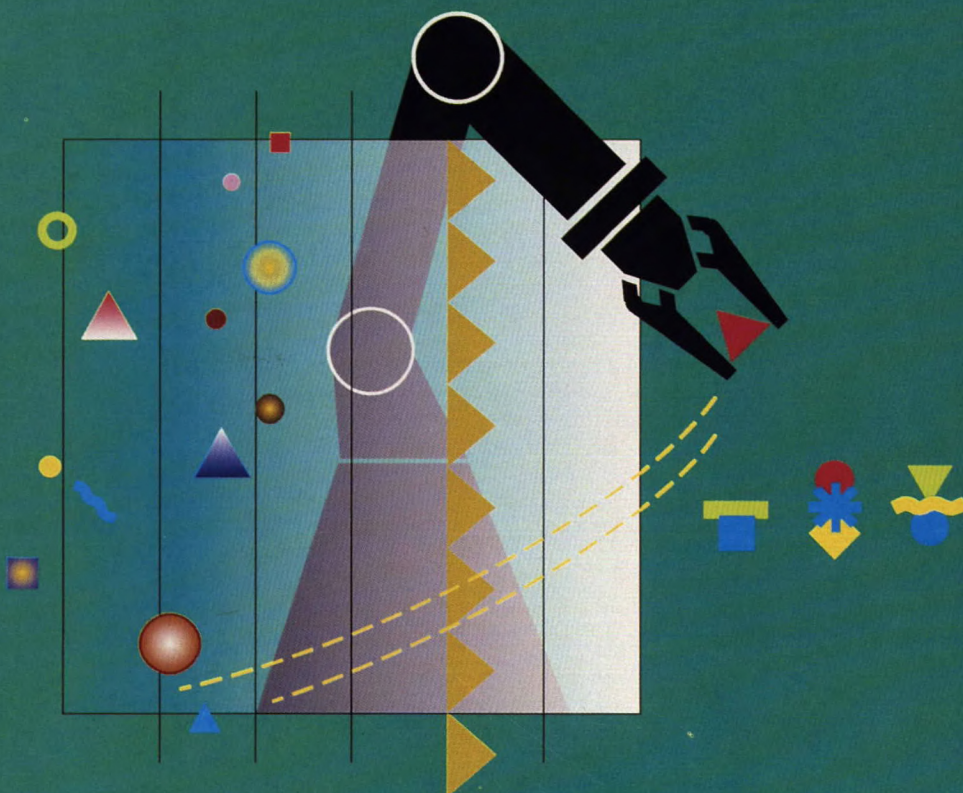


c. 2 aa



Canada



Copies of this directory are available, without charge, upon request, from:

Advanced Manufacturing Technology Directorate
Industrial and Electrical Equipment and Technology Branch
Industry, Science and Technology Canada
235 Queen Street
OTTAWA, Ont.
Canada
K1A 0H5
Tel.: (613) 954-3264
Fax: (613) 941-2463

or the Trade Commissioner at the nearest Canadian foreign mission, or any of the International Trade Centres, which are listed on page 178.

Également publié en français

© Minister of Supply and Services Canada 1991
Cat. No. C2-178/1991-E
ISBN 0-662-19135-8
PU 0236-91-01

This directory is designed to allow the reader to identify potential Canadian systems integrators, hardware producers and software suppliers that are export-ready or exporting now in the area of Advanced Manufacturing Technologies (AMT).

The AMT sector includes computer-integrated manufacturing systems, services and software used in discrete manufacturing applications. Some industry products and processes using such applications include wooden furniture and other millwork, printing, clothing and textiles, fabricated metal products, including auto parts, aerospace systems and parts, electrical and electronic products, rubber and plastic products including auto parts, as well as transportation equipment. This directory focuses on small and medium-sized Canadian AMT companies having annual sales of \$200 million or less.

The technologies/products/services/applications included in the directory (with some examples in parentheses) are grouped as follows:

- design automation (computer-aided design/manufacturing/engineering hardware and software);
- cutting and forming (direct numerical controlled and computer numerical controlled machine tools and controllers, new forming technologies such as laser and water jet cutting, engineering data management, flexible manufacturing systems, robot welding systems, plastic injection moulding, new tooling technologies);
- automated materials and parts handling (robots, automated guided vehicle systems, automated storage and retrieval systems);
- automated assembly and packaging systems;
- factory floor computers and communications links (industrial computers, programmable logic controllers, local area networks, manufacturing automation protocol, technical office protocol, software and systems integration);
- automated identification, test and inspection systems (vision systems, sensors, coordinate measuring machines, bar coding); and
- production control (material requirements planning, manufacturing resources planning, flexible manufacturing systems, scheduling systems, simulation).

Within this Preface, there is a quick reference for all the firms profiled in the directory, indicating the section in which more detail may be found. Following the Preface, there are three sections: the first section covers systems integrators, the second hardware producers, and the third software suppliers.

Within each section, and as much as possible, a similar format has been followed. For example, the first part of each section is, again, a list of the companies included in the section. For systems integrators and hardware producers, the next part profiles companies in alphabetical

Preface

INDUSTRY, SCIENCE AND
TECHNOLOGY CANADA
LIBRARY

JAN 29 1992
BOPD
BIBLIOTHÈQUE
INDUSTRIE, SCIENCES ET
TECHNOLOGIE CANADA

Preface

order, giving company name, address, telephone and facsimile numbers, contact name, a description of the company's expertise and experience in non-technical terms, its areas of specialization, and the markets it serves. Finally, three indexes are provided at the end of each section to further help identify potential suppliers. In the section on Systems Integrators, the first index is a cross-reference by manufacturing applications in which the systems integrator has experience in interfacing factory automation equipment and software. In the section covering Hardware Producers, the first index is a cross-reference by type of AMT product the company has the capabilities to manufacture. The second and third indexes in each section are the same: the second is a cross-reference listing the prime markets served by the companies; and the third gives a cross-reference of companies according to the province in which their head offices and branch offices are located in Canada.

The section devoted to Software Suppliers is set up somewhat differently; it contains four parts, with the first being the quick reference of profiled firms. Following this is an Introduction, which includes a subsection called "Diagnostic to Software Applications" to identify the primary functions of major applications (design engineering, manufacturing engineering, materials management and shop floor support). Financial applications have not been included unless they are modules that directly link with related manufacturing software. This subsection introduces a logical sequence of software applications and discusses the opportunities of which a manufacturer can take advantage through a proper planning and selection process. It also serves as a glossary by defining and explaining acronyms commonly used in the computer software industry.

A second subsection of the Introduction, called "Approach to Implementation," offers some advice regarding a sequence for implementing computer applications. It is important that manufacturers not fall into the trap of simply automating an application at which they are particularly adept. For example, small manufacturers will sometimes automate their shop floor production processes first because this is the area in which they are most comfortable. In doing so, they may overlook the fact that more benefit may come from upgrading other applications upstream from the shop floor, such as production planning or computer-aided design. An overall review of the operation must be conducted to identify and rank opportunities.

The next part of the section on Software Suppliers, as in the other sections, profiles companies in alphabetical order, giving company name, address, telephone and facsimile numbers, contact name, a description of the company's expertise and experience in non-technical terms, its areas of specialization, and the markets it serves.

As an additional aid to users of the directory, the final part of the section on Software Suppliers lists the firms profiled as follows:

- by *method of manufacture* (process, repetitive or job shop) for each of the *major applications* (design engineering, manufacturing engineering, materials management and shop floor support);
- by *method of manufacture* for selected *industry sectors*; and
- cross reference by province in which the company has offices.

Preface

The directory is not intended to be a definitive listing, although every effort has been made to include most Canadian companies involved in the AMT sector that are now exporting or capable of exporting. The company and product information contained in this guide was provided in response to a questionnaire sent early in 1990 for ISTC by Kerrwill Publications Limited of Mississauga, Ontario, and the Coopers & Lybrand Consulting Group of Toronto to all companies known to be active in the AMT sector. These companies were identified from a variety of existing industry and government sources. In developing this directory, ISTC allowed the companies to provide their own descriptions of their products and/or services, which were then edited to conform with departmental writing standards and to provide some consistency in presentation. No confidential information is included, since it is the intention in publishing this directory to promote its international distribution and use as widely as possible.

The publication of company names in this directory does not imply any government endorsement of a firm's capabilities and, while every effort has been made to ensure the accuracy of the information provided, this is not guaranteed. ISTC accepts no liability for consequences of any actions taken upon the information provided. Interested readers are invited to contact the firms directly, since a guide of this nature cannot fully cover all the details about a company.

This is the first edition of this directory, and it is possible that it has not captured all companies in Canada involved in the AMT industry. The intention is to update it periodically. Companies wishing to be included in future publications are urged to contact ISTC at the address given on page II. Suggestions for future editions will be most appreciated.

We wish to thank the companies that provided the information contained in this directory.

Software Suppliers
Hardware Producers
Systems Integrators

A. Comeau & Associates Ltd.
Advanced Dynamics Corporation Ltd.
AECL-CANDU
Ainsworth Automation Inc.
AIR TRAC CORP.
AISCO Systems Inc.
ALGO DESIGN INC.
Ambrose Frederic Ltd.
American Business Computer (Canada)
AMTEK Management
Andec Manufacturing Ltd.
Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Automation Specialties
Axon Development Corporation
Ball Service Group Inc.
Basic Technologies Corporation
Beck Technologies Ltd.
Berclain Inc.
Beta-Tech Inc.
Brandt Manufacturing Inc.
Brattan Tool Industries Ltd.
B.R.I.C. Systems Integrators
Browdyne Ltd.
Byronix Computer Controls Inc.
Calculus Cie d'Informatique Ltée
Canadian Manufacturing Systems
Cantel Computer Corp.
Carleton Technologies Inc.
Cassco Machines
Caulfield Engineering
Centerline Windsor Ltd.
Charlottetown Metal Products

	°	
	°	
	°	
°		
	°	
	°	
		°
		°
		°
	°	
°		
°		
°		
	°	
	°	
	°	
		°
	°	
°		
	°	
	°	
	°	
		°
		°
		°
	°	
°		
	°	
	°	

Hardware Producers
Software Suppliers
Systems Integrators

CIMTEK Automation Systems Inc.
Circuit Design Corp.
Civic Tool & Die Works Ltd.
CLARI Inc.
Coates Industrial Automation Ltd.
Colt Engineering Corp.
Cominco Engineering Services Ltd.
Compustep Products Corp.
Computerized Cutters Ltd.
Continental Controls Ltd.
Control Digital Inc.
Control Microsystems Inc.
Coreco Inc.
Corman Technologies Inc.
Cortex Engineering Inc.
Cowley Technologies Inc.
CRS Plus Inc.
Delta Engineering
Diamaster Tool Inc.
Diffracto Ltd.
Doucet Machineries Inc.
Dynamic Control Systems
Dynapro Systems Inc.
Eagle Precision Technologies Inc.
Engel Canada Inc.
EPCM Services Ltd.
Epic Data Inc.
Escher-Grad Inc.
Expert Perspective Consulting Inc.
Ferro Products Co. Ltd.
F.H. Welding Machines Ltd.
FIS Information Solutions Corporation
Fleming Systems Corporation
FLV Automation Systems Inc.
Gentec Inc.
George Kelk Ltd.

.		.
		.
	.	
		.
	.	
.		
.		
	.	
	.	
	.	
.		
.		
	.	
.		
	.	
	.	
.		
	.	
.	.	.
	.	
		.
	.	
	.	
.		
		.
	.	
	.	
	.	

Software Suppliers
Hardware Producers
Systems Integrators

Giffels Associates Ltd.
Global Laser Systems Inc.
Gray Instruments Inc.
Gryphon Automation Inc.
H.A. Simons Ltd.
H.G. Engineering
Heathrow Industrial Technologies Inc.
Henri Liné Machine Tools Ltd.
Hitek Computer Systems
Honeywell Limited
Husky Injection Molding Systems Ltd.
Hymarc Ltd.
ICAM
Industrial Control Software Inc.
INFO-POWER Software Corporation
INSTRUMAR Ltd.
Integrated Engineering Software Inc.
Irco Automation Inc.
Isumataq Inc.
JK Industrial Services Ltd.
John T. Hepburn Ltd.
Lambda Technology Ltd.
Les Systèmes Montréal Robotie Ltée
Logimaint Maintenance Consultants
Manufacturers Automation Engineering Inc.
Mayan Automation Inc.
Medar Canada Ltd.
Microstructure Inc.
Microtrol
Mimik Industries Inc.
MINIMICRO INC.
Montreal Precision Crafting Company Ltd.
MVS Modular Vision Systems Inc.
NAFO Welding Technology Ltd.
Northern Computer Systems Inc.
Numet Engineering Ltd.

°		
	°	
	°	
	°	
°		
		°
	°	
	°	
		°
	°	
	°	
	°	
		°
°		
		°
°		°
		°
	°	
°		
	°	
	°	
	°	
		°
°		
		°
	°	
	°	
		°
°	°	

Software Suppliers
Hardware Producers
Systems Integrators

Numetrix Ltd.			•
Olofstrom Automation Ltd.		•	
Optimex Engineering Ltd.	•		
Orchid Automation Group Inc.		•	
PAC Process Automation Controls Ltd.		•	
Paul Ahrens & Associates Ltd.			•
Pathex International Ltd.		•	
PCL Industrial Systems Inc.		•	
Peter Brown Manufacturing Ltd.	•		
Piehl Engineering Services Inc.	•		
P.M. Sulcs & Associates Ltd.			•
Probe Software Sciences Ltd.			•
Prodomax Ltd.	•		
Proglsys Inc.			•
Promac Inc.			•
PROMIS Systems Corporation			•
PROSIG Informatique Inc.			•
Proto Manufacturing Ltd.		•	
Quantic Laboratories Inc.			•
R. Moroz Ltd.		•	
Ramsey Canada		•	
Relcon Inc.		•	
Robert I. Robotics Inc.	•		
RPT GROUP T. W. Rogers Consulting Inc.			•
RSI RESEARCH LTD.		•	
Sapling Software Aided Planning Corporation			•
Satt Control	•		
Scale-Tron Inc.		•	
Scantech Electronics Inc.	•		
SEA Ltd.	•		
Sensor Adaptive Machines Inc.		•	
Serdek Automated Systems Inc.	•		
Servo-Robot Inc.		•	
Sherrex Systems Ltd.		•	
Softac Systems Ltd.		•	
Soft Warehouse Ltd.			•

Alnsworth Automation Inc.
 Andersen Consulting
 Aseco Automation Systems Ltd.
 A.T. Kearney
 Basic Technologies Corporation
 B.R.I.C. Systems Integrators
 Caulfield Engineering
 CIMTEK Automation Systems Inc.
 Colt Engineering Corp.
 ComInco Engineering Services Ltd.
 Continental Controls Ltd.
 Control Digital Inc.
 Cortex Engineering Inc.
 Cowley Technologies Inc.
 Delta Engineering
 Dynamic Control Systems
 EPCM Services Ltd.
 Epic Data Inc.
 FIS Information Solutions Corporation
 Giffels Associates Ltd.
 H.A. Simons Ltd.
 Industrial Control Software Inc.
 INSTRUMAR Ltd.
 Isumataq Inc.
 JK Industrial Services Ltd.
 Manufacturers Automation Engineering Inc.
 Medar Canada Ltd.
 Numet Engineering Ltd.
 Optimex Engineering Ltd.
 Peter Brown Manufacturing Ltd.
 Piehl Engineering Services Inc.
 Prodomax Ltd.
 Robert I. Robotics Inc.

				.			.					
.
					
.	
.					
.	
.	.						.					.
		
.
.						.	.					.
.
.	.						.					
.				
.		.										
	
.		
.	
			
					
.	
		
.
		.		.	.							
.
.
				
.
.			.				.					
.			.									
.			
.	.		.				.					
.			

Process Planning/Monitoring
 Material and Inventory Control
 Production Planning
 Factory Floor Control
 Programmable Control
 Data Interchange
 Local Area Networks
 Automated Material Handling
 Electronic Data Systems
 CAD/CAM Systems
 Inspection Systems
 Fabrication and Assembly

Satt Control
 Scantech Electronics Inc.
 SEA Ltd.
 Serdek Automated Systems Inc.
 Spectrum Engineering Corporation Ltd.
 Square D Technical Services Operation
 Sutherland-Schultz Ltd.
 Technoplan Inc.
 Teledyne Precision Canada
 TOR Computerized Systems Inc.
 Tron Industrial Automation Systems Inc.
 Walsh Automation Inc.
 Wardrop Engineering Inc.
 Weiss Systems Inc.
 Welstead Automation Ltd.
 Zensol Automation Inc.

•			•	•		•	•				
	•		•			•					
•		•	•	•	•	•	•		•		
•	•	•	•	•	•	•	•				
•		•	•			•	•				
•			•			•					
•	•		•	•	•	•	•				
•	•	•	•			•	•	•	•	•	•
•	•	•	•								
•		•		•		•	•				
•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•				•
		•	•			•	•	•	•		•
		•	•	•	•	•	•	•	•		•
•	•	•	•			•			•	•	•
			•	•	•	•	•	•			

Manufacturing Applications:

- Local Area Networks
- Factory Floor Computers
- SCADA (Supervisory Control and Data Acquisition)
- Programmable Control
- Information Engineering

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Mining
- Food Processing

Ainsworth Automation Inc. provides systems integration services in the area of factory floor automation and its links to office automation. Services are provided for the application of programmable controllers, local area networks and supervisory control systems.

