hundreds of co-operating telephone companies, the radio and television companies and federal communications organizations work together with a common purpose—building networks of telecommunications from coast to coast.

The major railways, the Canadian National and Canadian Pacific, in addition to meeting their own railway communication needs, provide a wide range of services including telegram and cablegram service, data processing systems, radio and television network services, facsimile and wire photo services, telemetering, complex teletype and data switching centres, and other forms of voice and record communications. At the end of 1964, there were about 8,000 customer installations in Canada for Canadian National–Canadian Pacific telex service; each installation has access to the other and also to world-wide telex networks in other countries.

In 1963, Canadian National–Canadian Pacific completed construction of a high-grade microwave radio relay system between Montreal and Vancouver. This system is capable of carrying 600 voice channels which are used for the transmission of all forms of voice and record communications and can be expanded readily by the addition of radio channels to provide network television service or increased circuitry for general communications use. This system links up with the railway microwave facilities running east from Montreal to St. John's in Newfoundland and thus completes the railways' transcontinental microwave capability. In 1965, CN–CP constructed a microwave link between Toronto and Buffalo to provide interconnection with the Western Union Telegraph Company's microwave system in the United States.

Increased civil and military interests in the Canadian northwest have created a need for all forms of communications services and to meet this need the Canadian National Telecommunications (CNT) has undertaken several major projects:—

(1) A 1,200-mile microwave system between northern Alberta and the Yukon–Alaska border was completed in July 1961. Starting at Grande Prairie, 450 miles north of Edmonton, this network proceeds northward through Alberta, crosses the northeast corner of British Columbia and, following the Alaska Highway through Yukon Territory, joins an interchange system at Mount Dave on the Yukon–Alaska border. At Grande Prairie, the system joins the Alberta Government Telephones system running southward through Alberta to the Canada–United States border, where it connects with United States networks.

(2) Construction was completed in mid-1961 of a land-line communications network stretching around Great Slave Lake from Fort Smith on the Alberta–Northwest Territories border to Yellowknife, bringing the full range of communications services to residents of Yellowknife, Fort Rae, Fort Providence, Hay River, Pine Point and Fort Smith. This network is connected to the 'outside' by a microwave system between Hay River and Edmonton; the section of the microwave system within the Northwest Territories was constructed by CNT and the Alberta section by Alberta Government Telephones.

(3) Construction was completed in late 1962 of a tropospheric scatter communications system that extends from Hay River in the Northwest Territories to Lady Franklin Point on Victoria Island in the Arctic Archipelago. This system is used for defence purposes and enables CNT to provide various types of communication service to such outlying communities as Coppermine and Cambridge Bay.

(4) A 1,200-mile telephone pole-line is under construction down the length of the Mackenzie River from Hay River to Inuvik which, when completed in 1966, will provide simultaneous long-distance telephone, teletype, telex, commercial telegraphs, air operational and weather communications to Fort Simpson, Wrigley, Fort Norman, Norman Wells, Fort Good Hope and Inuvik; Aklavik, Fort McPherson and Arctic Red River will be linked to the system at Inuvik by very-high-frequency radio communications. Service will be instituted at successive communities as construction of the line proceeds northward.

Subsection 1.—Government Control over Telecommunications Agencies

Telephone and telegraph companies incorporated under the Federal Parliament are subject to the jurisdiction of the Board of Transport Commissioners in the matter of rates and practices under the provisions of the Railway Act (see pp. 757-758); other companies are responsible to provincial regulatory bodies. International telegraph and telephone communications are handled subject to the International Telecommunication Convention