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HIGH TECHNOLOGY OPPORTUNITIES

Telecommunications

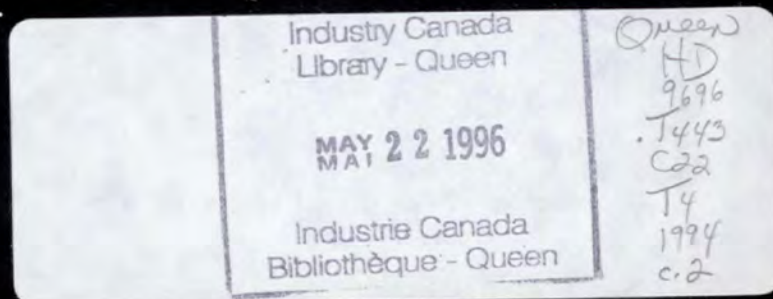
Canada

"STOCKHOLM HAS BEEN VERY PLEASED WITH WHAT WE HAVE ACCOMPLISHED HERE IN MONTREAL, CANADA... WE HAD TOUGH COMPETITION FROM THE U.S., MEXICO, AND DEPARTMENTS WITHIN THE HEAD OFFICE ITSELF. THERE ARE 30 OTHER PRESIDENTS OF SUBSIDIARIES LIKE MYSELF WHO WOULD HAVE LIKED TO HAVE THIS MANDATE."

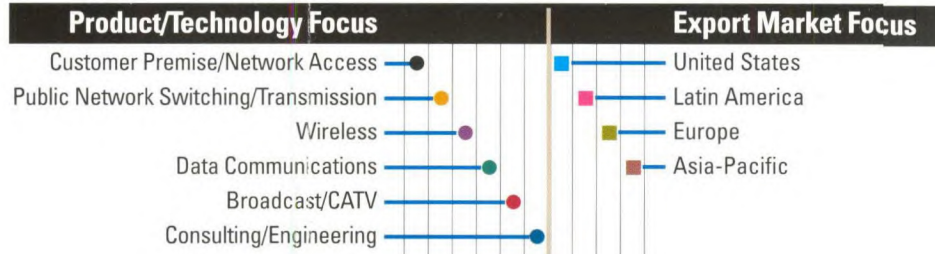
Mr. Lionel Hurtubise, President of Ericsson Communications Inc. commenting on Ericsson Canada winning the R&D mandate for the CMS 88 sub-system in mobile telephony. Ericsson employs nearly 500 engineers in its Montreal, Canada research centre.

"THE OCRINET ATM BROADBAND R&D NETWORK IS AN EXCELLENT EXAMPLE OF THE COLLABORATION OF INDUSTRY AND GOVERNMENT IN CANADA. THE STATE OF THE ART ATM NETWORK WILL IMPACT THE EMERGENCE OF NEW TECHNOLOGY NOT ONLY IN CANADA, BUT THROUGHOUT THE WORLD. THIS IS A REVOLUTION, NOT EVOLUTION."

Terry Mathews, Chairman of the Board and CEO of Newbridge Networks Corporation. Newbridge, a Canadian company, is a world leader in high speed digital communications systems. Newbridge has expanded its Mainstreet product line with world-beating ATM LAN and WAN systems.



MATRIX LEGEND



H	Product/Technology Focus	Export Market Focus
HARDING INSTRUMENT COMPANY LTD. 9931-41st Avenue, Edmonton, AB T6E 5K7 Tel: 403 462-7100 Fax: 403 450-8396 Export Contact: Ian Wellman, VP Marketing		
HARRIS CONTROLS DIVISION 4525 Manilla Road South East, Calgary, AB T2G 4B6 Tel: 403 243-3335 Fax: 403 243-1815 Export Contact: Terry Graham, VP Utility Market Development		
HARRIS FARINON CANADA, INC. 3 Hotel de Ville, Dollard-des-Ormeaux, PQ H9B 3G4 Tel: 514 421-8400 Fax: 514 421-4222 Export Contact: Louis Malenfant, Regional Marketing Manager		
HEWLETT-PACKARD (CANADA) LTD. IDACOM TELECOMMUNICATIONS DIV. 4211-35 Street, Edmonton, AB T6E 5H6 Tel: 403 462-4545 Fax: 403 462-4889 Export Contact: Jeff Plato, Sales & Support Manager		
HN ENGINEERING INC. 1160 Douglas Road, Burnaby, BC V5C 4Z8 Tel: 604 294-3401 Fax: 604 299-9712 Export Contact: Bruce W. Garholm, VP Marketing		
HUGHES AIRCRAFT OF CANADA LTD. WINNIPEG DIVISION 260 Saulteaux Crescent, Winnipeg, MB R3J 3T2 Tel: 204 949-2400 Fax: 204 989-2980 Export Contact: David Graves, Director, Sales & Marketing		

I	Product/Technology Focus	Export Market Focus
I SACHS CANADA INC. 745 Avoca Avenue, Dorval, PQ H9P 1G4 Tel: 514 636-6560 Fax: 514 631-4306 Export Contact: Jack Sachs, President		
IDON CORPORATION 326 Somerset Street West, Ottawa, ON K2P 0J9 Tel: 613 233-3040 Fax: 613 233-3788 Export Contact: Herbert G. Brown, President		
IMAGE VIDEO LTD. 705 Progress Avenue, Unit 46, Scarborough, ON M1H 2X1 Tel: 416 438-3940 Fax: 416 438-8485 Export Contact: A. Vengier, President		
IMAGINGEERING LIMITED 95 Barter Greene Road, Suite 112, Toronto, ON M3C 3E9 Tel: 416 444-1600 Fax: 416 444-2200 Export Contact: David L. George, President		
INDUSTRIAL MEASUREMENTS LTD. 1483 Hopkins Street, Whitby, ON L1N 2C2 Tel: 905 430-7880 Fax: 905 666-3413 Export Contact: Richard V. Hughes, Sales Manager		
INFOMAGNETICS TECHNOLOGIES CORP. 11-1329 Niakwa Road East, Winnipeg, MB R2J 3T4 Tel: 204 989-4630 Fax: 204 989-4840 Export Contact: Mohamed Barakat, President		
INWINGS TELECOM INC. 1241 Denison Street, Markham, ON L3R 4B4 Tel: 905 470-7070 Fax: 905 470-8114 Export Contact: Ed Cheung, President		
INTELCAN TECHNOLOGIES INC. 69 Aurora Drive, Suite 1600, Nepean, ON K2E 7Z2 Tel: 613 228-1550 Fax: 613 228-1149 Export Contact: Mark Whittall, Manager, Business Development		
INTERALIA INC. 4110-79th Street N.W., Calgary, AB T3B 5C2 Tel: 403 288-2706 Fax: 403 288-5935 Export Contact: Garth Hunter, President		
INTERNATIONAL DATACASTING CORP. 2880 Queensview Drive, Ottawa, ON K2B 6H6 Tel: 613 596-4120 Fax: 613 596-4863 Export Contact: Pierre Lemoyne, Director, International Business Development		
INVENTRONICS LIMITED 3880-101 Street, Edmonton, AB T6E 0A5 Tel: 403 461-5010 Fax: 403 450-0234 Export Contact: Hilliard McElroy, Sales Manager		
IRISCO TECHNOLOGIES INC. 4820 Henri-Bourassa Boulevard, Charlesbourg, PQ G1H 3A7 Tel: 418 623-3834 Fax: 418 623-6265 Export Contact: Richard Talbot, President		
ITS ELECTRONICS INC. MICROWAVE COMPONENTS AND SUBSYSTEMS 200 Edgely Avenue, Unit 24, Concord, ON L4K 3Y8 Tel: 905 660-0405 Fax: 905 660-0406 Export Contact: Ilya Tshelnik, President		

J	Product/Technology Focus	Export Market Focus
JARO INDUSTRIES INC. 1730 St-Charles Blvd., St-Charles-de-Drummond, PQ J2C 4Z5 Tel: 819 477-5151 Fax: 819 477-5011 Export Contact: Jacques F. Spennard, Sales Manager		
JATOM SYSTEMS INC. 59 Mitchell Copeland Drive, Kanata, ON K2M 1X3 Tel: 613 591-5910 Fax: 613 591-5969 Export Contact: James MacDonald, Executive Vice-President		
JDS FITEL INC. 570 Heston Drive, Nepean, ON K2G 5W8 Tel: 613 727-1303 Fax: 613 727-8284 Export Contact: Mark Dickinson, Marketing Director		

K	Product/Technology Focus	Export Market Focus
KYLAIN INC. 2 Gaudin Street, Suite 610, Nepean, ON K2E 1A2 Tel: 613 226-1250 Fax: 613 226-6854 Export Contact: Edwin Morton, Director of Sales		

L	Product/Technology Focus	Export Market Focus
LAB-VOLT LIMITED 4555 Metropolitan Blvd. E., Suite 202, Montreal, PQ H1R 124 Tel: 514 376-2120 Fax: 514 376-4272 Export Contact: Jean-Louis LeBlanc, Vice-President, Marketing		
LAHAE RESEARCH INCORPORATED P.O. Box 61, Brinsford, NS B9V 2W6 Tel: 902 543-2289 Fax: 902 543-3500 Export Contact: Arthur Sager, Managing Director		
LANSER TELECOM INC. 376 Victoria Avenue, Suite 200, Westmount, PQ H3Z 1C3 Tel: 514 485-7104 Fax: 514 485-4866 Export Contact: Maria Papowski, Sales & Services Manager		
LAPP-HANCOCK ASSOCIATES LIMITED 280 Albert Street, Suite 904, Ottawa, ON K1P 5G8 Tel: 613 238-2483 Fax: 613 238-1734 Export Contact: Ken Hancock, President		
LARCAN INC. 228 Ambascador Drive, Mississauga, ON L5T 2J2 Tel: 905 564-9222 Fax: 905 564-9244 Export Contact: James Watson, Manager, International Sales		
LASER FIBER OPTICS CANADA LTD. 30 Concourse Gate, Unit 40, Nepean, ON K2E 7V7 Tel: 613 723-7487 Fax: 613 723-7384 Export Contact: Darshan Kant, President		
LINDSAY SPECIALTY PRODUCTS LTD. 50 Mary Street West, Lindsay, ON K9V 4S7 Tel: 705 324-2196 Fax: 705 324-5474 Export Contact: John Thomas, Chairman		
LOCWELL INC. 50 Iserville, Candiac, PQ J5R 1J5 Tel: 514 659-9661 Fax: 514 444-3111 Export Contact: Peter J. Donaldson, Director, Marketing		
LOUIS TECHNOLOGY SERVICES LTD. 1843 Kilborn Avenue, Ottawa, ON K1H 6N3 Tel: 613 731-7465 Fax: 613 731-8040 Export Contact: Hugo Louis, President		
LUCAS INDUSTRIES CANADA LIMITED MICROWAVE TECHNOLOGIES DIVISION 3135 Universal Drive, Mississauga, ON L4X 2E7 Tel: 905 625-4605 Fax: 905 625-4274 Export Contact: Paul Mercer, President & General Manager		

M	Product/Technology Focus	Export Market Focus
M.S.C. ELECTRONICS LTD. 147 West Beaver Creek Road, Richmond Hill, ON L4B 1C6 Tel: 905 731-8600 Fax: 905 731-5198 Export Contact: Anthony Sharpe, VP Sales		
MATRIX ELECTRONIC SYSTEMS LTD. 1055 St. Regis Boulevard, Dorval, PQ H9P 2T4 Tel: 514 685-2630 Fax: 514 685-2853 Export Contact: Ed Dwyer, VP Sales		
MAXTOWER COMPANY LTD. 228 Ambascador Drive, Box 277, Brampton, ON N3T 5M8 Tel: 519 752-6501 Fax: 519 752-6141 Export Contact: Jeff Derks, Purchaser		
MCCURDY TELECOMMUNICATION PRODUCTS LIMITED 60 Naylor Court, Scarborough, ON M1B 2K3 Tel: 416 291-6449 Fax: 416 291-6724 Export Contact: Joe Rogo, Vice-President		
MCK TELECOMMUNICATIONS INC. 130 Business Centre N.W., Calgary, AB T3B 5M5 Tel: 403 247-9777 Fax: 403 247-9078 Export Contact: Wayne Leibel, Manager, Sales & Marketing		
MEASURECOMM CORP. LTD. 213 Burt St. East, Suite D, Pointe Claire, PQ H9S 4L1 Tel: 514 426-8053 Fax: 514 426-8055 Export Contact: Surjit Matharu, President		
MECHRON ENERGY LTD. 2437 Kaladar Avenue, Ottawa, ON K1V 8B9 Tel: 613 733-9555 Fax: 613 733-8187 Export Contact: Ed O'Brien, VP Sales		
MEMOTEC COMMUNICATIONS INC. 600 McCaffrey Street, St. Laurent, ON H4T 1N1 Tel: 514 738-4781 Fax: 514 738-4436 Export Contact: Raoul Lavalie, VP International Sales		
MICROPLEX SYSTEMS LTD. 6255 Commerce Court, Vancouver, BC V5A 4N3 Tel: 604 444-4232 Fax: 604 444-4239 Export Contact: Steve Balaian, Sales Manager		
MICROSET SYSTEMS INC. 1335 Morningside Avenue, Unit 7, Scarborough, ON M1B 5M4 Tel: 416 282-8489 Fax: 416 283-5650 Export Contact: Peter Miller, President		
MICROTRONIX DATACOM LTD. 200 Aberdeen Road, London, ON N6V 4N2 Tel: 519 659-9500 Fax: 519 659-9500 Export Contact: Karen Auzins, VP Marketing		
MITEE ELECTRONICS LTD. 104 Avenue, Pointe Claire, PQ H9R 3P3 Tel: 514 694-6666 Fax: 514 694-3841 Export Contact: Myer Benito, President		
MITEE CORPORATION 350 Leggett Drive PO, Box 13089, Kanata, ON K2K 1X3 Tel: 613 582-2122 Fax: 613 582-4784 Export Contact: Ray Brown, Head, Sales Public Switch		
MING PLASTICS LTD. P.O. Box 639, Renfrew, ON K7V 2M8 Tel: 613 432-4296 Fax: 613 432-5897 Export Contact: Neil Richardson, President		
MOBILTEX DATA LTD. 3640-28th Street North-East, Calgary, AB T1Y 4T7 Tel: 403 281-2770 Fax: 403 250-6795 Export Contact: Dale Poloway, Marketing Manager		
MOTOROLA CANADA LIMITED COMMUNICATIONS DIVISION 3125 Steeles Avenue East, North York, ON M2H 2H6 Tel: 416 736-5726 Fax: 416 489-9881 Export Contact: Marilyn Abrahams, Export Administrator		
MOTOROLA CANADA LIMITED WIRELESS DATA GROUP 11411 Number 5 Road, Richmond, BC V7A 4Z3 Tel: 604 277-1511 Fax: 604 241-6042 Export Contact: Jeff Morris, VP Marketing		
IMPACT-IMMEDIA 1155 Rene-Levesque Blvd. W., Suite 2250, Montreal, PQ H3B 4T3 Tel: 514 397-9747 Fax: 514 398-0764 Export Contact: James H. Dale, VP Sales & Marketing		
MPR TELTECH LIMITED 8880 Nelson Way, Burnaby, BC V5A 4B5 Tel: 604 294-4771 Fax: 604 293-5767 Export Contact: Alister W. Taylor, Director, International Marketing		
MULTILEX (1995) INC. 107 Colonnade Road, Nepean, ON K2E 7M3 Tel: 613 226-2365 Fax: 613 226-2453 Export Contact: Dianne Thibodeau, Sales Administrator		
MURANO COMMUNICATIONS LTD. 5124 Dalhousie Crescent NW, Calgary, AB T3A 1J7 Tel: 403 288-1347 Fax: 403 239-8329 Export Contact: Murray S. Tough, Product Manager		
MUX LAB INC. National Hav-Info Subsidiary 5650 Cote de Liesse, Mount Royal, PQ H4P 1A7 Tel: 514 735-2141 Fax: 514 735-8857 Export Contact: Sylvain Abbot, Chief Operating Officer		

N	Product/Technology Focus	Export Market Focus
NATIONAL TELESYSTEM LTD. 1000 de la Gauchetiere West, 25th Floor, Montreal, PQ H3B 4W5 Tel: 514 397-8797 Fax: 514 397-1569 Export Contact: Keith Lam		
NAUTICAL ELECTRONIC LABORATORIES LIMITED Hacketts Cove, R.R. #1, Tantular, NS B0J 3J0 Tel: 902 823-2233 Fax: 902 823-3183 Export Contact: Robert Perry, Manager, International Sales & Marketing		
NAUTILUS INTERNATIONAL CONTROL AND ENGINEERING LTD. 6881 Russell Avenue, Burnaby, BC V5J 4B8 Tel: 604 430-8316 Fax: 604 430-1962 Export Contact: Gaston Labrie, Marketing Manager		
NETWORK DESIGN & ANALYSIS CORP. 60 Gough Road, 2nd Floor, Markham, ON L3R 8K7 Tel: 905 477-8534 Fax: 905 477-8572 Export Contact: Boris Dorok, President		
NEUTRIK INSTRUMENTATION INC. 3520 Griffith Street, St-Laurent, PQ H4T 1A7 Tel: 514 344-5220 Fax: 514 344-5221 Export Contact: David Hudson		
NEUBRIDGE NETWORKS CORPORATION 600 March Road PO, Box 13600, Kanata, ON K2K 2E5 Tel: 613 591-3600 Fax: 613 591-3680 Export Contact: Michael Pascoe, VP & GM, America Region		
NII NORSAT INTERNATIONAL INC. 12886-78th Avenue, Suite 302, Surrey, BC V3W 8E7 Tel: 604 597-4200 Fax: 604 587-8214 Export Contact: Wayne Meadows, VP Commercial Division		
NORAN TEL 1991 CORPORATION 415 Maxwell Crescent, Regina, SK S4N 5X9 Tel: 306 721-3535 Fax: 306 721-3566 Export Contact: Randy Blythe, President		
NORLITE TECHNOLOGY INC. 4017 Carling Avenue, Suite 200, Kanata, ON K2K 2A3 Tel: 613 591-0320 Fax: 613 591-0359 Export Contact: Louis Payant, Vice-President		
NORPAC CORPORATION 10 Heast Way, Kanata, ON K2L 2P4 Tel: 613 592-4164 Fax: 613 592-4560 Export Contact: Dr. James F. Carruthers, President		
NORTHERN TELECOM LIMITED 255 Albert Street, Suite 700, Ottawa, ON K1P 6A9 Contact: William Neal, Director Government Relations International		
NOVA TECHNOLOGIES INC. 1170 Topical Road PO, Box 937, Mount Pearl, NF A1N 3C9 Tel: 709 745-1240 Fax: 709 745-6705 Export Contact: Paul O'Donnell, President		
NOVATEL COMMUNICATIONS LTD. 6722-8 Street North-East, Calgary, AB T2E 8M4 Tel: 403 295-4289 Fax: 403 295-4506 Export Contact: Linda Stokes, Director, Corporate Communications		
NSI NETWORK SCIENCES INTERNATIONAL LTD. 5855 de Leprie, Suite 304, Montreal, PQ H3N 2C7 Tel: 514 278-6301 Fax: 514 278-6099 Export Contact: Mark MacPherson, VP Marketing		

O	Product/Technology Focus	Export Market Focus
ONTARIO NORTHLAND INTERNATIONAL CONSULTING SERVICES INC. 555 Oak Street East, North Bay, ON P1B 8L3 Tel: 705 472-4500 Fax: 705 475-5598 Export Contact: Louise Fortier, Business Development		
OPTO-ELECTRONICS INC. 2538 Spadina Road, Unit B, Oakville, ON L6L 5K9 Tel: 905 827-6214 Fax: 905 827-6216 Export Contact: Ed O'Brien, VP Sales		
ORCAIRON MANUFACTURING LTD. 158 Kates Way, Port Cupitium, BC V3C 5W9 Tel: 604 941-7889 Fax: 604 941-7517 Export Contact: Brent H. Larsen, President		
OSWARE INC. 4400 Dominion Street, Suite 210, Burnaby, BC V5G 4G3 Tel: 604 436-2922 Fax: 604 436-3192 Export Contact: Jamie Chang, Product Marketing Manager		

P	Product/Technology Focus	Export Market Focus
PERLE SYSTEMS LIMITED 60 Renfrew Drive, Markham, ON L3R 0E1 Tel: 905 475-8865 Fax: 905 475-9646 Export Contact: Douglas B. Langford, Director of Finance		
PHILLIPS CABLES LIMITED 300 Consilium Place, Suite 200, Scarborough, ON M1H 3G2 Tel: 416 296-0250 Fax: 416 296-0745 Export Contact: Wayne Blackwell, President, BICC-Phillips International		
PHOENIX DATA COMMUNICATIONS 3154 Industrial Boulevard, Laval, PQ H7L 4P7 Tel: 514 967-1159 Fax: 514 967-9377 Export Contact: Bernard Ambrosio, Vice-President		
PHOTON SYSTEMS CORPORATION 7725 Loughheed Highway, Burnaby, BC V5A 4V8 Tel: 604 420-8733 Fax: 604 420-8606 Export Contact: John Maycock, President		
PIERRE LABARRE & ASSOCIATES LTD 402 Notre Dame, St-Lambert, PQ JAP 2K4 Tel: 514 872-7813 Fax: 514 872-8033 Export Contact: Pierre Labarre, President		
PIKA TECHNOLOGIES INC. 155 Terence Matthews Crescent, Kanata, ON K2M 2A8 Tel: 613 591-5555 Fax: 613 591-1488 Export Contact: Peter Kameel, President		
POINTE CLAIRE ELECTRONICS LTD. 875 Selkirk Street, Pointe Claire, PQ H9R 3S2 Tel: 514 697-5500 Fax: 514 697-7093 Export Contact: Svend Berg, President		
POSITRON INDUSTRIES INC. 5101 Buchan Street, Montreal, PQ H4P 2R9 Tel: 514 345-2200 Fax: 514 731-8862 Export Contact: Jacques Zekry, Director, International Business		
PRESENTY ENGINEERING PRODUCTS LIMITED 2784 Herton Road PO, Box 919, R.R. #5, Gloucester, ON K1G 3N3 Tel: 613 822-1251 Fax: 613 822-1255 Export Contact: Donald M. Kettle, Director, Business Development		
PRESTICOM INC. 3275, 1ere rue, bureau 1, Saint-Hubert, PQ J3Y 8Y6 Tel: 514 443-2900 Fax: 514 443-2878 Export Contact: Gaston Poiré, VP Marketing		
PRISM SYSTEMS INC. 1551 Commerce Parkway, Suite 140, Richmond, BC V6V 2L1 Tel: 604 244-4000 Fax: 604 244-4080 Export Contact: Steve Dunn, VP Marketing & Sales		
PRODTEL COMMUNICATIONS INC. 51 King Street, Brockville, ON K6V 1A8 Tel: 613 498-0074 Fax: 613 498-0075 Export Contact: David Leeder, Treasurer		

