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EXPO 86™

1986 World Exposition – Vancouver, BC
May 2 – October 13

Canadian computer companies are leaders in developing new software and hardware and they are rapidly expanding their international markets. This issue features articles on trade within the industry and related articles on recent computer technologies and applications.

External Information Services Division
External Affairs Canada Affaires extérieures Canada

World's first interior bus elevator

Transport Canada has introduced the first intercity bus that is completely "accessible" to people in wheelchairs. Its main feature is an elevator, believed to be the first in the world to operate inside a bus, which enables wheelchair passengers to sit alongside other passengers.

With the hydraulic elevator down, wheelchair passengers can board or disembark from the bus almost at street level. The driver raises or lowers the computer-operated lift with hand controls. On board, the wheelchair is tied down by the driver and, for added safety, passengers wear seat belts.

Co-operative effort

The design and fabrication of the inside elevator and structural changes to a regular intercity bus was completed by an Ottawa engineering firm, TES Limited. The adaptations were made to a new model built by Motor Coach Industries (MCI) of Winnipeg, Manitoba. Funding amounting to some $800 000 was provided by Transport Canada.

To have a door on the elevator large enough for a person to walk through, the designers used a bridge truss to take the load around the elevator that is normally carried along the side of a bus.

The major modification inside the bus was the removal of eight of the 47 regular passenger seats and the addition of two wheelchair seats, cutting the loss to six seats. A new version being built by MCI and TES will have up to eight permanent folding seats to accommodate passengers when the space is not required for disabled people.

Prior to the development of the new technology for the inside elevator, various types of existing elevators "folded out" on vehicles and lifted passengers to the floor level on the outside. From there the person would wheel into the vehicle.

For the wheelchair passengers, there are many disadvantages to this type of elevator. If something goes wrong, a disabled passenger risks sliding off the platform and possibly falling to the ground. In addition, they are needlessly exposed, perched helplessly in the air while the lift grinds away, and subject to all extremes in weather conditions including rain and snow.

Transport Canada

Inside elevator on intercity bus allows easy access for disabled passengers.

Testing in Newfoundland

The new accessible bus began a three-year trial with TerraTransport in Newfoundland in February 1985. The province was considered ideal for testing the prototype as there are no passenger trains and intercity bus is the only surface transportation linking cities and towns.

The initial test period was very successful. Operating two regular trips a week, one a distance of 960 kilometres and the other of 560 kilometres, there have been only two minor technical problems with the elevator.

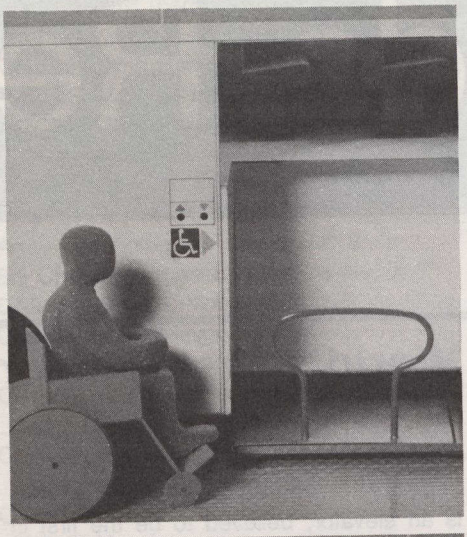
Further, Milton House of Transport Canada reported that some five disabled people have used the service a month. "It may not sound like many but considering the bus is on the road for a basic eight trips a month it is obviously meeting a real need," he added.

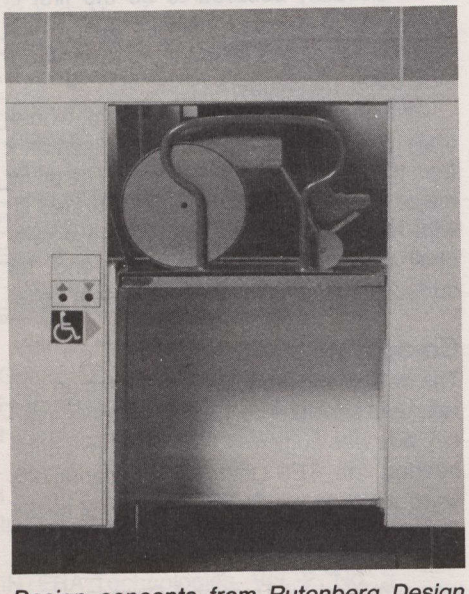
Interest in the bus and the new technology is growing not only in Canada, but in the United States, as well.

Officials from the state of Massachusetts viewed the demonstration prototype in St. John's and ordered six as part of a 26-bus order from MCI. Boston Transit will operate the buses on park-and-ride routes between the suburbs and the city core.

