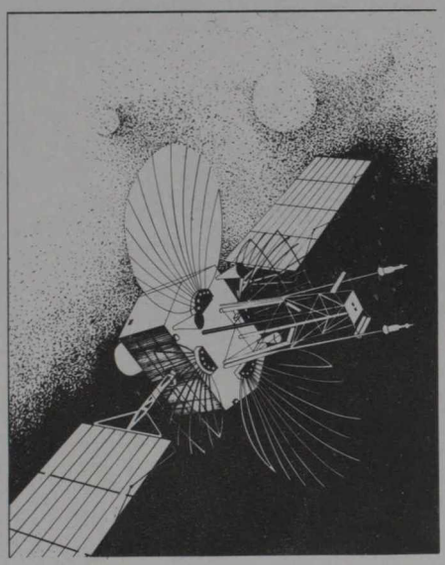
TELEGLOBE CANADA

Over 5,000 years passed from the time man learned to write until he invented the printing press. Another 400 years passed before the telegraph brought instant communication between distant points. Since the invention of the telephone a century ago, the time intervals have been shortening between major new developments in communications—phonograph records, linotype machines, high-speed rotary presses and the modern mass circulation newspaper, motion pictures, radio, television, computers, and, a little better than ten years ago, the communications satelite.

The telegraph did not die with the coming of the telephone, in fact it developed under new forms such as teletype, telex, and TWX. Likewise, newspapers did not wither the enormous popularity of radio. Nor did television kill radio, newspapers, magazines, or movie theatres as many had predicted. Indeed they have all changed, but they have not disappeared.

We live in an age of revolution in communication, there have been enormous changes in the first three quarters of this century and there may be as many more in the last quarter. Some people are talking about push buttons which can be used to call an enormous array of information on to a screen ; of mail and newspapers being delivered to homes on screens ; catalogues constantly on electronic call; of two-way television; of direct satellite-to-home television transmission.

It seems only yesterday but it was in 1950 that a few high frequency radio and telegraph cable circuits were the extent of Canada's overseas telecommunication facilites. It's not quite twenty years yet since the first transatlantic coaxial cable TAT I with its 36 circuits made reliable overseas



telephone service possible. Today, an, impressive array of cables, satellites, and sophisticated telecommunications equipment is conquering time and distance, creating an instant world.

Canadians telephone around the world almost as easily as they call across town. Businessmen contact overseas clients rapidly on telex. From thousands of miles away, television viewers round the world receive live satellite coverage of major sports events, such as the 1976 Olympic Games.

Behind this capability, accepted as common place today, lies a complex global communications system. Teleglobe Canada—formerly Canadian Overseas Telecommunication Corporation—which interfaces with domestic telephone companies and other telecommunications carriers, provides the link between Canada and almost every country in the world. Its mandate is to establish, maintain and operate Canada's external telecommunications services and to coordinate their use with the services of other countries.

When Teleglobe Canada was established as a Crown Corporation in 1950, it acquired existing facilities which amounted to three telephone and thirteen telegraph circuits. Today, more than twenty-five years later, the Corporation has built up a vast, modern international telecomunications system mainly through interconnections with global networks of submarine cables and communications satellite circuits, and international telecommunication agencies around the world become increasingly conscious of the crucial need for planning "ahead" to cope with the "demands of the times." The necessity for major network and facility "restructuring" becomes obvious. The widespread introduction of international direct distance dialing (DDD) also requires that the newly evolving backbone structure be designed to accommodate the increased continuity of service demands. Under IDDD, the ability of the total network to cope with failure of any one element of the system becomes much more critical since operator "management" of the customer is no longer possible. In the past, network failures resulted in waiting queues under operator control. With IDDD, such failures could result in an avalanche of repeated call attempts which, if not properly accommodated, could seriously degrade, or even freeze-out the entire network.

The main thrust of the demand for new services stems primarily from the widespread introduction of computer techniques in the business world. Over the past five years, the use of computers for commercial application has reached a state of absorption whereby their use is considered a prerequisite for effective competition. This has created a demand for transmission of computerized information between businesses both domestically and internationally, and the volume of such data flow