P continued	Product/Technology Focus	Export Market Focus
PRODUITS ELECTRONIQUES SIMROC INC 625, rue Simley, St-Lambert, PQ JAP 1G2 Tel: 514 671-6060 Fax: 514 671-8518 Export Contact: Roch Simard, President		
PROTEC MICROSYSTEMS INC. 1455 Franklin Street, Vancouver, BC V5L 5B6 Tel: 514 630-9832 Fax: 514 634-6919 Export Contact: Blanca Novoa, Marketing Coordinator		
PSC GROUP (THE) 2430 Don Reid Drive, Ottawa, ON K1H 8P5 Tel: 613 736-8110 Fax: 613 736-8105 Export Contact: Graham Alken, Vice-President		
PURE DATA LTD. 180 Beaver Creek Road West, Richmond Hill, ON L4B 1B4 Tel: 905 798-7644 Fax: 905 731-7017 Export Contact: Jane Cadmore		
PLYON ELECTRONICS INC. TELECOM POWER DIVISION 5020 Fairway, Lachine, PQ H8T 1B8 Tel: 514 633-8787 Fax: 514 636-1910 Export Contact: Jacques Guay, Sales Manager		

Q	Product/Technology Focus	Export Market Focus
QCC COMMUNICATIONS CORPORATION 4 Airport Place, 2345 Ave. C North, Saskatoon, SK S7L 5Z5 Tel: 306 665-6488 Fax: 306 665-9536 Export Contact: Michael Leydon, Chief Operating Officer		

R	Product/Technology Focus	Export Market Focus
RACAL-DECCA CANADA INC. 7510 Airport Road, Mississauga, ON L4T 2H5 Tel: 905 405-1144 Fax: 905 405-1150 Export Contact: John Melny-Vickroy, Technical Manager, Insulators		
RELANCE COMMUNICATIONS CANADA LTD. DIV OF RELANCE ELECTRIC LIMITED 122 Edward Street, St. Thomas, ON N5P 1Z2 Tel: 519 631-0780 Fax: 519 631-3739 Export Contact: Hank Vander Weetling, Manager, International Network Services		
RF-TEL COMMUNICATIONS LTD. 164 Aime Vincent, Vaudreuil, PQ J7V 5V5 Tel: 514 424-8150 Fax: 514 424-9262 Export Contact: J.P. Hollinger, President		
ROHE & SCHWAB CANADA INC. 555 March Road, Kanata, ON K2K 2B5 Tel: 613 592-8000 Fax: 613 592-8009 Export Contact: Dave Stephenson, President		
RPW WIRELESS COMMUNICATIONS Box 36, Site 4, R.R. #4 Petrolia Park, Red Deer, AB T4N 5E4 Tel: 403 340-1556 Fax: 403 347-2599 Export Contact: Bob Gullon, President		

S	Product/Technology Focus	Export Market Focus
SAFT-NIFE CORPORATION 125 Nantucket Boulevard, Scarborough, ON M1P 2N8 Tel: 416 757-5151 Fax: 416 752-4514 Export Contact: Gary Pollock, Customer Engineering Manager		
SANDWELL INC. DATAP SYSTEMS DIVISION 940-8th Avenue SW, 10th Floor, Calgary, AB T2P 3J1 Tel: 403 237-9500 Fax: 403 237-9898 Export Contact: Richard Schmalz, Director, Sales & Marketing		
SAPURA CANADA INC. 8171 Park Road, Suite 201, Richmond, BC V6Y 1S9 Tel: 604 274-0117 Fax: 604 274-0530 Export Contact: Happy Tay, President		
SASKTEL INTERNATIONAL 2121 Saskatchewan Drive, 3rd Floor, Regina, SK S4P 3Y2 Tel: 306 777-4509 Fax: 306 359-7475 Export Contact: Floyd McInnes, VP Sales		
SEARCH & SUPPLY MANUFACTURING LTD 21 De Soto Street St. Boniface Industrial Park Winnipeg, MB R2J 4A8 Tel: 204 663-8142 Fax: 204 663-3712 Export Contact: Manus Wilson, General Manager/Export		
SECURE TECHNOLOGIES INTERNATIONAL INC. 8807 St. Joseph Boulevard, Unit 201, Gloucester, ON K1C 1T1 Tel: 613 830-3131 Fax: 613 830-5320 Export Contact: David R. Tucker, President		
SED SYSTEMS INC. A CALIAN TECHNOLOGY SUBSIDIARY 13 Innovation Boulevard, Box 164 Saskatoon, SK S7K 3P7 Tel: 306 931-3425 Fax: 306 933-1486 Export Contact: Kent McKelvie, Director, Business Development		
SEGITEL INC. 665 Sherbrook Street West, Suite 1400, Montreal, PQ H3A 1E7 Tel: 514 845-7151 Fax: 514 848-0745 Export Contact: Maurille G. Seguin, President		
SHL SYSTEMHOUSE INC. 50 O'Connor Street, 5th Floor, Ottawa, ON K1P 6L2 Tel: 613 236-9134 Fax: 613 563-9896 Export Contact: Harry Coughlin, SVP Strategy & Markets		
SIERRA WIRELESS INC. 13151 Vanier Place, Suite 260, Richmond, BC V6V 2J2 Tel: 604 668-7328 Fax: 604 668-7301 Export Contact: Andrew Harries, VP Sales & Marketing		
SILCOM RESEARCH LIMITED 306 Palladium Drive, Suite 201, Kanata, ON K2V 1A1 Tel: 613 591-1342 Fax: 613 591-3293 Export Contact: J. Peter Williams, President		
SINCLAIR RADIO LABORATORIES LTD. 85 Mary Street, Aurora, ON L4G 3G9 Tel: 905 727-0165 Fax: 905 727-0861 Export Contact: William A. Dime, VP & National Sales Manager		
SKOTEL CORPORATION 875 Selkirk Street, Pointe Claire, PQ H9R 3S2 Tel: 514 444-2088 Fax: 514 444-2083 Export Contact: Stephen Scott, President		
SMART TECHNOLOGIES INC. 240-11th Avenue S.W., Suite 589, Calgary, AB T2R 0C3 Tel: 403 223-9333 Fax: 403 262-3524 Export Contact: Nancy Knowlton, VP Operations		
SOCIETE DE TELEINFORMATIQUE R.T.C. INC. 300 Leo-Pariseau, Suite 725 C.P.955, Place du Parc, Montreal, PQ H2V 2N1 Tel: 514 846-6183 Fax: 514 845-7328 Export Contact: Guy Julien, Manager, Marketing		
SOFTWARE GROUP LIMITED (THE) 2 Director Court, Suite 201, Woodbridge, ON L4L 3Z5 Tel: 905 856-0238 Fax: 905 856-0242 Export Contact: Wayne Dargus, VP Sales		
SOLITEC LTD. (H.A.) 1551 Commerce Parkway, Suite 140, Richmond, BC V6V 2L1 Tel: 604 244-4000 Fax: 604 244-4080 Export Contact: Gilles Fortin, President		
SPANEX CAPITAL INC. 67 Richmond Street West, Suite 302, Toronto, ON M5H 4Z5 Tel: 416 364-9279 Fax: 416 364-7295 Export Contact: Dr. Klaus Wagner-Barak, President		

S

HIGH TECHNOLOGY OPPORTUNITIES

Telecommunications

Canada

The Canadian telecommunications products industry

The \$6.7 billion telecommunications products industry is a strong and dynamic part of Canada's \$40 billion information technology sector. The telecommunications products industry includes companies that manufacture equipment used for the switching and transmission of telecommunications voice, data and video information — anything from telephone sets to fibre optics transmission systems and digital multiplexing equipment. Canada's leadership in telecommunications and our drive for global competitiveness are creating strategic alliance opportunities for Canadian and foreign firms to develop business partnerships at home and abroad.

As a result, the Canadian government is committed to supporting private sector growth in the development of advanced communications technologies and related services.

This document is intended to help expand co-operation between Canadian and foreign firms.

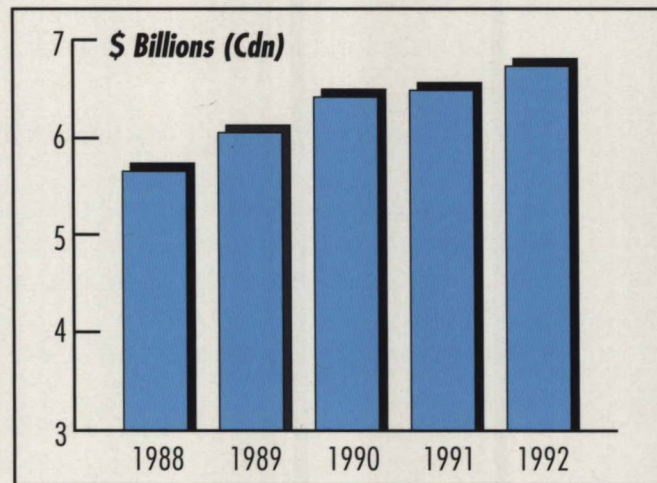
Why do Business with Canada's Telecommunications Products Industry?

The Canadian telecommunications equipment industry shipped \$6.7 billion worth of products in 1992. With an average annual growth rate of 7.2% over the last five years, telecommunications equipment manufacturing is one of Canada's fastest growing industrial sectors.

- The industry is highly trade-oriented. Exports accounted for 38% of shipments in 1992.
- The telecommunications industry is Canada's most R&D intensive sector, with annual R&D expenditures by companies of \$1.1 billion or 15% of all R&D expenditures by Canadian industry.
- The industry is recognized as a leader in the development and application of new products. Areas identified with high-growth potential include:
 - fibre optic transmission systems;
 - data communications, networking and multiplexing;
 - personal communications and wireless technologies;
 - customer premises equipment and multimedia applications; and
 - advanced satellite communications systems.
- The telecommunications equipment industry is supported by a large pool of talented research and technical personnel, strong alliances between university, industry and government, excellent research facilities, and readily available financial assistance.

- Canada has a highly competitive taxation system providing numerous advantages and tax incentives for companies with manufacturing or R&D activities.
- As a result of the North American Free Trade Agreement (NAFTA), which came into effect January 1, 1994, a strategic partnership with a Canadian company provides access to the world's largest free trade zone — a market of 360 million people with an annual GDP in excess of \$7 trillion, and a \$60 billion telecommunications equipment market.

Canadian Telecommunications Equipment Total Shipments, 1988-1992



Source: Industry Canada,
Information Technologies Statistical Review. 1993

Industry overview

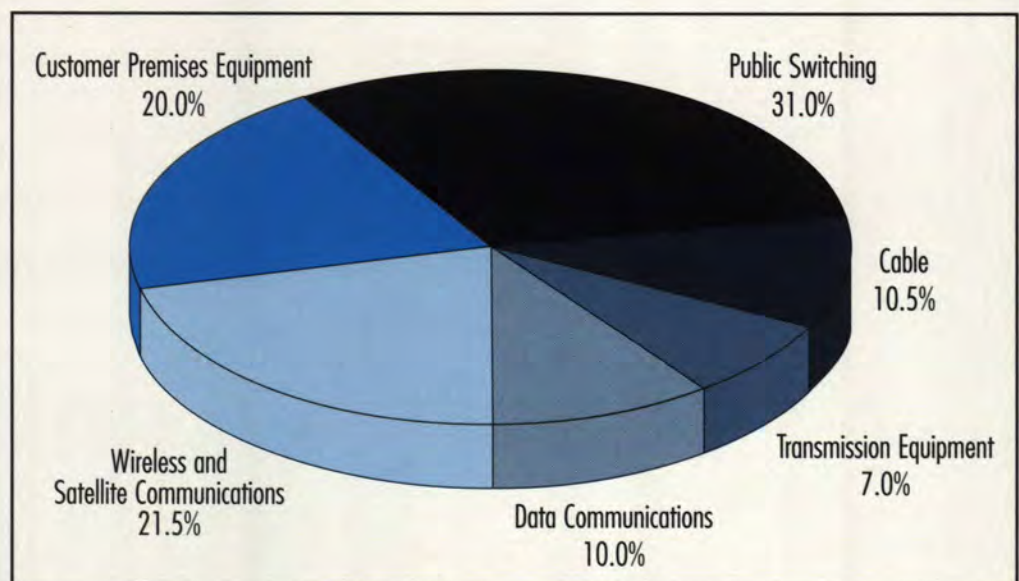
Over 300 Companies Across Canada

- There are over 300 telecommunications product manufacturers employing over 45,500 people across the country, with the greatest concentration in Ontario, Quebec and British Columbia.
- The industry possesses a healthy mix of Canadian-based multinationals, entrepreneurial small and medium-sized firms, as well as subsidiaries of large international suppliers.
- The largest Canadian company is Ontario-based Northern Telecom Ltd. which produces all types of equipment ranging from digital switches and fibre optics transmission systems to telephone sets, multimedia terminals and wireless personal communications systems. With worldwide revenues in the \$10 billion range, Northern Telecom is one of the largest telecommunications manufacturing companies in the world.
- Canada also has other world-class leaders including Newbridge Networks Corporation, Mitel Corporation, Spar Aerospace Ltd., MPR Teltech and Gandalf Data Ltd. The top 30 companies account for 90% of the industry's revenues.
- The majority of the more than 250 smaller firms have unique capabilities and niche products being sold in countries outside of Canada.

Canadian Companies are Involved in All Major Product Areas

- Public switching and customer premises equipment account for half of the total value of telecommunications products produced in Canada.

Canadian Telecommunications Equipment Percentage of Canadian Production, 1990



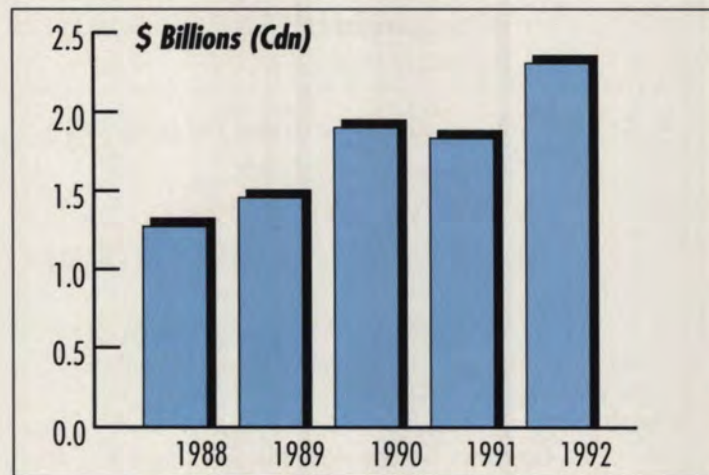
Source: A Proposal Towards a Strategy for the Canadian Telecommunications Equipment Industry, NGL Consulting Ltd., 1990.

An Industry that Thrives on Trade

Exports:

- Most companies in the industry are highly export-oriented, some exporting over 90% of production.
- In 1992, the industry exported \$2.3 billion in products, accounting for 38% of total production.
- Exports by the Canadian telecommunications product industry have increased substantially in recent years, growing at an average annual rate of 16%.
- 60% of all exports are to the United States, Canada's largest trading partner. The EC and Pacific Rim areas each account for about 10% of Canada's telecommunications equipment exports. Other regions such as Latin America, the Middle East and Africa account for the remaining 20% of exports.

Canadian Telecommunications Equipment Exports, 1988-1992

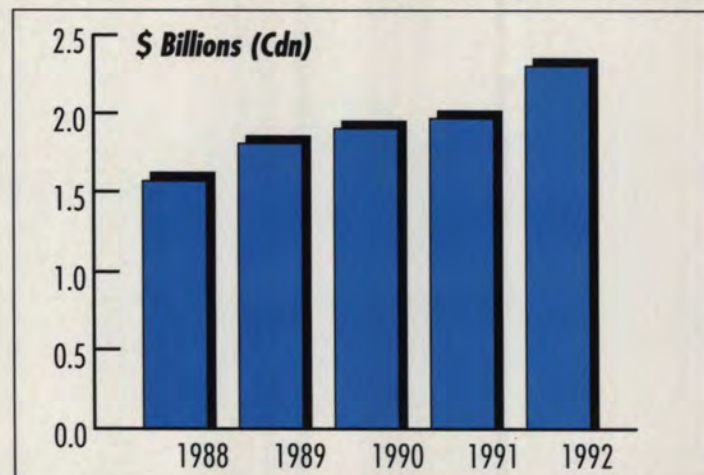


Source: Industry Canada,
Information Technologies Statistical
Review, 1993.

Imports:

- Imports of telecommunications products are also significant. In 1992, imports were valued at \$2.29 billion with the United States and Japan accounting for 80% of the total.
- Imports are increasing at an average annual rate of 10%. In particular, imports from the Pacific Rim, Europe and Latin America have been growing significantly as partnerships are being formed.

Canadian Telecommunications Equipment Imports, 1988-1992

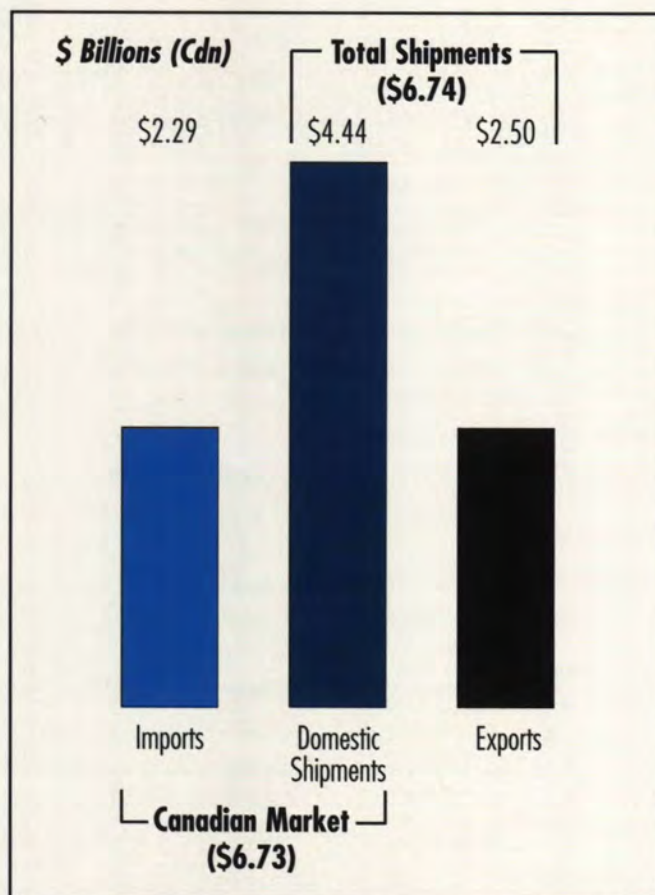


Source: Industry Canada,
Information Technologies Statistical
Review, 1993.

Industry Linkages in Canada

- The high growth in the telecommunications products industry reflects the continued growth and importance of telecommunication services, increased competition in the equipment market, and the move towards digitalization of networks over the past 10 years.
- The key customers for telecommunications equipment in Canada are the telephone companies, long distance service providers, and cellular telephone operators which together accounted for \$17.1 billion in revenues in 1992.
- Terminal and network equipment purchases by business and residential users also account for a significant share of the equipment industry's revenues.
- In total, the Canadian market for telecommunications equipment was \$6.7 billion in 1992.

Canadian Telecommunications Equipment Market, 1992



Source: Industry Canada,
Information Technologies Statistical Review, 1993

- The telecommunications equipment industry is also very dependent on the electronic parts and components industry, which employs about 10,500 people and shipped \$1.25 billion in parts and components in 1992.
- Canada's \$6 billion software industry also plays an important role in the development of telecommunications products. Canadian companies develop software for switching systems, network management systems, and a variety of multimedia applications.

Canada: A competitive leader

A History of Telecommunications Achievement

Canada has a long history as a leader in telecommunications technologies and services. The innovative capacity of the industry has made possible a number of significant technological achievements dating back to the invention of the telephone in 1876.

Recent Accomplishments Include:

- World's first domestic digital microwave network (1971)
- World's first national geostationary satellite telecommunications network (1972)
- World's first packet-switched network (1977)
- World's longest fibre optic communications network (1985)
- World's largest contiguous cellular network (1990)
- First country to license two-way personal cordless telephone service (1992)

Advanced Services and Technologies

Canada's advanced domestic telecommunications market provides a solid base from which to serve the world. With one of the highest telephone penetration rates in the world, Canadian telecommunications service providers and their customers are among the first to demand and adopt new technologies and services.

The shift to digital technology is well under way in Canada. For example, by the end of 1994, nearly 100% of Bell Canada's local and long distance trunks will be digital.

- Coast-to-coast **fibre optics** networks provide a full range of commercial services as well as the necessary bandwidth required to develop and test tomorrow's high-speed multimedia services. Today, the majority of large businesses in Canada's metropolitan areas, are served directly by optical fibre.
- Innovative **data communications, networking and multiplexing** products continue to be developed and introduced by Canadian companies. For example, Newbridge Networks Corporation is the world's leading vendor of T1 multiplexers with 27% of the worldwide T1/E1 multiplexer market. Other companies such as Develcon Electronics Ltd., Gandalf Data Ltd., Presticom Inc., C-MAC Industries, and EDA Instruments Inc. supply data communications products to all parts of the world.
- **Personal communications and wireless** technologies and services are also rapidly growing in Canada. Over 80% of Canadians live in areas served by Canada's two cellular telephone networks and the conversion of these networks to digital is well under way. The cost of using public wireless services will become more affordable for the majority of Canadians when Canada's four licensed digital public cordless telephone operators introduce their services, later in 1994.

- **Customer premises equipment and multimedia product manufacturers** have introduced a variety of leading edge applications. Eyetel's videophones and desktop video equipment, Mitel's advanced PBXs, and Northern Telecom Ltd.'s cordless telephone systems are state-of-the-art multimedia and personal communications products.
- Canadians are also at the forefront in **satellite communications**. Companies like Spar Aerospace Ltd., COM DEV Ltd., and Calian Technology have supplied satellite systems and ground segment equipment to all parts of the world. With the launch of the world's largest geostationary mobile communications satellite (MSAT) in 1995, Canadians will have access to digital mobile communication services in all parts of the country, even the most remote regions.