MCI now forecasts a potential market for 150 000 accessible buses on US commuter routes. At $200 000 a bus, sales could reach as high as $30 billion.

There are plans to demonstrate a prototype of the *Mark II* version across Canada and at Expo 86. Also the new bus will be exhibited at Handex 86, China's first national exhibition on care for the disabled. TES president Laurin Garland said that China asked his firm to give a seminar at the exhibition, that is expected to increase export opportunities for the technology.





Design concepts from Rutenberg Design Inc. show how a passenger is transported some 100 centimetres inside the bus from the curb to seating level.

Transport Canada

Prototype MCI bus has enjoyed a successful year on TerraTransport routes in Newfoundland.

Continued aid for Haiti

Minister for External Relations Monique Vézina, in a statement released February 7, stressed that Canada remains committed to support and assist the people of Haiti in their current situation. Following are excerpts from her speech:

Our concern for the respect of human rights and for the well-being of the population has dominated our approach to Haiti and determined the tone and content of our relations with its government.

Today, Haiti begins a new era. A provisional government has replaced the administration of Jean-Claude Duvalier. The Haitian people hope for a new and better future. All Canadians, I know, share that hope and wish them well. We look forward to the eventual establishment of democracy and to a government committed to the protection of the rights and freedoms of its citizens.

A new beginning brings with it opportunities and also great challenges. The government of Canada is aware of the difficulties and of the special needs that the new government of Haiti faces as it begins its difficult task. We pledge to maintain our commitment to the improvement of the lives of the Haitian people, and are ready to make a significant effort to assist in meeting the urgent needs that Haiti now faces.

Southern Africa conference

Government leader in the Senate, Duff Roblin, led the Canadian delegation to the annual meeting of the Southern African Development Co-ordination Conference (SADCC) in Harare, Zimbabwe, January 30-31.

At the conference, Senator Roblin reaffirmed Canada's commitment to provide $120 million over the next five years to implement development projects. SADCC was established by nine African states (Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe) in Lusaka in 1980 to reduce external dependence and foster regional integration.

Malawi visit

Following the conference, February 1-5, Senator Roblin visited Malawi, where he met with Malawi's leaders to review relations with Canada. Together with President Banda of Malawi he opened the Natural Resources College, an integrated facility for the training of extension workers. Canadian development assistance funds were used to build the College and train several of its staff.

Seeking more trade and investment with Britain

Minister for International Trade James Kelleher visited London, England from February 9-10, where he emphasized the importance of Britain and Western Europe in Canada's trade strategy.

In talks with Secretary of State for Trade and Industry Paul Channon, Mr. Kelleher stressed Canada's interest in an enhanced trading relationship with Britain and the European Community. He highlighted the valuable role that Britain can play in assisting Canadian interests in Western Europe and expressed the desire for even greater trade and industrial links between the two countries.

Major trade partners

Currently Britain is Canada's third largest market for exports and largest market for manufactured products outside the United States. Since 1983, Canadian exports to Britain, which vary from traditional exports like plywood, newsprint and lumber to fully manufactured goods, have amounted to some $2.5 billion annually. Canada's exports to Western Europe totalled $8.1 billion in 1984.

Britain is also Canada's second largest source of foreign investment. More than 550 British corporations have operations in Canada and their total investment exceeds $7.5 billion.

In a speech to the Canada-United Kingdom Chamber of Commerce attended by some 150 representatives from London's financial and business communities, Mr. Kelleher said Canada has "embarked on a very deliberate and steady policy to re-invigorate, rebuild and strengthen our bilateral economic relations with Britain and with Europe". He added that the government has "identified electronics, forest products, machinery and equipment and processed food products as central" to Canada's export strategy in Britain.

Industrial co-operation

Concerning investment, Mr. Kelleher highlighted Canada's interest in promoting more industrial co-operation with Britain. He said there were "excellent opportunities" for British participation in "industrial and high tech fields, including computers (both hardware and software), offshore oil and gas equipment and services, and automotive parts". He also pointed out that the first investment counsellor has been placed in the high commission in London to assist British firms interested in investing in Canada.

Mr. Kelleher stressed as well that Canada's "trade interests are global, and any agreement we conclude with the US must also meet our obligations to our other trading partners and to the General Agreement on Tariffs and Trade". He added that Canada is "deeply committed to the rejuvenation and expansion of the multilateral trading system".

A round table meeting was convened by Mr. Kelleher with Canada's heads of mission and senior trade officers in the 12 top markets in Western Europe to assess the new opportunities that are expected to open up with more favourable exchange rates and a growing European economy. Steps were taken to chart a course of action to allow Canada to take advantage of its improving competitive position in European markets.

