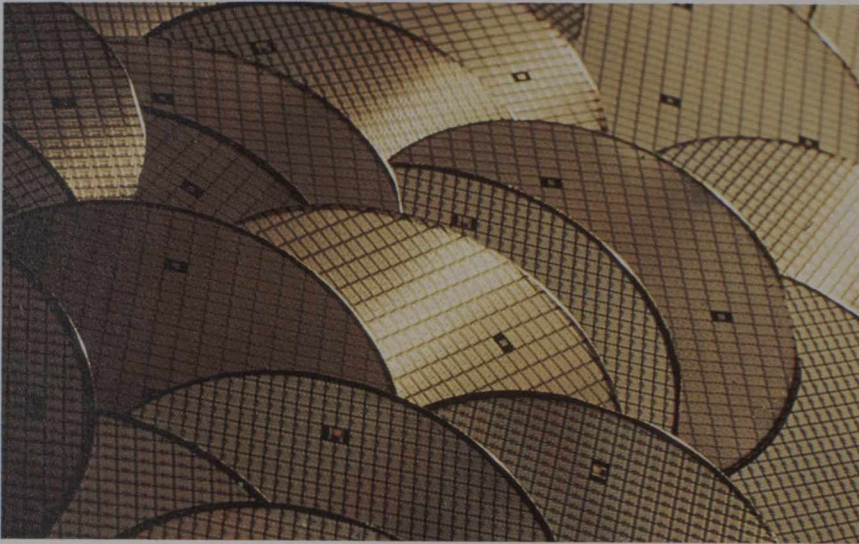


Canadian computer expertise focuses on specialised areas



Processed silicon wafers each containing hundreds of chips

Photo: External Affairs

Canada's international computer industry consists of more than 125 companies that operate globally and make Canada the world's eighth largest exporter of computer equipment. Together, the companies form a strong, highly regarded industry that offers state-of-the-art components and services.

But the industry also has a problem. Because of its close proximity to the United States, the Canadian industry faces competitive challenges not found anywhere else. In world markets, there is a danger that it will be overshadowed or even overlooked.

For this reason, Canadian computer companies have opted not to challenge the (primarily US) multinational suppliers of general-purpose computers and associated hardware. Instead, they have concentrated on the design and manufacture of innovative products for which the need is not being met by other nations.

In particular, Canada's ability to supply custom-made software, designed to handle unusual and complex situations, is increasingly being recognised internationally.



Photo: External Affairs

Here's where Canadian firms excel

- Canada's lead in word processing systems is internationally recognised, with products being sold in more than 80 countries. Suppliers are now moving into the Integrated Electronic Office Systems.
- Canadian manufacturers of intelligent computer terminals export their products worldwide to serve a variety of needs. Some terminals are particularly suited to graphics, while others are geared towards computer-aided learning and industrial data collection. A special high resolution terminal has been developed for Telidon, Canada's contribution to the world of interactive video technology.
- Canadian suppliers are also very active in the field of CAD/CAM graphics with specialised terminals and software languages.
- Data communications products have been developed in Canada to link computers to different data networks, including packet switching.
- Canadian firms are also at the forefront of developing custom-designed on-line computer systems for banks, fleet management, hospitals, stockbrokers, mapmaking and retailing applications, using the latest advances in distributed data processing.
- Canadian manufacturers produce proprietary software packages in data base management, file retrieval and user-friendly software productivity tools.
- Desk-top microprocessors are available for financial management applications in small businesses.
- Canadian firms have generated specialised data bases to provide quick reference to financial, legal and literary areas, economics, current events and other subjects.
- Canadian designed microcomputers are capable of receiving a wide variety of software services through cable television networks. With this technology, it is possible to create a communications network that gives home-computer users access to large computer data-bases at a small cost relative to existing distribution methods.

Canada's University of Waterloo chosen to computerise the OED

Earlier this year, Canada's strength in the computer field was forcefully underlined when the Oxford University Press chose Canada's University of Waterloo to help computerise the Oxford English Dictionary (OED).

The University of Waterloo has long enjoyed a reputation for supplying the best in computer software and computer services. But it was nonetheless pleased to be chosen ahead of 13 high-technology firms and other universities, which were also keen to take on the challenge.

And a challenge is just what the job will be. From 'a' to 'zymurgy', the OED contains 500 000 entries, defined in 60 million words, presented on

21 000 pages and contained in 16 volumes and four supplements. In computer terms, that means it will take some 500 million keystrokes to transcribe – a task that will keep 120 keyboard operators busy for 18 months.

Altogether, the total time for transforming the dictionary into computer software is likely to be anywhere from two to four years. In contrast, it took 44 years to publish the final printed volume after the first was published in 1884.

Immediate changes will be possible

At the moment, the 'data base' of the OED – the information on which it is founded – is stored in