During the 1990s, Canada's optical fibre, digital switching and wireless communications advancements will continue at an even faster rate. In addition, several companies including Newbridge Networks Corporation, MPR Teltech, Northern Telecom Ltd., Motorola Information Systems, Mitel Corporation and LSI Logic Corp. of Canada Ltd. are developing networking products and customer premises equipment based on the emerging Asynchronous Transfer Mode (ATM) standard that will deliver a multitude of new broadband multimedia products and services. Canada is taking the lead in the development of a national information highway that will be capable of carrying voice, text, data, graphics, audio, and video services through a network of many networks, owned and operated by several service providers.

**A large pool
of talented
research
and technical
personnel**

With one of the most advanced, yet affordable, education systems in the world, Canadian universities and technical colleges graduate over 25,000 engineers, computer scientists and technicians every year. Many of these new graduates go directly into the labour force while others continue at university, participating in leading edge research.

Number of Graduates

UNIVERSITY GRADUATES, 1992

Discipline	B.Sc./B.Eng.	M.Sc./M.Eng./Ph.D.
Computer Science	2,306	380
Mathematics	2,215	380
Civil Engineering	1,116	388
Electrical Engineering	1,823	599
Mechanical Engineering	1,824	316
Other Engineering	1,837	719
Total	11,121	2,782

Source: Statistics Canada, 1992

COMMUNITY COLLEGE TECHNICAL GRADUATES, 1991

Discipline	Diploma
Computer Science and Mathematics	2,997
Electrical/Electronic Technologies	2,909
Engineering Technologies	4,830
Chemical Technologies	635
Transportation Technologies	246
Total	11,617

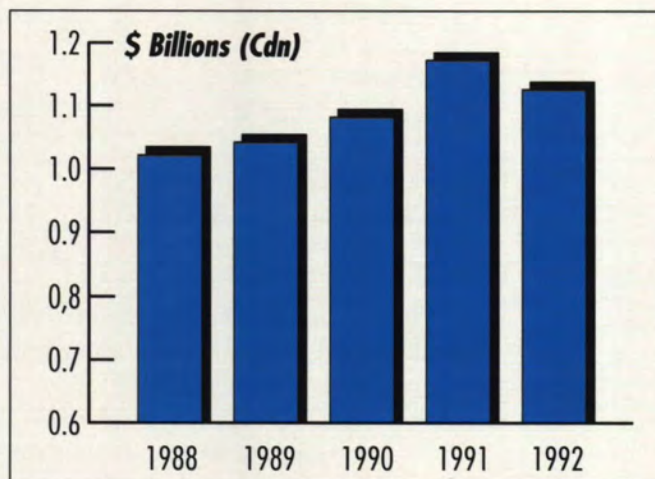
Source: Statistics Canada, 1991

Canada's most intensive R&D sector

Annual R&D Expenditures of Over \$1 Billion

- In 1992, the industry spent \$1.1 billion on R&D, accounting for about 15% of the total R&D expenditures by all of Canada's industrial sectors.
- Bell-Northern Research, Northern Telecom's R&D subsidiary, is the single largest spender on R&D in Canada. R&D expenditures by the rest of the telecommunications industry account for about 20% of the industry's total annual R&D expenditures.
- On average, the smaller firms in the industry devote about 10 to 12 per cent of their annual revenues towards R&D.

Canadian Telecommunications Equipment R&D Expenditures, 1988-1992



Source: Industry Canada,
Information Technologies Statistical Review, 1993

R&D at 28 Universities and Colleges Across Canada

Research in telecommunications and related areas is carried out at 28 universities and colleges across Canada. The following universities have established telecommunications-related Research Chairs:

- University of Victoria (British Columbia),
Industrial Research Chair in Radio Frequency Engineering
- Simon Fraser University (British Columbia),
Industrial Research Chair in Applied Artificial Intelligence: Knowledge-Based Systems
- University of Alberta (Alberta),
Industrial Research Chair in Fibre Optic Communications
- University of Calgary (Alberta),
Industrial Research Chair in Wireless Communications
- McMaster University (Ontario),
Industrial Research Chair in Microwave Signal Processing
- Carleton University (Ontario),
Industrial Research Chair in High-Speed Integrated Circuits
- University of Ottawa (Ontario),
Industrial Research Chair in Real-Time Multimedia Distributed Data Base Systems
Industrial Research Chair in High-Speed Networking Systems Architecture
- Institut National de Recherche Scientifique (Québec),
Industrial Research Chair in Personal Communications
- University of Montréal (Québec),
Industrial Research Chair in Communications Protocols
- McGill University (Québec),
Industrial Research Chair in Digital Systems Design
Industrial Research Chair in Photonic Systems
- Université Laval (Québec),
Industrial Research Chair in Optical Communications

Strong R&D alliances between university, industry and government

The federal and provincial governments are actively involved in establishing and funding telecommunications equipment research initiatives with universities and industry. Assistance is provided through Industry Canada, the National Research Council (NRC) and the Natural Sciences and Engineering Research Council of Canada (NSERC).

In addition, Industry Canada plays a lead role, participating in the various standards organizations associated with the industry. Recently, Industry Canada and the telecommunications industry created the Canadian Telecommunications Action Committee (CTAC) to promote effective industry-government consultation and co-operation.

The Canadian Network for the Advancement of Research, Industry and Education (CANARIE) and Other High-Speed Networking Initiatives

Canada has developed an extensive research infrastructure to support its telecommunications R&D activities. At the core of this infrastructure is CA*net, Canada's national research communications backbone. CA*net, which became operational in 1989, links regional networks in all of Canada's provinces.

The Canadian Network for the Advancement of Research, Industry and Education (CANARIE) is a new partnership among the research, business and government communities, to build on the CA*net initiative and provide a high-speed communications network for a range of R&D and educational users in the public and private sectors. CANARIE will facilitate the exchange of ideas, ease the development of new products and services, and ensure that Canada remains at the forefront of international developments in telecommunications.

Spurred by CANARIE, several other similar high-speed, broadband initiatives are now being undertaken at the regional and local levels. One of these projects, OCRI*net, will in 1994, make available an all-fibre ATM-based network for industry, university and government R&D centres in the National Capital Region.

Networks of Centres of Excellence

Networks of Centres of Excellence bring together over 500 of Canada's foremost researchers in universities, industry and government with the overall aim of increasing research excellence and improving Canada's industrial competitiveness. Two of the selected fifteen networks are conducting research pertaining to advanced communications.

- **Canadian Institute for Telecommunications Research (CITR)**, Montréal, Québec. CITR is a co-ordinated effort to boost Canada's position in telecommunications services and manufacturing, especially in the "network of the future". The network focuses on broadband and wireless communications.
- **Microelectronic Devices, Circuits and Systems for Ultra Large Scale Integration (Micronet)**, Toronto, Ontario. Micronet ties together efforts in devices, circuits and systems in a co-ordinated, vertically integrated, approach. The network's device research program deals with the complex design, modelling and process techniques needed to fabricate the different types of microscopic devices on microchips.

"Natural Sciences and Engineering Research Council" Networks of Centres of Excellence
Telephone (613) 996-9403

R&D Alliances in Advanced Communications

Several R&D alliances have also been established among university, industrial and government researchers, including the following:

- **B.C. Advanced Systems Institute**, Vancouver, British Columbia. This institute specializes in advanced systems disciplines, such as artificial intelligence, robotics, computer science, telecommunications and microelectronics.
Telephone: (604) 689-0551
- **Telecommunications Research Laboratories (TR Labs)**, Edmonton and Calgary, Alberta; Saskatoon, Saskatchewan. This laboratory conducts research in the areas of networks and systems, photonics, wireless communications and network access.
Telephone: (403) 289-3104
- **Canadian Centre for Marine Communications (CCMC)**, St. John's, Newfoundland. This centre specializes in new marine communications equipment, systems and services.
Telephone: (709) 579-4872

Excellent Government Research Facilities

Research is carried out in various government research laboratories. Research is being undertaken in areas such as broadband and wireless communications, digital networks, fibre optics, satellites, software and artificial intelligence.

- **Communications Research Centre (CRC)**, Ottawa, Ontario. This facility conducts research in the areas of communications technologies, communications devices and components and broadcasting technologies.
Telephone: (613) 991-3313
- **Centre for Information Technology Innovation (CITI)**, Laval, Québec. This laboratory studies advanced office automation.
Telephone: (514) 973-5700
- **National Optics Institute (NOI)**, Ste. Foy, Québec. This institute researches optical systems, optoelectronics in the visible and infrared ranges, and image analysis and vision systems.
Telephone: (418) 657-7006
- **Alberta Research Council (ARC)**, Edmonton, Alberta. This facility evaluates materials for electronics and telecommunications.
Telephone: (403) 450-5111
- **Centre de Recherche Industrielle du Québec (CIRQ)**, Ste. Foy, Québec. This centre studies signal processing for video, television and teledistribution, voice compression and noise correction.
Telephone: (418) 659-1550

A business environment unhindered by trade barriers

Access to North America's \$60 Billion Telecommunications Equipment Market

Under the North American Free Trade Agreement (NAFTA), which came into effect on January 1, 1994, Canada, the United States and Mexico joined to form the world's largest free trade zone. An alliance with a Canadian company provides your company with strategic access to a market of 360 million people with an annual Gross Domestic Product in excess of \$7 trillion.

Under NAFTA and the Canada-U.S. Free Trade Agreement (FTA), almost all tariffs between Canada, the United States and Mexico, on telecommunications products manufactured in these countries, have been removed or will be phased out by 1999. A strategic partnership with a Canadian telecommunications product manufacturer provides the best possible access to North America's \$60 billion telecommunications equipment market.

Free Mobility of North American Business Professionals

NAFTA permits unhindered reciprocal access for Canadian, American and Mexican business travellers to the other's markets.

Research and professional staff engaged in the following general activities qualify for temporary entry:

- research and design;
- manufacturing and production;
- installation and training; and
- after-sales servicing.

NAFTA will increase economic growth, expand bilateral investment and trade in goods and services, improve job opportunities and enhance the competitiveness of the three countries in world markets.

**Strong
representation,
nationally and
internationally,
through industry
associations
and standards
organizations**

Key Industry Associations

Canadian telecommunications products are networked nationally through a number of formal and informal industry associations.

- **The National Wireless Communications Research Foundation (NWCRCF)** provides a range of services in support of wireless communications R&D. Services are delivered in the areas of people development, product development and technology transfer, business development, and funding and consortia development.
Telephone: (604) 687-7644
- **The Canadian Advanced Technology Association (CATA)** represents advanced technology companies, their customers, research organizations, investors, government and international enterprises. CATA provides support in the areas of tax and finance policy, international trade and marketing, human resources, communications, investment and finance, and adoption of advanced technologies.
Telephone: (613) 236-6550
- **The Association of Competitive Telecommunications Suppliers (ACTS)** represents any company engaged in the manufacture, distribution, sale, installation and service of telecommunications equipment or systems. The objective of the Association is to promote competition in the telecommunications market.
Telephone: (416) 620-5393
- **The Canadian Business Telecommunications Alliance (CBTA)** represents business telecommunications users. CBTA members are supported through regulatory affairs counselling, newsletters, contact directories, regional activities, national conferences and trade expositions, and networking.
Telephone: (416) 865-9993
- **The Information Technology Association of Canada (ITAC)** represents Canadian companies in the computer and telecommunications hardware, software and service businesses. ITAC attracts decision-makers, provides a network for sharing knowledge and strategic alliances and enables industry views to form public policy.
Telephone: (416) 493-8710
- **The Electrical and Electronic Manufacturers Association (EEMAC)** represents companies engaged in the manufacturing of electrical and electronic systems, components and apparatus. EEMAC's mandate is to ensure a positive environment in which Canada's electrical and electronic industry can prosper nationally and internationally.
Telephone: (416) 674-7410
- **The Telecommunications Consortium of Canada (TCC)** represents small and medium enterprise (SME) telecommunication equipment manufacturers. TCC fosters the formation of alliances and partnerships among SMEs, including relationships with international companies; makes additional R&D funds available to alliances; and raises awareness of the strengths, capabilities and needs of the telecommunications sector SMEs.
Telephone: (613) 592-8155

Standards Organizations

The Telecommunications Standards Advisory Council of Canada (TSACC) takes on the lead position in the development of standards at the national and international levels. Working with TSACC are a number of organizations which participate in standards development including the following:

- **The Canadian National Organization (CNO) for the International Telecommunication Union Telecommunication Standardization Sector (CNO ITU-T)** is responsible for preparing contributions to the ITU's Telecommunication Standardization Sector. Its contributions represent formal Canadian positions on telecommunications-related matters
- **The Canadian National Organization for the International Telecommunication Union Radiocommunication Sector (CNO ITU-R)** is responsible for preparing contributions to the ITU's Radiocommunication Sector and its various committees. The CNO has traditionally dealt with radio spectrum, its allocation and management, including standardization of equipment and systems.
- **The Canadian Standards Association (CSA) Steering Committee on Information Technology (SCIT)** deals with standardization in the field of information technology and acts on behalf of Canada providing contributions to the International Organization for Standardization (ISO)/International Electrotechnical Committee (IEC) Joint Technical Committee (JTC1).
- **The Canadian Standards Committee (CSA) Steering Committee on Telecommunications (SCOT)** manages the development of standards in the field of telecommunications. SCOT's mandate focuses on the definable functional and performance characteristics of terminal equipment attachments to telecommunications networks and network protection.

Canadian companies also participate in several informal standards-setting organizations such as the ATM Forum, and the Frame Relay Forum. As a result of Canada's geographic location and the industry's focus on standards, the majority of Canada's telecommunications products adhere to both North American and international standards.

A highly competitive taxation system

Corporate Taxation

The Canadian corporate taxation system is highly competitive, providing specific advantages for companies with manufacturing or R&D activities in Canada. The federal corporate tax coupled with the varying provincial manufacturing and processing taxes, offer combined tax rates, generally, in the range of 37% to 41%. The province of Québec is the only exception, with a combined tax rate of 30%.

Country/Province/State	Combined Tax Rates
Canada	
Quebec	30.7
Ontario	37.3
British Columbia	38.8
Prince Edward Island	39.3
Alberta	39.8
Nova Scotia	40.3
Saskatchewan	41.3
Manitoba	41.3
New Brunswick	41.3
Newfoundland	41.3
United States	
New York	46.2
Minnesota	40.3
California	40.1
Pennsylvania	39.6
Illinois	37.2
Michigan	35.5
Germany	51.9
Japan	51.6
Italy	47.8
France	42.0
United Kingdom	33.0

Source: Samsan, Belair/Deloitte & Touche Tohmatsu International, January 1992

Significant R&D Tax Incentives

The Canadian tax treatment of R&D is among the most attractive of industrialized nations. Federal incentives currently allow full deductibility of current expenses, as well as capital expenditures made on R&D machinery and equipment, and an investment tax credit of 20% for large firms (30% in Atlantic Canada); and 35% for small firms.

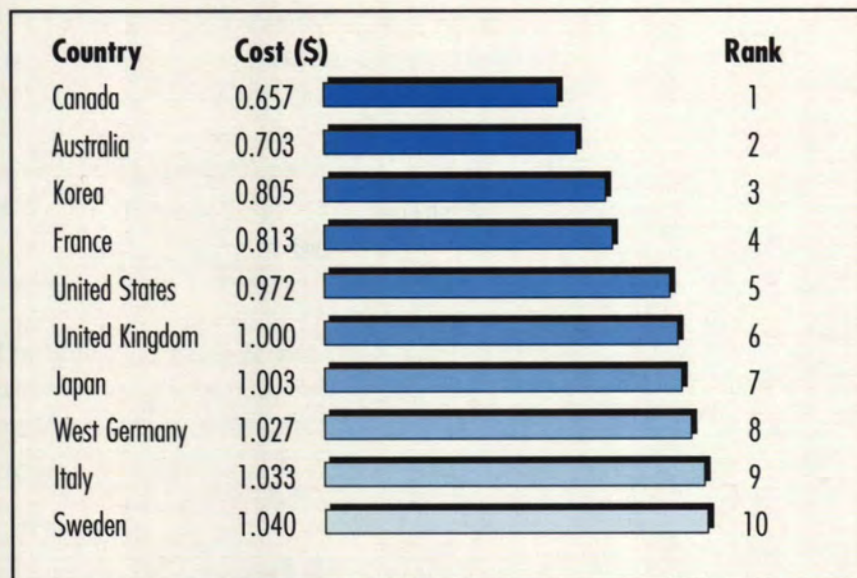
In addition, some provinces have established their own R&D tax credit incentives as a means of further encouraging R&D within their jurisdictions.

Research costs are lower in Canada

A Ten-Country Comparison

A recent study by the Conference Board of Canada reveals that the Canadian corporate tax system provides greater overall incentive for companies to engage in R&D than do the tax systems of nine other leading industrial countries.

Cost of Doing \$1.00 Worth of Research, 1989



Source: The Conference Board of Canada Report 55-90, p13, May 1990 (1989 data).

Financial support and technical assistance

There are several federal, provincial and regional programs aimed at assisting high-technology companies in Canada with technology transfer, product development, improved research capability and export marketing. Direct financing, through such mechanisms as loan guarantees and venture capital investment (equity purchases) is also available, most notably through provincially-sponsored venture funding initiatives.

Key Federal Programs Include:

- **Industrial Research Assistance Program (IRAP)**, National Research Council of Canada. IRAP provides technical assistance, facilities, technology and funding for collaborative research projects between government, university or foreign laboratories, and companies located in Canada.
Telephone: (613) 993-7005
- **Strategic Technologies Program (STP)**, Industry Canada. STP provides financial assistance for industry-led alliances to undertake research, development and application projects in leading-edge advanced communications.
Telephone: (613) 954-3470
- **Microelectronics and Systems Development Program (MSDP)**, Industry Canada. MSDP offers interest-free loans designed to encourage companies located in Canada to undertake technologically innovative ventures in microelectronics and information technologies systems that will enhance the international competitiveness of Canadian manufacturing, processing or service industries.
Telephone: (613) 954-3470
- **Technology Inflow Program (TIP)**, Foreign Affairs and International Trade Canada. TIP provides assistance to Canadian companies to access technologies not available in Canada.
Telephone: (613) 992-7883
- **Defence Industry Productivity Program (DIPP)**, Industry Canada. DIPP provides support to defence-related industries across Canada to compete successfully over the long term in domestic and export markets.
Telephone (613) 954-3296
- **Defence Industrial Research Program (DIRP)**, National Defence. DIRP aims to promote and improve the research and technological capabilities of the Canadian defence industry.
Telephone: (613) 992-8938
- **Program for Export Market Development (PEMD)**, Foreign Affairs and International Trade Canada. PEMD offers financial support to Canadian firms for the development and expansion of product markets abroad.
Telephone: (613) 944-4000

Key Regional Programs Include:

- **Atlantic Canada Opportunities Agency (ACOA) Action Program.** ACOA offers seven main areas of assistance adapted to the specific needs of Atlantic Canada. These areas are: loan insurance; interest buy-downs; business support, studies; innovation assistance; new facility establishment; and new product expansion.
Telephone: (506) 851-2271
- **Western Diversification (WD) Program.** WD offers a variety of support mechanisms to projects that involve new products, new markets and new technologies, including import replacements and industry-wide productivity enhancements.
Telephone: (403) 495-4164
- **Federal Northern Development (FedNor) Program.** FedNor provides financial assistance to businesses in Northern Ontario that are undertaking R&D activities regarding the design, development or demonstration of new or improved products, production processes or services.
Telephone: (705) 942-1327
- **Federal Office of Regional Development – Québec (FORD-Q).** FORD-Q aims to co-ordinate, support and promote economic development in the regions of Québec. It is designed to accelerate growth and increase the economic competitiveness of the regions of Québec, by paying particular attention to those regions in which disparities are most pronounced.
Telephone: (514) 283-7443

Key Capital Investment Funds Include:

- **The B.C. Focus Investment Fund** is a \$87 million technology venture fund for early and expansion-stage companies.
- **The Ontario Lead Investment Fund** is a \$210 million provincial fund (spread over 10 years) which provides financial support to R&D intensive sectors, including the telecommunications sector. The fund is one of the very few to be backed by the major chartered banks of Canada.
- **The Ontario Ventures Fund** is Canada's largest labour-sponsored capital investment fund. The fund works through federal and provincial tax incentives.
- **The Québec Regional Funds** is a series of privately managed, risk capital funds that are specifically targeted towards small companies conducting new economy/high-technology R&D in selected geographic areas of Québec.
- **The Technocap Fund** of Montréal offers seed and business expansion capital to advanced technology enterprises. Investments range from \$200,000 to \$2.5 million. Currently, the fund is valued at \$40 million.
- **The Innovatech Fund** is a \$300 million (1992-1997) fund which invests in high-technology companies in Montréal. During its first year of operation, the fund committed \$65 million in support of 39 Montréal firms.

Canadian companies are seeking strategic partnerships

In today's global communications environment, more and more companies are forming strategic partnerships in order to develop new markets and technologies. Recent success stories include the following:

- Canadian Marconi Co. partnering with GEC Plessey Semiconductors to produce and market receiver technology for global positioning applications;
- Newbridge Networks Corp. partnering with systems integrators and telephone companies around the world to offer T1/E1 and ATM networking solutions;
- Norlite Technologies of Kanata, Ontario partnering with SCI Systems of Huntsville, Alabama for investment and joint marketing of integrated office telephone and computer products; and
- JDS Fitel, a fibre optic components and instrument company formed as a result of a strategic partnership between the Furukawa Electric Co. of Tokyo and Canadian-based JDS Optics.

Canadian companies are seeking various types of strategic partnerships including the following:

Marketing and Distribution Agreements

Canadian telecommunications companies have developed innovative technology-based products that you can distribute through your marketing channels. Canadian telecommunications companies are also interested in distributing your products in Canada and abroad.

Technology Licensing

Canadian telecommunications companies and research groups have many innovative technologies that you can licence for profitability resale. Likewise, Canadian telecommunications companies are also seeking technologies which can complement their product development efforts.