Canapress

Mr. Kelleher talks with Deputy Trade Minister Joseph Stanford prior to the meeting in London of ambassadors and senior trade commissioners from 12 European posts.

Peru's leaders visit

Peruvian Prime Minister and Finance Minister Luis Alva Castro and Foreign Minister Allan Wagner Tizon visited Canada, February 10-12, to discuss bilateral and international issues of concern to both countries.

PMO

Prime Minister Brian Mulroney (right) *met with Prime Minister Luis Alva Castro in Ottawa.*

In meetings with Prime Minister Brian Mulroney, Minister of Finance Michael Wilson, Secretary of State for External Affairs Joe Clark and Minister of External Relations Monique Vézina, the global economic situation, including the problems of servicing the external debt of developing countries, of increasing protectionism and of deteriorating trade owing to lower prices for basic commodities, were reviewed.

Contadora initiative

The Canadian representatives expressed their appreciation for the constructive role played by Peru in support of the Contadora process through the Lima Group and their hope that the regional discussions would lead to a lasting settlement of tensions. Canada continues to regard the Contadora initiative as the best avenue for achieving reconciliation in the area and thus deserving strong international support.

Canada's intention to provide substantial economic support through the program of official development co-operation was reaffirmed. Ministers Alva Castro and Vézina signed a new line of credit valued at $4.8 million (Cdn) for the purchase of some 10 000 tonnes of Canadian fertilizer and telecommunications equipment for 33 rural communities in the Andes.

Hardware — software trade

Canada will shine at Hanover world computer fair

Canada, the world's eighth-largest exporter of computer equipment, will be a major participant at CeBIT 86, considered the world's largest and most important trade fair for office, data and communications technology, to be held in Hanover, West Germany, March 12-19.

Twenty-six leading computer companies representing the more than 125 Canadian firms successfully marketing products internationally, will participate at Canada's national stand sponsored by the Department of External Affairs. The companies hope to expand sales markedly over those made at the 1985 trade fair where 19 participants secured some $20 million in sales.

The current trend worldwide to integrated telecommunications and data processing products, two areas of strength in the Canadian computer industry, have led to rapid growth in Canadian exports of computers and related products. In the past six years, the value of goods exported has tripled, representing an annual growth rate of more than 20 per cent. Today, more than 90 per cent of all shipments made by the Canadian computer industry is to export markets.

Broad expertise

Canadian developments that have been successful in international markets include distributed data processing networks using X.25 and other advanced approaches; IBM PC database products; award-winning fourth-generation software languages; graphic display software; intelligent data analyzers; UNIX systems software; and financial service bureau products.

Major multinational corporations that dominate international information technology are also highly active in the Canadian industry and play an important role in the development of Canada's domestic capability. Many of them undertake product development and manufacturing in Canada, often in co-operation with a specialized Canadian supplier, and their Canadian operations have responsibility for design, development, and production for the world market. In addition, international involvement by Canadian computer companies has led to many joint ventures and licensing arrangements with foreign firms.

Extensive displays

The Canadian displays at CeBIT will range from personal computers and expansion boards and special-purpose computer systems to a wide range of terminals and data communications products. Examples of Canada's expertise in local area networks (LANs) and integrated office systems may also be viewed.

In software, Canadian products range from systems software and graphics packages through database and data management packages, to advanced real-time systems and generic applications.

Electrohome's single-lens 65 KHz CAD/CAM 2 000 colour data/graphics projection system, that can be used with most computers, is a recent hardware development that will be demonstrated. Its unique VARI-FOCUS feature allows users to vary the picture from a 1.5-metre to 4-metre diagonal without moving the unit. Users can also switch from flat to curved screens in seconds.

Other recent hardware products on view include Keynote's KD500PC Terminal, a versatile unit available for multi-user IBM PC, XT, or AT environments, and Nelma's ESTeem wireless communications modems that allow communications between devices up to 50 kilometres apart.

Advanced graphics and communications cards for personal computers will also be featured at CeBIT. Array Technology has adapted gate array technology to produce the graphics solution half card, a multi-application video controller capable of performing graphics for a number of personal computers, colour graphics emulation on a monochrome monitor, or 132 columns in colour or monochrome. A new plug-in card by TIL Systems, the XPERT PC card, allows users to communicate simultaneously with up to four different host computers or on-line services.

In point-of-sales systems, ABC Systems International is introducing the CA$HCOM System 500, with a programmable keyboard capable of maintaining 320 presets, making it much easier to use and more flexible than any other point-of-sale system on the market.

