institutions, government and military agencies, hospitals, offices and residences. Its products include switching and transmission systems, fibre optics and communications cable, subscriber switching systems, telephone apparatus, outside plant and other equipment for public and private communications networks.

## International experience

Northern Telecom Limited spans the world with operating companies and sales offices. The three main operating companies are Northern Telecom Inc., the U.S. subsidiary; Northern Telecom Canada Ltd., which is responsible for Canadian, Canbbean and Latin American operations; and Northern Telecom World Trade, based in Mississauga, Ontario. Northern Telecom World Trade provides the focus for Northern Telecom's global activities. It comprises Northern Telecom Europe, NT Mendian SA (France). Netas (Turkey), Northern Telecom GmbH (West Germany), and Northern Telecom Pacific Limited, Tong Guang Nortel Limited (People's Republic of China), Northern Telecom Japan Inc., Northern Telecom (Asia) Limited, and AWA – Nortel Pty. These companies and sales offices are located in major centres around the world in order to be close to their clients. This promotes the understanding of local requirements and allows a high level of service.

The cornerstone of Northern Telecom's approach to international marketing is flexibility. It employs a combination of marketing methods: direct sales in some 60 countries; wholly owned subsidiaries in key markets with manufacturing or service facilities for both domestic sale and export; technology licensing and transfer for local application and production; joint ventures involving equity participation; and alliances with other companies in the telecommunications and data processing industnes.

Northern Telecom is the second largest designer and manufacturer of telecommunications equipment in this market. Its products are in operation in the Middle East, the Far East, Central and South America and virtually all West European countries.

One of its most noteworthy joint venture examples is in Turkey. Two decades ago, the Turkish Post, Telegraph and Telephone Administration chose the corporation as the supplier to revitalize its switching network. This led to the creation of a joint manufacturing venture called Netas. Netas has helped the Turkish PT&T add worldclass fully digital telecommunications systems and components to its growing network. Thousands of jobs have been created in the joint venture, and many thousands more throughout the country because of improved telecommunications service. Turkish interests are majority owners of the company.

In Japan, Northern Telecom became the first foreign telecommunications firm to meet the ngorous central office switching standards of the Nippon Telephone and Telegraph Corporation (NTT). It has been awarded a significant supply agreement to provide NTT with digital switching systems for the Japanese public telephone network, which is now successfully implemented. Northern Telecom's selection by NTT was based on many competitive factors, especially its suitability and adaptability to support Japan's goal of a nation-wide integrated services digital network (ISDN).

Marketing success is also being achieved by Northern Telecom in China, Korea, Singapore and other Pacific countries. In the Americas, Northern Telecom is the largest telecommunications equipment supplier in Canada and the Caribbean, and second in the United States, the world's largest market.

The corporation's international success in some 90 nations is based on leading-edge technology and commitment to service. That includes adapting technology to meet specific local safety and technical requirements, delivering the product on schedule and providing ongoing support and customer service. Those elements will continue to play key roles in the company's future.

## Company background

Northern Telecom Limited is 52.5 per cent owned by BCE Inc., a management holding corporation whose other holdings include major providers of telecommunications services, international telecommunications consulting services, natural gas transportation, natural resource operations, printing, packaging, publishing, real estate and other activities.

The corporation employs nearly 50 000 people throughout the world and operates 24 manufacturing plants in Canada, 13 in the United States, one in the Republic of Ireland, and two in Malaysia. Research and development is conducted by Bell-Northern Research, a subsidiary that operates facilities in nine locations, including three in Canada, five in the United States and one in the United Kingdom.

## NovAtel Communications Ltd.

1020 – 64th Avenue N.E. Calgary, AB T2E 7V8 Telephone: (403) 295-4500 Telex: 03-821264 Fax: (403) 295-0230 KEY PERSONNEL: Del Lippert, President, Chief Executive Officer Dave McDowell, Vice President, Marketing Ashok Panchmatia, Director, International Sales

NovAtel Communications Ltd. designs and manufactures a complete line of cellular mobile radiotelephones and systems including 400 MHz and 450 MHz systems, and 800 MHz systems that comply with the IEEE-1S3-C protocol and total access communications systems (TACS), protocol 900 MHz. These products are available in mobile, transportable or fixed configurations.

On the systems side of cellular radio, NovAtel's expertise includes design, integration and software development (call processing, database, maintenance and mobile protocol) for the switching and control portions and the manufacture of base station cell site RF equipment. Its cellular systems can operate either independently at 400 MHz, 450 MHz, 800 MHz and 900 MHz or simultaneously in a combination of frequency ranges. For turnkey projects, NovAtel services range from RF design and computer modelling of RF propagation to traffic management studies, final installation, test and maintenance.