Collaborative Research

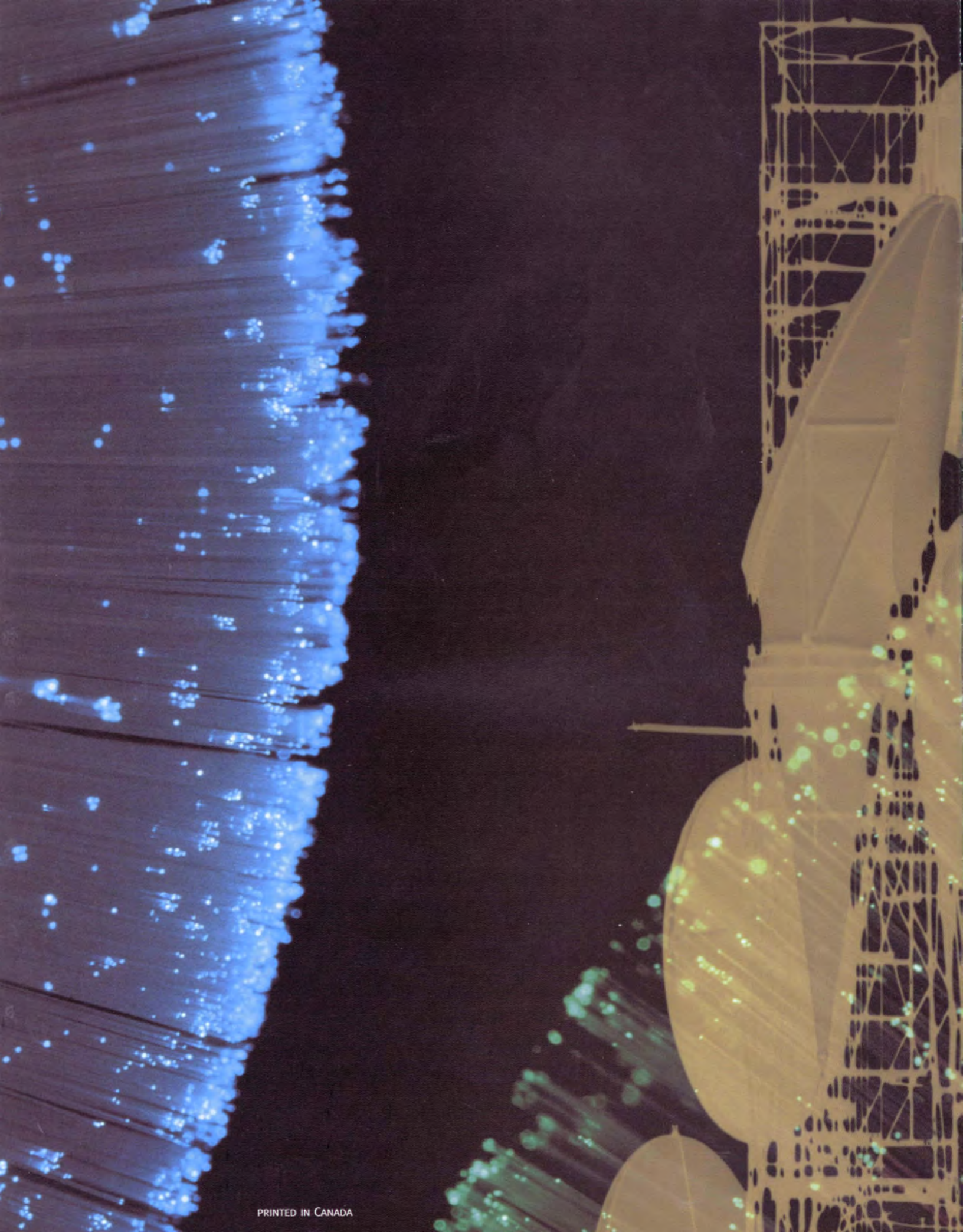
Canadian companies, research groups and universities are actively seeking to collaborate in telecommunications research areas that will yield mutual technical advances and commercial benefits. In addition, by becoming a member of a Canadian research consortium, you can gain privileged access to new technologies.

Joint Product Development

Opportunities exist to collaborate on the development of products to meet the needs of different markets or markets in different regions of the world.

Investment

Some Canadian telecommunications companies are looking for direct investment. In addition, various groups are looking for investment opportunities in other countries.



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Facsimile: (416) 686 2935

Roy Mular, Director, Sales and Marketing

COMPANY HISTORY

Bayly Communications Inc. (BCI) was formed in 1990. Between 1970 and 1990, Bayly Engineering was a wholly owned subsidiary of AEG Aktiengesellschaft of the Federal Republic of Germany and provided a Canadian design, manufacturing and marketing base in the electronics and communications fields, as well as a conduit for technology transfer and North American sales. In 1990, a group of senior managers and former AEG Bayly employees bought the assets and intellectual property rights of AEG Bayly's Telecommunications and Uni-Tel Divisions, and formed Bayly Communications Inc.

MAJOR ACHIEVEMENTS

- Established a partnership agreement with WEBFIL Limited of Calcutta, India, to transfer manufacturing technology to India for domestic production of digital multiplex equipment.
- Won contracts to manufacture teleprotection equipment to stringent Ontario Hydro requirements.

COMPANY PROFILE

- Employees: 20
- Annual Revenues: \$10 million, exports account for approximately 70 percent of sales

BUSINESS DESCRIPTION

BCI, certified under ISO 9002, designs and supplies a wide range of telecommunications and telecontrol products and systems for world wide markets.

Telecom

BCI provides digital voice/data multiplexers for use in thin-route communication networks, nodal processors offering multiplex, cross-connection, transcoding, standards conversion and network management capability, and audio program channel multiplexers and analog tone control systems. Where applicable, products are offered in versions that comply with either North American or international (CCITT) standards.

Telecontrol

BCI offers analog and digital telemetry systems, alarm monitoring and remote control systems. Other products include custom equipment for trackside railway communications and custom teleprotection equipment for electrical utility applications.

PRODUCTS

OMNIPLEXER Digital Multiplex Equipment can operate as end terminal multiplexers for point-to-point communications, or as drop/insert terminals at intermediate sites in a multi-point system. Interfaces are available for North American (ANSI standard) line rates of 1.544, 6.312 and 44.736 Mbit/s, as well as international (CCITT/CEPT standard) 2.048 and 8.448 Mbit/s line rates.

OMNIDACS Nodal Processors combine the functions of an intelligent T1 multiplexer, a digital access cross-connect switch (DACS), an ADPCM transcoder and a sub-rate data multiplexer (SRDM), offering flexibility and extensive capability in a single, cost efficient unit.

Digital Program Channels include premium quality audio program transmission systems. Program encoders and decoders are available for 7.5 kHz or 15 kHz bandwidth channels, mono or stereo, with line interfaces available for both North American 1.544 Mbit/s and CCITT 2.048 Mbit/s line rates.

Alarm, Control and Telemetry Systems are versatile and modular, designed to grow along with the system monitored. In its simplest form, a remote terminal unit may be used to monitor up to 16 points and to send status information to a master station used as an annunciator panel. Remote states may be expanded to provide up to 64 monitor points, and to offer up to 64 control outputs.

Communications and Control Systems cover the needs of almost any type of mobile radio or telephone dispatching system, typically, a dispatching centre and a line or network with selective call stations and/or other secondary dispatching centres.

CURRENT MARKETING ACTIVITIES

BCI is pursuing OEM agreements with various microwave transmission equipment vendors, who can integrate BCI products and their turnkey system projects.

Independent manufacturers' representatives have been engaged to promote the company's product lines in the U.S. and overseas. BCI has had particular success in the Central and South American markets.

EUROPARTNERING INTERESTS

Bayly seeks European partners for:

- Distribution
- Joint marketing
- Joint R&D; and
- Technology transfer/licensing.



THE BCB TECHNOLOGY GROUP INC.

418 Hanlan Road, Unit 4
Woodbridge, Ontario
CANADA L4L 4Z1

Telephone: (416) 850-8266
Facsimile: (416) 850-8276

Ken G. Murton, President

COMPANY HISTORY

The company was formed in October, 1992, to acquire the technology and patents from a predecessor company. All key personnel of the predecessor company were retained and development of products was completed. Financing by the company since October, 1992, totals approximately \$650,000, all equity, of which \$200,000 was used to acquire the assets of the predecessor company.

MAJOR ACHIEVEMENTS

Tone-Talkers have been installed worldwide for applications such as fax-on-demand, order-entry, information provision, inventory control, medical billing and product promotion "rotisserie games". A *PC-DART* dealer network is rapidly being developed in the U.S.A. and Canada and strong end-user demand for this unique digital dictation system is resulting from an increased marketing budget.

COMPANY PROFILE

- Employees: 14
- Annual Revenues: \$3.5 million estimated 1994
- Annual R&D Expenditures: \$175,000 estimated 1994

BUSINESS DESCRIPTION

BCB develops, manufactures and distributes inter-active voice response (IVR) products now being used in an increasing number of business applications. BCB's products are based on proprietary technology developed by BCB and its predecessor company since 1986. These products feature computer add-in cards designed to integrate the telephone network and the IBM-compatible computer thus making the telephone a computer terminal.

PRODUCTS

Tone-Talker is BCB's basic IVR product. *Tone-Talker*, an application-specific system, allows a user to control computer functions via any touch-tone telephone and to receive feedback in the form of natural or synthesized speech, i.e., *Tone-Talker* can convert text to speech. *Tone-Talker*'s proprietary architecture permits value-added resellers, original equipment manufacturers and end-users to provide IVR capability with little modification of current software or with simple, time-saving programming. The broad IVR market is projected to exceed US\$1 billion by 1995.

PC-DART (*Digital Audio Recorder Transcriber*), adapted from BCB's *Tone-Talker* technology, is a digital dictation system for which patents have been applied. The system works in the background of an existing IBM-compatible PC. *PC-DART* also permits dictation from any touch-tone telephone, provides editing features such as insert and delete not available on tape systems, allows digitized voice files to be networked, enables the author to highlight important documents for priority transcription and offers two-way messaging.

CURRENT MARKETING ACTIVITIES

BCB launched *PC-DART* in the Spring of 1993 and now is focusing on building a dealer market and sales of this product. The company's target of 60 dealers in North America by December 1993 appears readily achievable based on strong and immediate dealer response. Product enhancement and introduction of new products has commenced.

BCB currently has representatives in Tuscon, Arizona and London, England.

A study just completed for BCB by its technical marketing consultants, The Emphyrean Group of Worcester, Mass., concludes that the IVR market the company is addressing "is a market of opportunity that needs very much the kind of equipment that the company presently has to offer, but which will require substantial capital to exploit".

EUROPARTNERING INTERESTS

BCB seeks European partners in U.K., Germany, Italy, Benelux and Spain, with PTIs, Distributors and Systems Integrators, for:

- Distribution
- Joint R&D
- Investment



CARDI INC.

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Sainte-Foy, Québec
CANADA G1P 3T1

Telephone: (418) 651 0253
Facsimile: (418) 657 7507

Claude Angers, President

COMPANY HISTORY

Cardi was incorporated in 1985 as a software house dedicated to commercial applications. The first project, which included some hardware development, was an intelligent point-of-sale station built from a personal computer with built-in functions such as bar code reading and credit card processing. The company has developed expertise in telecommunications, hardware and software development.

MAJOR ACHIEVEMENTS

- Cardi was selected as the unique supplier of COMS for Bell Canada. Over 300 COMS units have been sold to Bell Canada; other Canadian telephone companies have ordered 100 more units.
- Cardi has signed an agreement with NETAS, the Turkish branch of Northern Telecom. NETAS will manufacture and sell the COMS in Turkey and other markets.

COMPANY PROFILE

- Employees: 12
- Annual Revenues: \$2 million

BUSINESS DESCRIPTION

Cardi is an R&D centre in electronics and informatics. Its main product is a Central Office Monitoring System (COMS) dedicated to improving service and to reducing costs for X-BAR telephone switches.

PRODUCTS

Cardi's main product is the Central Office Monitoring System (COMS). Built around a commercial personal computer, the Detecting Unit is an interface between a PC and telephone switching equipment. Software built from the experience of a maintenance technician turns the COMS into an Expert System dedicated to enhancing the troubleshooting capability of X-BAR switches.

The COMS has an auto-diagnostic feature and may operate alarms or dial a central computer.

Newly developed features include traffic monitoring and usage of equipment.

Previously designed for No. 5 X-BAR, N5.1, N5.2 and SA-1 switches currently used in Canada, the COMS is being modified to operate with Turkish N5.3 and N5.3A. Cardi is now evaluating modifications required for Penta Conta and other manufacturers' switching equipment.

CURRENT MARKETING ACTIVITIES

Turkish PTT, NETAS, and Cardi are negotiating the terms of a first contract for 40 COMS to be installed in Turkey out of a potential of 286 units to fill the needs of the country.

Cardi is expecting the visit of ROMPOST TELECOM's General Manager and of a Romanian Government representative as a second step toward the installation of 30 COMS in Bucharest.

The National Sales Director operates from Mississauga, Ontario, and the International Sales Vice-President is located in New Hampshire. Principal clients include: Bell Canada, Maritime T&T, Turkish PTT, Newfoundland Telephone, Island Tel, Télébec Limitée, N.B. Tel, Northern Telephone, Sasktel.

EUROPARTNERING INTERESTS

Cardi is interested in European firms for:

- all types of partnering;
- licensing; and,
- cross-licensing agreements.



CML TECHNOLOGIES INC.

75 Boul. de la Technologie
Hull, Quebec
CANADA J8Z 3G4

Kenneth R. Brown, Vice-President, Marketing and Sales

Telephone: (819) 778-2053
Facsimile: (819) 778-3408

COMPANY HISTORY

CML, incorporated in 1979, is a privately held company, in part owned by two of Canada's largest institutional investors. CML has been profitable each year and is known for breaking new ground in both radio and telephone communications. Headquarters are located with its manufacturing facilities in a 26,000 square foot facility in Hull's Technology Park.

MAJOR ACHIEVEMENTS

- Developed the IDPX, an intelligent digital switch of medium size (1024 ports) which is controlled by the customer's host computer.
- Developed a communications console (Liberty) which is used to control mobile communications systems in addition to providing a fully featured E 9-1-1 operation position.
- Teamed with Ericsson G.E. Mobile Communications to sell control consoles and switches for its mobile radio systems.
- Teamed with GTE Government Information Services to sell E9-1-1 systems to the independent telephone companies in the U.S.A.

COMPANY PROFILE

- Employees: 115 in Canada and the U.S.
- Annual Revenues: \$11 million range
- R&D Expenditures: \$2 million

PRODUCTS/BUSINESS DESCRIPTION

Air Traffic Control

CML offers a third generation Air Traffic Control System "COM-NODE", a comprehensive ground to air communications system used extensively across Canada and in locations in Europe. Presently this system is being evaluated for implementation in civilian and military airports across the United States. The first system was installed almost seven years ago.

Mobile Radio Communications

CML has designed and continues to manufacture under brand label agreement, the "C3 console" system for Ericsson General Electric. This system is digital and gives the operator access to a range of console features including full base station control, total radio and telephone communications, and patching, to name a few. The system is compatible with the G.E. 16 PLUS radio trunking system. The company has recently developed a highly sophisticated pushbutton control console known as the Liberty console. This unit is well suited to conventional mobile radio applications as well as Public Service Answering Points and dispatch consoles. It is also compatible with the Ericsson EGE 16 plus (TM) Trunked System and hence easy migration from conventional to trunked radio systems is achievable.

E 9-1-1- Emergency Systems

The ECS-1000 E 9-1-1- system is the most advanced Enhanced 9-1-1 communications system on the market today and has been chosen by GTE, Government Information Systems for distribution by their comprehensive sales force throughout the United States. Modular in design, the system is unique in that it grows to suit affordably any size application. In this way, smaller communities can benefit today from the same features previously only available through much larger switches serving much larger communities.

Custom Switching

The Intelligent Digital Programmable Switch (IDPX) is a sophisticated voice and data switch used as a building block for the development of specialized communications systems. With significant conferencing and data switching capabilities, the IDPX will include networking and multi-switch capabilities, and is controlled by the customer's host computer.

CURRENT MARKETING ACTIVITIES

CML has teaming arrangements with major U.S. companies as well as sales offices in the U.S. CML's products are sold through major organizations such as GTE, Ericsson, G.E. Mobile Communications and through CML's own sales network.

EUROPARTNERING INTERESTS

- CML wishes to license its Com-Node III Air Traffic Control communication system for manufacture in Europe. The equipment comprises a digital switch and the associated controllers' console equipment. The design is modular and state-of-the-art; is highly competitive for small tower systems. CML is seeking a Europartnering arrangement with a major manufacturer of Air Traffic Control communication systems to complement these designs for small ATC systems; CML feels that its product might well fit in with an otherwise broad range of products designed and manufactured by the European partner.
- CML is seeking distributors, systems integrators or PTTs to locally distribute its 9-1-1 emergency calling system. Although the digits dialled in European countries vary, the principle for emergency calling systems is the same.
- CML designs and manufactures radio communications consoles and switches; CML's equipment can interface with the Ericsson G.E. EDACS trunked system, and the company would be interested in Europartnering with an appropriate European distributor.
- CML is seeking a European partner, possibly a PTT or other large systems integrator, who requires a digital switch (CML's IDPX) to provide an integrated system solution to its customers. The European partner would provide the applications software for the host computer which controls the switch.



COMPRESSION TECHNOLOGIES INC.

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CANADA T6B 0B5

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Facsimile: (403) 465 2113

Randy J. Pointkoski, P.Eng.
Business Development Officer

COMPANY HISTORY

Compression Technologies Inc. (CTI), founded in 1991, is a privately owned Canadian company based in Edmonton, Alberta. Its products reflect six years of development of data compression technology in the area of long distance communications. The product, as it exists, represents a major advancement in the leading edge technology of data compression. The CTI WARP I and II provide a point-to-point solution which reduces costs and delivers increased throughput performance on existing network backbones.

The original showcase product, the FASTOK Data Link Accelerator, was purchased by television cable companies, cement companies, floor covering manufacturers, office suppliers, truck part distributors and implementation logistics companies. The success of the FASTOK dictated the development of the WARP product line.

MAJOR ACHIEVEMENTS

- January, 1992 - completed the development of the WTI WARP I
- May, 1992 - Major sale to Frontec Logistics for use in military applications
- September, 1992 - Trade Mission to Singapore resulting in the signing of two major Singapore distributors
- December, 1992 - Formed a working alliance with Digital Equipment Corporation
- January, 1993 - Received R&D funding from the Government of Alberta. Completed development of CTI WARP II.

COMPANY PROFILE

- Employees: 6
- Annual Revenues: \$3 million projected for 1993

BUSINESS/PRODUCT DESCRIPTION

CTI is a licensee of a proven, leading edge data compression technology which is implemented within the design of its WARP product line. The software technology is available for companies wishing to incorporate it into their data communication products (i.e., multiplexers, bridges, routers, controllers).

CURRENT MARKETING ACTIVITIES

September of 1992 heralded the move to a more dominant marketing focus targeting the Asian region with assistance provided through a Western Canadian Trade Mission. To date, this has proven to be strategic in forming positive alliances with distributors. Future marketing direction is to develop relationships with major data communication and manufacturing companies.

EUROPARTNERING INTERESTS

Marketing and Distribution

CTI is seeking partners to promote and distribute WARP series of products to the European Market Place. The European partner should be able to provide marketing and sales expertise to develop a long term profitable relationship.

Telecommunications OEM

CTI is seeking established Telecommunications Equipment manufacturers who wish to enhance the bandwidth performance of their products by incorporating CTI advanced Data Compression Technology. The relationship will be based on the co-operative implementation phase.

CTI is also seeking assistance in overcoming the regulatory hurdles that exist in the introduction of data communication products into Europe.



CONFERTech CANADA INC.

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Facsimile: (416) 622 6905

Donald F. Poulter,
Vice-President and General Manager

COMPANY HISTORY

Formed in 1986 as ConferCall Canada Inc., the company was acquired in 1988 by ConferTech International Inc. Through the utilization of its parent company's award-winning TEMPO and ALLEGRO Audio Teleconferencing Systems, the company has firmly established itself as the second largest supplier of audio teleconferencing services and systems in Canada. Many of the Canadian employees are common shareholders in the publicly-traded shares of its U.S. parent.

MAJOR ACHIEVEMENTS

- In 1992, ConferTech won three-year contract to supply digital audio teleconferencing services and systems to the Government of Canada.
- In May 1993, awarded contract to supply ALLEGRO 240 Audio Teleconferencing System to Hydro-Québec.

COMPANY PROFILE

- Employees: 40 full-time, 20 part-time
- Annual Revenues: \$7 million

BUSINESS DESCRIPTION

ConferTech provides a wide range of audio teleconferencing services and distributes and technically supports telecommunications technology related to audio teleconferencing.

PRODUCTS

ALLEGRO Audio Teleconferencing System offers premium audio quality and service features necessary for effective communication between multi-locations. The system will support up to 240 ports, 16 operator positions (local and remote) and 80 simultaneous conferences. Interfaces are available for North American (ANSI standard) line rates of 1.544 Mbps. Internationally, (CCITT/ITU-ETS) 2.048 Mbps Primary Rate is under development.

TEMPO MBX Audio Teleconferencing System offers many of the service features necessary in the performance of a high quality conference call. The System will support up to 72 ports, 3 operator positions (local and remote) and 10 simultaneous conferences. The System supports a 2-wire analog interface.

ConferCall provides audio conferencing services to many large multi-nationals, commercial, government and not-for-profit institutions. Utilizing ALLEGRO and TEMPO technology, the service provides 24 hour availability of English and French-speaking reservation and operator assistance and world-wide access.

CURRENT MARKETING ACTIVITIES

ConferTech distributes its products within Canada to government, distant-education, and commercial businesses.

ConferTech is also seeking to expand upon private-label opportunities of its ConferCall services.

EUROPARTNERING INTERESTS

ConferTech seeks partners for:

- Distribution
- Joint Marketing
- Consultation on Service-Bureau environments



CTI DATACOM Inc.

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Facsimile: (514) 683 7997

Marcel Daoud
Executive Vice-President
Tom Mathers
Director, European Operations

COMPANY HISTORY

CTI DATACOM, incorporated in 1990, is a privately held company. Over its two years of existence, CTI managed to penetrate the Canadian, European and Middle-East markets. CTI DATACOM has acquired a strong knowledge of international business expertise through its strategic alliances with major international organizations located throughout Europe and the Middle-East.