New Canadian products for local area networks include Switchcom's SwitchNet, a flexible, easy-to-use switch that can serve as the base of a LAN, and Net One Data's Easynet, an easy-to-use network system, offering fast data transmission, automatic file and record locking and electronic mail.

TIL Systems' XPERT PC Card provides packet switching and multiple terminal emulations for any IBM-compatible personal computer.

CA$HCOM from Advanced Business Computer Systems is a computerized retail system that integrates all business activities.

Enhancements to multi-user, multi-tasking systems include Human Computing Resources' run-time library licences for its European distributors and UX Software's UX-Basic in a new MS-DOS version.

Canadian participants

The leading computer companies that will display their products at Canada's national stand are:

- ACADZ Inc. – software packages for architects and builders;
- Advanced Business Computer Systems International Inc. – CA$HCOM point-of-sale systems and software;
- Array Technology Inc. – multi-application video controllers;
- Comptec International Limited – keytops and components;
- DIDAK Manufacturing Limited – AXIOM diskettes;
- Electrohome Limited – data/graphic projection systems;
- Emerald City Inc. – office system software;
- Exceltronix Components and Computing Inc. – computer products and peripherals;
- Human Computing Resources Corp. – UNIX-based products;
- Keynote Computer Products Inc. – ASCII text and graphics terminals;
- Keyword Office Technologies Limited – KEYWORD 7000 for wordprocessors;
- J.Y.L. Logic Inc. – integrated computer system;
- Matrox Electronic Systems Limited – board level computer graphics;
- Micro Tempus Inc. – communications software;
- Mobile Data International Inc. – mobile data systems;
- Nelman Information Inc. – data and communications products;
- Net One Data Corp. – local area networks (LANs) and communication devices;
- Netron Inc. – computer automated programming (CAP), software applications and artificial intelligence;
- Rhodnius Incorporated – database management system for UNIX;
- SR Systems Inc. – packet-network access switching and control systems;
- Switchcom Manufacturing Inc. – modems and switches including SwitchNet;
- TIL Systems Limited – terminals, databases, communications networking and other services;
- Unican Magnetics Inc. – floppy discs;
- UX Software Inc. – scientific and commercial software;
- Waterloo Microsystems Inc. – Waterloo Port operating system; and
- Xicom Technologies Corp. – software.

Tariffs lifted in Canada-US-Japan computer parts pact

AP Laserphoto

(From left seated): *Japanese Ambassador to the US Nobuo Matsunaga, US Trade Representative Clayton Yeutter and Canada's Ambassador to the US Allan Gotlieb at a joint signing ceremony for the elimination of tariffs on computer parts.*

Canada, the United States and Japan signed an agreement on November 22 to eliminate tariffs on imports of computer parts and semi-conductors in their respective countries.

The agreement which was announced by Clayton Yeutter, US special trade representative, was also signed by Canadian Ambassador Allan Gotlieb and Japanese Ambassador Nobuo Matsunaga.

"At a time of rising international trade tensions, today's agreement is a refreshing reminder that trade liberalization benefits industry, consumers and nations," said Mr. Yeutter.

Under the agreement Canada is removing a tariff of 3.9 per cent on computer parts imports from the US worth about $1 billion (US) in 1984. The United States will eliminate a tariff of 4.3 per cent on computer parts imports from Canada, valued at about $300 million.

During the year, Canada imported about $1 billion worth of semi-conductors from the US and all but about $20 million worth was tariff free. The 6.8 per cent tariff on the $20 million dutiable portion will be removed. The $350 million worth of Canadian semi-conductors imported by the US is tariff free.

Two-way Canada-Japan trade in computers, computer parts and semi-conductors was valued at about $100 million in 1984. Japanese tariffs on computer parts and semi-conductors range from 4.2 per cent to six per cent.