Ainsworth Automation Inc.

Ainsworth Electric Company Ltd.

120 Bermondsey Road
TORONTO, Ont.
M4A 1X6
Tel.: (416) 751-4420
Fax: (416) 751-9402

CONTACT:
Fouad Barakat

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Aerospace
- Defence

The range of services provided by Andersen Consulting includes strategic services, productivity improvement, manufacturing systems development and installation, computer-integrated manufacturing, facilities management, and change management.

Andersen Consulting

Toronto Dominion Centre
79 Wellington Street West
TORONTO, Ont.
M5K 1B9
Tel.: (416) 863-1530
Fax: (416) 947-7950

CONTACT:
N.F. Kidwell
Partner

Aseco Automation Systems Ltd.

Unit C-7
1193 North Service Road
OAKVILLE, Ont.
L6M 2V8
Tel.: (416) 847-1470
Fax: (416) 847-1479

CONTACT:
Robert Peters
President

Manufacturing Applications:

- Local Area Networks
- Factory Floor Computers
- Programmable Control
- Material and Inventory Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Food Processing

Aseco Automation Systems Ltd. offers general consulting, process control and computer-integrated manufacturing expertise to a varied client base. Its resources and experience provide clients with assistance in all project phases from conceptual and feasibility studies through final engineering and commissioning.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Material and Inventory Control
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Production Planning
- Process Planning

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Consumer Goods

A.T. Kearney's manufacturing consultants are experienced with projects that range from developing overall strategic directions to improving specific aspects of current operations. Its services include assessing the overall effectiveness of manufacturing systems and operations, and developing the most appropriate manufacturing strategies, including facility, equipment and technology rationalization. It seeks improved productivity through more effective deployment and control of resources and through the application of such technologies as robotics, computer-aided design/manufacturing (CAD/CAM), computer-integrated manufacturing (CIM), automated guided vehicle systems (AGVS) and material requirements planning (MRP) systems.

It features successful management concepts such as cellular technology and just-in-time production, and installation of incentive and gainsharing systems. The company can assess the economic feasibility of offshore sourcing or manufacturing, help implement a facilities management strategy from issues of site selection to plant layout and project management, improve the plant maintenance function to maximize equipment utilization levels and minimize production costs, and implement statistical process control (SPC) concepts and approaches for achieving high-quality products at minimum cost.

A.T. Kearney

*Suite 2314
20 Queen Street West
P.O. Box 10
TORONTO, Ont.
M5H 3R3
Tel.: (416) 977-6886
Fax: (416) 977-1315*

CONTACT:
Brian Harrison

Basic Technologies Corporation

Controls Division

3424 Mainway
BURLINGTON, Ont.
L7N 1A8
Tel.: (416) 336-8800
Fax: (416) 336-3743

CONTACT:
Peter Woodhouse
Vice-President
Sales and Marketing

B.R.I.C. Systems Integrators

P.O. Box 114
ORONO, Ont.
L0B 1M0
Tel.: (416) 623-4847
Fax: (416) 623-4847

CONTACT:
B. Ralph Roberts
President

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Programmable Control
- CAD/CAM Systems
- Local Area Networks
- Factory Floor Computers

Markets Served:

- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Petrochemical
- Steel
- Energy Management

Basic Technologies Corporation provides engineering, software and commissioning services for several makes of programmable logic controllers (PLCs) and a wide variety of operator interfaces. It writes custom-designed software for IBM-PC compatibles where off-the-shelf solutions are not available. Its data acquisition software package, "The Data Master", automatically logs PLC data into Lotus 1-2-3 spreadsheet files.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Factory Floor Computers
- Process Planning
- Inspection Systems
- Automated Material Handling
- Programmable Control
- Material and Inventory Control

Markets Served:

- Fabricated Metal Products including Auto Parts
- Rubber and Plastic Products including Auto Parts

B.R.I.C. Systems Integrators specializes in the integration of head end (supervisory or cell) computers with programmable controllers, variable-speed drives, analyzers, and other microprocessor-based equipment with which communication from a central system is desired.

Manufacturing Applications:

- Fabrication and Assembly
- Inspection Systems
- Programmable Control
- Process Planning

Markets Served:

- Electrical and Electronic Products

Caulfield Engineering develops custom-designed signal processing equipment and software for the security and process control industries. These products are developed either through customized orders or through engineering services provided by Caulfield Engineering.

Caulfield Engineering

Caulfield Creative Arts Ltd.

RR, 1
OYAMA, B.C.
V0H 1W0
Tel.: (604) 548-3244
Fax: (604) 548-3288

CONTACT:
D. Caulfield
President

Manufacturing Applications:

- Inspection Systems
- Local Area Networks
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts

Integrating its proprietary software with industry standard instrumentation and computer hardware components, CIMTEK, which was founded in 1986, provides a turnkey system solution to automation requirements. CIMTEK's expertise includes automatic functional test and calibration systems for electronic devices and circuits, process data acquisition, and machine vision systems for display and package inspection. The company also offers custom-designed software solutions for statistical process control (SPC) and other data reporting applications.

CIMTEK Automation Systems Inc.

Units 4-9
2526 Speers Road
OAKVILLE, Ont.
L6L 5M2
Tel.: (416) 847-8811
Fax: (416) 847-8822

CONTACT:
James Egan
General Manager

Colt Engineering Corp.

The Colt Companies

*Suite 400
10201 Southport Road
Southwest
CALGARY, Alta.
T2P 4X9
Tel.: (403) 258-8000
Fax: (403) 252-2291*

CONTACT:
Wayne Egan
Marketing Manager

Division Address:

*Suite 60
201 Centurian Drive
MARKHAM, Ont.
L3R 8T5*

*5008 - 86th Street
EDMONTON, Alta.
T6E 5S2*

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Fabricated Metal Products including Auto Parts
- Rubber and Plastic Products including Auto Parts
- Breweries
- Steel Mills
- Oil, Gas and Petroleum Processing
- Coal
- Forestry
- Food Processing

Colt provides electrical/instrument/control engineering as part of its multidisciplinary engineering capabilities, which also include process, mechanical and civil/structural disciplines. The electrical/instrument/control department specializes in power distribution, field instrumentation and computer-based process control using the most modern means available.

Manufacturing Applications:

- Fabrication and Assembly
- Electronic Data Interchange
- Programmable Control
- Process Planning

Markets Served:

- Mining
- Metallurgy
- Chemical Process
- Fertilizer Production and Storage

Cominco Engineering Services Ltd. provides engineering services and technology primarily to the mining, metallurgical and process industries. Software has been written to interface with IBM mainframes and programmable controllers. The company has experience in the design and operation of robotic systems for mass production of welded aluminum items.

Cominco Engineering Services Ltd.

*Suite 100
1200 West 73rd Avenue
VANCOUVER, B.C.
V6P 6G5
Tel.: (604) 264-5515
Fax: (604) 264-5555*

CONTACT:
*J. Turnbull
Director
Technology Sales*

Division Address:

*Suite 300
10333 Southport Road
Southwest
CALGARY, Alta.
T2W 3X6*

CONTACT:
Tom Smith

Continental Controls Ltd.

Continental Engineering Group

Unit 16
2180 Highway 7
CONCORD, Ont.
L4K 1W6
Tel.: (416) 738-0201
Fax: (416) 738-2143

CONTACT:
Gail Gourley
General Manager

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Continental Controls Ltd. (CCL), established in 1975, provides complete turnkey projects from concept/feasibility stages to on-site commissioning. CCL specializes in material handling, high-speed and precision manufacturing, robotics, plant automation, data acquisition, color graphics and microcomputer systems, as well as power engineering and control panel shop applications. A few of its in-house facilities include: computer-aided design (CAD) systems, documentation systems, and both computer and programmable logic controller (PLC) hardware and software development tools. The geographic areas currently served by Continental Controls Ltd. are Canada and the United States.

Control Digital Inc.

7 Mentor Boulevard
WILLOWDALE, Ont.
M2H 2M9
Tel.: (416) 756-2012
Fax: (416) 493-3526

CONTACT:
Brian Henson
President

Manufacturing Applications:

- Fabrication and Assembly
- Inspection Systems
- Programmable Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Food Processing

Control Digital Inc. has experience with vision inspection, measurement and control, and robotics systems in the food industry as well as with data collection and programmable logic controller (PLC) systems. It provides turnkey systems, start-up assistance and maintenance functions including field models, upgrades and debug services with equipment varying by age and by manufacturer.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Factory Floor Computers
- Inspection Systems
- Programmable Control

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Other

Cortex Engineering Inc. is an industrial control systems integrator providing a full range of services, including system and circuit design as well as control panel manufacturing. Its market includes the entire spectrum of primary and secondary manufacturing industries. A significant customer group comprises small and medium-sized machine builders with requirements for intelligent motion control.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems

Markets Served:

- Wooden Furniture and Other Millwork
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products

Cowley Technologies Inc. is a specialist in the design and development of electro-mechanical assembly systems and the integration of these systems into existing fabrication lines.

Cortex Engineering Inc.

2135 Bridge Road
OAKVILLE, Ont.
L6L 2E8
Tel.: (416) 827-5918
Fax: (416) 560-6705

CONTACT:
R.W. Hills
General Manager

Cowley Technologies Inc.

Unit 25
1 Whitmore Road
WOODBIDGE, Ont.
L4H 8G4
Tel.: (416) 856-8597
Fax: (416) 856-8597

CONTACT:
J. Cowley
President

Delta Engineering

2301 St. Laurent Boulevard
OTTAWA, Ont.
K1G 4J7
Tel.: (613) 521-0348
Fax: (613) 521-8533

CONTACT:
J.A. White
President

Manufacturing Applications:

- CAD/CAM Systems
- Electronic Data Interchange
- Process Planning
- Local Area Networks
- Programmable Control

Markets Served:

- Electrical and Electronic Products

Delta Engineering has experience in process control hardware and software. Its Process Control Group provides software and control systems services. The company has a presence in the United States.

Dynamic Control Systems

Unit 205
7088 Venture Street
DELTA, B.C.
V4G 1H5
Tel.: (604) 940-0141
Fax: (604) 940-0793

CONTACT:
Barry Dashner
General Manager

Manufacturing Applications:

- Fabrication and Assembly
- Programmable Control
- Process Planning/Monitoring
- Automated Material Handling
- Factory Floor Computers
- Quality Assurance Systems

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Process Control
- Vision Systems

Dynamic Control Systems' expertise is in the design, manufacture and integration of vision systems into industrial processing applications, specifically those involving machine controls in the paper, wood products, and steel and aluminum industries. Dynamic Control Systems has designed laser-based three-dimensional vision systems available as sensors or integrated into its process control systems.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Factory Floor Computers
- Material and Inventory Control
- CAD/CAM Systems
- Programmable Control
- Production Planning
- Process Planning

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

EPCM Services Ltd. is a diversified engineering, procurement and construction management contractor. Its expertise covers both the production process and the instrumentation for automation required for efficient operation.

Manufacturing Applications:

- Inspection Systems
- Programmable Control
- Production Planning
- Local Area Networks
- Factory Floor Computers

Markets Served:

- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment

Founded in 1974, Epic Data Inc. designs, manufactures and markets microprocessor-based data collection systems. Its fully integrated solutions include controllers; terminals; operating, communication and application software; consultation; and full-service systems. The product line includes terminals for the office or shop floor utilizing on-line portable radio-frequency or telephone-system networking. Controllers range from a host programmable control unit able to manage up to 24 terminals to a network control unit capable of managing a network of 1536 terminals. The company's expertise lies in adapting microprocessor technology to data collection applications, including support of both standard and custom-designed hardware and software.

EPCM Services Ltd.

*Suite 19
2404 Haines Road
MISSISSAUGA, Ont.
L4Y 4B8
Tel.: (416) 273-3388
Fax: (416) 273-5121*

CONTACT:
*Robert S. Jickling
President*

Epic Data Inc.

EBCO Industries Ltd.

*7280 River Road
RICHMOND, B.C.
V6X 1X5
Tel.: (604) 273-9146
Fax: (604) 270-3412*

CONTACT:
*Vern Totten
Vice-President
Operations*

FIS Information Solutions Corporation

Suite 204
265 Rimrock Road
DOWNSVIEW, Ont.
M3J 3C6
Tel.: (416) 638-0318
Fax: (416) 638-8823

CONTACT:
Eileen Page

Giffels Associates Ltd.

30 International Boulevard
REXDALE, Ont.
M9W 5P3
Tel.: (416) 675-5950
Fax: (416) 675-4620

CONTACT:
Bernard Novak

Manufacturing Applications:

- Local Area Networks
- Factory Floor Computers
- Material and Inventory Control
- Programmable Control
- Production Planning
- Supervisory Control

Markets Served:

- Food Processing
- Packaging

FIS Information Solutions Corporation provides plant information and control solutions to the food processing and packaging industries. The company has experience in consulting, implementation and support of real-time, computer-based applications in food processing and packaging. Solutions include batch control, downtime, weight control, line balancing and performance reporting. Connectivity of programmable logic controllers (PLCs) and other measurement and control devices as well as integration of plant floor with material requirements planning (MRP) packages are part of its services.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Factory Floor Computers
- Material and Inventory Control
- CAD/CAM Systems
- Programmable Control
- Production Planning
- Process Planning

Markets Served:

- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts

Giffels Associates Ltd. has an industrial engineering department experienced in integrating factory systems and programmable logic controllers (PLCs), a group experienced in integrating computer-aided design/manufacturing (CAD/CAM) and factory automation systems, the Ontario Centre for Advanced Manufacturing (OCAM), and a computer group experienced in integrating higher-level data systems.

Manufacturing Applications:

- Automated Material Handling
- Programmable Control
- Production Planning
- Process Planning
- Local Area Networks
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Pulp and Paper

Simons's system engineering services encompass corporate and plant-wide systems planning, systems specification and development, network design, systems implementation and training.

H.A. Simons Ltd.

425 Carrall Street
VANCOUVER, B.C.
V6B 2J6
Tel.: (604) 664-5985
Fax: (604) 664-4399

CONTACT:
William D. Thomas
Director
Systems Engineering

Division Addresses:

Simons Systems Inc.
13208 Northup Way
BELLEVUE, Washington
United States
98005
Tel.: (206) 643-2400
Fax: (206) 643 2009

H.A. Simons Ltée
2001 University Street
MONTREAL, Que.
H3A 2A6

Simons-Eastern
Consultants Inc.
One West Court Square
DECATUR, Georgia
United States
30030

Industrial Control Software Inc.

777 Shetland Court
OSHAWA, Ont.
L1J 7R3
Tel.: (416) 434-7977
Fax: (416) 571-0021

CONTACT:
Terry Ruddell
President

Division Address:
4657 West 7th Avenue
VANCOUVER, B.C.
V6R 1X4

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Clothing and Textiles
- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment
- Food and Beverage

Industrial Control Software Inc. is a consulting firm that assists factories in the development of software for automated processes. The company has extensive knowledge in working with most makes of programable controllers, computer numerical controlled (CNC) machinery, IBM 286/386-based data gathering systems, machine control monitoring systems and many robot controllers.

INSTRUMAR Ltd.

25 Pippy Place
P.O. Box 13246
ST. JOHN'S, Nfld.
A1B 4A5
Tel.: (709) 726-8460
Fax: (709) 726-8613

CONTACT:
G. Lee Shinkle
President and CEO

Division Address:
P.O. Box 7176, Station J
OTTAWA, Ont.
K2A 4C5

Manufacturing Applications:

- CAD/CAM Systems
- Electronic Data Interchange
- Printed Circuit Boards
- Local Area Networks
- Satellite Beacons
- Ice Sensors

Markets Served:

- Electrical and Electronic Products

INSTRUMAR Ltd. provides research, design and development for sensors and special instrumentation for its subsidiary and contract clients. The company has capability in electronic circuit analysis and analytical behavioral solutions for electromagnetic-based sensors; the company also is involved in simulation technology, particularly mathematical modelling. Principal in-house products are ice sensors for all applications.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Local Area Networks
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Isumataq was founded in 1981 and provides software and systems integration services up to complete turnkey solutions for customers. Primarily, the company provides automatic test systems, plant production and machinery monitoring, statistical quality/process control (SQC/SPC) systems and supervisory control and data acquisition (SCADA) systems to Canadian industry. The systems are used either on the plant floor or in research or quality control labs. The test systems can involve programmable logic controllers (PLCs) or can be computer-based and are usually built to customer specifications, with testing performed in process or on the final product. Many of the monitoring systems are plant-wide and involve interfacing many types of equipment with the system so that data can be provided in a standard usable format.

While the bulk of the data collected is used locally to improve the process, summarized data are sent on to the plant computer for long-term analysis and storage. In carrying out its work, the firm trains employees, assists in reorganizing processes and works at changing attitudes where necessary. The systems the company develops include PLCs, industrial and scientific computers, data acquisition and measurement instruments, terminals, bar code readers and remote data capture terminals. The company interfaces with all types of laboratory equipment and co-ordinate, measuring machines (CMMs) and quality control (QC) measurement instruments. Isumataq designs and builds specialized interfaces as required.