MAJOR ACHIEVEMENTS

- Research, development, manufacturing and marketing of a unique line of low radiation high ergonomic IBM 3270 plug compatible info-window work stations.
- Unique multilingual approach in order to address the international marketplace.
- Strategic OEM agreement with IBM corporation for remarketing the complete 3174 family of network controllers and inter-networking products.
- Strategic alliance with McData Corporation for IBM plug-compatible communication products.

COMPANY PROFILE

- Employees: 32, throughout Canada
- Annual Revenues: > \$4 million in 1992
(exports account for 40 percent of sales)

BUSINESS DESCRIPTION

CTI DATACOM Inc. (Montreal, QC), a Canadian high technology company, designs, manufactures, markets and supports communication products targeted for the IBM mainframe and Open Systems environments. CTI DATACOM provides data communication and system interoperability solutions in response to today's increasingly complex and demanding requirements for desktop to host communications.

PRODUCTS

Network Controllers

The CTI Network Controllers allow for the integration of some exciting innovations combining high functionality, network design, management flexibility and most importantly, full IBM compatibility. The Network Controllers offer improved price performance and enhanced end-user productivity in workstation-to-host communications.

Display Workstations

The CTI family of InfoStations offers full IBM compatibility, high functionality, and an extensive selection of "value added" features. The InfoStation family includes monochrome as well as high resolution colour displays.

Print Stations

CTI's 7200 PrintStation family includes an extensive selection of IBM 3270 compatible printers providing cost-effective solutions to a complete range of character, line and laser requirements. The 7200 PrintStations are complemented by a versatile Printer Controller, allowing a wide choice of different application oriented printers to be connected to a 3270 Network, or shared between a 3270 system, a stand-alone PC, and a PC-based LAN.

continued

Advanced Communications

Channel Extension Systems

The CTI series of Channel Extenders provide simple, reliable and cost-effective support for mainframe peripherals, allowing network managers to utilize high performance communication facilities, including T1, T3 and fibre optic services, to locate high speed peripheral devices such as Front-End Processors (FEPs), laser controllers many miles from the main data processing centre, while still maintaining local performance.

Network Gateway-Server Products

The CTI Network Gateway-Server provides full compatibility with IBM's 3172 channel protocol and gives Ethernet and Token-Ring local area network (LAN) users direct access to a wide range of IBM host-supported software.

CURRENT MARKETING ACTIVITIES

CTI products are sold by a direct sales force and through a global network of established distributors and OEMs. Unique multilingual system capabilities and responsiveness to specific user requirements have made CTI DATACOM a leading provider of solutions for the Canadian, United States, European and Middle Eastern markets. Furthermore, CTI is the only IBM 3270 plug-compatible supplier capable of offering a full range of Arabic/English 3270 Coax Products including Local and Remote Controllers, Display Workstations, PC Emulation Cards and Print Stations.

EUROPARTNERING INTERESTS

CTI DATACOM is interested in obtaining one or several European key distributors and OEMs to promote, sell and support its product line.



COMPUTER TALK TECHNOLOGY Inc.

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CANADA L4B 3P4

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Facsimile: (416) 882 5501

Mandle Cheung, President and CEO

COMPANY HISTORY

Computer Talk Technology Inc., founded in 1987, markets and supports a family of intelligent call exchange (ICE) and interactive voice response (IVR) systems. The leading supplier of IVR systems in Canada, Computer Talk Technology Inc. has 58 per cent of that market and increased sales by 67 per cent from 1992 to 1993. By 1996, industry sales should be \$29 million. As of last December, the company had sold more than 400 systems to over 50 customers in Canada and the U.S. Its customers include some of Canada's largest corporations and several major federal and provincial government ministries. Currently the largest single site networked Talking Computer system has 100 lines and processes upwards of 250,000 calls each month that requires data from up to four different host computer data bases. The most sites a single customer has is 150 cities across Canada. The most robust and high-performance system to date is one with 16 lines processing 10,000 calls a day and has been in production for over four years.

MAJOR ACHIEVEMENTS

- CTT is the leading supplier of interactive voice response systems in Canada, with a 58 per cent market share, and has increased sales by 67 per cent from 1992 to 1993.
- CTT's Talking Computers are used successfully in a wide range of applications:
 - home banking by telephone
 - warehouse order entry
 - credit card authorization
 - talking stock quotation
 - credit card customer enquiry
 - utility meter reading
 - telephone home shopping
 - IBM robot network operator (Help-Desk)
 - customer service
 - courier pick up and waybill tracking
- The Intelligent Call Exchange (ICE) is an integrated and upgradeable product offering multi-host voice response transactions, fax, audiotex, voice mail, intelligent call distribution within single and multiple sites or cities and statistics reporting.

COMPANY PROFILE

- | | |
|---------------------|------------------------|
| • Employees: | 35 |
| • Annual Revenues: | \$5 million in 1992/93 |
| • R&D Expenditures: | 15 per cent of sales |

BUSINESS DESCRIPTION

CTT develops, markets and supports a family of PC-based voice processing and telephony processing computers that turn ordinary telephones into "universal computer terminals" allowing users to interact with sophisticated and complex computer data bases without special training. CTT is a leading supplier of IVR computers in Canada.

PRODUCTS

The Telephone Computer is an OS/2, Intel 486, multi-tasking PC system that provides the base for the ICE system. The single master station version can support up to 24 telephone lines. Each additional networked version can support up to 48 telephone lines.

ICE is a new product that addresses the "intelligent" handling of telephone calls through total computer telephony integration (CTI) and it is specifically designed to meet the telephone call automation demands of major organizations beyond the year 2000. With the Intelligent Call Distribution (ICD) option, the ICE computer can stand alone. ICE can also be integrated with a PBX or PBX/ACD, or to run in a Centrax environment. ICE/ICD in a stand alone mode will support up to 48 analog or digital telephone sets. ICE also supports ISDN primary rate with ANI and DNIS features and would insert T-1 span back into a PBX. ICE is also a client server in an IBM or Novell LAN.

Each ICE computer will become a universal access node (UANode) within an advanced intelligent network (AINet) spanning hundreds of locations continent- and even world-wide. Much of the "intelligence" within the AINet would come from the "caller profile" and "call profile" features of ICE.

CSpeak offers multilingual, alpha-numeric speech recognition. CFax offers integrated fax on demand and fax broadcast. CNet offers the ability to monitor the voice processing network from a central site and supports IBM Netview services.

SpeakEasy is a multilingual speech-controlled voice mail computer that can stand alone or be fully integrated within the Telephone Computer.

CURRENT MARKETING ACTIVITIES

Computer Talk Technology Inc. sells its products through a direct sales force in Canada and to selected industries in the U.S. Third-party hardware support services are performed for CTT by Digital Equipment Corporation (DEC). Principal clients include: Bank of Montreal, Toronto Dominion Bank, Bank of Nova Scotia, Canadian Imperial Bank of Commerce, Sears Canada, T. Eaton Co., Workers' Compensation Board, Canadian Pacific Ltd., Employment and Immigration Canada, Ministry of the Environment, Ministry of Finance, Purolator Courier, Imperial Oil Canada and Xerox Canada.

EUROPARTNERING INTERESTS

CTT seeks partners for:

- Distribution
- Joint R&D
- Joint Marketing
- Technology Transfer
- Licensing
- Investment



CYCOMM INTERNATIONAL INC.

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David Boon, Executive Vice-President

COMPANY HISTORY

Cycomm International Inc. (previously Sonatel Telecommunications Corp.) is a public company which has been trading on the Alberta Stock Exchange since 1986. Cycomm was listed on AMEX (CYI) in August of 1993.

MAJOR ACHIEVEMENTS

- Developed highly efficient HF radio security product. The VEM-1001 HF product works on HF, VHF, and UHF frequencies and does not degrade the performance of the radio transceiver while still offering a very high level of voice privacy. These units have been accepted for use in military, commercial, and marine applications.
- Developed first complete Cellular Voice Privacy System, designed to meet all of the requirements of service providers and end users. This system includes central office equipment compatible with most types of switches and end user units capable of configuration to fit many types of cellular phones.
- Developed radio based vehicle tracking systems for metropolitan areas.

COMPANY PROFILE

- Employees: 40
- Annual Revenues: \$6 million

BUSINESS DESCRIPTION

Cycomm develops voice privacy and data security products for cellular, radio, and landline communications. Proprietary techniques are used with key management, rolling code ciphers, and a variety of voice encryption methods to protect the call from unwanted monitoring.

The Cellular Voice Privacy system, developed by Cycomm in conjunction with Bell Cellular, was released in July, 1990, and is already regarded as the de facto standard by major cellular service providers. Cycomm is also developing a range of other products based on other proprietary technology.

PRODUCTS

Cycomm's core commercial products include:

- Cellular voice privacy systems;
- Radio voice privacy and data security products;
- Fax encryptor and scrambler units;
- Landline voice privacy units; and,
- Vehicle tracking systems.

Cycomm's development groups concentrate on refining and adding to this product range.

CURRENT MARKETING ACTIVITIES

Cycomm's marketing focus is in North America and Europe.

Bell Cellular of Canada is a major distributor of the cellular products throughout Canada. Cycomm markets its own products in the United States.

Having achieved technical acceptance from most major cellular network operators, Cycomm is about to embark on a new U.S. marketing campaign to confirm its leading position and educate all major metropolitan operators of the benefits of its system.

Cycomm has completed a major distribution contract and joint venture agreement for manufacturing and future development with a billion dollar multinational group based in the U.S. Other negotiations are under way or completed for areas covering Spain, the Benelux countries, and certain Middle Eastern countries. The first stages of marketing campaigns in Latin American, South East Asia and the Far East have resulted in sales to Venezuela, Mexico, New Zealand, Thailand and Taiwan.

Some of Cycomm's principal clients are: McCaw Cellular Communications, MT&T Cellular, Cellular One, Edmonton TEL, GEC Marconi, Cedetel Mexico, Safecall, Bell Cellular, Telecom Cellular, New Zealand, BC Mobility Cellular, GTE Mobilnet, Bell South Mobility, ProvaFone, Galactica.

EUROPARTNERING INTERESTS

Cycomm seeks European firms for:

- a variety of partnerships with carriers.



DATARADIO INC.

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Facsimile: (514) 737 7883

R. T. Rouleau, President

COMPANY HISTORY

Established in 1981, Dataradio is a privately owned company which evolved from the Presud Group when it began to develop wireless data communication products. Primary success came in introducing fixed wireless data communications to developing countries where the available cable-based communication infrastructure could not support data communications. The company's mobile data system became very popular in the rest of the world, particularly among utility companies and public safety markets.

MAJOR ACHIEVEMENTS

- First to introduce a 9600 baud radio modem for synchronous applications.
- Development of its Mobile Data System which resulted in producing the number-one selling mobile radio for the data communications market.
- Awarded contracts in the U.S., for more than 2,500 units each, to Trimble Navigation and Southern California Gas.

COMPANY PROFILE

- Employees: 50
- Annual Revenues: \$7 million plus
- Annual R&D Expenditures: 20% of gross revenue

PRODUCTS/BUSINESS DESCRIPTION

Fixed Radio Data Communication Products

Dataradio offers a range of solutions for fixed data networks. Designed for performance and reliability, COR (Connectivity Over Radio) modems have become the choice of municipal agencies, commercial applications, research organizations and many others. These products provide high-quality data communications using narrowband radio frequency (RF) transmission technology to link wide area networks of terminals, automation equipment to a host computer, or short range radio links to connect two data devices.

Mobile Radio Data Communication Products

This is a cost-effective system for mobile data. Flexible and comprehensive, VIS (Vehicular Information Series) is ideal for public safety organizations, utilities, service companies and more. Whether the application is sending messages to a printer in a vehicle or supporting communications between a mainframe computer and a laptop, VIS provides high-quality datalink systems that are replacing high-cost, conventional MDT systems. VIS is compatible with a wide variety of computer aided dispatch (CAD) and other software packages, as well as mobile computers and terminals.

CURRENT MARKETING ACTIVITIES

Dataradio is looking to target financial transaction operations, such as banks, airlines, lotteries, and telemetering (e.g., gas pipe lines). Current success is providing the ability to develop newer, enhanced products to stay ahead in the mobile data communications field.

EUROPARTNERING INTERESTS

Dataradio is looking for partners in Europe for distribution and joint marketing arrangements, with mobile service providers and systems integrators. They are particularly interested in the U.K., France and Germany.



DBA TELECOM CORPORATION

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Facsimile: (604) 985 4128

David J. Bensted, President & CEO

COMPANY HISTORY

Formed in 1979 as DBA Communication Systems Inc., the company markets its products through telephone companies, independent distributors and original equipment manufacturers (OEMs), and is recognized as the market leader in its field. DBA is now actively engaged in new product development and invests approximately 11 per cent of total revenues on Research and Development.

In 1993, DBA Telecom Corporation became a public company listed on the Vancouver Stock Exchange. DBA Communications Systems Inc. and its three operating subsidiaries, in the U.S., United Kingdom, Australia are wholly-owned subsidiaries of DBA Telecom. The head office is located in North Vancouver, B.C., with a branch office in Toronto, Ontario.

MAJOR ACHIEVEMENTS

- The company signed a major joint marketing agreement with Telecom Australia and their affiliated Centrex agents.
- A contract with New Zealand Telecom was successfully completed.
- DBA's SmarTalk product received final approval in Germany.

COMPANY PROFILE

- Employees: 60 people in its offices world wide
- Annual Revenues: \$7 to \$8 million projected for 1993
- Annual R&D Expenditures: 11 per cent of total revenues

BUSINESS DESCRIPTION/PRODUCTS

DBA Telecom Corporation develops, manufactures and distributes telecommunications equipment for the small business and Centrex customer premise equipment (CPE) markets.

DBA's prominent product line is the SmarTalk two and three line telephones. Aimed at the small business and Centrex markets, SmarTalk telephones are being sold in more than 20 countries including Canada, U.S., Britain, Belgium, Italy, Germany, Spain, Norway, Australia, Mexico, New Zealand, Korea and Singapore. More than 200,000 SmarTalk units are now in use.

DBA is introducing several new products, the first of which is the award-winning SmarTalk Centrex Answering System. This product provides highly efficient centralized call handling for up to 56 Centrex lines.

Another product to be introduced is the SmarTalk Centrex SMDR, a device which monitors Centrex lines to collect telephone usage information and generate call detail records.

CURRENT MARKETING ACTIVITIES

DBA distributes its products primarily through telephone companies in North America and major distributors in most European countries.

DBA is now expanding its market base in Europe, the U.S. and Asia Pacific. Through its subsidiary office located in Kent, U.K., European marketing activities are targeted at finding distribution partners in Germany, Spain, Belgium, the Netherlands, France and the Eastern Bloc countries. DBA is also discussing an OEM supply agreement for its SmarTalk family of products with a major European telecommunications equipment manufacturer.

The company's sales office and distribution centre in Sydney, Australia, serves the Australian, New Zealand and Pacific Islands markets. Sales in these areas are channelled through a dealer network, supported by DBA's Sydney-based sales and marketing personnel.

EUROPARTNERING INTERESTS

DBA is seeking the following:

- European marketing partners to develop applications in vertical markets using the company's open architecture telecommunications platform. DBA will consider licensing, joint ventures or OEM contract agreements with suitable partners.
- Distributors to market the SmarTalk family of telephone systems in countries where DBA does not already have distributors.
- Companies interested in entering the Australian and New Zealand markets using DBA as a marketing partner to distribute their products through DBA's expanding dealer network and support infrastructure in the region.



DEVELCON ELECTRONICS LIMITED

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Saskatoon, Saskatchewan
CANADA S7K 5C7

Telephone: (306) 933 3300
Facsimile: (306) 931 1370

Mr. George Best, Vice-President, Marketing

COMPANY HISTORY

Develcon designs, manufactures and markets data communications equipment. The company specializes in easy to use high-performance data communication products that are cost effective.

MAJOR ACHIEVEMENTS

- Introduced the Ethernet LAN bridging product line in 1991 and captured 10% of the Canadian market within 18 months of introduction.
- The company's "DevelNet" networking systems was one of the earliest "enterprise" networking devices.
- Introduced the first terminal-powered limited distance line driver in 1982, patented for its unique and innovative design.
- One of the pioneers of "data PBXs", intelligent switching devices and providing multi-vendor connectivity to asynchronous terminals and hosts.

COMPANY BACKGROUND

Founded in Saskatoon, Canada in 1974 as a data communications product developer, Develcon Electronics Ltd. is a publicly owned company traded on the Toronto Stock Exchange.

Develcon operates a complete electronics design and manufacturing facility in Saskatoon, and markets complementary products. The company also operates a wholly owned sales subsidiary in the United States, Develcon Electronics Incorporated. Outside of Canada, the company's products are marketed through distributors.

Develcon's first products were limited distance line drivers, primarily marketed to Canadian telephone companies. In 1978, Develcon introduced a data PBX, Develswitch, which was a pioneer networking system that integrated a variety of data processing equipment. In 1983, DevelNet was introduced as a scale-able, high-speed solution for asynchronous terminal and host connectivity problems. Since its introduction, DevelNet has been expanded to include protocol gateways, terminal servers, LAN bridging, and other value-added products.

In 1988, Develcon introduced its first LAN product into the DevelNet system, a remote Ethernet bridge. From this beginning, the technology was adopted to a compact, stand-alone platform. Current LAN products include local and remote Ethernet and Token-Ring bridges; Ethernet hubs; ISDN terminal adapters and ISDN Ethernet bridges; and an Ethernet IP/IPX bridge router.

COMPANY PROFILE

- Established: 1974
- Employees: 100
 - R&D/Engineers: 25
 - Administration: 10
 - Sales/Marketing: 25
 - Purchasing/Production: 26
 - Field Engineers: 14
- Annual Revenues: \$10 million
- Annual R&D Expenditures: \$1.5 million

BUSINESS DESCRIPTION

Develcon manufactures Local Area Network (LAN) internetworking equipment, enabling communication between local and remote LANs. The company also manufactures large-computer networking products and systems, each designed to provide a specific communication solution for consolidation of a corporate information network.

Remote Ethernet IP/IPX Bridge/Router

Medium-sized organizations require a range of flexible networking solutions to close the gap to their remote offices. Develcon's IP/IPX bridge/router is targeted at isolated UNIX and Novell Netware remote site networks that need to connect to resources located on the corporate backbone. Incorporating the two major routing protocols in widespread use, the product also bridges other protocols, providing unrestricted network to network connectivity.

Local Area Network Bridges

Develcon's bridges are available in "local" versions for nearby LAN interconnection; and "remote" versions, for long distance LAN interconnection. They may be used to interconnect either of the two types of LAN which are predominant today; "Ethernet" or "Token-Ring". All of Develcon's bridges are IEEE (Institute of Electrical and Electronic Engineers) standards-based, incorporate a wide range of desirable features, and include a lifetime warranty.

Ethernet Hubs

Hubs are LAN devices that connect multiple Ethernet stations to a central point of control. A hub creates a star wired topology using inexpensive two-wire telephone cable which runs to each station. The benefits include management from a central location, the ability to interconnect several hubs into an existing network, and automatic isolation of individual station faults. Develcon Hubs are based upon the 10BaseT standard approved by the IEEE.

Communication Servers

These products provide bi-directional communication between LAN and non-LAN devices and services. Develcon offers X.25, LAT, TCP/IP communication servers that can inter-operate to provide a cost-effective communication solution. Develcon's communication server products are manufactured on a printed circuit card, allowing each server capability to be integrated into the various systems the company offers. They are also available in stand-alone packages to supply separate cost-effective solutions for small, medium or large installations.

ISDN Products

Develcon is aggressively targeting this market with current product offerings including ISDN Ethernet Bridges and ISDN Terminal Adapters.

DevelNet - Corporate Communications Processor

Many large organizations have substantial investments in mini and mainframe computing technology. These technologies, although mature, are still an important facet of the computing strategy of many large organizations. DevelNet is a 100 Mbps networking backbone system that allows users to access the computing resources of many different large systems in local, metropolitan and wide-area environments. DevelNet also provides value-added network services, such as network security, data broadcast/conferencing, print spooling, and central network management. Users include governments, multinational companies, the aerospace industry, hospitals and research facilities. DevelNet is a scale-able solution appropriate to those companies requiring a stable platform from which to control access to all of a firm's computing resources.

CURRENT MARKETING ACTIVITIES

Sixty five per cent of the company's products are to markets outside of Canada. Approximately 50 per cent of exports are the U.S.A., the balance is to markets in 30 countries. Distributors provide the product sales outside of Canada. Develcon explores strategic distribution and marketing partnerships to further the company's presence in the international marketplace.

Develcon supports its distributors through on-going product and market training, and through international advertising campaigns. The company provides a comprehensive marketing program and offers assistance to distributors mounting advertising campaigns in their region. Private labelling arrangements are available for products manufactured by the company. Develcon's priorities are to identify existing vendors positioned to distribute and support their internetworking products into new and existing installations.

EUROPARTNERING INTERESTS

Potential areas of interest include:

- Distribution, reseller, and OEM relationships;
- Joint R&D contracts; and
- Strategic technology licensing.



DIGITAL PRODUCTS LIMITED

P.O. Box 3126, Station B
Saint John, New Brunswick
CANADA E2M 4X7

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Facsimile: (506) 635 1057

Will Kelly, President

COMPANY HISTORY

Digital Products Limited (DPL) management has successfully guided rapid and profitable growth over the last seven years in the construction of custom panels and industrial control systems. This and the considerable financial support given by government agencies has provided the time and resources necessary for the development of numerous telco products. The company has now reached a new stage of its life cycle. Many of the products developed through research and development are being produced and are selling well.

DPL has developed a distribution system for the Canadian and American telephone industry. The competition to DPL's test equipment is extremely limited as most competitors are more highly priced and have technically uncompetitive products. DPL has made a commitment to ongoing R&D to maintain and increase its competitive position.

DPL concluded an agreement to manufacture a product developed by N.B. Tel for their own use and to take it to market under licence. DPL has expanded this working relationship to an ongoing agreement to source new products.

MAJOR ACHIEVEMENTS

The company has succeeded in gaining product acceptance by all seven Bell regional telephone companies and Continental Tel (third largest independent).

COMPANY PROFILE

- Employees: 71
- Annual Revenues: Over \$4 million
- Annual R&D Expenditures: \$300,000
- Key Customers: NB Tel
Bell Canada
Manitoba Tel
Sask Tel

BUSINESS DESCRIPTION

Digital Products is involved in the design and development of test equipment for use in the telecommunications industry.

