

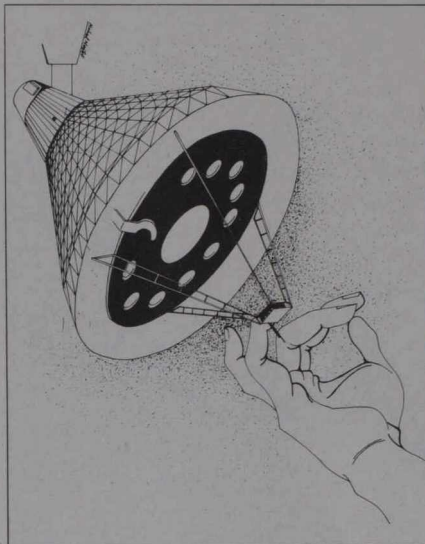
will accelerate over the coming years as the development of total integrated computerized business systems matures and expands.

Since new major facilities, on the average, require periods of up to five years between definition of requirement and full implementation, a concerted, systematic, integrated planning and implementation process is underway at Teleglobe Canada.

Over the past ten years, there has been ample proof that the Corporation has kept ahead of the times :

- Computerized telex exchange in Montreal (COMTEX)
- Mill Village 2 Satellite Communication Earth Station
- 800-channel broadband cable system between Bermuda and Mill Village (CANBER)
- Lake Cowichan Satellite Communication Earth Station Complex.
- New Telephone Exchange in Toronto
- 1800-channel broadband cable system between Canada and the U.K. (CANTAT 2)
- Complete refurbishment of the old Mill Village 1 experimental terminal and translation in to a fully commercial system.
- A private wire message switching service.

In the months to come, a futuristic new telephone exchange is planned at Montreal which, while basically following the same cross-bar network concept as the existing exchange, will employ dual computer processors and solid state memory to accomplish common-control functions currently accomplished with electro-mechanical equipment. It will incorporate such features as automatic call recording, automatic testing and



maintenance, call trace indicator, etc., and will be capable of accommodating future common channel signalling systems.

Judging from the accelerated growth of international telex services, the existing COMTEX exchange is projected to reach design life saturation as very soon a new computerized system of extended capacity, known as ELTEX, will, in addition to providing for increased capacity, include newly designed operator positions incorporating major improvements in the Operator/Computer interface.

Although of improved capacity, basically due to the use of newer, updated, faster-acting computers, to ELTEX system is limited in its ability towards linear expansion in that the centralized computer system can be projected to reach the limit of its computing speed within a five-to-ten-year period. Because of this limitation, Teleglobe has contracted with the Canadian Marconi Company for the development of a non-blocking telex exchange using mini-computer technology and a time division multiple access concept.

The rate of growth of the basic telephone service, when considered

in light of the continuity of service objectives dictated by IDDD, indicated the necessity for a substantial increase in cable capacity and diversity over the Atlantic in the late 1970s and mid-1980s. Current corporate planning is concentrated on a comparison of alternatives which included purchase of IRUs (Indefeasible right of user circuits in cables owned by other administrations), lease of circuits and partnership participation in the construction of new cables. Although the optimum choice is dependent on many factors, including plans of all administrations involved, major participation by Teleglobe Canada in one form or another in major cable facility provisioning across the Atlantic over the next decade is considered inevitable.

The construction of CANTAT 2 signaled the beginning of an era of very high capacity cable systems. Although every means possible has been taken to protect these new cables, including burial along continental shelves, it is considered a necessity to develop a capability toward recovery and repair as an insurance policy against potential failure mechanisms. Accordingly, Teleglobe Canada, American Telephone and Telegraph, the Post Office (U.K.), Cable and Wireless Limited and the Ministère des Postes, Télégraphes et Téléphones de France, are currently planning development of a remote controlled submersible vehicle known as SCARAB (Submersible Craft Assist Repair and Burial) for introduction by late 1976. This craft would allow for remote controlled recovery of damaged buried cable and reburial following repair. The Corporation is also involved in the development of a magnetometer system for detection of buried cables as well as a number of other cable repair devices.