Isumataq Inc.

Unit 2A
291 Woodlawn Road West
GUELPH, Ont.
N1H 7L6
Tel.: (519) 763-9667
Fax: (519) 763-9280

CONTACT:
Stan Walker
President

JK Industrial Services Ltd.

10848 - 214th Street
P.O. Box 598
WINTERBURN, Alta.
T0E 2N0
Tel.: (403) 447-3042
Fax: (403) 447-4913

CONTACT:
J. Friedrich
Manager

Manufacturers Automation Engineering Inc.

Suite 6
608 Weber Street North
WATERLOO, Ont.
N2V 1K4
Tel.: (519) 746-0233
Fax: (519) 746-3047

CONTACT:
John Raynor
President

Manufacturing Applications:

- Fabrication and Assembly
- Electronic Data Interchange
- Automated Material Handling
- Programmable Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts

JK Industrial Services Ltd. is an independent design and consulting engineering firm. It specializes in mechanical design and product development, with additional strengths in processes, material handling equipment and value analysis, as well as in castings and foundry engineering.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Factory Floor Computers
- CAD/CAM Systems
- Programmable Control
- Process Planning

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Food Processing

Manufacturers Automation Engineering Inc. is a professional engineering group involved in the systems integration and process automation fields. The group has the ability to design, build, install and commission fully automated production lines as well as to provide programmable logic controller (PLC) programming and documentation.

Manufacturing Applications:

- Inspection Systems
- Electronic Data Interchange
- Factory Floor Computers
- Local Area Networks
- Programmable Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products

Medar Canada Ltd. designs and manufactures computer-controlled automation equipment, including vision gauging and inspection systems, resistance welding controls, computer communications systems and automation machinery. The acquisition of Industrial Development Systems Inc. in Howell, Michigan, allows Medar to provide factory-proven, fully integrated turnkey systems.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Automated Material Handling
- Factory Floor Computers
- Material and Inventory Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Numet Engineering Ltd. provides integration services for a variety of automation applications such as assembly (indexing cells and walking beam systems), handling (automated tube systems, automated press parts handling systems), robotics, marking and packaging, welding, and machine vision equipment.

Medar Canada Ltd.

240 Cordova Road
P.O. Box 858
OSHAWA, Ont.
L1H 7N1
Tel.: (416) 433-1230
Fax: (416) 433-1257

CONTACT:
Lawrence Alexander

Numet Engineering Ltd.

678 Neal Drive
P.O. Box 1776
PETERBOROUGH, Ont.
K9J 7X6
Tel.: (705) 743-2708
Fax: (705) 743-3216

CONTACT:
Roger Twomey

Optimex Engineering Ltd.

1180 Stone Church Road
East
HAMILTON, Ont.
L8W 2C7
Tel.: (416) 387-1611
Fax: (416) 387-1611

CONTACT:
Mr. Poppa

Manufacturing Applications:

- Fabrication and Assembly
- Programmable Control
- Automated Material Handling

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Food Processing

Optimex Engineering Ltd. has been in business for 14 years. Its experience comprises engineering and manufacturing custom-designed machinery, material handling equipment, custom-designed and custom-built robots, electrical controls, elevating equipment, etc.

Peter Brown Manufacturing Ltd.

51 Wedgewood Drive
CAMBRIDGE, Ont.
N1S 2A8
Tel.: (519) 621-9430
Fax: (519) 740-0041

CONTACT:
Peter Brown
President

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Peter Brown Manufacturing Ltd. is experienced in detailing, fabricating and installing cost-reduction projects, product component supply on a regular basis or in an overload situation, and custom-fabricated equipment (sheet/plate, carbon steel and stainless steel materials).

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Programmable Control
- Production Planning
- Inspection Systems
- Automated Material Handling
- Factory Floor Computers

Markets Served:

- Electrical and Electronic Products

Plehl Engineering Services Inc. has staff experienced in product design and automation design. The company currently runs four "autoCAD" and "Intergraph" stations that are active full-time.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Inspection Systems
- Programmable Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts

Prodomax Ltd. is a manufacturing system designer and integrator. It has built all phases of manufacturing systems from single-operator stations to multi-cell robotic assembly and welding systems, including special processing, material handling, inspection and testing equipment, as well as special-purpose equipment such as computer numerical controlled (CNC) grinding, machining, micro-drilling and laser welding systems.

Plehl Engineering Services Inc.

1415 California Avenue
P.O. Box 1721
BROCKVILLE, Ont.
K6V 6K8
Tel.: (613) 345-6633
Fax: (613) 345-5680

CONTACT:
Carl Plehl
CEO

Prodomax Ltd.

95 Welham Road
BARRIE, Ont.
L4M 6E7
Tel.: (705) 726-5841
Fax: (705) 722-8475

CONTACT:
Robert Burk
President

Robert I. Robotics Inc.

Suite 5
958 Leathorne Street
LONDON, Ont.
N5Z 3M5
Tel.: (519) 686-1003
Fax: (519) 686-1004

CONTACT:
Robert B. Isaac
Manager

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Programmable Control
- Process Planning
- Inspection Systems
- Electronic Data Interchange
- Factory Floor Computers

Markets Served:

- Clothing and Textiles
- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment

Robert I. Robotics Inc. specializes in managing systems integration involving initial survey, review of present/proposed factory operation, qualification, prioritization and selection, development of a shopping list of potential applications, consideration of technical feasibility and justification, development of economic and other rationales to support implementation decisions, application engineering, system engineering, system supervision, training, and final implementation/start-up of the system.

Robert I. Robotics has been involved in systems integration projects that include material handling, machine loading/unloading, palletizing, assembly, spray painting, dispensing operations and automatic parts retrieval. These systems are produced primarily using proven off-the-shelf components such as its robotic line, which includes Toshiba ROIBOT, Toshiba A/C Servo Robots, E-MAT Pneumatic Robots, AKR Hydraulic and Electric Painting Robots and GMF Electric Robots. In addition, the company handles Deneb IGRIP automation/simulation software, which utilizes three-dimensional graphics technology for the design, evaluation and programming of robotic workcells off-line. It also offers a selection of individual robots and complete system solutions, as well as requirement evaluation through design and integration to installation and training.

Manufacturing Applications:

- Fabrication and Assembly
- Local Area Networks
- Factory Floor Computers
- Automated Material Handling
- Programmable Control

Market Served:

- Wooden Furniture and Other Millwork
- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Food Processing
- Pharmaceuticals
- Light Chemicals
- Water Treatment and Sewage

Satt Control is the Canadian affiliate of Satt Control AB, a supplier of programmable logic controller (PLC) systems in Europe. In addition to a line of automation control products, Satt Control offers a full range of support services, including system design, software implementation, installation and commissioning to complement the customer's existing capabilities. The company is capable of furnishing turnkey solutions for a wide range of control and monitoring applications in most industrial environments.

Manufacturing Applications

- Inspection Systems
- Automated Material Handling
- Programmable Control

Markets Served:

- Printing
- Electrical and Electronic Products
- Packaging

Scantech Electronics Inc. has been in business for 13 years and specializes in the design, manufacture and servicing of new and/or improved machine control systems. The company designs and develops custom-designed control systems for new machines; it also designs and develops improved control systems for old machines by incorporating state-of-the-art control elements. Scantech provides a full range of electronics assembly and testing services, as well as installation and maintenance services.

Satt Control

Division of Alfa-Laval Ltd.

101 Milner Avenue
SCARBOROUGH, Ont.
M1S 4S6
Tel.: (416) 291-7186
Fax: (416) 299-9002

CONTACT:
Per Arne Persson

Scantech Electronics Inc.

5265 Creekbank Road
MISSISSAUGA, Ont.
L4W 1N3
Tel.: (416) 625-1844
Fax: (416) 625-1858

CONTACT:
John Blansche, P.Eng.
Account Executive

SEA Ltd.

Mailing Address:
P.O. Box 13606, Station A
ST. JOHN'S, Nfld.
A1B 4G1
Tel.: (709) 364-2075
Fax: (709) 364-8098

Plant Location:
2 Dundee
Donovans Industrial Park
MOUNT PEARL, Nfld.

CONTACT:
Art Garland
Vice-President
Marketing

Division Address:
2 Bluewater Road
BEDFORD, N.S.
B4B 1G7

SerdeK Automated Systems Inc.

P.O. Box 322
CHATHAM, Ont.
N7M 5K4
Tel.: (519) 351-4230
Fax: (519) 351-8235

CONTACT:
Ron Dekker
President

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Material and Inventory Control

Markets Served:

- Electrical and Electronic Products

SEA Ltd. specializes in electronics, electrical and electro-mechanical systems. The company's specialized divisions cover a wide range of instrumentation, control and microprocessor systems in the industrial, commercial, defence and marine/offshore sectors, from design through to commissioning and training.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computer

Markets Served:

- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts

SerdeK Automated Systems Inc. is a systems integrator in electrical control systems, providing design and commissioning expertise. It has experience with many programmable logic controllers (PLCs), robotic applications, vision systems, and communications and automation applications, and has a varied background in using expert systems, artificial intelligence (AI), customized software drivers, and supervisory control and data acquisition (SCADA) systems. The company also provides commissioning and trouble-shooting services. In addition to the markets noted above, Serdek is active in the pulp and paper, chemical and metal finishing industries.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Factory Floor Computers
- CAD/CAM Systems
- Programmable Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

Spectrum Engineering was founded in 1971 to provide engineering services to clients in the nuclear, defence, manufacturing and aerospace business sectors. Its expertise is offered in mechanism design, instrumentation and control, as well as electrical and structural design. A research and development facility, including an electronic laboratory, is available for the development of customized systems.

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Programmable Control

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products

Square D Technical Services Operation can provide systems integration using Square D's programmable logic controller (PLC) SYMAX for most processes in industry. Square D has completed projects using SYMAX on press coating, lighting (energy) management and other similar applications.

Spectrum Engineering Corporation Ltd.

544 McDonnell Street
P.O. Box 687
PETERBOROUGH, Ont.
K9J 6Z8
Tel.: (705) 743-7520
Fax: (705) 743-9878

CONTACT:
Nick Weyman
Business Development

Square D Technical Services Operation

Square D Canada Electrical Equipment Inc.

Unit 5
608 Weber Street North
WATERLOO, Ont.
N2V 1K4
Tel.: (519) 886-9780
Fax: (519) 886-5129

CONTACT:
Dan Cashmore
Specialist
Service, Marketing
and Sales

Sutherland-Schultz Ltd.

Derlan Industries

859 Courtland Avenue
East
KITCHENER, Ont.
N2C 1B3
Tel.: (519) 743-4123
Fax: (519) 743-8612

CONTACT:
Michael P. Voll
Corporate
Representative

Manufacturing Applications:

- Fabrication and Assembly
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Inspection Systems
- Local Area Networks
- Programmable Control

Markets Served:

- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment

Sutherland-Schultz Ltd. is an engineering and construction company specializing in factory automation through mechanical and electrical design and fabrication. The construction side is experienced in all major trades, including millwrighting, electrical, sheet metal, piping, insulation, as well as heating, ventilating and air conditioning (HVAC) trades. The engineering portion employs 80 people and specializes in controls automation, instrumentation and process control, real-time software programming and mechanical/electrical design.

Technoplan Inc.

JLEC Consulting Inc.

Place Bonaventure
4 Farnham Place
MONTREAL, Que.
H5A 1C3
Tel.: (514) 861-7131
Fax: (514) 697-2485

CONTACT:
John Eaves
Partner

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control
- Inspection Systems
- Automated Material Handling
- Programmable Control
- Production Planning
- Process Planning

Markets Served:

- Wooden Furniture and Other Millwork
- Clothing and Textiles
- Fabricated Metal Products including Auto Parts
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment

Technoplan Inc. assists clients who are light manufacturers in Canada and the United States. It upgrades operations management systems including computer-aided design/engineering/manufacturing (CAD/CAE/CAM), computer-integrated manufacturing (CIM), just-in-time (JIT) manufacturing, manufacturing resources planning (MRP II), statistical process control (SPC) and total quality control (TQC). The company also designs and builds manufacturing facilities on a turnkey basis, and undertakes mandates to transfer technologies primarily from Europe to Canada.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Inspection Systems
- Automated Material Handling

Markets Served:

- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment

As manufacturers of customized machinery with complete designing, building and testing facilities, Teledyne Precision Canada provides total systems concepts for manufacturers with production problems. From welding to assembly of small and large components, Teledyne Precision Canada engineers provide the solutions to problems. Training for and start-up of Teledyne Precision Canada equipment are performed by service technicians both in the field and internally before the equipment is commissioned. The company is experienced in integrating new equipment with existing proven production methods or supplying a complete system to improve productivity. Areas of expertise include material handling, inspection, assembly, machining, robotics and vision systems, welding and packaging or any combination of the foregoing. Controls and software can be specified by the manufacturer or selected by Teledyne Precision Canada to suit the application.

Manufacturing Applications:

- Fabrication and Assembly
- Local Area Networks
- Factory Floor Computers
- CAD/CAM Systems
- Programmable Control

Markets Served:

- Fabricated Metal Products including Auto Parts
- Rubber and Plastic Products including Auto Parts

TOR Computerized Systems Inc. provides integration of computer-aided design/manufacturing (CAD/CAM), computer numerical controlled (CNC) and robotic systems.

Teledyne Precision Canada

72 Carnforth Road
TORONTO, Ont.
M4A 2L2
Tel.: (416) 759-1138
Fax: (416) 759-5538

CONTACT:
John Gillies
General Manager

TOR Computerized Systems Inc.

Units 14 and 15
160 Applewood Crescent
CONCORD, Ont.
L4K 4H2
Tel.: (416) 660-3262
Fax: (416) 660-1382

CONTACT:
Frank Nanfara
President

Tron Industrial Automation Systems Inc.

Suite 32
1002 Arlington Avenue
SASKATOON, Sask.
S7H 2X7
Tel.: (306) 955-9700
Fax: (306) 373-8115

CONTACT:
Clif Skrypyk
President

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Production Planning
- Process Planning
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Material and Inventory Control
- Quality Assurance Systems

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Equipment Manufacturers
- Oil and Gas

Tron Industrial Automation Systems Inc. was founded in 1984 to provide progressive manufacturing companies with expertise on a cost-effective contract basis. Tron employs an international network of professionals with experience in all aspects of marketing, production, management, finance and human resources. Consulting projects have spanned the spectrum from market studies, plant evaluations and quality assurance systems to new-product development, plant design and feasibility studies for automated equipment such as robotics.

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Process Planning
- Inspection Systems
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Clothing and Textiles
- Fabricated Metal Products including Auto Parts
- Rubber and Plastic Products including Auto Parts
- Pulp and Paper
- Mining
- Power
- Chemical
- Oil and Gas
- Food Processing

Walsh Automation Inc. is an independent firm of consulting engineers dedicated to the development and implementation of comprehensive, engineered solutions for a wide range of clients in manufacturing, process and resource-based industries. The company has completed projects throughout North America as well as overseas.

Walsh Automation Inc.

*Suite 670
3300 Cavendish
Boulevard
MONTREAL, Que.
H4B 2M8
Tel.: (514) 485-6611
Fax: (514) 485-6617*

CONTACT:
*Robert Walsh
Senior Consultant*

Wardrop Engineering Inc.

Suite 600
6725 Airport Road
MISSISSAUGA, Ont.
L4V 1V2
Tel.: (416) 673-3788
Fax: (416) 673-8007

CONTACT:
E.C. Card
Vice-President

Division Addresses:

Suite 400
386 Broadway Avenue
WINNIPEG, Man.
R3C 4M8

595 Squier Street
THUNDER BAY, Ont.
P7B 4A7

Unit 202
17612 - 107th Avenue
EDMONTON, Alta.
T5S 1G8

Manufacturing Applications:

- CAD/CAM Systems
- Electronic Data Interchange
- Factory Floor Computers
- Process Planning
- Automated Material Handling
- Programmable Control
- Production Planning

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Resources
- Power

Wardrop is a multidisciplinary engineering company that has been actively engaged in projects across Canada and internationally since 1955. It is involved in the fields of nuclear engineering, computer modelling, robotics, aerospace and space systems engineering, and machine design, as well as in the more conventional consulting engineering fields. Wardrop offers professional design, assembly and installation services to industry in the application, selection and construction of high-technology systems. Its personnel have practical experience in machine automation, sequential and batch controls, communication networks, industrial computers and advanced human-machine interface. As well, the company is experienced in prototype development and has undertaken the design and supply of specialized prototype equipment for the aerospace, nuclear and automotive industries.

Manufacturing Applications:

- CAD/CAM Systems
- Local Area Networks
- Programmable Control
- Production Planning
- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Process Planning

Markets Served:

- Clothing and Textiles
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Food
- Pulp and Paper
- Chemical and Petrochemical
- Breweries, Distilleries and Wineries

Weiss Systems Inc. has experience in designing and installing instrumentation, controls, systems and automation for a broad spectrum of industries as consultants, engineers and designers. It entered the field of systems integration in 1987, covering applications from pneumatic to distributed control systems, programmable logic controllers (PLCs), industrial computers and computer-integrated manufacturing (CIM). The company also develops and markets its own software.