Profitable projections for software suppliers

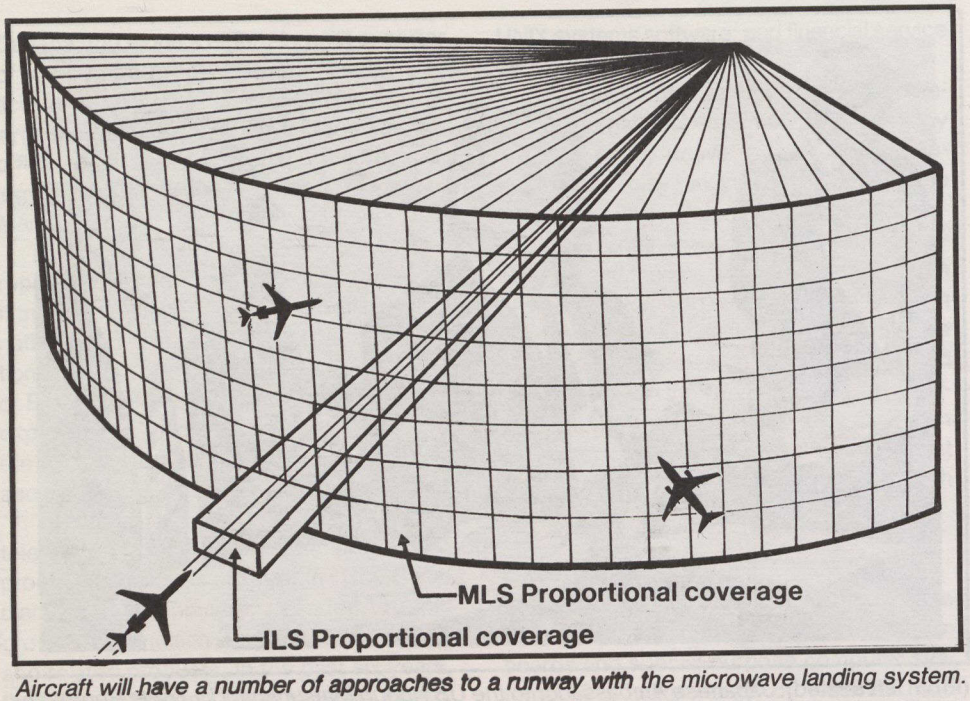
A report published by International Data Corp. (Canada) Limited of Toronto, Ontario maintains that the Canadian software and computer services market will grow to more than $3.8 million by the end of 1989 from $1.6 billion in 1984.

International Data's director of research said that Canadian-owned companies accounted for 52.4 per cent of the $902 million generated by the leading 25 suppliers in 1984. He added that "it is not inconceivable that Canada could become one of the top five packaged software suppliers in the world" in the near future.

The study examines suppliers of packages, processing services and professional services. Packaged software is the fastest growing segment; processing services, also known as the service bureau industry, have grown slowly and will rise less than 10 per cent annually in the forecast period, the report says.

Consolidation is predicted for many companies, with small software houses merging into or being acquired by other companies in the industry and non-computer companies.

Microwaves for safer aircraft arrivals



Bernard Bennell, *The Globe and Mail*

Aircraft will have a number of approaches to a runway with the microwave landing system.

A new technology Microwave Landing System (MLS) to allow airplanes to land more safely will be installed at airports across Canada. The MLS will replace the Instrument Landing System (ILS) at some 70 major Canadian airports and basic navigational instruments at smaller airports.

The first installation in this $450-million program is expected to be made in 1988, and by the year 2000, some 150 MLSs will be operational across the country.

Optional landing paths

The new MLS, using the latest electronic technology and linked to computers aboard aircraft, will greatly extend the use of airspace around airports by establishing several approach paths for landing instead of a single ILS path. The space of the new system extends up to 70 nautical miles wide to an altitude of more than 6 000 metres and out to a distance of 20 nautical miles from the runway, compared with the 27 nautical miles of the ILS.

The basic MLS elements are an approach azimuth antenna, an approach elevation antenna, and distance measuring equipment (DME). The azimuth antenna project is a vertical fan-shaped radio scanning beam that sweeps 60 degrees to the right and left of the runway centreline. The elevation antenna, which scans to an altitude more than 6 000 metres, provides the angle of the aircraft's elevation with the runway, while the DME provides continuous distance-from-touchdown data.

This information is transmitted to computers on the airplane allowing the pilot to accurately use curved, segmented and high angle approaches to landing in contrast to the low angle (three degrees) straight-in approach of the ILS. The ILS system uses a single electromagnetic beam to guide the plane to the centre of the runway.

In addition, below 60 metres ILS signals are subject to ghost signals reflected from nearby buildings or other large objects. The microwave signal, however, is not affected by geography and cannot be bent by an obstruction. It is also less sensitive to environmental conditions such as snow which can disturb the ILS signals.

Testing phases

A test MLS unit has been installed at Ottawa Uplands Airport to gain technical and operating experience. The MLS team is also cooperating in its test program with the Federal Aviation Administration in the United States, where 1 250 MLS units are to be installed by the end of the century.

An MLS system is operating at Jasper, Alberta, to provide accurate aircraft guidance in mountainous terrain. Also, five private MLS installations are under consideration by companies and provincial governments for use in remote airports.

