

tions systems. The policy sector has been studying developments in Canada and abroad, but particularly in the United States, as a basis for policies which would assure Canadians telecommunications services of high quality and growing variety.

In its March 1979 report the committee on the implications of telecommunications for Canadian sovereignty pointed out that in 10 years the domestic market for electronic products increased by 181%, but shipments by Canadian firms increased by only 149%. The bulk of the market growth was captured by imports, which increased by 283%. The adverse trade balance in the sector as a whole had grown to nearly \$1.27 billion by 1976, and was estimated to approaching \$2 billion in 1979.

In April 1979, the federal government announced a \$115-million product development fund to provide grants for developing new high-technology products by Canadian manufacturers. Another \$50 million was set aside to assist the Canadian electronics industry over the next three years. Part of this money would be used to expand the enterprise development program of the industry, trade and commerce department which assists large-scale projects that would not otherwise be carried out in Canada. The rest would be used to encourage increased Canadian use and production of micro-electronic devices or integrated circuits, the major components of new low-cost computers.

The policy sector examined such issues as the introduction of pay-television in Canada, the feasibility of distributing televised proceedings of the House of Commons by satellite, the effects of television on children, the principle of separating institutional control over transmission facilities from the content being distributed, and the provision of special telecommunications services for the physically handicapped. The department also analyzed the effects of a 1976 income tax amendment which does not allow advertisers to claim as deductions the cost of advertising on American television stations to reach the Canadian market.

The policy sector plays a major role in co-ordinating planning for communications in the North. A priority is the need for more northern-produced and native-language programming on the northern service of the Canadian Broadcasting Corporation. The sector is examining the best way of ensuring efficient communications for oil exploration on the northern continental shelf, especially by satellite.

Space. The department's space sector plans and co-ordinates social and technology experiments using the Hermes and Anik B satellites.

Hermes, the most powerful communications satellite in orbit, was the result of a co-operative program between DOC and the US National Aeronautics and Space Administration (NASA). Canada designed and built the spacecraft; the United States launched it and provided additional testing and components. The satellite, launched in January 1976 for a planned two-year mission in geostationary orbit, has been controlled and operated by DOC. Communications experiments began in April 1976, with Canada and the United States sharing satellite time equally. Hermes exceeded its design lifetime of two years; because of the success of the experiments and the continued satisfactory operation of the satellite, the original mission was expanded to continue until November 1979. In Canada, major experiments have been conducted in telehealth, tele-education, advanced technology, community interaction, TV broadcasting and government services, by universities, hospitals, federal and provincial departments, native organizations and industry. These experiments involve the use of a large number of earth stations with antennas ranging from 3 m (metres) in diameter, for two-way television, voice and data, to 60 cm (centimetres) in diameter for television receive-only under selected conditions.

The Anik B program continues the exploration and development of new communications services by satellite. The Hermes program demonstrated the technical feasibility of such services using satellites, and created awareness among potential users. The program will test their commercial feasibility through carefully selected pilot projects. It was planned that these would normally be of extended duration and conducted, as far as possible, under operational conditions. A number of technical experiments were also planned. The Anik B pilot projects are expected to lead to new commercial services by the Anik C or Anik D satellites. The satellite capacity for the