

Telesat Canada, incorporated in 1969, owns and operates the domestic satellite system that supplements Canada's terrestrial microwave system. In 1972, Telesat launched Anik A1, the world's first domestic communications satellite in geostationary orbit. Anik A2, launched in 1973, and Anik A3, launched in 1975, completed the first Anik series, ensuring reliable service and supporting future service expansion.

The first commercial service to Telesat customers began in January 1973, through a network of earth stations — facilities for transmitting and receiving satellite signals. There are now hundreds of earth stations, many of them privately owned, strategically located throughout Canada.

In 1978, Telesat launched Anik B, the world's first commercial dual-band or hybrid satellite. It operated at both the 6/4 Gigahertz (GHz) frequency used for terrestrial microwave services, and at the higher 14/12 GHz band. The Department of Communications (DOC) used four of Anik B's 12 channels for experimental purposes to continue the exploration and development of new satellite communications applications, including health and educational services such as Access Alberta and the Knowledge Network in British Columbia. The 14/12 GHz band was first used commercially in 1980 to bring French-language television programming to several communities in Quebec. Anik B was retired in 1986.

The C and D series of Anik satellites, operating respectively, at the 14/12 GHz and the 6/4 GHz frequencies, are providing television, radio, data and message services to Canada at present. The next generation is being developed for use in the 1990s. The Anik E series will feature larger, higher capacity, dual-band satellites purchased from Canada's space prime contractor Spar Aerospace Limited of Toronto and Montreal.

Telesat Canada is also developing plans to offer mobile satellite communications service, MSAT, on a commercial basis by late 1992, therefore Canada could become the first country in the world with this type of service. The project was conceived by DOC to satisfy national needs for improved mobile communications in isolated and sparsely populated areas. Using a relatively small and inexpensive radio terminal, MSAT users will be able to communicate directly by satellite to virtually anywhere in the country.

Transportation, trucking, mining, exploration, forestry, agriculture, fishing, construction, manufacturing, and service industries are among those to benefit from MSAT's voice and data services. Governments will use MSAT for emergency medical services, disaster relief, resource

management, law enforcement and to assist pollution clean-up. MSAT is expected to create many new business opportunities for Canadian industry in domestic and export markets and to develop new skills in Canada's labour force.

The development of Very Small Aperture Transmitter (VSAT) network service started with the introduction of Telesat Anikom 200 service followed by CANCOM Satlink service. In addition, CNCP announced the introduction of its own VSAT system. VSAT network is a two-way point-to-multipoint satellite service, consisting of a master hub earth station, controlling a large number of small and relatively inexpensive earth stations, directly located at customer site for the purpose of carrying various telecommunications services between served sites and the controlled central processing centre. VSAT is expected to be one of the major growing satellite services in the next decade.

14.1.4 Additional telecommunications services

The application of new information technologies has enabled Canadian carriers and federal agencies to provide an increasing range of telecommunications services. The following new services have been introduced by Canadian carriers in the past few years.

iNet 2000: A service providing message store-and-forward compatibility and access to on-line data bases using the Datapac packet-switched network.

900 Service: A service permitting telephone subscribers to access recorded announcement and voting facilities in Canada and the United States.

Conference 600: A satellite-based, point-to-point, colour video conference service; now being extended through an interconnection agreement with Teleglobe Canada to overseas locations, initially the United Kingdom and France.

Teletex: A high-speed text transmission service conforming to international (CCITT) standards; available on the domestic telephone and other public networks, with connections to the United States and some European countries.

Centrex III: A business service based on central office digital switching and digital transmission to multiple subscriber-premises located anywhere in a local calling area; an integrated voice/data system complementary to existing voice service.

Anikom: A family of domestic satellite services for voice, video and data applications. Inexpensive earth-station terminals are available, including VSAT.