Weiss Systems Inc.

505 Queensway East
MISSISSAUGA, Ont.
L5A 4B4
Tel.: (416) 279-2885
Fax: (416) 279-2279

CONTACT:
V. S. Weiss
Chief Engineer

Division Addresses:

5750 Parkhaven
MONTREAL, Que.
H4W 1X5

4515 Dalhart Road
Northwest
CALGARY, Alta.
T3A 1B9

Welstead Automation Ltd.

Unit 4
117 Ringwood Drive
STOUFFVILLE, Ont.
L4A 8C1
Tel.: (416) 640-8222
Fax: (416) 640-4484

CONTACT:
Pam Welstead

Manufacturing Applications:

- Fabrication and Assembly
- CAD/CAM Systems
- Programmable Control
- Material and Inventory Control
- Inspection Systems
- Automated Material Handling
- Production Planning
- Process Planning

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Power Utilities
- Equipment Manufacturers
- Food Processing
- Engineering Consultants

Welstead Automation Ltd. provides turnkey control system solutions from design to start-up. Its specialization is in Industrial software and supporting hardware for computer-aided engineering (CAE), computer-based training, graphic operator interfaces and programmable controller support for Allen-Bradley, Modicon, Siemens, Idac, Texas Instruments and Mitsubishi. The company is the Canadian distributor for Roxborough electric computer consoles.

Zensol Automation Inc.

5720 Chemin St.-François
SAINT-LAURENT, Que.
H4S 1B4
Tel.: (514) 334-5900
Fax: (514) 334-5373

CONTACT:
Fouad Bilal
President

Manufacturing Applications:

- Automated Material Handling
- Electronic Data Interchange
- Factory Floor Computers
- Local Area Networks
- Programmable Control
- Production Planning

Markets Served:

- Wooden Furniture and Other Millwork
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Packaging
- Process Control

Zensol Automation Inc. specializes in automation and industrial software [computer-integrated manufacturing (CIM)], and is engaged in three areas of activity: sales of standard software for industry; sales of custom-designed software for industry; and technical assistance. Zensol recommends systems permitting instant acquisition of important information for manufacturing. This information can be made visible on a screen (monitoring and alarms), printed or conserved in a data base or treated by other programs. The operators can then detect problems in the functioning of the plant, including slow production sites.

• ***Fabrication and Assembly***

Andersen Consulting
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
Caulfield Engineering
Colt Engineering Corp.
ComInco Engineering Services Ltd.
Continental Controls Ltd.
Control Digital Inc.
Cortex Engineering Inc.
Cowley Technologies Inc.
Dynamic Control Systems
EPCM Services Ltd.
Giffels Associates Ltd.
Industrial Control Software Inc.
Isumatag Inc.
JK Industrial Services Ltd.
Manufacturers Automation Engineering Inc.

• ***Inspection Systems***

Andersen Consulting
A.T. Kearney
B.R.I.C. Systems Integrators
Caulfield Engineering
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
Control Digital Inc.
Cortex Engineering Inc.
Epic Data Inc.
Industrial Control Software Inc.
Isumatag Inc.
Medar Canada Ltd.

• ***CAD/CAM Systems***

Andersen Consulting
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
Colt Engineering Corp.
Continental Controls Ltd.

Numet Engineering Ltd.
Optimex Engineering Ltd.
Peter Brown Manufacturing Ltd.
Piehl Engineering Services Inc.
Prodomax Ltd.
Robert I. Robotics Inc.
Satt Control
SEA Ltd.
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Square D Technical Services Operation
Sutherland-Schultz Ltd.
Technoplan Inc.
Teledyne Precision Canada
TOR Computerized Systems Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Welstead Automation Ltd.

Numet Engineering Ltd.
Piehl Engineering Services Inc.
Prodomax Ltd.
Robert I. Robotics Inc.
Scantech Electronics Inc.
Serdek Automated Systems Inc.
Sutherland-Schultz Ltd.
Technoplan Inc.
Teledyne Precision Canada
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Welstead Automation Ltd.

Cowley Technologies Inc.
Delta Engineering
EPCM Services Ltd.
Giffels Associates Ltd.
Industrial Control Software Inc.
INSTRUMAR Ltd.

Cross- Reference by Manufacturing Applications

Cross- Reference by Manufacturing Applications

Manufacturers Automation Engineering Inc.
Numet Engineering Ltd.
Plehl Engineering Services Inc.
SEA Ltd.
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Technoplan Inc.

◦ *Automated Material Handling*

Andersen Consulting
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
Colt Engineering Corp.
Continental Controls Ltd.
Cortex Engineering Inc.
Dynamic Control Systems
EPCM Services Ltd.
Giffels Associates Ltd.
H.A. Simons Ltd.
Industrial Control Software Inc.
Isumataq Inc.
JK Industrial Services Ltd.
Manufacturers Automation Engineering Inc.
Numet Engineering Ltd.
Optimex Engineering Ltd.
Peter Brown Manufacturing Ltd.

◦ *Local Area Networks*

Alnsworth Automation Inc.
Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
Delta Engineering
Epic Data Inc.
FIS Information Solutions Corporation
H.A. Simons Ltd.

TOR Computerized Systems Inc.
Teledyne Precision Canada
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Welss Systems Inc.
Welstead Automation Ltd.

Plehl Engineering Services Inc.
Prodomax Ltd.
Robert I. Robotics Inc.
Satt Control
Scantech Electronics Inc.
SEA Ltd.
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Square D Technical Services Operation
Sutherland-Schultz Ltd.
Technoplan Inc.
Teledyne Precision Canada
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Welss Systems Inc.
Welstead Automation Ltd.
Zensol Automation Inc.

Industrial Control Software Inc.
INSTRUMAR Ltd.
Isumataq Inc.
Medar Canada Ltd.
Satt Control
SEA Ltd.
Serdek Automated Systems Inc.
Sutherland-Schultz Ltd.
TOR Computerized Systems Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Welss Systems Inc.
Zensol Automation Inc.

• *Electronic Data Interchange*

Andersen Consulting
A.T. Kearney
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Cominco Engineering Services Ltd.
Continental Controls Ltd.
Delta Engineering
Industrial Control Software Inc.
INSTRUMAR Ltd.
JK Industrial Services Ltd.
Medar Canada Ltd.

• *Programmable Control*

Alnsworth Automation Inc.
Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
Caulfield Engineering
Colt Engineering Corp.
Cominco Engineering Services Ltd.
Continental Controls Ltd.
Control Digital Inc.
Cortex Engineering Inc.
Delta Engineering
Dynamic Control Systems
EPCM Services Ltd.
Epic Data Inc.
FIS Information Solutions Corporation
Giffels Associates Ltd.
H.A. Simons Ltd.
Industrial Control Software Inc.
Isumataq Inc.
JK Industrial Services Ltd.

• *Factory Floor Computers*

Alnsworth Automation Inc.
Andersen Consulting
Aseco Automation Systems Ltd.
Basic Technologies Corporation
B.R.I.C. Systems Integrator

Robert I. Robotics Inc.
SEA Ltd.
Serdek Automated Systems Inc.
Sutherland-Schultz Ltd.
Technoplan Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Weiss Systems Inc.
Zensol Automation Inc.

Manufacturers Automation Engineering Inc.
Medar Canada Ltd.
Numet Engineering Ltd.
Optimex Engineering Ltd.
Piehl Engineering Services Inc.
Prodomax Ltd.
Robert I. Robotics Inc.
Salt Control
Scantech Electronics Inc.
SEA Ltd.
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Square D Technical Services Operation
Sutherland-Schultz Ltd.
Technoplan Inc.
TOR Computerized Systems Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Weiss Systems Inc.
Welstead Automation Ltd.
Zensol Automation Inc.

CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
Cortex Engineering Inc.
Dynamic Control Systems

Cross- Reference by Manufacturing Applications

Cross- Reference by Manufacturing Applications

EPCM Services Ltd.
Epic Data Inc.
FIS Information Solutions Corporation
Giffels Associates Ltd.
H.A. Simons Ltd.
Industrial Control Software Inc.
Isumataq Inc.
Manufacturers Automation Engineering Inc.
Medar Canada Ltd.
Numet Engineering Ltd.
Piehl Engineering Services Inc.
Robert I. Robotics Inc.

◦ *Production Planning*

Andersen Consulting
A.T. Kearney
Colt Engineering Corp.
Continental Controls Ltd.
EPCM Services Ltd.
Epic Data Inc.
FIS Information Solutions Corporation
Giffels Associates Ltd.
H.A. Simons Ltd.
Industrial Control Software Inc.

◦ *Material and Inventory Control*

Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
B.R.I.C. Systems Integrators
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
EPCM Services Ltd.
FIS Information Solutions Corporation

◦ *Process Planning/Monitoring*

Andersen Consulting
A.T. Kearney
B.R.I.C. Systems Integrators
Caulfield Engineering
Colt Engineering Corp.
Cominco Engineering Services Ltd.
Continental Controls Ltd.

Satt Control
SEA Ltd.
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Sutherland-Schultz Ltd.
Technoplan Inc.
TOR Computerized Systems Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Welss Systems Inc.
Zensol Automation Inc.

Isumataq Inc.
Numet Engineering Ltd.
Piehl Engineering Services Inc.
Technoplan Inc.
Tron Industrial Automation Systems Inc.
Wardrop Engineering Inc.
Welss Systems Inc.
Welstead Automation Ltd.
Zensol Automation Inc.

Giffels Associates Ltd.
H.A. Simons Ltd.
Industrial Control Software Inc.
Isumataq Inc.
Numet Engineering Ltd.
SEA Ltd.
Technoplan Inc.
Tron Industrial Automation Systems Inc.
Welstead Automation Ltd.

Delta Engineering
Dynamic Control Systems
EPCM Services Ltd.
Giffels Associates Ltd.
H.A. Simons Ltd.
Industrial Control Software Inc.
Isumataq Inc.

Manufacturers Automation Engineering Inc.
Numet Engineering Ltd.
Robert I. Robotics Inc.
Technoplan Inc.
Tron Industrial Automation Systems Inc.

Walsh Automation Inc.
Wardrop Engineering Inc.
Weiss Systems Inc.
Welstead Automation Ltd.

• **Other**

Information Engineering

Alnsworth Automation Inc.

SCADA (Supervisory Control and Data Acquisition)

Alnsworth Automation Inc.

FIS Information Solutions Corporation

Quality Assurance Systems

Dynamic Control Systems

Tron Industrial Automation Systems Inc.

Satellite Beacons

INSTRUMAR Ltd

Printed Circuit Boards

INSTRUMAR Ltd.

Ice Sensors

INSTRUMAR Ltd.

Cross- Reference by Manufacturing Applications

• ***Wooden Furniture and Other Millwork***

Andersen Consulting
A.T. Kearney
Continental Controls Ltd.
Cortex Engineering Inc.
Cowley Technologies Inc.
Isumataq Inc.

Satt Control
Technoplan Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Zensol Automation Inc.

• ***Printing***

Andersen Consulting
A.T. Kearney
Continental Controls Ltd.
Cortex Engineering Inc.
Epic Data Inc.

Giffels Associates Ltd.
Isumataq Inc.
Scantech Electronics Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.

• ***Clothing and Textiles***

Andersen Consulting
Cortex Engineering Inc.
Industrial Control Software Inc.
Isumataq Inc.
Robert I. Robotics Inc.

Satt Control
Technoplan Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Weiss Systems Inc.

• ***Fabricated Metal Products Including Auto Parts***

Alnsworth Automation Inc.
Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
Control Digital Inc.
Cortex Engineering Inc.
Cowley Technologies Inc.
Dynamic Control Systems
EPCM Services Ltd.
Epic Data Inc.
Giffels Associates Ltd.
Industrial Control Software Inc.
Isumataq Inc.
JK Industrial Services Ltd.
Manufacturers Automation Engineering Inc.

Medar Canada Ltd.
Numet Engineering Ltd.
Optimex Engineering Ltd.
Peter Brown Manufacturing Ltd.
Prodomax Ltd.
Robert I. Robotics Inc.
Satt Control
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Square D Technical Services Operation
Sutherland-Schultz Ltd.
Technoplan Inc.
Teledyne Precision Canada
TOR Computerized Systems Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Welstead Automation Ltd.
Zensol Automation Inc.

• *Electrical and Electronic Products*

Alnsworth Automation Inc.
Andersen Consulting
A.T. Kearney
Basic Technologies Corporation
Caulfield Engineering
CIMTEK Automation Systems Inc.
Continental Controls Ltd.
Control Digital Inc.
Cortex Engineering Inc.
Cowley Technologies Inc.
Delta Engineering
Dynamic Control Systems
EPCM Services Ltd.
Epic Data Inc.
Giffels Associates Ltd.
Industrial Control Software Inc.
INSTRUMAR Ltd.
Isumataq Inc.

JK Industrial Services Ltd.
Manufacturers Automation Engineering Inc.
Medar Canada Ltd.
Numet Engineering Ltd.
Piehl Engineering Services Inc.
Prodomax Ltd.
Robert I. Robotics Inc.
Scantech Electronics Inc.
SEA Ltd.
Serdek Automated Systems Inc.
Square D Technical Services Operation
Sutherland-Schultz Ltd.
Teledyne Precision Canada
Tron Industrial Automation Systems
Wardrop Engineering Inc.
Weiss Systems Inc.
Welstead Automation Ltd.
Zensol Automation Inc.

• *Rubber and Plastic Products Including Auto Parts*

Alnsworth Automation Inc.
Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
B.R.I.C. Systems Integrators
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
EPCM Services Ltd.
Giffels Associates Ltd.
Industrial Control Software Inc.
Isumataq Inc.
JK Industrial Services Ltd.
Manufacturers Automation Engineering Inc.
Numet Engineering Ltd.

Peter Brown Manufacturing Ltd.
Prodomax Ltd.
Robert I. Robotics Inc.
Satt Control
Serdek Automated Systems Inc.
Sutherland-Schultz Ltd.
Technoplan Inc.
Teledyne Precision Canada
TOR Computerized Systems Inc.
Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Weiss Systems Inc.
Welstead Automation Ltd.
Zensol Automation Inc.

• *Transportation Equipment*

Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
Continental Controls Ltd.
EPCM Services Ltd.

Epic Data Inc.
Industrial Control Software Inc.
Isumataq Inc.
Numet Engineering Ltd.
Peter Brown Manufacturing Ltd.

**Cross-
Reference
by Markets
Served**

Cross-Reference by Markets Served

Robert I. Robotics Inc.
Satt Control
Spectrum Engineering Corporation Ltd.
Sutherland-Schultz Ltd.
Technoplan Inc.

• Food Processing

Ainsworth Automation Inc.
Aseco Automation Systems Ltd.
Colt Engineering Corp.
Control Digital Inc.
FIS Information Solutions Corporation

Teledyne Precision Canada
Tron Industrial Automation Systems Inc.
Wardrop Engineering Inc.
Welstead Automation Ltd.

Manufacturers Automation Engineering Inc.
Optimex Engineering Ltd.
Satt Control
Walsh Automation Inc.
Welstead Automation Ltd.

• Other

Resource Industries (oil, gas and petroleum; plastics, rubber and chemical products; forest products; mining, metals and minerals; marine; and energy/utilities), Biotechnology and Health Care Products

Ainsworth Automation Inc.
Basic Technologies Corporation
Colt Engineering Corp.
Cominco Engineering Services Ltd.
H.A. Simons Ltd.
Satt Control

Tron Industrial Automation Systems Inc.
Walsh Automation Inc.
Wardrop Engineering Inc.
Welss Systems Inc.
Welstead Automation Ltd.

Service Industries and Consumer Goods (services and furniture); Appliances; and Leisure, Food, Grocery and Beverage Products

A.T. Kearney
Colt Engineering Corp.
Industrial Control Software Inc.
Satt Control

Walsh Automation Inc.
Welss Systems Inc.
Welstead Automation Ltd.

Defence

Andersen Consulting

Process Control and Manufacturing

Dynamic Control Systems

Zensol Automation Inc.

Equipment Manufacturers

Tron Industrial Automation Systems Inc.

Welstead Automation Ltd.

Water Treatment and Sewage

Satt Control

Fertilizer Production and Storage

Cominco Engineering Services Ltd.

Packaging

FIS Information Solutions Corporation
Scantech Electronics Inc.

Zensol Automation Inc.



• **British Columbia**

Caulfield Engineering
Cominco Engineering Services Ltd.
Dynamic Control Systems

Epic Data Inc.
H.A. Simons Ltd.
Industrial Control Software Inc.

• **Alberta**

Colt Engineering Corp.
Cominco Engineering Services Ltd.
JK Industrial Services Ltd.

Wardrop Engineering Inc.
Welss Systems Inc.

• **Saskatchewan**

Tron Industrial Automation Systems Inc.

• **Manitoba**

Wardrop Engineering Inc.

• **Ontario**

Ainsworth Automation Inc.
Andersen Consulting
Aseco Automation Systems Ltd.
A.T. Kearney
Basic Technologies Corporation
B.R.I.C. Systems Integrators
CIMTEK Automation Systems Inc.
Colt Engineering Corp.
Continental Controls Ltd.
Control Digital Inc.
Cortex Engineering Inc.
Cowley Technologies Inc.
Delta Engineering
EPCM Services Ltd.
FIS Information Solutions Corporation
Giffels Associates Ltd.
Industrial Control Software Inc.
INSTRUMAR Ltd.
Isumataq Inc.