PRODUCTS

Telecommunications Products

MH-001 Microhelper
TSM-110 Telephone Signal Monitor with built-in Modem
TSM-200 Telephone Line Monitor
(literature available only to registered security forces)
SBI-145 Telephone Test Set
PSD-224 Power Supply
CPI-112 Computer-P-Phone Interface

Industrial Products and Services

Programmable Controllers
DAP Hand-Held Data Collector
Lumber Tally and Sort Control
Video Log Scanning System
Kiln Controller
OEM Panel Shop
Systems House
Electrical Engineering
Diesel SCADA System
TIMS Software
Single line telephone refurbishing and repair
Plastic painting

CURRENT MARKETING ACTIVITIES

Distributors and their representatives are being used to sell products. This will be supported by DPL's advertising and trade show promotions. Distribution agreements are now in place with one company in Canada and two companies in the U.S. (N.W.X. and T.C.M.).

Investigation of marketing outside North America is expected to start in 1993 with some agreements to take place in 1994.

EUROPARTNERING INTERESTS

Digital Products Limited is interested in partnerships for distribution and licensing for manufacturing of its products. DPL is interested in discussing any serious offers that could add to its product lines or increase market penetration.



EDA INSTRUMENTS INC.

4 Thorndiffe Part Drive
Toronto, Ontario
CANADA M4H 1H1

Telephone: (416) 425 7800
Facsimile: (416) 425 8135

Geoffrey H. Bennett
President

COMPANY HISTORY

EDA Instruments was incorporated in 1977 to capitalize on the benefits foreseen from the application of microprocessor technology to geophysical instrumentation. The innovative range of products it developed and marketed worldwide made it an international industry leader. The initial thrust of the company was the Earth Sciences Division, which formed the cornerstone on which EDA expanded and evolved in other directions.

In 1983, EDA acquired the assets of ENA Telesystems, one of the first designers of packet switching equipment for the data communications industry, providing the company with immediately marketable products and an important research and development capability.

The company's Earth Sciences Division was sold in May 1989. The company intends to concentrate in the area of data communications in the foreseeable future.

The manufacturing facility has been certified to AQAP-4 standards for certain projects completed for the Department of National Defence in Canada. EDA currently employs 28 people in R&D and is expecting to expand this group in the near future. Historically, the company has spent 15 percent of its sales dollar on R&D and expects this trend to continue.

MAJOR ACHIEVEMENTS

- Signed major OEM supply agreements for the MPX.25000 System and MICRON Series with Satec Communications Limited, Australia, Telindus Networks, Belgium, and Ascom-Zelcom AG, Switzerland.
- Installed major data communication network based on MPX.25000 System for U.S. Internal Revenue Service, DHL Courier (Europe), CPT Peru, Iusacell Mexico and Intertel Cuba.
- Installed major data communication network based on MPX.25000 System and MICRON series for U.S. General Services Administration, Union Corbide (Linde Division), and Entel Chile.

COMPANY PROFILE

- Employees: Over 90
- Annual Revenues: Over \$10 million
- Annual R&D Expenditures: 15 per cent of sales

BUSINESS DESCRIPTION

EDA produces data communications equipment used to link computer systems and terminal devices together at low cost through high speed X.25 digital communication networks. It also has recently introduced a range of data compression units and Local Area Network bridges.

PRODUCTS

EDA's products include a series of high performance switches, multi-protocol PADs, LAN bridges and routers, data compression processors and network management software, used to build data communications networks. Product design is based on modularity, distributed processing architecture, open-ended expansion capability, multi-protocol support and compact packaging. This design offers high speed data transmission and exceptional bandwidth utilization.

EDA has proven experience and success in designing and installing networks to operate within many different protocol environments. EA equipment supports IBM (SNA/SDLC, Bisync and QLLC), Unisys (Uniscope and Poll Select), Qantel (QSP), Hewlett-Packard (ENQ/ACK Blockmode), NCR, Bull, DEC and various others, as well as Ethernet 802.3 and Token-Ring 802.5 LAN protocols.

The MPX.25000 System encompasses the full range of EDA's technology. It uses intelligent networking modules to build multiplexers, network concentrators, PADs, multi-protocol PADs, high performance switches, nodes and switching PADs.

The Micron Series is the smallest X.25 PAD/switch in the world and is ideal as a low cost network access device for remote offices. It is fully compatible with the MPX.25000 System and is integrated in the Network Management Platform.

The FRX.7000 is a high-end backbone network node, designed to support X.25, Frame Relay and ISDN. The FRX node features exceptional throughput, sophisticated routing and security, high speed trunks up to 2.048Mbps and is fully integrated in the Network Management Platform.

The Nexus and TR series provide LAN bridging and routing functionality in low cost, compact chassis. As with all EDA products, these are integrated in the Network Management Platform.

All EDA products can be centrally managed by a sophisticated OSI compliant software package which features a mouse-driven graphical interface (GUI), X-windows, network design utilities and a multi-function network probe facility. The software runs on various platforms including SUN SPARC workstations (UNIX), Risc 6000 and DOS/Windows 3.1.

CURRENT MARKETING ACTIVITIES

EDA sells its products in Canada directly to the end user and through various distributors and OEMs.

EDA has an international sales department in Toronto which is responsible for locating new distributors and OEMs in Europe and for supporting current OEMs and distributors. EDA has an extensive network of distributors and OEMs around the world, and has sales representatives in Singapore and Santiago, Chile. These sales representatives are responsible for locating new distributors and supporting current distributors.

EUROPARTNERING INTERESTS

EDA Instruments Inc. seeks European partners for:

- Distribution of its products.



EXFO E.O. ENGINEERING INC.

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Vanier, Quebec
CANADA G1M 3G7

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Facsimile: (418) 683 2170

Germain Lamonde
President

COMPANY HISTORY

EXFO E.O. Engineering Inc. (EXFO) manufactures fibre optic test equipment for network installers and service companies, telephone companies and research laboratories.

EXFO E.O. Engineering was established in 1985 to design and manufacture high quality high end fibre optic field test equipment. Through numerous product innovations and the unprecedented reliability of its units, EXFO is now recognized in both the North American and European markets as a leader in innovative fibre optic test equipment. EXFO collaborates in research and development projects with the National Institute of Optics and the Optics Department, Laval University.

MAJOR ACHIEVEMENTS

- EXFO became a world leader in fibre optic test equipment in 5 years
- EXFO received awards for the excellence of its products and for its continued progress (Canadian Advanced Technology Association, Canadian High Tech Show, etc.)

COMPANY PROFILE

- Employees: 120, including 45 engineers
- Annual Revenues: \$4 to \$6 million

BUSINESS/PRODUCT DESCRIPTION

EXFO manufactures a comprehensive selection of fibre optic test equipment: power meters, LED and laser sources, variable attenuators, variable back-reflectors, Back Reflection Test Sets, visual fault locators, dual wave length test systems and the revolutionary single fibre Voice Communication System VCS-20A. EXFO also has accessories and connectors, as well as test jumpers.

EXFO's instruments are designed to serve three main market segments: (i) the LAN, FDDI, ISDN, SONET, etc. network installers and service companies, to whom EXFO offers complete "application specific kits"; (ii) the telephone companies to whom EXFO offers rugged, field portable instruments; and (iii) research laboratories, who are offered highly flexible and precise equipment. Many of the models have multiple options such as various measurement wavelengths, computer interfaces or source options.

EXFO developed a complete range of instruments to serve the main segments of the telecommunications industry (telephony, data transmission and laboratory):

- Hand held power meter comprising:
 - dual LEDs or dual laser sources
 - software-controlled offsets correction
 - automatic data acquisition/recall
 - IEEE or RS-232 interface
- Hand held single fibre voice communications set:
 - multi-party communication possible
 - full duplex over one fibre
 - integrated light source (continuous or pulsed)
- Test instruments operating on three power sources
- RS-232 Interface control of sources, attenuators and meters.

CURRENT MARKETING ACTIVITIES

EXFO has 18 sales organizations representing its products in the U.S. EXFO has offices in Dallas, Texas; Wake Forest, N.C.; and Horsham, Pennsylvania. EXFO is represented overseas by 25 distribution companies and a European office in Versailles.

EUROPARTNERING INTERESTS

EXFO is interested in the following:

- acquisition of technologies that complement its current range of products
- investment in companies that have developed technologies that complement EXFO's current range of products
- providing manufacturing capabilities for optical components and/or test instruments
- distributors in the U.S.



EYE TEL COMMUNICATIONS INC.

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CANADA V7M 1A5

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Facsimile: (604) 984 3566

Robert M. Calis
President

COMPANY HISTORY

Since 1987, EyeTel has been a world leader in video telephony and has now completed development on its Communicator line of products.

EyeTel has won several prestigious product awards and stands poised to become the world standard for desktop televideo conferencing systems.

MAJOR ACHIEVEMENTS

- EyeTel Communications Inc. was awarded "The Most Significant Advance in Desk-Top Video" for its IDDS products at Telecon X, in November, 1990 and again in 1992 for its Tel-EYE-Vision Product. EyeTel was nominated for "Product of Show" at Spring Comdex '93.

COMPANY PROFILE

- Employees: 17
- Annual Revenues: \$20 to \$25 million (est 1994)

BUSINESS DESCRIPTION

EyeTel markets and develops video-telecommunications products. EyeTel is the developer of the Communicator line of products. These are MS-Windows applications with capability ranging from interactive still image, visual, textual and keyboard communication using standard phone lines through to full-motion video conferencing in LAN and high-performance telecom environments.

PRODUCTS

IDDS Software: master control software which controls Digital Video PCB, communications protocol and Call'N'Write software to allow IDDS system function.

Call'N'Write: software program that allows users, through use of a Mouse or MousePen and modem, to interactively write/sketch/draw (annotate) on their PC screen as well as import CAD, ASCII, etc. files for annotation and then transmission to distant terminals.

IDDS System: The Interactive Dynamic Display System or IDDS is an innovative, interactive communications system which is PC based and works within a "windows" environment. It is capable of two-way transmission of voice, data, and graphics, along with high resolution still colour images over regular or cellular phone lines, or motion video images over high speed data lines. To set this system above the rest, EyeTel has integrated on-screen writing capability through use of a "mousepen", thus ensuring visually accurate communications between users.

Major applications include telemedicine, teleforensics, distance education and distance engineering.

CURRENT MARKETING ACTIVITIES

EyeTel is currently selecting North American distributors for its IDDS and Call'N'Write.

EyeTel is also actively negotiating with a large Malaysian company wanting Asian rights to the EyeTel systems, as well as with a Saudi Arabia company wanting rights to both the IDDS and Call'N'Write in the Middle East.

The company is planning to approach a large modern manufacturer regarding the bundling of EyeTel software with their equipment.

EUROPARTNERING INTERESTS

EyeTel seeks European and Asian partners for distribution of its products.



GANDALF MOBILE SYSTEMS INC.

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Suite 500
Nepean, Ontario
CANADA K2E 1A2

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Facsimile: (613) 727 8951

Herb Woods,
President & CEO

COMPANY HISTORY

GMSI develops and markets mobile data communications systems and applications software for various transportation markets such as taxi, courier and trucking.

In 1983, Gandalf Technologies Inc. formed Computer Dispatch Systems into an operating division. Its mandate was to develop and market turnkey data dispatch systems.

In 1988, after establishing itself as the leading supplier of Taxi Dispatch Applications Software and data dispatch hardware products in North America, it turned its attention to expanding its line of software and hardware products into new vertical markets and communication networks such as satellite and public data.

In November 1990, the Computer Dispatch Systems Division of Gandalf Technologies Inc. became a separate company known as Gandalf Mobile Systems Inc. (GMSI). Ownership of the company is jointly held by Geotek Industries of New Jersey, Gandalf Technologies and GMSI's employees.

MAJOR ACHIEVEMENTS

- Developed and marketed in 1978 the first Data Dispatch System for the taxi industry, which is still operating in Ottawa, Canada.
- Leading supplier of Taxi Data Dispatch Systems in the world with over 40 installations serving in excess of 10,000 mobile users.
- Major supplier of mobile data communication subsystems.
- Second company world wide after Ericsson to introduce Mobitex radio modems; offer hand held, mobile, point of sale and Telemetry and Monitoring devices.
- Developed a Network Control Processor and mobile terminal equipment for Telesat Mobile Inc.'s Mobile Satellite Service. This development was part of a \$9 million contract which involved Canadian Astronautics Ltd., Nepean, Ontario and Hughes Network Systems, Germantown, MD.

COMPANY PROFILE

- Employees: 35 full time in Nepean headquarters. In addition GMSI has sales staff in offices in four U.S.A. cities and London (U.K.).
- Annual Revenues: \$7 million for 1993
- Annual R&D Expenditures: \$750,000

BUSINESS/PRODUCT DESCRIPTION

GMSI core products include:

- Mobile Data Terminal products for the transportation industry.
- Network Control Computer for access to different data communication networks, i.e., satellite trunking, public data, and private channel.
- "Cabmate" Data Dispatch Application Software for the taxi industry.
- "CATS" Data Dispatch Application Software for the courier industry.
- Mobitex Radio Modem products.
- Turnkey data dispatch systems for the transportation industry, including project management, training, installation and system support.

CURRENT MARKETING ACTIVITIES

GMSI's major focus is in expanding sales of the Cabmate Taxi Data Dispatch into Europe, Australia and South America, either through its direct sales force in the U.K., or through distributors in the rest of the world.

GMSI is expanding sales of the Cabmate product to smaller taxi companies by operating them on public data or trunked data systems.

Additionally, GMSI is marketing its Mobitex radio modem products world wide to network operators, systems integrators and "UARs and manufacturer and service organizations. Technology transfer, joint marketing and other collaborative arrangements are of great interest.

Longer term focus is to establish itself as a leading supplier of mobile data systems in different vertical markets.

EUROPARTNERING INTERESTS

GMSI is interested in collaborating with:

- Computer-Aided Dispatch vendors who are leaders in their vertical markets. The aim is to provide easy access for their products into different mobile data networks.
- Specialized Mobile Radio Operators who are interested in offering mobile data products on their systems.
- Service organizations and manufacturers to support products locally.



INTERNATIONAL DATACASTING CORPORATION

2680 Queensview Drive
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CANADA K2B 8H6

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Facsimile: (613) 596 4863

Gary Carter,
Vice-President and General Manager

Pierre Lemoyne
Director, Sales and Marketing

COMPANY HISTORY

International Datacasting Corporation (IDC) is an Ottawa-based communications technology company involved in the design, manufacture, integration and marketing of digital satellite communications systems. From its early beginnings providing CATV-based high-speed data broadcast networks, IDC has grown into an international company providing satellite communications solutions for the transmission of CD quality digital audio and data broadcasting networks, as well as SCPC low speed two-way systems for seismic data acquisition.

IDC maintains a world class design team of 20 engineering people involved in the development of RF, modem, software and firmware for satellite systems.

Through the use of technology developed and owned by IDC in the areas of modulation schemes, custom integrated circuits and data networking protocols, IDC has developed cost-effective network architectures for integrated digital audio, data and digital video systems.

MAJOR ACHIEVEMENTS

IDC has been successful in winning major commercial and development project contracts throughout Europe (including CIS), Japan, the U.S. and South America.

COMPANY PROFILE

- Employees: 53
- Annual Revenues: \$6.5 million, with backlog of \$3 million in 1992. FY 1993 sales are forecast to exceed \$10 million.
- Annual R&D Expenditures: \$1.5 million

BUSINESS DESCRIPTION

IDC designs and manufactures digital communications systems for data broadcasting and digital audio. The communications products of IDC include:

- RadioNet - Digital Audio Networks - systems for digital satellite transmission of CD quality stereo audio plus ancillary data to fulfil requirements in the radio networking and background music industry. Systems provide full addressability and remote control of customer premises equipment. Audio is coded using APT-X, MPEG/MUSICAM or SEDAT algorithms.
- DataNet - Data Broadcasting Networks - the DataNet product is a 256 Kb/s BPSK SCPC data broadcast system that implements TBM multiplexing to provide the subscriber with a selection of data rated from 1.2Kb/s through 192 Kb/s.
- FM/FM Broadcast Systems - low capacity digital satellite systems for high volume subscriber, low cost distribution of data services. C-band or Ku-band, LNBs, modulators, antennae, receivers.
- Data Acquisition Networks - C-band, two-way low speed VSAT systems for data acquisition with integral order-wire function, fully addressable and frequency agile. Self-contained, DC powered, full environmental operation.
- FM Cubed/Data Broadcast Network - the FM cubed system provides the user with a highly flexible, low cost, multiplexed data broadcast system, which uses TDM multiplexing to provide subscribers with a selection of data channels from 1.2 Kb/s through 512 Kb/s. Total data rate is 2.104 mb/s.

CURRENT MARKETING ACTIVITIES

IDC products are sold directly and via distributors throughout Europe, North America and South America. IDC is actively seeking distributors throughout Africa, India, Japan and the Middle East. IDC Communications Inc., a wholly owned subsidiary company, is located in Norcross, Georgia, and is responsible for U.S. Sales.

EUROPARTNERING INTERESTS

IDC is interested in joint ventures with users of data broadcast systems for low cost data distribution applications, as well as digital audio broadcasting as might be used in the satellite radio networking or the background music industries. Furthermore, IDC is interested in joint business/development ventures in the area of compressed digital video/audio transmission products using MPEG/JPEG and/or CCITT standards.



INTERALIA INC.

4110 — 79 Street N.W.
Calgary, Alberta
CANADA T3B 5C2

Telephone: (403) 288 2706
Facsimile: (403) 288 5935

Garth Hunter, President
Bob Cormack, Director of Operations
Martin Grace, Canadian Sales and Marketing Manager

COMPANY HISTORY

Interalia Inc. is a leading designer and manufacturer of Digital Voice Announcement systems. Established in 1975, Interalia has earned a reputation for its ability to respond to specialized customer requirements, and provides comprehensive technical and service support. Headquartered in Calgary, Alberta, Interalia operates subsidiary companies in the U.S. and the U.K. Through our International Sales and Marketing Department in Calgary, Interalia has supplied equipment to numerous countries including Singapore, Hong Kong, Malaysia, Australia, New Zealand, Italy, Saudi Arabia, Mexico, the Netherlands, and Chile.

MAJOR ACHIEVEMENTS

- Interalia has obtained BABT 340 Facility approval, and ISO 9002, thereby providing global recognition of the company's quality products and service.
- Interalia has designed and manufactured custom digital voice announcement equipment for Environment Canada's Atmospheric Environment Service Weather Radio service and the Canadian Coast Guard Marine Weather Radio service.
- Interalia's specialized on-board train announcement systems are installed in Canada, Singapore, the United States and in the United Kingdom.

COMPANY PROFILE

- Employees: 25 Canadian, 38 worldwide
- Annual Revenues: \$10 million
- Annual R&D Expenditures: \$350,000

BUSINESS DESCRIPTION

Interalia designs and manufactures Digital Voice Announcement systems for the telecommunications, transportation, public address announcement, and other related industries. Using modern codec technology, messages are converted from analog to digital form and are then stored in memory. Utilizing these digital techniques, Interalia has developed products with advanced capabilities, high quality signal reproduction, very high reliability and maintainability, and ease of use and installation.

PRODUCTS

Interalia's Digital Voice Announcers are state-of-the-art recorded message announcement systems that play repetitive messages to single or multiple outputs. The announcer interfaces with standard telephone lines, PABXs, central office equipment, key systems and other applications. Interalia's Digital Announcers easily service heavy traffic situations that cannot be handled by tape-based systems.

Common uses of Interalia Digital Voice Announcers include: ACD/UCD announcements, centrex ACD, attendant overflow/call screener, telephone company intercept messages, after hours announcements, hotel wake-up calls, music/promotions-on-hold, on-board transportation announcements, station announcements and public information announcements such as weather forecasts and movie theatre times.

Standard features of Interalia Digital Voice Announcers are:

- solid state design
- user configurable
- various recording methods
- self containing diagnostics
- various operating modes
- digital recording
- non barge in
- 8 KHz digitizing rate
- call counts for each line
- C.P.C. signal disconnect

CURRENT MARKETING ACTIVITIES

Interalia Inc. conducts its international marketing through its International Sales and Marketing Department in Calgary, and through its subsidiaries in the U.S. and the U.K.

EUROPARTNERING INTERESTS

Interalia is seeking European partners for distribution of its products, as well as joint marketing activities. Interalia will provide complete sales literature and documentation in any desired language. Interalia is also eager to work with prospective partnering prospects to solve any specific in-country approvals and regulatory issues.



KYLAIN INC.

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Nepean, Ontario
CANADA K2E 1A2

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Facsimile: (613) 226 6854

Edwin Morton, P.Eng.,
Director of Sales

COMPANY HISTORY

Kylain is a full service software engineering firm providing value added software development and integration services to the telecommunications industry. Kylain has been in business for 8 years, and is Canadian owned.

MAJOR ACHIEVEMENTS

- Kylain has designed, developed and implemented the following Operational Support Systems:
 - The Network Element Controller (NEC); this system is currently being used by Bell Canada to manage facility and circuit provisioning for the Special Services Digital Network in Ontario and Quebec.
 - The MEGAstreaM Failure Recovery Systems; this system was designed and implemented for Stentor (Telecom Canada) and provides alternate Network Management functionality in the event that the MEGAstreaM Network Management System fails.

COMPANY PROFILE

- Employees: 15
- Annual Revenues: \$1 - \$1.5 million

BUSINESS/PRODUCT DESCRIPTION

Kylain designs and develops Network Management Systems (NMS), Operational Support Systems (OSS), and Specialized Telecommunications software. These include advanced intelligent network and virtual instrumentation applications. Solutions can be supplied using industry standard development platforms or on Kylain's proprietary technology. Kylain delivers a full range of functionality including: configuration management, fault management, performance management, security management, capacity management, accounting management and system administration. Kylain has designed, developed and implemented TMN and CNM systems. Key systems modules include: operational support systems, mediation systems and network element interfaces. These systems operate in heterogeneous, true multivendor networks.

Services

- Analysis
- Design
- Testing
- Documentation
- Maintenance
- Specification Development
- Software Development
- Implementation
- Training

Platforms

Kylain implements TMN and CNM solutions on industry standard, open platforms such as HP Open View, Sun Net Manager, DECmcc, DEC TeMIP, and tandem/OSI NetExpert, on its own proprietary core technology, or in a client's chosen technology.

Telecommunications Expertise

- Standards
- Intelligent Network Elements
- Transmission Standards
- Command Interfaces for Network Elements
- Network Management Protocols
- Signaling Systems
- Transmission Systems

Software Expertise

Kylain provides complete life-cycle development services from definition of initial user requirements through to final implementation, maintenance support and addition of functionality to meet customer needs.