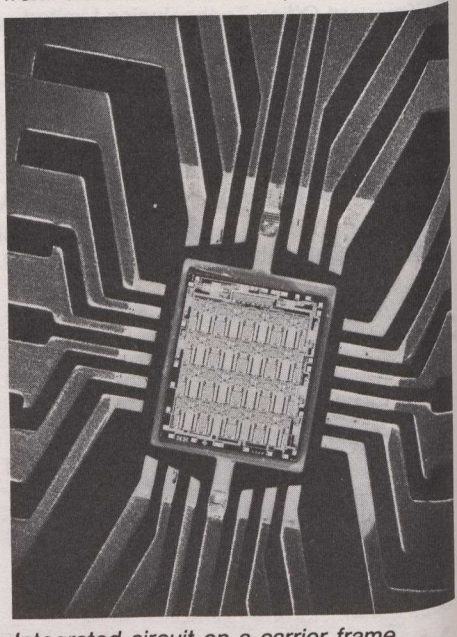
Installation of the units in Canada is being undertaken concurrently with the federal government's new radar modernization program, which will eventually lead to preprogramming an aircraft's flight from take-off to landing and many stages of the flight will be under the supervision of computers.

Technology on tour

A photographic exhibition, *Pebbles to Computers,* illustrating how contemporary technological achievements have evolved from the creativity of human cultures of past centuries from around the world, is on view at the National Museum of Science and Technology until March 10 when it will tour in the United States and Europe.

The exhibit, sponsored by the Department of External Affairs, features some 100 photos of technological devices by Hans Blohm. The photos illustrate the relationship between technology, particularly communications, computers and information technologies, and cultural life. The collection highlights Canada's important contribution to the development of modern communication and computer technologies and reaffirms Canada's leading role in research in the area.

Devices have been created by human cultures over the centuries to calculate, communicate, store and process information, and manipulate nature's energies. Those in the exhibition include Ojibway paintings near Lake Superior, a magnetic storage disc, the first word processor from Montreal, the world's oldest printed book from China and silicon chips.

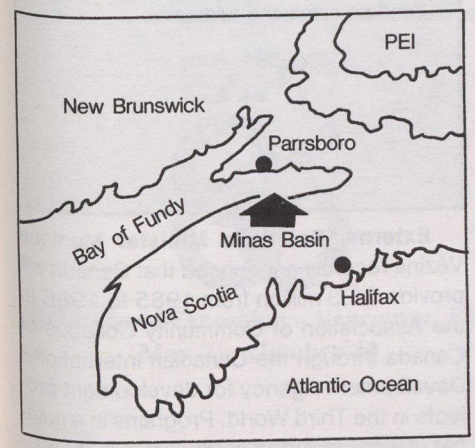


Integrated circuit on a carrier frame.

Museum curator Ted Paull said that Hans Blohm's photographs bridge the gap between the 'hard-edged' world of high technology and the intuitive world of human culture. "They clearly show the relationship between natural and man-made forms, extending our vision from the world of the microchip to the depths of space, from prehistoric times to the frontiers of modern scientific exploration," he said.

Fossil find in Nova Scotia

More than 100 000 pieces of fossilized bone belonging to dinosaurs, reptiles and fish 200 million years old were recently unearthed on the north shore of the Bay of Fundy's Minas Basin, about four kilometres east of rural Parrsboro in Nova Scotia. The find is the largest ever made in North America.



Geologist Paul Olsen of Columbia University, who excavated the fossils last summer with biologist Neil Shubin of Harvard, said the bones were found in a rock formation called the Newark Supergroup that stretches from Nova Scotia to North Carolina.

The most significant find among the 100 000 bone fragments were 12 skulls and jaws of Tritheledonts, the reptiles closest to humans, said representatives from the National Geographic Society, which financed the excavation. Other skulls, teeth, jaws and bones belonged to dinosaurs, crocodiles, lizards, sharks and primitive fish.

A series of footprints about the size of a penny made by a sparrow-sized dinosaur, the smallest dinosaur prints known anywhere, were considered very important. Bob Grantham, curator of geology at the Nova Scotia Museum, said the fossils are unique in North America and could help solve the riddle of why dinosaurs became extinct.

"These particular fossils are very small bones of mammal-like reptiles and are very rare," he said "they are definitely not your typical dinosaur fossils."

Dr. Olsen and Dr. Shubin said the creatures were of a species that had survived a catastrophe that killed at least 43 per cent of lake and land animals. The catastrophe, which occurred 500 000 years before the age of the fossils, could have been caused by an asteroid which hit the earth and created the huge Manicouagan crater 800 kilometres northwest of the fossil site.

Specimens recovered from the site will be turned over to the Nova Scotia Museum for display once scientists have studied them.

Mammoth mole burrows through mountains

The longest railway tunnel in North America, the Mount Macdonald tunnel in Glacier National Park, British Columbia, is being drilled by a mammoth tunnel-boring machine called a "mole".

