optic structures, an extensive 3,200 km "lightwave highway", that carries traditional long distance messages and extends computer and cable TV services to many communities throughout the province. Ultimately, the network has paved the way for a vast array of new convenience services including security alarms, remote metering, ambulance alerting—the list is virtually endless.

Bell Canada is using fibre optic cable in all future inter-office trunk systems. This heralds a new fibre era not unlike the introduction of digital transmission (T-1 carrier) in the late 1960s but with a vastly increased transmission capability for a multitude of potential new services.

Telecom Canada started implementation in 1986 of a new national telecommunications network based on optoelectronics technology to be completed by 1991. An enhancement to the existing digital facilities, the fibre optic network will extend the supply of this high-performance, high-capacity transmission medium for integrated voice, data and image communications well into the next century. The bandwidth of fibre optics and its cost-effectiveness as a transmission link between and among central office switches and transmission systems, make it a key element in evolving the concept of ISDN.

The most prominent company in the Canadian fibre optics field is Northern Telecom. The company has the major Canadian capability of supplying fibre optics cable plus electronic and optical hardware—completely integrated systems. Canstar Communications and Phillips Cables Ltd. are among other Canadian companies providing fibre optics systems.

SPACE COMMUNICATIONS

CANADA ALWAYS HAS HAD a keen and active interest in space. As the third nation to design and built a satellite, following the Soviet Union and the United States, Canada launched its first spacecraft, Alouette 1, from a United States test range in September 1962.

In the intervening years, this Canadian expertise has been maintained with a series of more sophisticated satellites and new services. In November 1972, with the successful launch of *ANIK-A*, Canada became

SPAR AEROSPACE: Custom stitching of insulation material for European satellite Olympus.