companies have responded with vigour. In 1980, 90 per cent of all domestic production of computing equipment was being exported.

It has been estimated that, for every dollar's worth of installed computer hardware, two dollars' worth of software has been generated. In software development, as well as in the closely related area of systems development, Canadian firms have particularly made their mark.

Both in hardware and software, Canadians have shown an aptitude in the application of data processing techniques to an infinite variety of practical problems. Besides extensive experience in computerization in financial institutions, industry and business in general, and in scientific applications, Canadian firms have developed highly specialized computer applications, such as in the telecommunications and transportation industries as well as in the resources and energy sector.

In the development of a hardware technology, Canadian companies have been particularly successful–at home and abroad–with data entry systems employing multiple key-to-disc techniques. These systems, which feature integrated data communications capabilities, represent a technology pioneered in Canada. Systems of this kind are being sold in more than 30 countries.

Word Processing Systems

Canada has a lead in the design and manufacture of word processing systems, and is actively pursuing technological advances leading to office automation or, as it has been called, the "electronic office." Canadian firms have already sold word processing systems in more than 80 countries.

Intelligent video display terminals are being manufactured by a score of Canadian companies. In many cases, their worldwide success has been assured by these companies' ability to tailor their products to specific needs–notably in the areas of graphic display, computer-aided learning, and industrial data collection and manipulation. An outstanding example of this is the development of a special, high-resolution terminal for Canada's Telidon videotex system.

Canadian technology has been in the forefront in the field of data communications. In 1973, Dataroute was the first long-distance, dedicated digital data communications system in the world. In 1976, Canada led the rest of the world in the development of packet switching, a digital data communications technique leading to until then unheard-of efficiencies in computer intercommunication.

In the area of data processing services, and particularly software-related services, Canada has already demonstrated world-class development expertise, which has been applied by Canadians to a wide range of requirements within the country.

Canada counts among its educational institutions several that have a world name in the area of software development, and produce top-notch data processing professionals.

In the systems area, Canadians have developed particular expertise in the application of microprocessor technology to industrial control, and in the integration of industrial process control and business data systems.

Custom-designed, on-line computer systems for banks, hospitals, and the retail industry, as well as for more

Telidon Technology Takes Hold Abroad

TELIDON, Canada's two-way television technology, is expanding in Canada and around the world.

Teleglobe Canada, the Crown corporation which operates Canada's international telecommunications network, is introducing the first international Telidon information network, called Novatex. The data base will be available to international organizations by way of standard telephones and data networks through Canadian embassies abroad.

Telidon terminals have been installed in Canadian embassies and consulates in Washington, Chicago, Bonn, Mexico City, Brussels and London. A total of 19 missions, including several in the Far East will have Telidon terminals in place by mid-1982.

The Novatex data base uses a Telidon data base to provide information to specific industries such as mining and metals, agriculture and food processing, energy and international trade.

Up to 100,000 pages of information will be stored in a central computer in Toronto. The overseas machines will be connected to the central information bank by long-distance telephone and data lines.

Because of the interactive nature of Telidon, the organizations can use Novatex to send their own private, internal information to branch offices throughout the world.

Telidon is being used in Caracas to help the Venezuelan government streamline its operations.

The videotex system, developed by Canada's federal Department of Communications, is supervised by Venezuela's Central Office of Statistics and Information (OCEI) to provide the public with consistent "one-stop" information on government programs.

With the Canadian system the OCEI, in conjunction with other ministries, can provide instantaneous, accurate government information on all government policies.

Terminals are distributed among various institutions in Venezuela for information input and appear in such public places as airports, libraries, post offices and government tourism offices.

The Canadian system provides that someone seeking information need only visit or phone one of the user terminals to discover exactly what is required for a particular permit or program and the fee, if one is applicable.

In the first stage, the OCEI is providing government, health, welfare, tourism, and educational program information to residents of the capital. Public information will be stored in the system as well as demographic information and statistics. The highest priority has been given to emergency information–medical, fire and police.

The Venezuelan government plans to purchase a further 70 Telidon user terminals, at an estimated cost of $1 million, if the initial one year experiment works as well as is expected.

The final stage of the program would see a Telidon terminal in every Venezuelan home, providing government information and other services–such as at-home banking and grocery shopping, and news programming–on a pay-by-use basis.

Users of the Telidon system are able to retrieve, by phone or interactive cable, information stored in computer data bases and have it displayed on modified TV receivers or business video terminals. Telidon has a capability allowing users to transmit graphic, tonal or textual information to each other or to a data bank. Connected to the TV is a push-button unit like a pocket calculator or a keyboard unit like a typewriter for retrieving or inserting information.

In North America, Telidon will bring news, advertizing, shopping, mail, banking facilities and education into the home over the telephone, cable or broadcast networks. Users will be able to make airplane reservations and carry out banking transactions without leaving the home.

Telidon equipment is being manufactured by Canadian companies such as Electrohome Limited, Northern Telecom, SED Systems Incorporated, Microtel Pacific, and Norpak Limited.