Manufacturers Automation Engineering Inc.
Medar Canada Ltd.
Numet Engineering Ltd.
Optimex Engineering Ltd.
Peter Brown Manufacturing Ltd.
Plehl Engineering Services Inc.
Prodomax Ltd.
Robert I. Robotics Inc.
Satt Control
Scantech Electronics Inc.
Serdek Automated Systems Inc.
Spectrum Engineering Corporation Ltd.
Square D Technical Services Operation
Sutherland-Schultz Ltd.
Teledyne Precision Canada
TOR Computerized Systems Inc.
Wardrop Engineering Inc.
Welss Systems Inc.
Welstead Automation Ltd.

• **Quebec**

H.A. Simons Ltd.
Technoplan Inc.
Walsh Automation Inc.

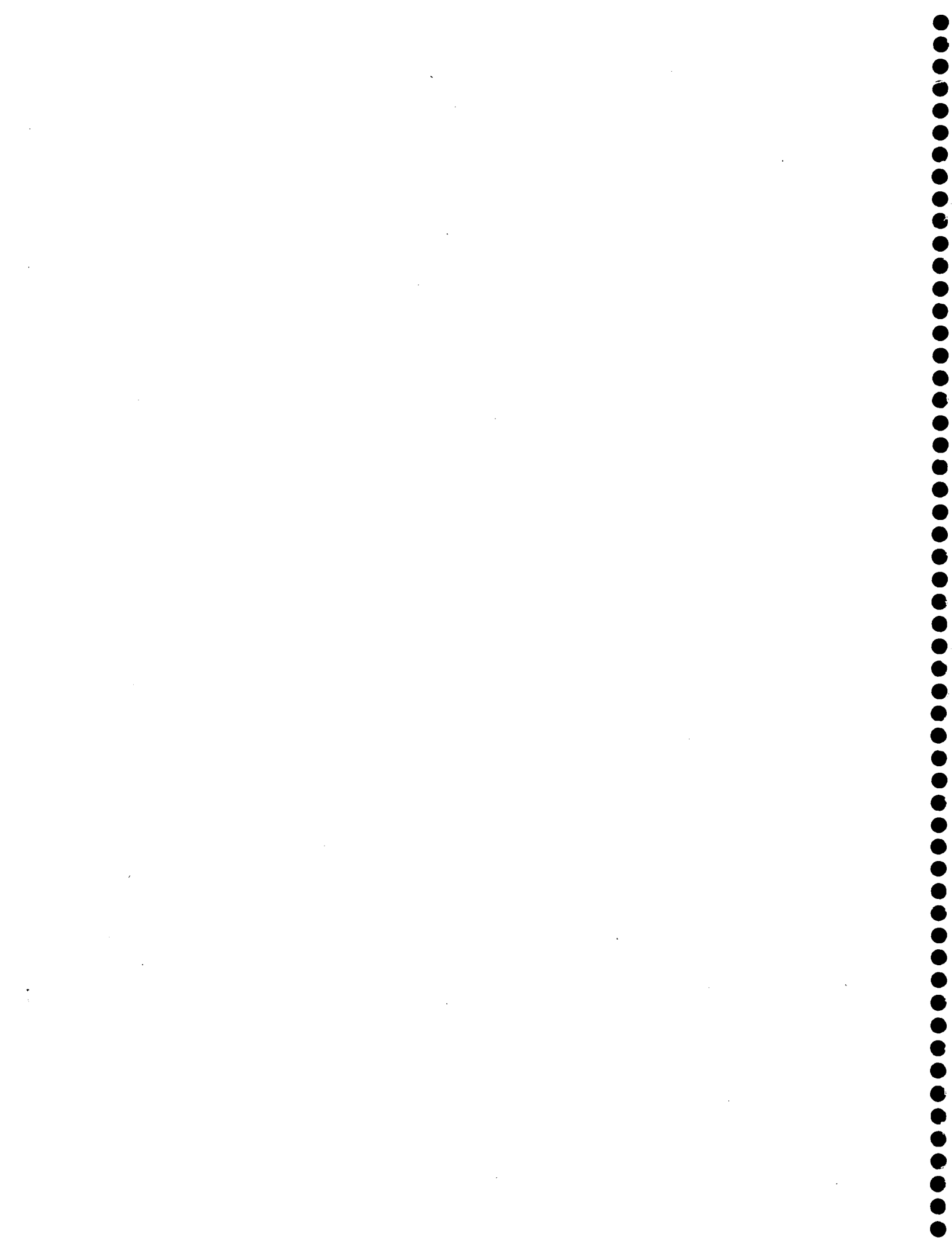
Welss Systems Inc.
Zensol Automation Inc.

• **Nova Scotia**

SEA Ltd.

• **Newfoundland**

INSTRUMAR Ltd.
SEA Ltd.





A. Comeau & Associates Ltd.
Advanced Dynamics Corporation Ltd.
AECL-CANDU
AIR TRAC CORP.
AISCO Systems Inc.
Andec Manufacturing Ltd.
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Automation Specialties
Ball Service Group Inc.
Beck Technologies Ltd.
Beta-Tech Inc.
Brandt Manufacturing Inc.
Brattan Tool Industries Ltd.
Browdyne Ltd.
Byronix Computer Controls Inc.
Cassco Machines
Centerline Windsor Ltd.
Charlottetown Metal Products
Civic Tool & Die Works Ltd.
Coates Industrial Automation Ltd.
Compustep Products Corp.
Computerized Cutters Ltd.
Control Microsystems Inc.
Coreco Inc.
Corman Technologies Inc.
CRS Plus Inc.
Dilemaster Tool Inc.
Diffracto Ltd.
Doucet Machineries Inc.
Dynapro Systems Inc.
Eagle Precision Technologies Inc.
Engel Canada Inc.
Epic Data Inc.

RSI RESEARCH LTD.
Scale-Tron Inc.
Sensor Adaptive Machines Inc.
Servo-Robot Inc.
Sherrex Systems Ltd.
Softac Systems Ltd.
STROMAG (Niagara) Ltd.
Techno Scientific Inc.
Techware Systems Corporation
UTDC Inc.
Vadeko International Inc.
Vallant Machine & Tool Inc.
Ventax Robot Inc.
VlisionSmart Inc.
Well Products Ltd.
Western Industrial Programming
Zakron Industries Inc.
Zepf Technologies Inc.

A 15x15 grid with black dots placed in various cells. The dots are located at the following (row, column) coordinates (starting from 0 at the top-left):

- (0, 2), (0, 5), (0, 7), (0, 12), (0, 13)
- (1, 0), (1, 1), (1, 9), (1, 11), (1, 12), (1, 13)
- (2, 11)
- (3, 3), (3, 5), (3, 9), (3, 12), (3, 13)
- (4, 9), (4, 11)
- (5, 2), (5, 12), (5, 13), (5, 14)
- (6, 1), (6, 11)
- (7, 4), (7, 9), (7, 12), (7, 14)
- (8, 3), (8, 9), (8, 11), (8, 12)
- (9, 1), (9, 4), (9, 11), (9, 14)
- (10, 3), (10, 9), (10, 11), (10, 12)
- (11, 1), (11, 4), (11, 11), (11, 14)
- (12, 0), (12, 2), (12, 4), (12, 9), (12, 11), (12, 12), (12, 13), (12, 14)
- (13, 0), (13, 2), (13, 9), (13, 11), (13, 12), (13, 13)
- (14, 0), (14, 9), (14, 11), (14, 12), (14, 13)

A. Comeau & Associates Ltd.

4718 - 90th A Avenue
EDMONTON, Alta.
T6B 2P9
Tel.: (403) 465-9961
Fax: (403) 465-4990

CONTACT:
N.M. McNeil
Director
Marketing

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	80	20
Automated Storage and Retrieval Systems	100	0

Market Served:

- Electrical and Electronic Products

A. Comeau & Associates Ltd. supplies a complete line of electronic control products for the oil and gas industries. Examples include controllers for submersible pumps, controllers for beam pumps, supervisory control and automation systems, lighting and surge protection equipment, as well as industrial control software. The control products assist end users by automating their industrial facilities. All the items manufactured by A. Comeau & Associates are hand-crafted and individually tested. The company is active in North America, Europe, Asia, the Middle East, Africa and Pacific Rim countries.

Advanced Dynamics Corporation Ltd.

1700 Marle-Victoria
Boulevard
SAINT-BRUNO, Que.
J3V 4P6
Tel.: (514) 653-7220
Fax: (514) 653-8460

CONTACT:
F.M. Groundwater
President

Products Sold:

	% Mfg In Canada	% Import
Programmable Controllers	100	
Automated Material Handling Systems	100	
Automated Storage and Retrieval Systems	100	
Automatic Identification Systems	100	
Automated Assembly Systems	100	
Automated Packaging Systems	100	
Automated Inspection Systems	100	
Sensing Systems for Manufacturing Applications	100	

Markets Served:

- Pulp and Paper
- Primary Metals
- Insulation

Advanced Dynamics Corporation Ltd. designs and builds custom-designed heavy-duty material handling systems, including controls. It also provides start-up and service support. Its unique packing and production equipment is provided to a wide variety of industries.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	0
Automatic Identification Systems	50	50
Automated Packaging Systems	50	50
Machine Vision Equipment	50	50
Automated Inspection Systems	50	50
Sensing Systems for Manufacturing Applications	50	50

AECL-CANDU provides innovative solutions to manufacturing problems requiring automated handling, identification, inspection or packaging.

Product Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	

Markets Served:

- Rubber and Plastic Products Including Auto Parts
- Steel Foundry
- Abrasives
- Food Processing

AIR TRAC CORP. is a supplier of mill-duty fresh air supply systems, both stationary and travelling, air quality control systems, exhaust and filtration systems, as well as pneumatic conveying systems.

AECL-CANDU

*Sheridan Park Research
Commission
2251 Speakman Drive
MISSISSAUGA, Ont.
L5K 1B2
Tel.: (416) 823-9040
Fax: (416) 823-6120*

CONTACT:
*Advanced Systems
Department*

**AIR TRAC
CORP.**

*430 Belgraden Avenue
STONE CREEK, Ont.
L8E 3H3
Tel.: (416) 664-5517
Fax: (416) 664-5519*

CONTACT:
*Marcel Van Doorslaer
President*

AISCO Systems Inc.

P.O. Box 655N
BURLINGTON, Ont.
L7R 3Y5
Tel.: (416) 335-0002
Fax: (416) 335-9643

CONTACT:
Will Berends
Marketing Manager

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	
Automated Assembly Systems	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

AISCO System Inc. specializes in the design and fabrication of computerized control systems, foundry machinery and vibratory conveyors for the primary aluminum industry, as well as for iron foundries, non-ferrous refiners and hard rock mines. AISCO also manufactures cranes to customer specifications.

Andec Manufacturing Ltd.

18 Canso Road
REXDALE, Ont.
M9W 4L8
Tel.: (416) 243-3456
Fax: (416) 243-1354

CONTACT:
Richard Dewalle
Manager

Products Sold:

	% Mfg In Canada	% Import
Industrial Robots	100	0
Automated Material Handling Systems	100	0
Machine Vision Equipment	100	0
Automated Inspection Systems	100	0
Sensing Systems for Manufacturing Applications	100	0
CAD/CAM/CAE Hardware	80	20
Advanced Tooling for Manufacturing Applications	80	20

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Andec Manufacturing Ltd. manufactures sensors and inspection systems to find defects in parts and materials. These systems use ultrasonic waves, eddy currents, X-rays, magnetic particles and liquid penetrants to detect cracks and voids and to measure porosity thickness and hardness.

Products Sold:

	% Mfg In Canada	% Import
Automatic Marking Equipment	80	20
Water Jet Cutting Equipment	80	20
Industrial Robots	0	100
Automated Material Handling Systems	100	0
Automatic Identification Systems	100	0
Automated Assembly Systems	100	0
Automated Packaging Systems	100	0
Machine Vision Equipment	80	20
Automated Inspection Systems	100	0

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Aerospace
- Defence
- Telecommunications
- Pharmaceuticals
- Food Processing

A.T.S. Inc. specializes in the manufacture of automated assembly systems for small parts and printed circuit board (PCB) assembly. Its services include feasibility studies with simultaneous engineering capabilities; flexible robotic and dedicated assembly systems for small electro-mechanical products; "board centre" through-hole PCB assembly systems; "micro centre" fine pitch surface-mount PCB component placement and hot bar soldering systems; leaded and leadless component tinning and forming systems; coil winding and bobbin finishing systems; relay assembly, test, gauge and calibration systems; robotic PCB tester load and unload systems; as well as standard modular automation and material handling building blocks. A.T.S. also provides high-speed packaging systems for food and pharmaceutical products.

A.T.S. Inc.

80 Alpine Road
KITCHENER, Ont.
N2E 1A1
Tel.: (519) 744-4400
Fax: (519) 744-7885

CONTACT:
Roger Awad
Manager
Sales and Marketing

**Automation
Devices
(Canada) Ltd.**

**Automation
Devices Inc.**

4700 Montrose Road
NIAGARA FALLS, Ont.
L2H 1K3
Tel.: (416) 354-3881
Fax: (416) 354-4072

CONTACT:
Bill Sledrecht
General Manager

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	95	5
Automated Assembly Systems	95	5
Automated Packaging Systems	95	5

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Pharmaceuticals

Automation Devices (Canada) Ltd. has conceptualized, designed, built and installed automated parts handling devices since 1968 for companies processing small parts in the automotive, packaging and general manufacturing industries. The firm's sales have nearly tripled during the past five years, with a significant portion of the increase coming from the packaging as well as from the automotive-related industries in both Canada and the United States.

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	60	40
Automatic/Advanced Machine Tools	50	50
Programmable Controllers	100	0
Automatic Welding Equipment	50	50
Automatic Marking Equipment	50	50
Water Jet Cutting Equipment	100	0
Industrial Robots	20	80
Automated Material Handling Systems	50	50
Automatic Identification Systems	80	20
Shop Floor PCs/Industrial Computer	20	80
Automated Assembly Systems	100	0
Machine Vision Equipment	50	50
Sensing Systems for Manufacturing Applications	60	40
CAD/CAM/CAE Hardware	50	50
Advanced Tooling for Manufacturing Applications	100	0

Markets Served:

- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Automation Specialties sells a broad range of automation products produced in Canada and elsewhere. It is a leader in designing manufacturing systems, together with associated equipment and parts, and specializes in feeders and water jet cutting systems. Its client base is varied.

Automation Specialties

970 Syscon Road
BURLINGTON, Ont.
L7L 5S2
Tel.: (416) 681-8575

CONTACT:
David Bunker
President

Ball Service Group Inc.

250 Woolwich Street South
BRESLAU, Ont.
N0B 1M0
Tel.: (519) 648-2076
Fax: (519) 648-2873

CONTACT:
Michael J. Ball
President

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	75	25
Automated Warehousing Systems	100	0
Advanced Tooling for Manufacturing Applications	60	40

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Food Processing

Ball Service Group Inc. custom-designs and fabricates material handling systems for a variety of industries. Depending upon customers' components and/or products, this could include quick die change equipment, engine flow racks, and first-in/first-out systems.

Beck Technologies Ltd.

1324 Wallace Street
REGINA, Sask.
S4N 3Z4
Tel.: (306) 975-1080
Fax: (306) 975-3993

CONTACT:
Tom Beck
President

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	100	
Automatic/Advanced Machine Tools	100	
Programmable Controllers	100	
Automated Material Handling Systems	100	
Shop Floor PCs/Industrial Computer	100	
Machine Vision Equipment	100	
Sensing Systems for Manufacturing Applications	100	
CAD/CAM/CAE Hardware	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Food Processing
- Aircraft

Beck Technologies Inc. has an advanced product line for machine shop and factory automation with control systems for milling, burning tables, laser cutters, plasma cutters, lathes and process controls. It also manufactures a three-dimensional optical coordinate measuring system.

Product Sold:

	% Mfg In Canada	% Import
Automated Assembly Systems	90	10

Market Served:

- Fabricated Metal Products Including Auto Parts

Beta-Tech Inc. designs and manufactures automated equipment, specialized assembly equipment and test equipment. It also offers technical consulting for automating assembly lines; product recommendations and design improvements for existing equipment; introduction of automation to existing equipment; and fabrication of fixtures and gauges.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	
Automated Assembly Systems	100	
Automated Inspection Systems	100	

Market Served:

- Fabricated Metal Products Including Auto Parts

A family-run company in business for 12 years, Brandt Manufacturing Inc. designs and supplies specialized automated equipment for major companies, primarily in the automotive industries.

Beta-Tech Inc.

73 Patterson Road
BARRIE, Ont.
L4N 3V9
Tel.: (705) 722-0800
Fax: (705) 722-3412

CONTACT:
Kelth Cook
President

**Brandt
Manufacturing
Inc.**

1040 Hargrave Road
LONDON, Ont.
N6E 1P5
Tel.: (519) 681-6083
Fax: (519) 681-6097

CONTACT:
Gunnar Brandt
President

Brattan Tool Industries Ltd.