The rotating face of the mole, studded with 52 cutting discs, is able to drill a hole almost seven metres in diameter at an average daily rate of 35 metres.

A Canadian-United States consortium, Selkirk Tunnel Constructors, is using the mole to drill the 8-kilometre eastern section of the tunnel in the mountain.

The western 6.4 kilometre section of the tunnel is being made by a Canadian-Japanese consortium, Manning-Kumagai, using a drill-and-blast system.

The tunnel is being constructed under the Connaught tunnel which opened in 1916. Once both sections have been completed one of the two consortiums will complete the 300-metre middle section.

Large-scale project

The Mount Macdonald tunnel is part of a $600-million expansion project by Canadian Pacific (CP) to doubletrack the Selkirk section of its main railway line, including Rogers Pass, to handle added traffic expected by 1988-89. The railway company is expecting increased exports of grain, coal and sulphur from west coast ports.

The project also includes 17 kilometres of new surface line, a tunnel through Mount Shaughnessy, six bridges and viaduct.

Upon completion, the Macdonald tunnel will handle westbound trains and eastbound traffic will continue along the original route. Westbound passage through the original route is difficult, especially at Rogers Pass where there is an imposing 2.2 per cent average uphill grade, which represents a vertical rise of 2.2 metres for every horizontal 100 metres. It takes as many as 12 locomotives to pull a westbound train up the steepest section of the Rogers Pass line.

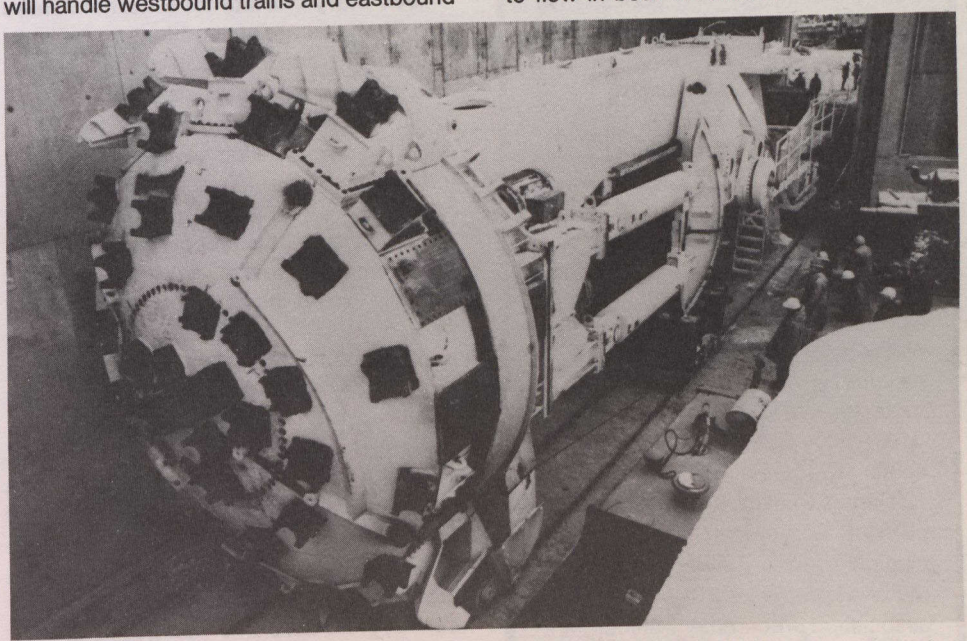
The new westbound line, including the Macdonald tunnel, will have an average grade of only 1 per cent. Up to 48 trains will be able to travel westbound through the new route each day instead of only about 15 on the original route.

Giant fans

The Macdonald tunnel will also have a sophisticated ventilation system which CP Rail claims is the first for a rail tunnel in the Western Hemisphere.

Huge steel-framed wooden doors, or gates, one at the entrance and the other in the middle, have been designed to permit changing the air in the eastern half of the tunnel while a train is still in the western half. The doors will be raised and lowered for each train allowing five giant fans to cool the locomotives and sweep out diesel exhaust fumes in the one-way tunnel. This will mean that a train will be able to go through the tunnel every 30 minutes.

Ontario Co. (Canada) Limited of Brampton, Ontario, is building the 349-metre shaft from the surface to the mid-point of the tunnel, with separate passages to allow air to flow in both directions.



Canapress

A large tunnel-boring machine is drilling a hole in Mount Macdonald almost seven metres in diameter as part of CP Rail's undertaking to build the longest railway tunnel in North America.

