that is working well in order to cross-subsidize our land remote sensing capability".

Peter David

US space policy

Still behind closed doors?

Washington

DISCONTENT with US machinery for making policy on space has now provoked some in Congress to try to steal the initiative from the administration. Senator Ernest Hollings of South Carolina, the latest presidential hopeful to join the race for the Democratic nomination, has introduced a bill calling for the creation of a national space commission to overhaul space policy-making and wrest a degree of control from the National Security Council.

Introducing the bill last month, Senator Hollings said that the important decisions on space now took place behind closed doors and were dominated by the president's Space Interagency Group (SIG), an arm of the National Security Council.

The bill, the National Commission on Space Act, would set up a panel of 15 presidential nominees drawn from government, science and the private sector with a one-year mandate to review military and civilian space programmes and recommend legislative changes. It would be empowered to scrutinize government agencies, call hearings and conduct its own studies.

Supporters of the Hollings bill are taking as their text a report on civilian space policy prepared last year by the Office of Technology Assessment (OTA) in response to a request by the Senate Committee on Commerce, Science and Transportation, on which Senator Hollings is the ranking Democrat. The report contained harsh criticisms of existing policies, saying that institutions and principles underlying the American space effort have scarcely changed since the National Aeronautics and Space Act of 1958.

According to OTA, some kind of multi-representative forum is urgently needed to answer the big questions facing space policy: whether the United States is committed to exploring space; how it can become a reliable partner in international ventures; the role of government and private industry and whether the National Aeronautics and Space Administration (NASA) should continue to operate the shuttle once it has completed research and development.

OTA has also strongly criticized the composition of the Space Interagency Group under the Reagan Administration. Dr John Gibbons, OTA's director, has told Congress that by cutting out the private sector and excluding agencies such as the Departments of Agriculture and the Interior and the National Science Foundation, SIG had given "unambiguous control" over policy decisions to the military/intelligence community.

OTA's offensive against the present management of space policy is, however,

likely to continue. Another report, highly critical of the performance of the US delegation at last year's Unispace 82 meeting in Vienna, is about to be published and will argue that the failure to develop long-term domestic policy goals for space has damaged Washington's ability to use space technology as a tool of foreign policy. A prepublication draft of this report says the United States approached the UN-sponsored meeting warily and without enough preparation. The delegation's most obvious mistake was to try, on procedural grounds, to block discussion of the militarization of space — a tactic that merely antagonized other participants.

There were other blunders, too. The United States failed to soothe the fears of developing countries that the geostationary orbit was becoming congested by the satellites of the industrialized nations; nor did it allay anxieties that the confusion sur-

rounding the future of Landsat would jeopardize the availability of remote sensing data. OTA warns that these errors will rebound against the United States, which depends on developing countries for the coordination of critical space systems, such as the allocation of frequencies by the International Telecommunications Union.

A call for the creation of a space commission to take a new look at space priorities may have attractions for scientists as well as for politicians. Professor Arden Albee, chief scientist at the Jet Propulsion Laboratory at Pasadena, California, said it was clear that NASA's main focus was on big systems like the shuttle. He added: "Although its charter includes science, science has not received the level of focus it needs. If the commission resulted in a new look at the priorities of the civilian programme it would be helpful."

Peter David

Cambridge science park

Sowing a seed

THE relationship between the Cambridge Science Park and the University of Cambridge should be strengthened as the result of an interesting grant scheme proposed recently by Trinity College. Trinity, the park's founder and landlord, has announced that it will provide a total of £60,000 over three years to meet up to half the cost of employing two to three research staff for companies on the science park. The researchers would be full employees of the companies but would spend half their time in the university laboratories. This would give the companies access not only to the university equipment and libraries, which are already made available through Trinity, but also to the expertise of academics working on similar projects.

Trinity's involvement is to be purely financial. The researchers would have no academic relationship with Trinity, although it is hoped that they might teach in their university department. The projects would be arranged between company and university, with Trinity backing the most promising ideas.

The scheme has been met with restrained enthusiasm from companies on the science park. David Storey, managing director of LKB Biochrom, one of the earliest arrivals, sees the scheme as a step towards a better relationship with the university. The system is already working well, he says, but

Trinity — flying a flag for research

any further improvements would be good for industry. Storey says LKB could be keener if it were more involved in research.

In the short term, Trinity College stands to gain nothing from the arrangement but the goodwill of the science park and the university, but with only 56 acres of the 124 acre site developed, the investment of 0.5 per cent of the college's annual external revenue in public relations is a sound financial move. Many of the companies on Cambridge Science Park, such as Bethesda and LKB, are British subsidiaries of international concerns whose research and development is based elsewhere. Trinity hopes to tempt more of it to Cambridge.

Melanie Kee

Semiconductors

British venture nears turning-point

INMOS, the government-backed British microchip company, appears confident that it will reach profitability during 1984 if market conditions improve, despite the revelation in last week's annual report that the company made a loss last year of £20.4 million. Sales revenues increased over the year from £2.14 million in 1981 to £13.7 million and are expected to be double this amount next year.

The company now has three very large-scale integrated circuit memory devices in production at its new factory at Newport in Wales. Dr Richard Petritz, Inmos's managing director, said in his report that during 1983 Inmos will market a 64K erasable reprogrammable memory (EPROM) that will be clearly ahead of its competitors in specification and capacity. The company is also working on a new type of microprocessor called a "transputer". The device is said to be based on a "radically different" design approach and the company expects it to meet the demand for massive computing power in fifth generation "intelligent" computers. The transputer will use a new programming language called Occam, now being

evaluated. A company spokesman said that "excitement" about the transputer had been shown in several quarters, including some Japanese institutions.

The company's overall strategy is to develop products of very advanced specification and to hope that market demand follows. Inmos already claims 60 per cent of the world market for its very fast 16K static random-access memories (RAMs) and hopes for similar success with its new 64K dynamic RAMs. Static RAMs, though now a relatively small and specialized market area, are expected to find increasing applications in high-speed signal processing for military equipment and video systems. But Inmos will need to sell large quantities if it is to justify the high capital costs of its advanced fabrication equipment. Independent market opinions are less confident that Inmos will make headway against Japanese and United States competition with its dynamic access RAMs, where price may be more important than high performance.

The British Government's stake in Inmos is through the British Technology Group (BTG), which holds 75 per cent of the issued share capital. BTG's initial £50 million investment was made by the National Enterprise Board in 1978, when the company was set up by the Labour government. This was increased by an extra £15 million in January this year, but BTG, whose own future is being reviewed, is unlikely to be a further source of capital. Inmos says that it had always been foreseen that private sector investment would be sought during 1983-84, and Mr Malcolm Wilcox, a banker, was appointed chairman in January to carry out the task. With the major start-up costs of the Newport factory out of the way, and production on target, Mr Wilcox's job may just be possible.

Tim Beardsley