965 Wilson Avenue
KITCHENER, Ont.
N2C 1J1
Tel.: (519) 893-6880
Fax: (519) 893-4824

CONTACT:
John Witt, Sr.
Vice-President

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	100	
Automated Material Handling Systems	100	

Market Served:

- Fabricated Metal Products Including Auto Parts

Brattan Tool Industries Ltd. designs and manufactures tools, dies, jigs, fixtures and prototype parts. It designs and manufactures programmable roll feeds, programmable air feeds, stock straighteners, combination cradle and straighteners, reels, and complete automatic press-feeding systems. Its clients are in Ontario, Quebec and the United States.

Browdyne Ltd.

3195 East Bayshore Road
R.R. 1
OWEN SOUND, Ont.
Tel.: (519) 371-1000
Fax: (519) 371-1311

CONTACT:
Ron Jackson
Administrative
Co-ordinator

Products Sold:

	% Mfg In Canada	% Import
Industrial Robots	100	
Automated Material Handling Systems	100	
Automated Assembly Systems	100	
Sensing Systems for Manufacturing Applications	100	

Markets Served:

- Printing
- Clothing and Textiles
- Rubber and Plastic Products Including Auto Parts
- Health Care

Browdyne Ltd. specializes in computer-assisted robotic indexers with related material handling modules. Currently its sales are restricted to Canada and the United States; however, it plans to enter the European and Asian markets. Capabilities include metal and electrical fabrication, component interface modules, and central processing unit programming.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	
Automated Warehousing Systems	100	
Automated Assembly Systems	100	
Sensing Systems for Manufacturing Applications	100	

Markets Served:

- Wood Industry
- Feed and Flour Mills

Byronix Computer Controls Inc. manufactures computer control systems for sawmills and for feed and flour mills, as well as drying controllers for wood products. It also supplies machine control software and industrial control computer boards to its customers.

**Byronix
Computer
Controls Inc.**

849 Fairweather Place
VERNON, B.C.
V1T 8T8
Tel.: (604) 549-3085
Fax: (604) 549-1495

CONTACT:
Byron Lee
President

Products Sold:

	% Mfg In Canada	% Import
Automatic Marking Equipment	90	10
Automatic Identification Systems	90	10
Automated Assembly Systems	100	0
Advanced Tooling for Manufacturing Applications	100	0

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment

Cassco Machines manufactures a full range of marking, decorating and printing equipment, including hot stamping, pad printing, metal indenting, electrochemical etching and dry offset printing. Cassco also carries a full range of supplies and has manufacturing capabilities for a wide assortment of pads, rollers and dies.

**Cassco
Machines****Canada
Stamp &
Stencil
Company Ltd.**

4 William Morgan Drive
TORONTO, Ont.
M4H 1E6
Tel.: (416) 425-4140
Fax: (416) 425-6196

CONTACT:
Ken Thuro
Vice-President

Centerline Windsor Ltd.

415 Morton Drive
P.O. Box 5160
WINDSOR, Ont.
N9J 2L3
Tel.: (519) 734-8464
Fax: (519) 734-7408

CONTACT:
Preston Harris
Sales Manager

Products Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	100	
Automated Material Handling Systems	100	
Automated Assembly Systems	100	
Advanced Tooling for Manufacturing Applications	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Centerline Windsor Ltd. supplies special manual and automated spot and seam-welding equipment; metal forming, assembly and testing equipment; and special automated arc-welding systems. Also provided are modular machine components, including indexing tables, slide and pivot assemblies, and Voltza Integral transformer weld gun packages for the automotive, transportation, appliance and metal-working industries.

Charlottetown Metal Products

P.O. Box 323
CHARLOTTETOWN, P.E.I.
C1A 7K7
Tel.: (902) 566-3044
Fax: (902) 566-1856

CONTACT:
Wendal MacDonald
General Manager

Product Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	

Market Served:

- Food Processing

Charlottetown Metal Products manufactures equipment for the food processing industry, including on-line handling and unloading systems, pneumatic unloading systems and grading, selection, storage, cutting, trimming and packing systems. For the vegetable processor, it supplies shakers, blanchers, fryers and conveyors. Liquid handling is supplied with tanks for brewery, distillery, winery or chemical handling and storage.

Product Sold:

	% Mfg In Canada	% Import
Advanced Tooling for Manufacturing Applications	90+	

Market Served:

- Manufacturers of soft and hard contact lenses

Civic Tool & Die Works Ltd. manufactures radius-cutting lathes; concave and convex, size and facing lathes; one- to six-spindle polishing machines, blocking machines and bevelling equipment; and related tooling of all types. It also conducts development work, as well as research and development. Markets are in the United States, Mexico, Central and South America and Europe.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	90	10
Automated Assembly Systems	80	20

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Pharmaceuticals
- Food Processing
- Health Care
- Personal Hygiene
- Cosmetics

Coates Industrial Automation Ltd. has clients based in the food processing, pharmaceutical, cosmetics, automation and packaging industries. It automates production assembly lines and, over the past year, has broadened its marketplace to include France, Venezuela, the United Kingdom, Mexico, Saudi Arabia, Indonesia and the United States.

**Civic Tool &
Die Works Ltd.**

Unit 113
20120 - 64th Avenue
LANGLEY, B.C.
V3A 4P7
Tel.: (604) 533-0723
Fax: (604) 533-2619

CONTACT:
Brian Brocklesby
President

**Coates
Industrial
Automation
Ltd.**

701 Trinity Road
RR, 2
ANCASTER, Ont.
L9G 3L1
Tel.: (416) 648-4447
Fax: (416) 648-8911

CONTACT:
Susan Coates
General Manager

Compustep Products Corp.

Unit 11
774 Rye Street
PETERBOROUGH, Ont.
K9J 6W9
Tel.: (705) 745-2961
Fax: (705) 745-8130

CONTACT:
Donald C. Wright
Vice-President
Sales and Marketing

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	75	25
Automatic/Advanced Machine Tools	75	25

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

Compustep Products Corp. manufactures a rugged, wide-area, easy-to-use computer numerical controlled (CNC) drilling-tapping machine (Quickdrill) that can be used independently or with computer-aided design (CAD) or host-computer software. Heat exchange (tube sheets) and structural steel plates offer large potential benefits to target industries.

Computerized Cutters Ltd.

1234 Reid Street
RICHMOND HILL, Ont.
L4B 1C1
Tel.: (416) 764-1500
Fax: (416) 229-4214

CONTACT:
G.D. Tullis
General Manager

Product Sold:

	% Mfg In Canada	% Import
Programmable Controllers	100	

Market Served:

- Printing

Computerized Cutters Ltd. offers programmable computer controls for all makes and sizes of paper cutters to reduce large printed or unprinted sheets to smaller finished sizes. Sold to printers, binderies, paper mills, converters of roll stock to flat sheets, paper sales houses, etc., this equipment offers advantages in greater production with a high degree of accuracy and is marketed through dealers and to manufacturers of paper cutters. Distribution is worldwide.

Products Sold:

	% Mfg In Canada	% Import
Shop Floor PCs/Industrial Computer	100	
Sensing Systems for Manufacturing Applications	100	

Markets Served:

- Food Processing
- Mining
- Oil and Gas
- Water and Waste Water Treatment/Distribution
- Environmental Monitoring

Control Microsystems Inc. manufactures hardware and software products (trademarks: SAFE 8000, TeleSAFE, TeleSAFE VS/2, MiniSAFE, MicroSAFE and the TP/1 Programmer) for use in industry and by public utilities. Customers throughout the world are using Control Microsystems equipment in process control, telemetry, supervisory control and data acquisition (SCADA) applications, and for environmental monitoring. The company also manufactures remote terminal units and remote control units.

Products Sold:

	% Mfg in Canada	% Import
Industrial Robots	100	0
Automated Material Handling Systems	100	0
Automatic Identification Systems	100	0
Machine Vision Equipment	80	20
Automated Inspection Systems	100	0
Sensing Systems for Manufacturing Applications	100	0

Markets Served:

- Fabricated Metal Products including Auto Parts
- Educational
- Medical
- Security

Coreco Inc. is a designer and manufacturer of board-level frame grabbers and digitizers that are compatible with the IBM personal computer communications architecture; and they take any video input. Applications are all vision-related and include machine vision systems, robotics, factory automation, scientific, medical and security uses, as well as desk-top publishing.

Control Microsystems Inc.

2049 Cohen
SAINT-LAURENT, Que.
H4R 9Z7
Tel.: (514) 745-1270
Fax: (514) 745-1610

CONTACT:
James Holtom
President

Division Address:

Suite 6
4620 Manilla Road
Southeast
CALGARY, Alta.
T2G 4B7
Tel.: (403) 243-8955
Fax: (403) 287-0550

Coreco Inc.

Suite 113
6969 Trans-Canada
Highway
SAINT-LAURENT, Que.
H4T 1V8
Tel.: (514) 333-1301
Fax: (514) 333-1388

CONTACT:
Faraj M. Nakhleh
President

Corman Technologies Inc.

75 Bathurst Drive
WATERLOO, Ont.
N2V 1N2
Tel.: (519) 884-4430

CONTACT:
General Manager

Products Sold:

Programmable Controllers
Shop Floor PCs/Industrial Computer

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment

Corman Technologies Inc. custom-designs and manufactures industrial electronic controls, process controls and automatic test systems.

CRS Plus Inc.

830 Harrington Court
P.O. Box 183, Station A
BURLINGTON, Ont.
L7N 3N4
Tel.: (416) 639-0086
Fax: (416) 639-4248

CONTACT:
Raymond Simmons
General Manager

Product Sold:

Industrial Robots

% Mfg In Canada	% Import
--------------------	----------

100	
-----	--

Markets Served:

- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts

CRS Plus Inc. manufactures industrial robots for light assembly, machine loading, dispensing, spraying and sample preparation as well as for medical and educational use.

Products Sold:

	% Mfg In Canada	% Import
Automated Packaging Systems	80	20
Advanced Tooling for Manufacturing Applications	100	0

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment
- Aerospace
- Defence
- Nuclear

Diemaster Tool Inc. manufactures precision components for the aerospace, defence, electronic and general industrial markets. It designs and builds custom-designed tools, dies, jigs and fixtures as well as a variety of special-purpose machines. Diemaster also provides metal-stamping services and assembly work. A major product line is high-speed label-cutting presses for the packaging industry.

Diemaster Tool Inc.

160 Watline Avenue East
MISSISSAUGA, Ont.
L4Z 1R1
Tel.: (416) 890-1144
Fax: (416) 890-1950

CONTACT:

Tary Lozowski
Sales Manager

Products Sold:

	% Mfg In Canada	% Import
Automated Inspection Systems	95	
Sensing Systems for Manufacturing Applications	90	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

Established in 1973, Diffracto Ltd. sells sheet-metal gauging and inspection systems worldwide. The majority of its customers are in the automotive manufacturing sector.

Diffracto Ltd.

2835 Kew Drive
WINDSOR, Ont.
N8T 3B7
Tel.: (519) 945-6373
Fax: (519) 945-1467

CONTACT:

Omer Hageniers

Doucet Machineries Inc.

340 - 6th Street
DAVELUYVILLE, Que.
G0Z 1C0
Tel.: (819) 367-2633
Fax: (819) 367-2100

CONTACT:
Elleude Pelletier
General Manager

Products Sold:

	% Mfg In Canada	% Import
Automatic/Advanced Machine Tools	100	
Automated Material Handling Systems	100	

Market Served:

- Wooden Furniture and Other Millwork

Doucet Machineries Inc. manufactures mainly woodworking machines used in furniture plants. These machines range from clamp carriers and drilling equipment to material handling systems, and they are sold throughout North America.

Dynapro Systems Inc.

800 Carleton Court
Annacis Island
NEW WESTMINSTER, B.C.
V3M 6L3
Tel.: (604) 521-3962
Fax: (604) 521-4629

CONTACT:
Tom Dodd
Vice-President
Marketing

Product Sold:

	% Mfg In Canada	% Import
Shop Floor PCs/Industrial Computer	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Food Processing
- Materials Handling

Dynapro Systems Inc. designs and manufactures computer hardware and software for the industrial control market. Products include colour graphics display software, shop-floor work stations and communications devices such as Advisor PC, PanelView, and ControlView. Its products complement Allen-Bradley programmable controllers and related factory automation products. Sales and distribution are handled throughout the world by Allen-Bradley.

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	90	10
Automatic/Advanced Machine Tools	95	5
Automated Material Handling Systems	90	10
Automated Assembly Systems	90	10
Advanced Tooling for Manufacturing Applications	95	5

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment
- Hydraulic component manufacturers
- Heating/air conditioning manufacturers

A significant part of the business of Eagle Precision Technologies Inc. is manufacturing machinery for tube bending (computer numerical controlled), tube-end forming and tube cutting. More than 2 000 Eagle tube-end-forming machines are in use in more than 30 countries. In addition to tube forming, Eagle produces a large range of motor vehicle muffler manufacturing machines. Using standard designs of proven efficiency and reliability, these machines are available for low-, medium- or high-production requirements. Eagle's other related business is designing and building special-purpose machinery and automated muffler manufacturing lines.

**Eagle
Precision
Technologies
Inc.**

565 West Street
BRANTFORD, Ont.
N3T 5R7
Tel.: (519) 756-5223
Fax: (519) 756-9062

CONTACT:
Vince Harold
Vice-President and
General Manager

Division Address:

Eagle UK
Blakenhead
MERSEYSIDE, United
Kingdom

Engel Canada Inc.

545 Elmira Road
GUELPH, Ont.
N1K 1C2
Tel.: (519) 836-0220
Fax: (519) 836-3714

CONTACT:
Kurt H. Fenske
Vice-President
Sales and Marketing

Products Sold:

Injection Moulding Machines
Automated Material Handling Systems

Markets Served:

- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Medical Consumer Goods
- Toys
- Optical and Video Products Manufacturers
- Agriculture
- Forestry
- Petroleum
- Aerospace
- General Consumer Goods

Engel Canada Inc. manufactures machines and related automated equipment for the injection moulding of thermoplastic, thermoset, liquid injection moulding (LIM), bulk moulding compound (BMC) and other plastic materials. The machines produced by Engel Canada Inc. have a clamping pressure range of 30 to 450 U.S. tons (27.25 to 408 tonnes). Custom-designed injection moulding equipment is also available. The company provides application-specific equipment for the target industries listed above.

Product Sold:

	% Mfg In Canada	% Import
Automatic Identification Systems	75	25

Markets Served:

- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment
- Defence
- Government
- Aerospace

Epic Data Inc. designs, manufactures and integrates high-performance data collection and security management systems comprised of fixed and portable terminals, controllers and software that collect and process data. Epic's primary markets are North America, Western Europe, Australia and the Far East.

Product Sold:

	% Mfg In Canada	% Import
CAD/CAM/CAE Hardware	85	15

Markets Served:

- Printing
- Electrical and Electronic Products

Escher-Grad Inc. produces high-resolution, high-quality laser film imaging products. Its products accept data from computer-aided design programs and the output of desk-top publishing software, and create images on film at 2 000 dots per inch with 0.0005 accuracy. The imaged films are then used as masters to manufacture printed circuit boards or for printing. Products are sold to electronic equipment designers and manufacturers and to the graphic arts industry.

**Epic Data
Inc.****Ebco
Industries**

7280 River Road
RICHMOND, B.C.
V6X 1X5
Tel.: (604) 273-9146
Fax: (604) 270-3412

CONTACT:
Neil McDonnell
Vice-President
Marketing

**Escher-Grad
Inc.****Eicon
Technology
Corporation**

2312 - 32nd Avenue
MONTREAL (Lachine),
Que.
H8T 3H4
Tel.: (514) 636-3195
Fax: (514) 636-5664

CONTACT:
Najeeb Khalid
President

Ferro Products Co. Ltd.

9405 Pascal Gagnon
MONTREAL, Que.
H1P 1Z4
Tel.: (514) 321-4610
Fax: (514) 329-1239

CONTACT:
Rudy Pnitsch
Vice-President

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	100	0
Automatic/Advanced Machine Tools	100	0
Programmable Controllers	100	0
Water Jet Cutting Equipment	85	15
Shop Floor PCs/Industrial Computers	85	15
Advanced Tooling for Manufacturing Applications	85	15

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment
- Office Furniture
- Kitchen Equipment Manufacturers

Ferro Products Co. Ltd. manufactures press brakes, plate shears, and hydraulic presses with conventional and computer numerical controllers (CNCs), along with accessories. Its equipment is used by a wide variety of metal-forming and fabricating industries.

F.H. Welding Machines Ltd.

7225 Tranmere Drive
MISSISSAUGA, Ont.
L5S 1N4
Tel.: (416) 672-2766
Fax: (416) 672-3955

CONTACT:
J. Hartshorn
President

Product Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment

F.H. Welding Machines Ltd. is a manufacturer of robotic arc-welding and resistance-welding cells. It has a 3 700-m² plant, with complete engineering and machine shop facilities on site.

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	100	
Automatic/Advanced Machine Tools	100	
Automated Material Handling Systems	100	
Automated Assembly Systems	100	
Automated Inspection Systems	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Building Products

FLV Automation Systems Inc. manufactures specialized equipment for parts assembly and material handling. It is also active in product design and development, system design and development, design and manufacturing of metal-cutting machines and computer numerical controlled (CNC) lathes.