Trade update

Minister for International Trade, James Kelleher has announced the formation of 14 Sectoral Advisory Groups on International Trade (SAGIT) to provide a sectoral viewpoint on all trade matters and in particular on upcoming trade negotiations. The SAGIT will complement the work of the International Trade Advisory Committee.

Canadian Wheat Board Minister Charles Mayer recently announced that Canada will supply up to 4.5 million tonnes of wheat to Brazil under a new long-term agreement. During 1986, 1987 and 1988, Brazil has agreed to purchase between 750 000 and 1.5 million tonnes of wheat annually. Wheat is Canada's major export to Brazil, comprising 43 per cent of total exports to that country in 1984.

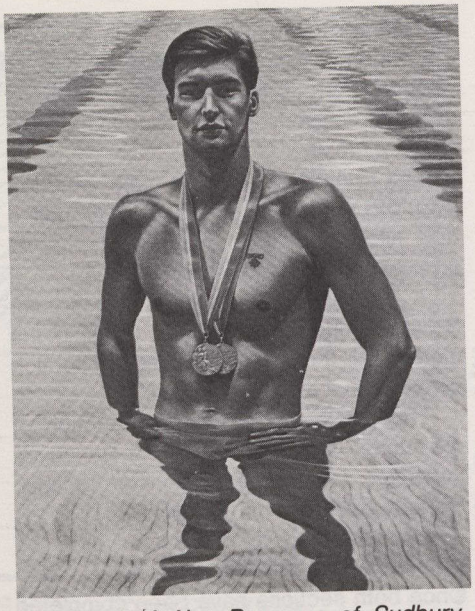
Fifteen Canadian companies will display various products and services at the Cairo International Trade Fair, March 8-21. They range from construction products, food, personal and home care products to engineering, computer and marketing consulting services.

Some 25 Canadian companies will be participating at the International Commercial Exposition (EXPOCOMER 86) in Panama City, March 12-17. In addition to food, beverages, liquors and tobacco, displays at the show will include a wide range of products, from clothing, sporting goods, toys jewellery and cosmetics to building and home products, computers and micro-computers, educational materials and banking services.

Agricultural Development Corporation (AGDEVCO) in Saskatchewan has been awarded a $2.194 million contract to undertake a five-year project to improve dairy production, forage crops and soil on a large state farm in Heilongjiang, China. The contract is part of a $3.73 million Canadian International Development Agency project for technical assistance to State Farm 852 which provides a livelihood for some 60 000 people.

Canadian exporters of health care products will be participating in a solo medical show in Cleveland, Ohio, on March 14. Some 200 institutional association procurement officers are expected to attend.

Funding for Olympians



A portrait of Alex Baumann of Sudbury, Ontario, double gold medalist in swimming at the Los Angeles Olympics and world record holder in the 200-metre and 400-metre individual medley events, painted by Ken Danby, a well-known Canadian sports artist, is available in limited edition signed prints and graphically designed posters. The Canadian Amateur Swimming Association plans to use the proceeds from sales to support the development of amateur swimming in Canada and for preparing for the 1988 Olympics.

News briefs

Secretary of State for External Affairs Joe Clark has announced that the government will provide $3.2 million from 1986 to 1989 to upgrade the Yellowknife seismic array, which consists of a series of short period and long period seismometers, as a major Canadian contribution to monitoring an eventual comprehensive nuclear test ban (CTB). Yellowknife is recognized as a unique and sensitive location to monitor global seismic events including underground nuclear tests. The achievement of a CTB is a fundamental Canadian objective which Canada promotes multilaterally within the Conference on Disarmament in Geneva.

Corrigendum: the figures relating to the size and composition of the community of Canadians of Indian origin in Volume 2, No. 2, January 22, 1986, P. 2, were approximations only. According to the 1981 census there were 212 465 people of Indo-Pakistani origin in Canada and 61 785 were registered as Sikhs.

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External Relations Minister Monique Vézina recently announced that Canada will provide $9.3 million from 1985 to 1988 to the Association of Community Colleges of Canada through the Canadian International Development Agency for development projects in the Third World. Programs in a number of areas including health, agriculture, education, administration, communications, water supply, energy, engineering, and basic vocational or trades skills will receive funding.

The Canadian Society for Fifth-Generation Research has signed an agreement to exchange scientific, mathematical, and engineering information with the Tokyo-based Institute for New Generation Computer Technology (ICOT). "This will be the first agreement ICOT will have consummated with a foreign organization," said Peter Eggleton, a science and technology counsellor at the Canadian embassy in Tokyo.

Three Canadian writers, Margaret Atwood, Robertson Davies and Alice Munro were guests of honour at the forty-eighth annual International PEN Congress held this year in New York. PEN, which was founded in 1921 to link international writers, now has 86 centres in 55 countries.

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