CURRENT MARKETING ACTIVITIES

Kylain currently uses direct sales for its marketing, mainly focusing on telecommunications service providers and telecommunications service providers, in Canada, the U.S., as well as the rest of the world.

EUROPARTNERING INTERESTS

Kylain is seeking partners for:

- distribution
- joint marketing
- technology transfer
- licensing.



MCK TELECOMMUNICATIONS INC.

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Larry J. Manz
Director of Marketing

COMPANY HISTORY

MCK has achieved rapid growth since its inception in 1989. In April 1990, MCK acquired Calgary Controls Ltd., a company incorporated in 1970, involved in electrical systems engineering. Aggressive R&D has facilitated further growth since this acquisition.

MAJOR ACHIEVEMENTS

- Licensed by Northern Telecom to manufacture Off-Premises Extender system to extend the feature sets of SL-1, Meridian and Narstar Switches beyond the normal distance.
- Achieved a major sale to furnish a military site in the Middle East with 40 off-premises extenders.

COMPANY PROFILE

- Employees: 14
- Annual Revenues: \$1.7 million
- Annual R&D Expenditures: \$280,000

BUSINESS DESCRIPTION

MCK Telecommunications is involved in the design, development, manufacture and marketing of innovative telecommunications products, specializing in Loop Extension, Voice Alarm Dialers and 2/4 Wire DTMF Telephone Remotes for two-way Radios.

PRODUCTS

In 1990, MCK developed the EX-Plus, an off-premises extension system for the Northern Telecom SL-1 (analog) deskset. This product enables users to move an SL-1 deskset virtually any distance from the main telephone switch.

The success of the EX-Plus has encouraged MCK to investigate development of an extension system which would operate in the digital environment. With the assistance of the National Research Council, the company has created an extension system for the Northern Telecom Meridian and Narstar desksets. A similar system will soon be released for Mitel Supersets.

Other products that MCK/Calgary Controls is currently marketing include:

- OWL Digital Voice Alarm Dialer which monitors alarm contacts. When a contact change is detected, it dials programmed telephone numbers and reports the alarm conditions in a clear, pre-recorded voice message; and
- Two/Four Wire DTMF Telephone Remote, a telephone style radio remote control unit with features including loud-speaker/volume control, DTMF dialpad, DTMF receiver, ringer and "call received" indicator.

CURRENT MARKETING ACTIVITIES

The market for the EX-Plus extends around the world due to the wide penetration of Northern Telecom products. There is currently no competition anywhere to rival the Ex-Plus. MCK has been successful in penetrating the Canadian and U.S. markets, with limited introduction into other international arenas. Due to the very positive reception and high level of demand for this product in the U.S., the company opened a sales office in Spokane, Washington, to increase its visibility and presence. The sales of this innovative product have surpassed any other product in the MCK/Calgary Controls product line in the first quarter of 1991.

EUROPARTNERING INTERESTS

MCK is seeking partnerships with European PTTs, equipment manufacturers, distributors and systems integrators.

Types of relationships sought include:

- distribution;
- joint R&D, and
- manufacturing.



MICROPLEX SYSTEMS LTD.

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Steve Balaban
Sales/Marketing Manager

COMPANY HISTORY

Microplex Systems Ltd. is a privately owned Vancouver-based company incorporated in 1978. Microplex has become a major Canadian manufacturer of synchronous communications hardware for multipoint networks and, more recently, Ethernet print servers.

MAJOR ACHIEVEMENTS

- First to develop and market a low-cost, high-performance, compact TCP/IP print server.
- First to incorporate open systems standards in to ensure compatibility across multiple platforms without a need for host software.
- Last year saw the company nearly double in size and current projections indicate similar or better growth rates this year.

COMPANY PROFILE

Microplex manufactures communications products and accessories that vary in sophistication and application, including Ethernet print servers, modem eliminators, modem-port sharing devices, analog line bridges and synchronous link adaptors.

BUSINESS DESCRIPTION

Microplex is engaged in the design, manufacture and marketing of data communications equipment for both wide- and local-area networks. Microplex manufactures communications products and accessories that vary in sophistication and application, including Ethernet print servers, modem eliminators, modem-port sharing devices, analog line bridges and synchronous link adaptors.

PRODUCTS

M200 and M201 Ethernet Print Servers enable printers, plotters, lasers and other serial and parallel output devices to become nodes on an Ethernet LAN. They provide a high-speed parallel interface and allow up to three printers or other peripherals to be located anywhere on a network, enabling companies to reduce printing time, improve sharing of peripherals, increase printer efficiency, and manage printing with greater ease.

The print servers adhere to open systems standards and support Berkeley LPR/LPD, System V RSHD/RCMD/REMSH, TELNET, TCP connections and PSERVER and RPRINTER for Novell to ensure compatibility across multiple operating systems or hardware platforms. The need for a PC, host or workstation as a dedicated print server is eliminated and support for both network protocols allows UNIX and Novell users to access any attached printer simultaneously. ASCII to PostScript conversion, auto-sensing/auto-switching, multiple printer destinations, log files, page counting, back-channeling, and enhanced password security provide LAN managers with the flexibility necessary to simplify management of printing environments. With SNMP, M200 and M201 can easily provide status monitoring and essential information for trouble-shooting.

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Microplex's M200 Ethernet print server has two 38.4 kbps ports, one high-speed parallel port (200,000+ cps), Thick- and Thin-wire Ethernet interfaces and supports TCP/IP and IPX/SPX network protocols simultaneously. It offers SNMP for simplified network management and uses FLASH memory for easy upgrading.

The M201 Ethernet print server has the same capabilities but supports Thick-wire and UTP Ethernet interfaces.

The M202 Ethernet Print Server is a multi-parallel, multi-protocol version of the M200 and M201. It provides higher performance, the ability to attach two high-speed parallel printers, and supports Thin and UTP Ethernet connections.

The M202 Ethernet print server has one 38.4kbps serial port, two high speed parallel ports (200,000+ cps), supports TCP/IP and Novell IPX/SPX network protocols simultaneously, offers SNMP for improved network management, FLASH memory, and all the other features of the M200 and M201 models. The M202 is scheduled for release in October of 1993.

CURRENT MARKETING ACTIVITIES

Supplying the needs of large corporations, government, educational institutions, the military, OEMs, telcos and interconnect companies, Microplex's products are sold internationally through OEMs, distributors and system integrators. Successful penetration of international markets is the result of product quality, reliability and competitive pricing, and of Microplex's commitment to total customer satisfaction.

Success in new export markets has led to a change in the profile of Microplex's marketplace. Eighteen months ago, the company was selling about 80 per cent of its products domestically. Today, exports account for as much as 95 per cent of total sales, 40 per cent of that in the United states alone.

To build on its success in international markets, Microplex will be expanding its product line and looking to establish more distribution and OEM channels to further increase global marketplace penetration.

EUROPARTNERING INTERESTS

Microplex Systems Ltd. is seeking Europartnering arrangements with equipment manufacturers, distributors and systems integrators.



PIKA TECHNOLOGIES Inc.

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Kanata, Ontario
CANADA K2M 2A8

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Peter A. Karneef
President

COMPANY HISTORY

PIKA Technologies Inc. is a 100 per cent Canadian owned private corporation, founded in 1987. The parent company of PIKA technologies, SOFPAK Inc. was founded in 1982. The company has several roles that form the corporate umbrella under which PIKA Technologies operates. These roles include financial resources, R&D, administration and planning.

SOFPAK funds the research and development of new products until they are viable for market, at which time the manufacturing and marketing is moved to PIKA. Both the Canadian National Research Council and the Ontario Government (MITT) have provided support to the research and marketing of PIKA's products.

MAJOR ACHIEVEMENTS

- PIKA is currently exporting 90 percent of its sales to over 25 countries.
- PIKA has recently introduced the V 12 digital engine. Using a modular DSP based design, it can be scaled from 30 to 480 MIPS. The Analog version of the card offers 12 ports. The digital version is scalable from 12 to 196 channels. The card has an MVIP connector allowing it to work with other MVIP based cards.
- PIKA has developed its own DSP operating system called VP/OS that will allow for the quick addition of voice recognition and faxing capabilities to the V 12 family of voice cards.
- To enhance its ongoing R&D efforts, PIKA plans to incorporate major new DSP based technologies such as text-to-speech and speech recognition and compression.

COMPANY PROFILE

- Employees: 15

BUSINESS DESCRIPTION

PIKA Technologies designs, develops and markets hardware and peripherals such as Voice Processing Cards, Pulse to DTMF Converters & Voice Messaging (Audiotext) Hardware and Voice Mail systems. It also performs some OEM telecom electronic design and engineering. All PIKA products are designed and developed in-house.

PIKA directs its marketing efforts at Telcos, PTTs, telecom distributors, telecom software developers, interconnects, OEM customers and Voice Response integration companies.

PIKA's marketing strategy is to compete with other manufacturers on innovative engineering, quality, functionality, experience and price.

PRODUCTS

Voice Processing Cards operate on the basis of converting, compressing, processing and retrieving speech and DTMF signals. Several versions of the cards are available including the PIKA AVA B Series (1, 2 and 4 line voice cards) and the PIKA V 12 (a family of scalable DSP based voice processing cards with a universal analog and digital line interface capability). The V 12 cards will also support text-to-speech, and voice recognition.

Rotary Dial Pulse Recognition Hardware transforms rotary dial pulse to touch tone. Operating as a stand alone device, the PTX-16/SOLO Pulse-to-Tone converter recognizes and converts rotary dial telephone pulses (audio clicks) into touch tone, so that telecom services such as voice mail can be used. A single PTX-16/SOLO unit is capable of providing signalling conversion on 2, 4, 8 or 16 lines. Several units can be cascaded in order to support a higher number of lines.

Touché is a voice mail, outo attendant, voice response and fax-on-demand package that is directed at the small and medium size PBX and Key System market. Touché is customizable, user friendly, easy to install and use, and requires minimal support and training. In addition, Touché supports Touch Tone and Rotary diol Pulse simultoneously and has many added features such as multi-lingual voice operation and OEM private labelling.

REVERB windows based voice prompt editor allows for precise voice prompt editing. REVERB can perform bulk processing of numerous voice files simultaneously. It supports industry standard voice cards and sound cards. REVERB can convert ADPCM files to linear files and can also work with Windows WAV files.

CURRENT MARKETING ACTIVITIES

Sales of PIKA products are increasing at a rapid rate, as the company becomes better established in the marketplace. PIKA is currently exporting to over 25 countries.

EUROPARTNERING INTERESTS

PIKA seeks European partnering arrangements with PTTs, mobile service providers, equipment manufacturers and systems integrators, for:

- Distribution;
- Joint Marketing;
- Joint R&D; and
- Licensing.



POSITRON INDUSTRIES INC.

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Jacques Zekry
Director of Operations

COMPANY HISTORY

Founded by Reginald Weiser, Positron has been designing and manufacturing state-of-the-art telecommunications equipment since 1970. Positron works closely with research centres and universities to stay on the leading edge of technology, and works with telephone companies to develop products that serve their communications and protection needs.

MAJOR ACHIEVEMENTS

- Has contracts with all of the major regional telephone companies in North America.
- Received two best product awards from the IEEE.
- Received the Award of Corporate Excellence from the City of Montréal in 1985.
- Received the Canada Export Award in 1987 and 1988.
- Meets internationally accepted standards in manufacturing, testing and quality, specifically CAN3-Z2999.3/85 and ISO9003/87.
- Met the AQAP 4 standard for NATO. Its products are used by the U.S. Air Force for ground-to-air communications and by NORAD for the North Warning System.

COMPANY PROFILE

- Employees: 300 people, 80 are engineers and technicians dedicated to R&D.
- Annual Revenues: \$35 million, 80 per cent of products exported to the U.S. and 10 per cent to Australia, New Zealand, Saudi Arabia, Venezuela, Mexico and Hong Kong.

BUSINESS DESCRIPTION

Positron Industries Inc. designs and manufactures a wide range of telecommunications products for the telephone, power and financial industries.

PRODUCTS

Positron manufactures a range of state-of-the-art telecommunications products that are used in critical communications applications where reliability is the measure of success:

- Trading Telephone Turrets (Dealerboards) that provide voice and data integration for the financial industry.
- Telephone and radio communication dispatch consoles with full patching capability used by power utilities, municipalities, government agencies, etc.
- Teleline isolators for high voltage "ground potential rise" protection of wire line facilities entering power stations.
- Audio tone protective relaying teleprotection products.
- Enhanced emergency response (E 9-1-1) systems with automatic number identification (ANI) and automatic location identification (ALI) to display names, telephone numbers and addresses of callers to an answering position and used by police, ambulance and other emergency services.
- Surveillance and remote alarm reporting SCADA systems.
- TDD (Telecommunications Device for the Deaf).

CURRENT MARKETING ACTIVITIES

In the U.S., Positron's products are sold through a direct sales force from six U.S. offices. Its customers include some of the largest corporations in the telephone, power and financial industries. Positron is now consolidating its leadership position in North America with telcos and power utilities. Internationally, the products are sold through authorized dealerships. In 1990, Positron took steps to expand its international distributor network.

Principal Clients

Telephone companies

U.S. West	Pacific Telesis
Southwestern Bell	Ameritech
Bell South	NYNEX
Bell Atlantic	Bell Canada

Utilities

Consolidated Edison	New York State Gas & Electric
Hydro-Québec	Ontario Hydro
Pacific Gas & Electric	Pennsylvania Power and Light

Financial institutions

Merrill Lynch	Citibank (Mexico)
Central Bank (Kuwait)	Bank of East Asia (Hong Kong)
Smith, Barney, Harris, Upham & Co.	

EUROPARTNERING INTERESTS

Positron Industries seeks European partners for:

- Distribution or agreements with firms with technical self-sufficiency and ability to assist in PTT approvals; and
- Alliances with equipment manufacturers.



PRESTICOM INC.

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Facsimile: (514) 443 2878

Jean-Guy Lacombe, President
Gaston Poiré, Vice-President, Marketing

COMPANY HISTORY

PRESTICOM INC., founded in 1989, develops, manufactures and markets innovative data communications products. The company is privately owned, funded through private capital. Since its founding, the company has rapidly grown in strength and reputation to become a significant market contender.

MAJOR ACHIEVEMENTS

- PRESTICOM's marketing efforts have paid off with a worldwide sales network and dramatically increased sales, with over 750 units shipped since 1989.
- Projected sales for 1993 are double that of 1992, with an expected 1000 units to be shipped.

COMPANY PROFILE

- Employees: 28
- Annual Revenues: \$3.8 million
- Annual R&D Expenditures: \$600,000

PRODUCT/BUSINESS DESCRIPTION

PRESTICOM boasts world wide distribution of its FLEXMUX products:

Inverse Multiplexers

PRESTICOM's Flexmux IVX-707, provides bandwidth on demand through multiple leased/switched circuits. It permits a cost effective solution for videoconferencing transmissions, high-speed backup and LAN peak overflow, and is an excellent disaster recovery tool. The IVX-707 is geared toward the customer who requires large bandwidths over short periods of time, eliminating the cost of configuring the network permanently for peak loads.

Flexmux IVX-702, provides bandwidth on demand through two leased/switched circuits. Specifically designed with ISDN Basic Rate access and Switched 56Kbps facilities in mind, it permits full use of available bandwidth. It is ideally suited for LAN bursty type traffic environments, and is geared to customers who require high throughput over short periods of time.

Data Compressors/Concentrators/Multiplexers

Flexmux BCX-1000 combines data compression, concentration and SNA/SDLC local polling techniques to improve throughput, response time and cost effectiveness of SNA networks. In addition, BCX-1000 offers to non-IBM users the advantage of high throughput through data compression; it is particularly well suited to satellite links, heavy traffic lines and in situations where more than one cluster controller shares the same communication circuit.

BCX-1256 is a powerful data compressor capable of carrying data at 256 Kbps over a 56/64 Kbps link or 512 Kbps over two 56/64 Kbps circuits. It brings high performance of fractional T1 within the grasp of the medium speed user. BCX-1256 is ideal for bridge and router applications requiring a throughput boost to meet the high speed demands of LAN-to-LAN connections.

PRESTICOM's BCX-3000 is a high performance product offering the advantages of a multi-protocol data compression multiplexer enhanced by SNA/SDLC local polling, bandwidth on demand, a passthrough channel and dual composite link with load balancing, or automatic dial backup in case of link failure. It is ideal for mixed LAN-to-LAN and Host/FEP-to-controller environments.

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BCX-3556 is an advanced data compressor/concentrator/multiplexer offering superior network application flexibility, inverse multiplexing and efficient handling of multiple remote sites in a format that is easy to configure and monitor. It takes advantage of bandwidth on demand, a configurable passthrough channel with automatic bandwidth allocation and Frame Relay technologies to provide the ultimate telecommunications optimization tool.

Concentrators

BCX-100 SNA/SDLC concentrator increases the apparent number of ports of an IBM front end, performs speed conversion and improves SNA network effectiveness.

The BCX-31 10 cluster concentrator increases the number of ports of an IBM front end, performs speed conversion and improves SNA network effectiveness. It can be installed either locally to host computer or remotely to expand and enhance the network. It is an efficient and economic solution to the constraints of front-end port shortage, mixed generation hardware, access delays and mixed speeds.

BCX-4126 SDLC-to LLC converter allows IBM SNA users to directly access Token Ring networks, and provides a seamless migration path to LAN internetworks. Parallel networks (SDLC and LANs) are blended into a single logical network, eliminating the old host-to-controller link.

CURRENT MARKETING ACTIVITIES

PRESTICOM currently markets through OEM agreements and relationships with distributors and manufacturers' agents, as well as direct selling. PRESTICOM plans more intensified marketing efforts. To better assist its distribution network, PRESTICOM is investing in marketing efforts in Canada, the United States and internationally.

EUROPARTNERING INTERESTS

Technology transfers, in both directions, could be evaluated as PRESTICOM is looking for new products or new opportunities. PRESTICOM is also interested in OEM arrangements for its products or investment.



PUREDATA LTD.

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Mike Morris,
Marketing Manager

COMPANY HISTORY

Since its establishment in 1979, PureData has introduced many innovations to the LAN marketplace. Its engineering team has pioneered many of the common innovations found on ARCNET, Ethernet and Token Ring adapters such as diagnostic LEDs, software configurable cards and combination wiring schemes. PureData also launched into the fax communication market with the introduction of PureFAX, a unique combination of Windows-based fax application software and fax/data modem board available in a network version.

MAJOR ACHIEVEMENTS

Company Firsts

- Bubble memory adapters
- Diagnostic LEDs on Network adapters
- Software configurable adapters
- Fibre-optic network adapters
- Multiple wiring schemes on the same adapter
- First fax application for Windows
- First network fax management system for Windows

Major Business Successes

- National WAN for ATM terminals - Bank of Nova Scotia
- Token Ring WAN for the U.S. Navy international procurement
- Ethernet LANs for several Canadian government departments (Supply and Services, Health and Welfare)
- Opened U.S. subsidiary in Dallas, Texas, 1986
- Opened European sales and support offices in 1988
- Purchased 40,000 sq. ft. office and manufacturing plant in 1988.

COMPANY PROFILE

- Employees: 113
- Annual Revenues: \$25 million
- Annual R&D Expenditures: 15% of revenue

BUSINESS DESCRIPTION

PureData Ltd. is a leading designer and manufacturer of LAN connectivity and fax communications products. PureData provides networking solutions for all major network protocols - Ethernet, and Token Ring ARCNET; products to accommodate any wiring medium - coax, twisted pair, and fibre-optic; as well as supporting all major microcomputer hardware platforms, including ISA, MCA, EISA and PCMCIA.

PRODUCTS

PureData designs and manufactures a complete line of Ethernet, Token Ring and ARCNET products including:

- network adapters for ISA, Microchannel and EISA buses
- specialty adapters for PCMCIA and Toshiba bus computers
- complete line of hubs/concentrators and MAUs
- specialty Ethernet transceivers
- Windows based Network Fax Server

PureData is recognized for providing the highest performance and dependability factors available. Its products are renowned for ease of installation and maintenance.

CURRENT MARKETING ACTIVITIES

PureData is an international company headquartered in Toronto, Canada. The company has sales offices in Dallas for the U.S. market and the Hague for European operations. Pacific Rim sales are handled from the Canadian office.

PureData takes its product strategy one step further into wireless networking systems, intelligent Ethernet concentrators and high end multichannel network fax servers. By combining all of its past expertise and product line into newer, faster, and more efficient technologies, PureData offers one more solution to the challenges of networking in the 1990s.

EUROPARTNERING INTERESTS

PureData is looking for distribution partners, particularly national distributors. Preference is with companies authorized to distribute Novell or Microsoft networking products, and companies familiar with local PTT regulatory processes.



SANDWELL INC.

Datap Systems Division
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CANADA T2P 3T1

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Rick A. Schmaltz, Director, Sales & Marketing
Lucy Del Col, Marketing, Communications Specialist

COMPANY HISTORY

Sandwell Inc. Datap Systems Division was incorporated in 1969. A pioneer in the development and supply of supervisory control and data acquisition (SCADA) systems to the pipeline industry, Sandwell grew from a 6 person office to over 200 professionals. With extensive experience and unmatched expertise, the company diversified its target markets and quickly became a leader in network management technology. Recently, the company's well-attended annual users conference achieved further success with the ratification of a Users Group. During the last few years, Sandwell has made substantial progress in expanding market presence and improving products and services.

MAJOR ACHIEVEMENTS

- Developed a fully integrated network management system for Stentor which integrates the surveillance, control and performance monitoring of a nation-wide fibre optic network - considered to be one of the largest in North America.
- In cooperation with Alcatel, Sandwell supplied the electronics and software for a network management centre for the Telephone Organization of Thailand.
- Sandwell, in alliance with Digital Equipment bv of Netherlands, was awarded a sizeable contract.
- Sandwell was chosen by Cable & Wireless to implement a two-phase project that would provide a system for the network management of all aspects of Cable & Wireless' international gateways.
- Sandwell was awarded two large SCADA system contracts by Four Corners Pipeline and EXXON Pipeline. These were two of the largest contracts awarded in the history of SCADA systems.
- Sandwell was contracted by Saudi Aramco to provide pipeline application software for their East/West Pipeline, Superpump. Sandwell's technology will detect and locate leaks to meet environmental and safety concerns.
- Novacorp Chemicals Ltd. will be provided a UNIX-version SCADA system by Sandwell. It will provide the centralized facility for the monitoring and controlling of the company's ethylene pipeline system.