Product Sold:

	% Mfg In Canada	% Import
Programmable Controllers	100	

Markets Served:

- Electrical and Electronic Products
- Electro-Optic Products

Incorporated in 1959, Gentec Inc. manufactures programmable controllers and customized equipment for private industry and for Hydro-Québec. The company also manufactures electro-optic products, joulemeters and wattmeters. Gentec participates in Eurolaser 226, a European Eureka project.

**FLV
Automation
Systems Inc.**

1581 Matheson Boulevard
MISSISSAUGA, Ont.
L4W 1H9
Tel.: (416) 238-9290
Fax: (416) 238-5075

CONTACT:
Vinode Ramnallth
Vice-President

Gentec Inc.

2625 Dalton Street
SAINTÉ-FOY, Que.
G1P 3S9
Tel.: (418) 651-8000
Fax: (418) 651-6695

CONTACT:
Jean-Luc Glroux, Eng.
President

George Kelk Ltd.

48 Lesmill Road
DON MILLS, Ont.
M3B 2T5
Tel.: (416) 445-5850
Fax: (416) 445-5972

CONTACT:
R. Ricclatt
Sales Manager

Products Sold:

	% Mfg In Canada	% Import
Automated Inspection Systems	100	
Sensing Systems for Manufacturing Applications	100	

Market Served:

- Primary Metals

George Kelk Ltd. supplies instrumentation for measurement and control in metal-rolling mills. Applications for its products include force measurement, width of hot or cold strip, dimensional measurement of steel plates, gauging of X-ray thickness, radiation detection and voltage regulation.

Global Laser Systems Inc.

9650 - 20th Avenue
EDMONTON, Alta.
T6N 1G1
Tel.: (403) 448-0277
Fax: (403) 428-5376

CONTACT:
Vern Palombi
President and CEO

Products Sold:

	% Mfg In Canada	% Import
Programmable Controllers	80	20
Shop Floor PCs/Industrial Computers	30	70

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Collision repair
- Aerospace
- Structural verification
- Surveying

Global Laser Systems Inc. produces two-dimensional and three-dimensional measuring systems using laser, computer electronic and photoelectric technology. The system is portable, remote, fast and easy. It can be custom-built to specification for different applications, and provides accuracy and resolution as required of up to one-tenth of a millimetre.

Product Sold:

	% Mfg In Canada	% Import
Automated Inspection Systems	100	

Market Served:

- Fabricated Metal Products Including Auto Parts

Gray Instruments Inc. designs and manufactures customized microcontroller-based instrumentation for a broad range of industries. Its services include non-destructive testing instrumentation, lighting controls for dimming lights in theatres and industrial settings, and manufacture of ultrasonic thickness gauges, light-dimming protocol converters and relay drivers.

**Gray
Instruments
Inc.**

Unit 5
4452 - 64th Avenue
Southeast
CALGARY, Alta.
T2C 2B3
Tel.: (403) 236-0388

CONTACT:
Daniel Gray
President

Products Sold:

	% Mfg In Canada	% Import
Automated Assembly Systems	100	
Advanced Tooling for Manufacturing Applications	100	

Markets Served:

- Electrical and Electronic Products
- Transportation Equipment

Gryphon Automation Inc. designs and manufactures special-purpose machine tools, assembly systems, and custom-designed tooling systems. Contract design and/or project management is available.

**Gryphon
Automation
Inc.**

Unit 11
55 Torbay Road
MARKHAM, Ont.
L3R 1G7
Tel.: (416) 475-2244
Fax: (416) 475-7697

CONTACT:
U.H. Klee
President

Heathrow Industrial Technologies Inc.

1524 Matthew Brady
Boulevard
WINDSOR, Ont.
N8S 3K6
Tel.: (519) 944-0707
Fax: (519) 944-5207

CONTACT:
George Thornton
President and CEO

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	95	5
Automated Warehousing Systems	95	5
Automated Storage and Retrieval Systems	95	5

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Food/Beverage

Heathrow Industrial Technologies Inc. offers equipment related to material handling and warehousing, including "Stripper" rapid load/unload systems, which can load and unload standard highway trailers with unitized loads in four minutes. This eliminates forklift-truck handling, reduces areas required for opening dock doors and moving machinery by 75 percent, and transforms loading/unloading into a fully automated operation capable of interfacing with conveyers powered by automated guided vehicles (AGVs), automated monorails or automated storage and retrieval systems (AS/RSs), etc.

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	100	
Automatic/Advanced Machine Tools	100	

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Fabricated Metal Products Including Auto Parts
- Transportation Equipment
- Nuclear
- Die/mould Industry
- Aerospace

Henri Liné Machine Tools Ltd. produces three computer numerical controlled (CNC) vertical milling machine product lines, gantry, bridge type and open-sided. The company also manufactures aerospace and composite material profilers as well as two-rotary-axis universal milling heads. Its engineering group specializes in customized solutions for specific customer problems, using the latest state-of-the-art technology. Its machines are used in the following industries: aircraft and aerospace, automotive, railway, ship building, defence, energy (nuclear, thermal and hydroelectric), machine tool, mould and die, printing, off-road equipment and power transmission. Retrofitting, rebuilding and remanufacturing capabilities for conventional and CNC machines are also among the company's range of services.

**Henri Liné
Machine
Tools Ltd.**

1000 André Liné Street
GRANBY, Que.
J2J 1E2
Tel.: (514) 372-6480
Fax: (514) 372-6557

CONTACT:
Brian Kilpatrick
Marketing Manager

Honeywell Limited

155 Gordon Baker Road
NORTH YORK, Ont.
M2H 3N7
Tel.: (416) 499-6111
Fax: (416) 490-3090

Products Sold:

	% Mfg In Canada	% Import
Programmable Controllers	80	20
Sensing Systems for Manufacturing Applications	80	20

Markets Served:

- Electrical and Electronic Products
- Process Industries

Honeywell Limited is Canada's leading control company, and is the largest supplier in Canada of precision sensors and person/machine interfaces for manufacturers. It manufactures and markets advanced technology products, systems and service solutions for homes and commercial buildings, as well as for the manufacturing and aerospace industries.

Husky Injection Molding Systems Ltd.

530 Queen Street South
P.O. Box 1000
BOLTON, Ont.
L7E 5S5
Tel.: (416) 857-3240
Fax: (416) 857-6074

Products Sold:

	% Mfg In Canada	% Import
Injection Moulding Machines	100	
Industrial Robots	100	
Automated Assembly Systems	100	
Advanced Tooling for Manufacturing Applications	100	

Market Served:

- Rubber and Plastic Products Including Auto Parts

Husky Injection Molding Systems Ltd. is a single-source supplier of injection moulding machines (150 to 3 650 tonnes), hot runner systems and components, moulds, robotics and other product handling equipment for the injection moulding industry. Typical markets include the automotive and packaging industries, medical uses, as well as manufacturers of housewares and polyethylene terephthalate (PET) preforms and bottles.

CONTACT:

Greg Hall
Marketing Engineer

Products Sold:

	% Mfg In Canada	% Import
Machine Vision Equipment	100	
Automated Inspection Systems	100	

Markets Served:

- Wooden Furniture and Other Millwork
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Hymarc Ltd. is a manufacturer of machine vision systems, including the HYSCAN three-dimensional laser digitizer. It can design complete turnkey systems for automated inspection, which may include robotics, translation stages, electronic and mechanical design, and customized software.

Hymarc Ltd.

38 Aurlga Drive
OTTAWA, Ont.
K2E 8A5
Tel.: (613) 727-1584
Fax: (613) 727-0441

CONTACT:
F.R. Livingstone
President

Products Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	85	15
Industrial Robots	30	70
Machine Vision Equipment	30	70

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

Ireo Automation Inc. manufactures robotic welding systems, including welding positioners, manipulators, turning rolls, beam weldment positioners, robotic positioners, welding chucks, head and tailstocks, and automatic welding equipment.

**Ireo
Automation
Inc.**

10 Plant Farm Boulevard
P.O. Box 1270
BRANTFORD, Ont.
N3T 5T3
Tel.: (519) 759-5730
Fax: (519) 759-5733

CONTACT:
Dan Moore
General Manager

John T. Hepburn Ltd.

7450 Torbram Road
MISSISSAUGA, Ont.
L4T 1G9
Tel.: (416) 671-2200
Fax: (416) 671-0499

CONTACT:
Ray Pillon
Vice-President
Sales and Marketing

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	80	20
Automated Storage and Retrieval Systems	80	20

Market Served:

- Other

John T. Hepburn Ltd. designs and manufactures machinery and equipment, including cranes, computer numerical controlled (CNC) hydraulic presses, mine hoists, marine equipment and steel mill equipment.

Lambda Technology Ltd.

21 Cadillac Avenue
VICTORIA, B.C.
V8Z 1T3
Tel.: (604) 380-1444
Fax: (604) 380-6884

CONTACT:
Roger Soar
Project Manager

Products Sold:

	% Mfg In Canada	% Import
Automated Inspection Systems	75	25
Sensing Systems for Manufacturing Applications	75	5

Markets Served:

- Marine
- Utilities

Lambda Technology Ltd. produces ultrasonic boiler inspection systems used to inspect generator and superheater boiler tubes for wastage. It utilizes ultrasonic non-destructive testing, computer-driven probes and displays. Its system is compatible with the IBM-PC/AT.

Products Sold:

	% Mfg In Canada	% Import
Shop Floor PCs/Industrial Computer	70	
Automated Inspection Systems	70	
Advanced Tooling for Manufacturing Applications	90	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products

Les Systèmes Montréal Robotique Ltée builds machines for automated assembly applications with or without the use of articulated robots.

Products Sold:

	% Mfg in Canada	% Import
Machine Vision Equipment	70	30
Automated Inspection Systems	100	0
Sensing Systems for Manufacturing Applications	100	0

Markets Served:

- Rubber and Plastic Products Including Auto Parts
- Glass
- Pulp and Paper
- Pharmaceuticals

Mayan Automation Inc. manufactures optical measurement systems for tire manufacturing, glass manufacturing inspection systems and density measurement systems for pulp and paper manufacturers. It also produces machine vision systems for the pharmaceutical industry.

**Les Systèmes
Montréal
Robotique Ltée**

823-A McCaffrey Street
SAINT-LAURENT, Que.
H4T 1N3
Tel.: (514) 344-4480
Fax: (514) 342-9399

CONTACT:
Martin Latour
Engineer

**Mayan
Automation
Inc.**

2364 - 46th Avenue
LACHINE, Que.
H8T 2P3
Tel.: (514) 636-5418
Fax: (514) 636-3749

CONTACT:
André Sokalski
Technical Director

Microtrol

7576 Côte-de-Liesse Road
SAINT-LAURENT, Que.
H4T 1E7
Tel.: (514) 342-1501
Fax: (514) 342-9915

CONTACT:
André Beaudoin
President

Products Sold:

	% Mfg In Canada	% Import
Automatic/Advanced Machine Tools	75	25
Programmable Controllers	75	25
Water Jet Cutting Equipment	100	0
Industrial Robots	50	50
Automated Material Handling Systems	100	0
Shop Floor PCs/Industrial Computer	50	50
Machine Vision Equipment	50	50
Sensing Systems for Manufacturing Applications	75	25

Markets Served:

- Wooden Furniture and Other Millwork
- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Transportation Equipment

Microtrol specializes in the design and installation of turnkey industrial control systems. From a simple control by programmable logic controller to a multiple-axis motion system, its products allow industry to modernize at competitive cost.

Mimik Industries Inc.

Units 10 to 13
131 Sheldon Drive
P.O. Box 670
CAMBRIDGE, Ont.
N1R 5W6
Tel.: (519) 621-8010
Fax: (519) 621-8018

CONTACT:
Drew Magor
Sales Manager

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	80	20
Industrial Robots	90	10
Automated Material Handling Systems	80	20
Automated Inspection Systems	80	20
Sensing Systems for Manufacturing Applications	90	10
Advanced Tooling for Manufacturing Applications	90	10

Markets Served:

- Wooden Furniture and Other Millwork
- Fabricated Metal Products Including Auto Parts

Mimik Industries Inc. provides services related to the upgrading of production machinery. Mimik hydraulic tracers provide tool path control for most machine tools. Sold worldwide, they are its traditional product line. Datadrive computer numerical controlled (CNC) conversion systems, sold primarily in North America, are retrofitted to manual machine tools, thus upgrading them to full CNC capability. More recently, systems controls incorporating hydraulics, pneumatics and electronics have been successfully designed for a variety of applications that have been sold in southern Ontario.

Product Sold:

	% Mfg in Canada	% Import
Advanced Tooling for Manufacturing Applications	100	

Markets Served:

- Printing
- Fabricated Metal Products Including Auto Parts

Montreal Precision Crafting Company Ltd., established in 1969, is 100 percent Canadian-owned and manufactures aircraft tooling and custom-built machinery. It supplies drawing facilities, and assists in the conception and development of any type of automation.

Products Sold:

	% Mfg in Canada	% Import
Automatic Welding Equipment	100	
Machine Vision Equipment	100	
Automated Inspection Systems	100	
Sensing Systems for Manufacturing Applications	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment
- Aerospace

MVS Modular Vision Systems Inc. produces LaserVision, an advanced laser-based adaptive vision system for inspection or seam tracking (arc welding or gluing). LaserVision can be used to automate or robotize any inspection, welding or gluing operation for gains in productivity and/or quality. The system features high speed and high accuracy with up to three-axis control.

**Montreal
Precision
Crafting
Company
Ltd.**

795 LaJoie Street
DORVAL, Que.
H9P 1G7
Tel.: (514) 636-0825
Fax: (514) 631-0996

**MVS Modular
Vision
Systems Inc.**

3195 De Miniac Street
MONTREAL, Que.
H4S 1S9
Tel.: (514) 333-0140
Fax: (514) 333-8636

CONTACT:
Peter J. Walker
Vice-President
and General Manager

**NAFO
Welding
Technology
Ltd.**

3502 - 1st Street
SAINT-HUBERT, Que.
J3Y 5K2
Tel.: (514) 443-5335
Fax: (514) 443-4880

CONTACT:
François Nadeau
President

Division Address:

NAFO Western Canada
Suite 1500
250 - 6th Avenue
Southwest
CALGARY, Alta.
T2P 3H7

CONTACT:
Doug Arkison

Product Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	80	20

Market Served:

- Fabricated Metal Products Including Auto Parts

NAFO Welding Technology Ltd. produces the ROTOWELD 2000, an entirely new concept in adaptive gas metal arc welding. This totally automated pipe-on-positioner welding system performs full-penetration root and filler passes on an open-butt joint. The machine uses computer vision and adaptive feedback on welding parameters to control the penetration during the root pass and to ensure a defect-free weld. For industrial pipe prefabrication, small pressure vessel manufacturing or any other similar application, ROTOWELD 2000 produces high-quality welds four to five times faster than manual shielded metal arc welding.

Products Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	75	25
Automatic Marking Equipment	100	0
Industrial Robots	50	50
Automated Material Handling Systems	80	20
Automated Assembly Systems	100	0
Automated Packaging Systems	100	0
Machine Vision Equipment	80	20
Automated Inspection Systems	80	20
Sensing Systems for Manufacturing Applications	80	20

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Defence
- Pharmaceuticals
- Utilities
- Nuclear

Numet Engineering Ltd. is a systems consultant and integrator providing services pertaining to surveys of potential production improvements, manufacturing operations analysis, cycle-time analysis and payback analysis. As a systems integrator, it designs, builds and installs automation systems, assembly cells, walking beam assembly systems, automated tube-handling and processing systems, automated-press parts handling systems, conveyor assembly systems, automated marking and packaging systems, automated welding systems, machine vision systems and robotic assembly systems.

**Numet
Engineering
Ltd.**

678 Neal Drive
P.O. Box 1776
PETERBOROUGH, Ont.
K9J 7X6
Tel.: (705) 743-2708
Fax: (705) 743-3216

CONTACT:
C. Adamson
President

Olofstrom Automation Ltd.

5 Brydon Drive
REXDALE, Ont.

M9W 4M7

Tel.: (416) 743-7100

Fax: (416) 743-7693

Products Sold:

Automatic Welding Equipment
Automated Assembly Systems
Advanced Tooling for Manufacturing Applications

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

Olofstrom Automation Ltd. is a manufacturer of custom-designed tooling, machines and equipment for automatic and semi-automatic welding systems. It also manufactures assembly systems, and offers services in application engineering and tooling for robotics.

Orchid Automation Group Inc.

240 Shearson Crescent
CAMBRIDGE, Ont.

N1T 1T6

Tel.: (519) 622-1014

Fax: (519) 622-1031

CONTACT:

Grant Bibby
President

Products Sold:

	% Mfg In Canada	% Import
Industrial Robots	100	
Automated Material Handling Systems	100	
Automated Guided Vehicles	100	
Automated Warehousing Systems	100	
Automated Storage and Retrieval Systems	100	
Automated Assembly Systems	100	
Advanced Tooling for Manufacturing Applications	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment
- Aerospace
- Appliance

Orchid Automation Group Inc. supplies turnkey automation for advanced manufacturing, quick die change systems, automated die storage and retrieval systems, die openers and separators, die washing centres, automated parts transfer, press automation, injection moulding machines and automated assembly as well as automated material handling systems, and also provides custom-designed industrial automation. Its markets are in Canada, the United States and Europe.