COMPANY PROFILE

- | | |
|--------------------|--|
| • Employees: | 200 total, in Calgary, Vancouver and Atlanta |
| • Annual Revenues: | Datap Systems Division: \$30 million |
| | Sandwell Inc.: \$110 million |

BUSINESS DESCRIPTION

Sandwell Inc. is an internationally recognized technology company active in software systems integration, consulting, engineering, and management consulting. The company's Datap Systems Division is a leading supplier of real-time automation and information management systems to the telecommunications, oil and gas pipelines, and water/waste water industries throughout the world. Within these arenas, Sandwell's systems effectively monitor, control and enhance customer networks. Sandwell combines its software development and computer systems integration capabilities to provide complete network management solutions. Offices are located in Calgary and Vancouver, Canada, and Atlanta, Georgia, U.S.A.

PRODUCTS

IRIS7

Intelligent Real-time Information System. This is the cornerstone product of Sandwell's real-time management systems, a sophisticated monitoring and control software product.

IDEA

Intelligent Data Evaluation and Analysis. IDEA is an information management platform designed for the analysis and maintenance requirements of large volumes of data.

Pipeline Application Software

Sandwell's application software is used in pipeline simulation, leak detection, operations training and optimization.

DS Product Line

The Sandwell family of Remote Terminal Units (RTUs) collect and concentrate surveillance, alarm and performance monitoring data.

Sandwell integrates these products with a comprehensive suite of services to provide complete network management system solutions. Products are fully supported with training, documentation, warranties, extended service plans, and an around-the-clock Customer Service Centre.

CURRENT MARKETING ACTIVITIES

With well over 100 successful installations, Sandwell markets products and services world wide. Target regions consist primarily of North America and other regions world wide such as South East Asia, Africa, the Middle East, South America and Europe through strategic partners.

EUROPARTNERING INTERESTS

Each year, Sandwell continues its strategy of well targeted and steady growth world wide. Sandwell is interested in partnering with companies that have local presence in target regions throughout the world that have complementary skills and product offerings. For example, the established partnership with Alcatel in providing the network management portion of the project award to the Telephone Organization of Thailand was extremely successful. The fibre optic system provides 42,000 extra telephone circuits throughout Thailand.



SKYWAVE ELECTRONICS LTD.

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Dr. Bob Lyons, President
Mr. Peter Rossiter, Vice-President, Engineering

COMPANY HISTORY

SkyWave Electronics Ltd. is a privately owned corporation. SkyWave was founded in 1984 and develops and markets products for the radio and satellite communications markets, in particular the newly emergent mobile satcom industry. SkyWave's founders have worked together in satellite communications for the past 20 years and have assembled a highly qualified engineering staff. Since its founding in 1984, SkyWave has enjoyed continuous growth and profitability.

MAJOR ACHIEVEMENTS

- Developed the world's first L-Band Briefcase Satellite terminal and established interim commercial service on Inmarsat satellite.
- Developed low cost air-to-ground data link (NavLink) and installed on all Canadian Coast Guard helicopters and icebreakers.
- Developed a family of transportable satellite terminals.
- Developed and marketed the Ground Data Test Unit to be used by Inmarsat for performance testing commercial aeronautical satcom terminals.
- Developed a wide range of vocoder products.

COMPANY PROFILE

- Employees: 25 full-time staff
- Annual Revenues: \$4 million

BUSINESS DESCRIPTION

SkyWave develops and markets a wide range of products for the radio and satellite communications markets. It specializes in digital signal processing (DSP) technology to implement high performance modems, vocoders and special purpose signal processors. These in turn are used in its system level products, which include transportable satellite ground terminals at Ku, C, X, and L-Band, multi-channel low speed digital voice systems, NavLink (an air-to-ground data link) and GNATS (an aircraft flight following system).

PRODUCTS

SkyWave's core products include:

- NavLink - an air-to-ground HF radio data link designed to communicate aircraft and ship positions in real time.
- GNATS - an aircraft flight following system which uses NavLink data to display aircraft flight tracks on a colour PC (VGA) display. Flight tracks are overlaid on ground maps.
- DSU/DSV-1 and DSU/DSV-10 family of digital squelch/vox units. DSU/DSV uses DSP including correlation measurement to detect, independently of level, the presence or absence of voice. DSU performance is far superior to conventional HF receiver squelch circuitry.
- VM, DVPC and DP families of vocoder modules. Vcoders digitize voice at very low data rates (2.4 - 16 kbps) and are used in satellite links, secure telephone applications and time-division multiplexed multi-channel voice systems. Options include echo canceller and versatile telephony interfaces including facsimile capability.

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Advanced Communications

- SCU-2 CAPSSB/DMSK channel unit for single channel per carrier satellite communications. Requires only 5 kHz RF bandwidth and 45 dB-Hz carrier-to-noise density. Features in-built keypad/display/handset, 2 wire and RS 232 external interfaces, fax and STU-III compatibility, RF channel circuit sharing/access control. Available in rack mount, portable or wide temperature portable versions.
- KSST-2, CSST-2, XSST-2 - light weight transportable satellite telephony terminals using SCU-2P channel unit complete with pointing aid software.

The company has supplied production equipment satisfying NATO AQAP-9 and IEEE Std-730 software quality assurance standards.

CURRENT MARKETING ACTIVITIES

Products are sold at both the board level and in packaged form, to commercial and military users and system suppliers, directly and through international regional representatives.

EUROPARTNERING INTERESTS

SkyWave is seeking partners for distribution, joint marketing and OEM, with PTTs, mobile service providers, equipment manufacturers, distributors and systems integrators.



SZETO TECHNOLOGIES INC.

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CANADA H4S 1P1

Telephone: (514) 331 9152
Facsimile: (514) 331 9155

Mr. Charles Szeto, President
Mr. Tom Ochiai, Manager, International Sales and Marketing

COMPANY HISTORY

Founded in 1986, Szeto Technologies is a manufacturer of telecommunications in the field of voice messaging, call switching, and radio paging. The president and founder of the company, Mr. Charles Szeto is a professional engineer who has been involved in the telecommunications industry for over twenty two years. Prior to founding Szeto Technologies, Mr. Szeto was the technical founder of a high tech company in Massachusetts (founded in 1981). It manufactures and markets digitized voice storage and retrieval systems. Mr. Szeto has been granted two U.S. patents in this field.

Mr. Szeto was previously involved in the design, development and manufacture of the world's first microprocessor controlled radio paging terminal equipment. Mr. Szeto was one of the pioneers in introducing automated interactive voice response systems to the North American market in the early 1980s.

MAJOR ACHIEVEMENTS

Szeto technologies is the only Canadian manufacturer to design, develop, manufacture and market its own voice response, voice messaging and radio paging equipment. Its multiple processor and disk drive approach, as well as its flexible modular design, has been demonstrated to have the best voice quality in the market and to be extremely versatile in its applications.

- The firm has been a pioneer and a major supplier in the flight simulation and training market.
- The firm has successfully marketed its equipment to the U.S. military for battlefield training exercises.
- The firm has successfully introduced its voice messaging equipment to the telephone answering service (TAS) industry, as well as the Radio Common Carrier (RCC) market.
- The firm has successfully introduced its own radio paging terminal incorporating feature rich voice messaging and call switching into its paging capabilities.

COMPANY PROFILE

- Employees: 12 in Canada; U.S. offices are located in Massachusetts and Georgia, with scheduled expansion in California.
- Annual Revenues: \$1 million

BUSINESS/PRODUCT DESCRIPTION

Szeto Technologies is a specialized manufacturer of telecommunications equipment in the field of telephone switching, voice messaging, data processing, radio paging and most recently, public cordless digital telephone service (CT-2 Plus). The company designs, develops and manufactures both the hardware and software for its equipment.

Szeto Technologies offers three main core product offerings:

Multiple Access Digitized Voice System (MADVS)

MADVS was originally designed and created to support the OEM market. Currently, marketed to system integrators and value added resellers of high tech equipment, MADVS is presently being used by the aircraft industry and in military applications.

VMS4000

This product is a very powerful, complete turnkey system for city wide application. Equipped with its own built-in digital telephone switch, it can be used for interactive voice response, voice messaging, call bridging/switching/forwarding applications. It can interface with any automated telephone answering equipment or radio paging terminal system.

SP-500

SP-500 is a stand alone radio paging terminal as well as a network node within a TNPP networking environment. Similarly equipped as the VMS4000, it also has its own built-in digital telephone switch, enabling it to perform bridging of inbound and outbound calls (Meet-Me) and "One-Number" call forwarding.

CURRENT MARKETING ACTIVITIES

Historically, marketing efforts were focused on the North American OEM market, but with the introduction of the VMS4000 and SP-500, sales and marketing efforts have shifted to the telephone answering (TA), Radio Common Carrier (RCC), cellular and special mobile radio (SMR). With the ability to integrate the services of telephone answering, paging, cellular and other forms of telecommunications, Szeto Technologies is becoming increasingly involved in the surging popularity of Personal Communications Services or "One-Number" calling.

Having established a strong foothold in Canada, 1992-93 was spent penetrating the U.S. RA and RCC markets and results to date have been extremely positive. Continued efforts to introduce the various product lines and services to foreign markets such as China and several European countries will be an on-going priority for the company.

EUROPARTNERING INTERESTS

Szeto Technologies would be interested in discussing the following types of arrangements: product(s) representation/distributorship, technical support and joint development.



TELULAR CANADA INC/ GLOBAL DATA INC

1165 Franklin Blvd.
Cambridge, Ontario
CANADA N1R 8E1

Telephone: (519) 740 2686
Facsimile: (519) 740 7161

Robert Koblovsky,
Vice-President

COMPANY HISTORY

Telular Canada Inc was formed in 1986. Global Data Inc is a subsidiary of Telular Canada Inc. Telular Canada is a public company trading on the Toronto Stock Exchange.

During the last fifteen years, technological changes have revolutionized global economies. These changes, especially the cellular telephone, continue to alter the way in which people live and conduct business. Cellular or satellite allows complete freedom of location. Cellular offers the ability to make time productive that was formerly wasted. In addition, it offers that critical factor, peace of mind and safety, that comes from having instant and reliable access to communications at all times. With cellular, the ability to operate and communicate travels with you.

MAJOR ACHIEVEMENTS

- Wireless telemetry and monitoring connectivity
- Development of wireless device for remote substation communications for power utilities
- Wireless fax for Rail clearance
- High speed wireless unit for portable P.C. (portable office)
- Wireless back-up for security systems
- Wireless sales and data training courses

COMPANY PROFILE

- Employees: 29
- Annual Revenues: \$8 million
- Annual R&D Expenditures: \$1 million

BUSINESS DESCRIPTION

Telular's technology provides standard telephone wireline emulation in an environment that eliminates the need for copper or optical fibre wires in the transmission of voice and data communications. In other words, "cut the copper" - opens up significant market opportunities. Telular's products are used in the following applications: Public Telephone Networks, High-Speed Portable and/or Mobile Data Transmission, Remote Monitoring, Security Alarm Applications, Disaster/Emergency Recovery and Business Communications Backup.

PRODUCTS

CELJACK-MAXJACK

The basic product is a hybrid coupling device that is useable with most cellular transceivers. A wide range of devices, such as burglar alarms, pay-phones, faxes, modems, PBXs or remote monitoring/control equipment can be connected to it's RJ-11 jack. A CELJACK and a cellular transceiver offer a cost-effective alternative to the installation of a dedicated line and/or special quality line charges. It requires only 10 Volts DC, weighs one pound and operates at temperatures from -20 C to +70 C.

PHONECELL 1 & 4

These units combine in a wall-mountable steel cabinet: a cellular transceiver, a universal AC/DC power supply, a MAXJACK, a battery back-up, a CELSWITCH and an antenna outlet. The PHONECELL-1 offers a single line, while the PHONECELL-4 provides four. Due to the battery back-up, cellular calls in progress will not be interrupted should there be a power failure; which the CELSWITCH automatically switches any attached telephone equipment from the conventional line to the cellular network in case of line problems. The PHONECELL Rack, similar rack mounted equipment, offers up to 60 lines.

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T-FAX

There is a lightweight, compact fax machine developed to work on cellular networks. The T-FAX was developed for the mobile environment. It is the only mobile fax designed to operate in harsh environments. It will operate effectively in temperatures ranging from -20 degrees Celsius to +60 degrees Celsius and humidity of 95%. The T-FAX is also designed to function in high vibration environments where most portable facsimile machines fail. It will send and receive at a force up to three Gs. The T-FAX is particularly suited for service vehicles, police, fire, ambulance and railways. It is available as an in-vehicle assembly or as a portable system complete with a cellular telephone housed in a hard shell case.

WEDGE

The Telular Wedge is a complete wireless telecommunications solution offering both voice and data communications over cellular or traditional landlines, if available. The Wedge includes a full 3 watt cellular phone, Telular's cellular interface, a high speed (9600 bps) modem, batteries, antenna and communications software; a complete communications package. The Wedge will work with any notebook or laptop computer.

MAXCEL DATAPAK

Contained in a rigid briefcase, the MAXCEL DATAPAK allows the use of any laptop computer on a cellular network. It includes a cellular handheld phone, a very high speed modem, an Interface, AC and DC power supplies and CELSWITCH. It therefore allows immediate connection to a home office computer from any location where cellular service is available; distance is of no importance.

CURRENT MARKETING ACTIVITIES

Telular Canada Inc. develops, markets and sells wireless communications products and solutions world wide through its subsidiary, Global Data, which is a newly formed company developed to meet the growing demands for wireless communications solutions. Global Data's products are usually sold through distribution channels.

EUROPARTNERING INTERESTS

Telular is interested in arrangements for:

- distribution
- joint marketing; and
- joint R&D arrangements.



TSB INTERNATIONAL INC.

5399 Eglinton Avenue West
Suite 115
Toronto, Ontario
CANADA M9C 5K6

Telephone: (416) 622 7010
Facsimile: (416) 622 3540

Peter Hatcher
Vice President, Market Development

COMPANY HISTORY

TSB International Inc. is a publicly traded Toronto-based company incorporated in 1982. TSB has a wholly owned subsidiary in the U.K., Telecommunications Management Services Europe (TMSE), and a wholly owned subsidiary in Australia, TSB Australia.

MAJOR ACHIEVEMENTS

- Principal supplier of PBX interface hardware and software to the British Telecom PBX Maintenance Program.
- Contract with Navigator, a subsidiary of OTC Australia, to supply network management products and expertise to the Australian market.
- HubView/PC product developed in association with IBM to support voice nodes on NetView.
- Acquisition of the Mitel Service Bureau which, combined with the TSB Service Division, created the largest Call Accounting bureau in Canada and the third largest in North America.

COMPANY PROFILE

- Employees: 80
- Annual Revenues: \$16 million

BUSINESS DESCRIPTION

TSB International designs, builds and markets hardware and software products used in the management of large voice and data telecommunications networks. TSB products collect, manage and process the alarms, traffic, billing and configuration data produced by digital PBXs (private branch exchanges) and peripheral equipment.

PRODUCTS

- CC3 Family of call detail recording (call information logging) data collectors, which supports all major types of PBXs.
- AT Family of alarms and traffic data collectors, which support all major types of PBXs.
- HUB central data collection software, which operates in VAX VMS, SCO Xenix, Sun, MIPS and OS/2 environments.
- CNMS Complete Network Management System software, which operates in VAX VMS environments and provides call pricing, call billing, traffic, inventory, work order, cable and wire, and directory.

TSB products and systems have universal application in the telecommunications industry, enjoying particular success in markets that are being deregulated and/or privatized.

Principal Clients

British Telecom
Swiss PTT
IBM
Westinghouse
Bell Canada

Digital Equipment Corp.
Televerket
Ameritech
Cincinnati Bell Information System

CURRENT MARKETING ACTIVITIES

TSB's products are distributed by telephone companies, computer manufacturers and network management specialists in North America, Europe and Australia. TSB provides outsourced telecom management services through its Toronto-based Managed Services Division, and in Europe through TMSE. The Managed Services Division manages and operates corporate telecom voice networks for organizations.

EUROPARTNERING INTERESTS

TSB seeks European partners for:

- Distributorship;
- Marketing support; and
- Financing.



TYCOR INTERNATIONAL CORP.

6107 6th Street S.E.
Calgary, Alberta
CANADA T2H 1L9

Telephone: (403) 259 3200
Facsimile: (403) 253 0663

Tom Mueller,
President

COMPANY HISTORY

Tycor was founded in Calgary, Alberta in 1978 with the objective of developing an Electronic Alternating Current (AC) Power Line Filter that would eliminate many of the causes of electronic equipment down time associated with the transmission of "dirty" or unfiltered electrical power. In 1980, Tycor successfully developed and entered the marketplace with the first in-line series filter which offered the ultimate in power protection.

MAJOR ACHIEVEMENTS

- Only major power protection equipment vendor that manufactures hybrid filters providing noise and TVSS suppression.
- Recognized world wide as a leader in power protection equipment.
- Conforms to the internationally renowned Quality Assurance Program, AQAP-1, as well as to ISO 9001.
- Exclusive suppliers of power protection devices to the Westinghouse Electrical Supply Company.

COMPANY PROFILE

- Employees: 28
- Annual Revenues: \$5 million projected for 1993

Key Customers

Raytheon	Westinghouse/Wesco
U.S. Air Force	Empressa (Chile)
Varian Associates	Electromark (Australia)
Unisys	SITA (Hong Kong/Singapore)
Fisher Scientific	Shell Oil
Siemens	Chevron
General Motors	Toshiba Medical Systems
Goodyear	Phillips Medical Systems

BUSINESS DESCRIPTION

The success of Tycor products is based on their unrivalled performance in preventing damage to all types of microprocessor-based equipment. The Tycor Hybrid Series Filter offers superior performance because it includes surge delay elements, voltage limiters, a normal mode filter module and a common mode filter module. All of these elements are tuned to the circuitry and in combination with the voltage limiter, all harmful power disturbances are eliminated prior to entering the load.

PRODUCTS

Tycor's conventional product line includes the following:

- Main entrance filters
- Low pass filters
- Parallel hybrid capacitor filters
- Isolating line filters
- Step-down transformers
- Regulating line filters
- High frequency power line filters
- D.C. power filters, and
- Voltage trip units.

All Tycor products are manufactured to conform to a stringent quality assurance program. Tycor is active in design and manufacture of filters for the OEM market and other special applications customers.

CURRENT MARKETING ACTIVITIES

Tycor employs the following distribution channels:

- Electrical wholesalers and distributors
- Original equipment manufacturers
- Manufacturing representatives.

EUROPARTNERING INTERESTS

Tycor is interested in collaborating with:

- Electrical wholesalers and distributors.
- Manufacturing representatives.
- Consulting engineers designing major facilities, such as manufacturing plants, schools, hospitals, oil and gas facilities, etc.

Tycor has personnel fluent in German, Polish and Slovenian.



GLOBAL TELEWORKS CORPORATION

#650-1380 Burrard Street
Vancouver, British Columbia
CANADA V6Z 2H3

Telephone: (604) 681-4601
Facsimile: (604) 681-4652

Stormer Yttri, Vice President of Operations

COMPANY HISTORY

Global Teleworks is a Vancouver based diversified telecommunications company which was incorporated in 1990 and began public trading in February, 1993. The corporation's Global Number technology is state of the art in the telecommunications industry, permitting subscribers - residential and business - complete voice / FAX integration and control of their telephone services (fax, cellular, pager, business and home phone, etc.) through a single telephone number. Global also provides service bureau based Enhanced 800 Services, Audio text, FAX-on-Demand, FAX Broadcasting, Voice Broadcasting and through its unique Global Number technology, customized communications networks.

MAJOR ACHIEVEMENTS

- Vancouver operations open in June, 1992
- Establishment of Seattle facilities in June, 1993
- Strategic alliance with US Long Distance
- Global has successfully marketed its services with new sales contracts of Cdn\$2.6 million signed between June and August, 1993
- Opening of European office

COMPANY PROFILE

- Employees: 30, Offices in Canada and Germany with scheduled expansion in U.K., Hong Kong, and Lebanon
- Annual Revenues: 1993 \$2.6 million Cdn
1994 (est) \$7.25 million Cdn

BUSINESS DESCRIPTION

Global Teleworks' Global Number incorporates proprietary software which links state of the art voice/Fax processing systems with a telecommunications digital interface. The technology has been developed utilizing proven telephony technology from a number of different suppliers with whom Global has licensing agreements. Global's technology can be offered as a "turnkey" package that can stand alone or be incorporated into existing PTT facilities. The corporation has two core product offerings built on this technology base. These services are the Global Number and the broad range of services offered through its Information Services division. Currently Global has facilities in Vancouver providing local enhanced services to the Vancouver region and in Seattle which, through an agreement with U.S. Long Distance, allows Global to offer enhanced 800 services to the U.S. and Canada.

PRODUCTS

Global Number. A Personal Communications Management tool that integrates telephone, FAX, voice messaging, cellular and paging services on a single telephone number. The telephone number is never busy, enables Follow Me Anywhere Call Forwarding and fax store and forward features that can be activated and de-activated via touch tone phone from almost everywhere in the world. In addition, the unique Global Number technology provides the framework for the establishment of individually configured communication networks.

Information Services: Global's Information Services division has developed a full range of service bureau based interactive voice and FAX products require only a touch tone phone and FAX machine. These services include FAX-on-Demand - callers request printed material to be sent to a specified FAX machines; Audio text - callers receive voice based information; FAX Broadcasting and Voice Broadcasting - a single FAX or voice message is distributed to multiple parties.

CURRENT MARKETING ACTIVITIES

Global's marketing strategy is based on rapid penetration of the North American telecommunications market through direct sales, strategic alliances, joint ventures, acquisitions and shared telecommunications facilities. This strategy gives Global preferential access to established customer bases, dedicated national marketing and distribution programs to sell its enhanced service offerings.

In addition, Global has agents in Europe and the Middle East.

EUROPARTNERING INTERESTS

Global Teleworks seeks Asian, European and Latin American partners for joint ventures, strategic alliances or licensing arrangements.


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The background of the page is a dark, textured surface. On the left side, there is a vertical strip of bright blue fiber optic lights. On the right side, there is a large, stylized silhouette of a building, possibly a skyscraper, with a grid-like pattern of windows. The building is illuminated with a warm, yellowish light. At the bottom right, there are some green fiber optic lights.

FOR ADDITIONAL COPIES CONTACT:

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