Product Sold:

	% Mfg In Canada	% Import
Programmable Controllers	100	

Markets Served:

- Oil and Gas
- Utilities

PAC Process Automation Controls Ltd. produces industrial control systems for oil and natural gas pipelines, compressor stations, compressors and turbines, as well as supervisory control and data acquisition (SCADA) systems.

Products Sold:

	% Mfg In Canada	% Import
Industrial Robots	100	
Automated Material Handling Systems	100	
Automated Guided Vehicles	100	
Automated Storage and Retrieval Systems	100	

Markets Served:

- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts

Pathex International Ltd. manufactures hydraulic presses and allied handling equipment for the plastics, laminating, rubber, wood and composite panel industries. The firm also fabricates heavy mill equipment on a contract basis.

**PAC Process
Automation
Controls Ltd.**

Unit 222
4664 Lougheed Highway
BURNABY, B.C.
V5C 5T5
Tel.: (604) 291-6841
Fax: (604) 291-2269

CONTACT:
J. Cerny
President

Art Johnson
Senior Systems Analyst

**Pathex
International
Ltd.**

74 Rallsde Road
DON MILLS, Ont.
M3A 1A3
Tel.: (416) 445-7400
Fax: (416) 445-9008

CONTACT:
Sean Gillett
Sales Manager

PCL Industrial Systems Inc.

674 Kingston Road
TORONTO, Ont.
M4E 1R4
Tel.: (416) 694-2020
Fax: (416) 694-3372

CONTACT:
W.R. Bentley
President

Products Sold:

	% Mfg In Canada	% Import
Shop Floor PCs/Industrial Computer	100	
Automated Inspection Systems	100	

Markets Served:

- Printing
- Fabricated Metal Products including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products including Auto Parts
- Transportation Equipment

PCL Industrial Systems Inc. designs and manufactures shop-floor data collection systems, including hardware and software. Hardware includes data terminals for production monitoring and quality control. Its software operates in real time. It also designs and manufactures customized hardware and software for third parties.

Proto Manufacturing Ltd.

2175 Solar Crescent
OLDCASTLE, Ont.
NOR 1L0
Tel.: (519) 737-6330
Fax: (519) 737-1692

CONTACT:
Erhard Brauss
General Manager

Products Sold:

	% Mfg In Canada	% Import
Automatic/Advanced Machine Tools	100	
Automatic Welding Equipment	100	
Automatic Marking Equipment	100	
Automated Assembly Systems	100	
Automated Inspection Systems	100	

Markets Served:

- Fabricated Metal Products including Auto Parts
- Transportation Equipment

Proto Manufacturing Ltd. is engaged in the instrumentation side of advanced manufacturing technologies, including special custom-designed machinery/ instruments, with automated inspection systems as its primary product line. It manufactures the Canmet, Denver and Proto X-Ray Residual Stress Measurement systems and the Proto Electro Polisher. The company has sales representatives in the United States, Europe, India, Australia, Japan and Taiwan.

Product Sold:

	% Mfg In Canada	% Import
Automatic Identification Systems	75	25

Markets Served:

- Clothing and Textiles
- Electrical and Electronic Products
- Transportation Equipment
- Food Processing
- Retail

R. Moroz Ltd. supplies bar code printers, readers and software as well as hand-held computers. It provides complete system design, development and implementation of data and capture systems.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	
Automated Assembly Systems	100	
Automated Inspection Systems	100	
Sensing Systems for Manufacturing Applications	100	

Market Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts

Ramsey Canada manufactures material handling and loading systems along with sensing systems for material level, flow and density. It also supplies X-ray fluorescent instrumentation for non-destructive material identification.

R. Moroz Ltd.

1031 McNicoll Avenue
SCARBOROUGH, Ont.
M1W 3W6
Tel.: (416) 756-4211
Fax: (416) 756-4766

CONTACT:
Bob Moroz
President

**Ramsey
Canada****Baker
Hughes
Canada Inc.**

385 Enford Road
RICHMOND HILL, Ont.
L4C 3G2
Tel.: (416) 883-1881
Fax: (416) 883-1750

CONTACT:
Douglas Young
Sales Manager

Relcon Inc.

80 Walker Drive
BRAMPTON, Ont.
L6T 4H6
Tel.: (416) 458-1100
Fax: (416) 458-1200

CONTACT:
Peter Lo
President and CEO

Product Sold:

Automatic Welding Equipment

% Mfg In
Canada

100

% Import

Markets Served:

- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts

Relcon Inc. manufactures advanced manufacturing products, including electrical variable-speed drives and motion control products, automatic welding equipment and robotic systems.

RSI RESEARCH LTD.

Unit 10
10114 McDonald Park
Road
SIDNEY, B.C.
V8L 3X9
Tel.: (604) 656-0101
Fax: (604) 656-1161

CONTACT:
Chris Roper
Manager
Subsea Operations

Products Sold:

Programmable Controllers
Water Jet Cutting Equipment
Automated Guided Vehicles
Machine Vision Equipment
Automated Inspection Systems

% Mfg In
Canada

95
60
60
75
90

% Import

5
40
40
25
10

Markets Served:

- Resource Industries
- Defence
- Nuclear

RSI RESEARCH LTD. specializes in the development, manufacture and marketing of remote telerobotic work systems and advanced equipment controls for use in hazardous and unstructured environments. Its products and services are sold to the subsea (offshore oil, aquaculture, defence and oceanography), nuclear and forestry industries. RSI's products include remote underwater camera systems, remote manipulators, remotely operated tracked vehicles, and operator controls. The company also provides design and engineering services in the field of robotics and telerobotics.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	70	30
Shop Floor PCs/Industrial Computer	70	30
Sensing Systems for Manufacturing Applications	50	50

Markets Served:

- Building Products
- Food/Beverage

Scale-Tron Inc. supplies weigh batching systems, mainly for concrete and automated systems, to control the manufacture and distribution of bulk materials. Load cell sensing/weighing systems, associated electronic modules and systems, and software for the above are also supplied.

**Scale-Tron
Inc.**

P.O. Box 424
LACHINE, Que.
H8S 4C2
Tel.: (514) 634-7083
Fax: (514) 634-7867

CONTACT:
R.J. Shepherdson
President

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	90	10
Automatic/Advanced Machine Tools	90	10
Machine Vision Equipment	90	10
Automated Inspection Systems	90	10
Sensing Systems for Manufacturing Applications	90	10

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Transportation Equipment

Sensor Adaptive Machines Inc. (SAMI) is developing a "next generation" intelligent sensor-based machine tool controller in conjunction with General Motors and Hughes, to be available in 1991. The company also offers a range of machine vision and laser/optoelectronic sensor products for high-precision applications developed by Diffracto.

**Sensor
Adaptive
Machines
Inc.**

2835 Kew Drive
WINDSOR, Ont.
N8T 3B7
Tel.: (519) 945-6373
Fax: (519) 945-1467

CONTACT:
Tim Pryor
President

Servo-Robot Inc.

1380 Graham Bell Street
BOUCHERVILLE, Que.
J4B 6H5
Tel.: (514) 655-4223
Fax: (514) 665-4963

CONTACT:
Jean-Paul Bollot
President

Product Sold:

Machine Vision Equipment

% Mfg In Canada	% Import
90	10

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Chemical
- Building Products
- Defence
- Aerospace
- Nuclear

Servo-Robot Inc. specializes in three-dimensional laser machine vision systems, particularly for weld seam tracking and adaptive process control, and for metrology applications dealing with weights and measures. Servo-Robot offers hardware, software and peripherals and provides training and maintenance services to suit a large variety of applications. Its products include modular three-dimensional laser range scanning cameras and software packages. Servo-Robot is active in Europe, Asia and North America.

Sherrex Systems Ltd.

4196 - 93rd Street
EDMONTON, Alta.
T6E 5P5
Tel.: (403) 462-4085
Fax: (403) 450-8369

CONTACT:
Doug Mogg
Sales Manager

Products Sold:

Programmable Controllers
Shop Floor PCs/Industrial Computer

% Mfg In Canada	% Import
80	20
80	20

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Petroleum
- Petrochemical
- Building Products

Sherrex Systems Ltd. is a privately owned company with more than 10 years of practical experience in the design and manufacture of custom-designed industrial electronics. Its products include building/process controls, remote terminal units (RTUs), supervisory control and data acquisition (SCADA) systems hardware, specialized instrumentation, industrial fibre-optic communication systems, smart industrial keyboards, dual-computer switchover units, flow totalizers/computers, and erasable, programmable, read-only memory (EPROM) programmers.



Products Sold:

	% Mfg In Canada	% Import
Programmable Controllers	50	50
Automatic Marking Equipment	80	20
Automated Material Handling Systems	90	10
Machine Vision Equipment	90	10
Sensing Systems for Manufacturing Applications	90	10

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products

Softac Systems Ltd. is a systems engineering house specializing in forest products equipment. It manufactures complete carriage networks and sorters, as well as cant, edger or trimmer optimizer systems. Softac also designs and manufactures special electrical controls and variable-speed drives for bulk material handling systems, crushers, conveyors, compressors, pumps, winches, cranes and ski lifts, as well as specialized variable-speed motor controls (alternating and/or direct current), computerized process controls and programmable logic controllers.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	
Automated Assembly Systems	100	

Markets Served:

- Wooden Furniture and Other Millwork
- Printing
- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts

STROMAG (Niagara) Ltd. offers a total engineered approach for available or custom-designed vibratory parts feeders, horizontal in-line feeders, side delivery hoppers and elevator supply hoppers for the automatic handling of a wide variety of parts, including spring untanglers. It also supplies scales for accurate counting or weighing applications for wholesale and retail applications. In addition, it provides packaging equipment for bagging, offering both preprinted and plain bags for all types of packaging needs.

**Softac
Systems Ltd.**

3046 Westwood Street
PORT COQUITLAM, B.C.
V3C 3L7
Tel.: (604) 464-8505
Fax: (604) 464-2242

CONTACT:
Ian Bowman
Manager
Sales and Marketing

**STROMAG
(Niagara) Ltd.**

6969 Oakwood Drive
NIAGARA FALLS, Ont.
L2E 6S5
Tel.: (416) 354-7407
Fax: (416) 354-1404

CONTACT:
Stan Flsk
President

Division Addresses:

PAL Distributors
915 King Edward Street
WINNIPEG, Man.
R3H 0P8

Ultra Packaging
Unit 13
12331 Phoenix Drive
RICHMOND, B.C.
V7E 6C2

Hardware
Producers

Techno Scientific Inc.

60 Caster Avenue
WOODBIDGE, Ont.
L4L 4X2
Tel.: (416) 851-9958
Fax: (416) 851-6314

CONTACT:
David Johnston
Marketing

Products Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	50	50
Machine Vision Equipment	100	0
Automated Inspection Systems	100	0
Sensing Systems for Manufacturing Applications	100	0

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Electrical and Electronic Products
- Rubber and Plastic Products Including Auto Parts
- Transportation Equipment

Techno Scientific Inc. performs research, development and manufacturing in the areas of automated non-destructive examination (NDE), robot welding and machine vision systems, transducers and sensors. A wide range of NDE products are manufactured, from single transducers and interface modules to automated scanning systems, as well as complete turnkey, inspection and robotic systems.

Techware Systems Corporation

Unit 100
12051 Horseshoe Way
RICHMOND, B.C.
V7A 4V4
Tel.: (604) 271-2000
Fax: (604) 275-8572

CONTACT:
Martin Hanssmann
Manager
International Sales

Division Address:

Precision Research
Instruments, Inc.
P.O. Box 724
CAMBRIDGE, Ont.
N1R 5W6

CONTACT:
Lynda Campbell

Products Sold:

	% Mfg In Canada	% Import
Programmable Controllers	80	20
Shop Floor PCs/Industrial Computers	80	20

Market Served:

- Semiconductor Manufacturing Equipment

Techware Systems Corporation produces process equipment controllers for thin film deposition and etching equipment. These technologies are used primarily in the fabrication of microelectronic (semiconductor) devices, optoelectronic devices, magnetic media, optical storage devices, architectural glass treatments, and machine tool hardness coating processes. Techware Systems provides a complete range of services, consisting of hardware, software and support services.

Products Sold:

	% Mfg In Canada	% Import
Automated Material Handling Systems	100	
Automated Baggage Transfer System	100	

Markets Served:

- Airport Transportation Equipment—Automated Baggage Transfer System
- Packaging—Material Handling System

The success of UTDC Inc.'s automated transit systems has led directly to the development of computer-controlled materials handling systems and baggage transfer systems. The materials handling system powered by in-track linear induction motors (LIMs) uses passive vehicles to automatically load and unload 10-foot-high (3-m high) pallets of cans into a warehouse 247 m away. Also employing LIM technology, the Changi Airport Baggage Transfer System transports baggage quickly between the airport's two terminals located about 1.25 km apart. Extremely reliable, both of these systems offer high-speed service at low operating costs.

Designed to fulfill a broad range of industrial applications, UTDC's LIM technology is extremely flexible. The system adjusts and expands quickly to satisfy changing demands and production schedules.

Products Sold:

	% Mfg In Canada	% Import
Industrial Robots	100	
Automated Inspection Systems	100	

Markets Served:

- Transportation Equipment
- Aerospace

Vadeko International Inc. designs, manufactures and integrates large-scale robotics and inspection systems for cleaning and coating, as well as handling explosive materials in a variety of environments.

UTDC Inc.

P.O. Box 70, Station A
KINGSTON, Ont.
K7M 6P9
Tel.: (613) 384-3100
Fax: (613) 389-6382

CONTACT:

Kelth G. Chapman
Director
Proposals

**Vadeko
International
Inc.**

2600 Argentia Road
MISSISSAUGA, Ont.
L5N 5V4
Tel.: (416) 821-3222
Fax: (416) 821-2232

CONTACT:

Ann Whitehead
Manager
Corporate Development

Valiant Machine & Tool Inc.

6161 Tecumseh Road East
WINDSOR, Ont.
N8T 1E7
Tel.: (519) 944-3200
Fax: (519) 944-4233

CONTACT:
Guy Di Ponlo
Vice-President
Sales and Marketing

Products Sold:

	% Mfg In Canada	% Import
Automatic Welding Equipment	100	
Automated Material Handling Systems	100	
Automated Assembly Systems	100	
Advanced Tooling for Manufacturing Applications	100	

Markets Served:

- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts

Vallant Machine & Tool Inc. supplies equipment (turnkey/design and build) for processing and assembly tooling for the automotive, aerospace and off-road industries. It offers a complete range of services for designing and building systems using computer-aided design/manufacturing (CAD/CAM) and conventional methods. Vallant's products include industrial parts washers (i.e., cleaning equipment), hydraulic presses, tooling and fixtures, plastic injection and compression moulds, tooling for automotive parts and fabricated metal produces such as weldments, bases, etc.

Ventax Robot Inc.

73 Northumberland Street
AYR, Ont.
N0B 1E0
Tel.: (519) 632-7834
Fax: (519) 632-7702

CONTACT:
B. Drysdale
Vice-President
Operations

Products Sold:

	% Mfg In Canada	% Import
Industrial Robots	100	
Automated Assembly Systems	100	

Market Served:

- Rubber and Plastic Products Including Auto Parts

Ventax Robot Inc. designs, manufactures and services parts removal robots for injection moulding machines. It also manufactures custom-designed tooling and automation equipment for the plastic moulder. In addition, Ventax manufactures a line of modular pick-and-place robots that can easily be adapted to a variety of applications, both within and outside the plastics industry. Recently, Ventax became a sales representative for various automation auxiliary components, including belt and chain conveyors, structural aluminum profiles and pipe clamping systems.

Products Sold:

	% Mfg In Canada	% Import
Automatic Identification Systems	100	
Shop Floor PCs/Industrial Computer	100	
Machine Vision Equipment	100	

Markets Served:

- Printing
- Fabricated Metal Products Including Auto Parts
- Rubber and Plastic Products Including Auto Parts
- Lumber Mills
- Steel Mills
- Plastic Film Mills

VisionSmart Inc. produces an industrial supercomputer capable of operating at three billion instructions per second, which is being used in lumber mills for visual quality assurance and process control. Its primary application is for visual quality inspection and any process involving the visual or X-ray inspection of product moving on a high-lineal-speed/high-volume production line.

Products Sold:

	% Mfg In Canada	% Import
Automatic/Advanced Machine Tools	100	
Programmable Controllers	100	
Automatic Welding Equipment	100	
Automated Material Handling Systems	100	
Automated Storage and Retrieval Systems	100	

Markets Served:

- Clothing and Textiles
- Fabricated Metal Products Including Auto Parts

Well Products Ltd. manufactures material handling equipment, including garment conveyors, carousels, industrial overhead conveyor systems and monorail systems.

VisionSmart Inc.

5807 - 104th Street
EDMONTON, Alta.
T6H 2K4
Tel.: (403) 435-7082
Fax: (403) 436-0963

CONTACT:
Bruce Ramage
Finance

Well Products Ltd.

105 Riviera Drive
MARKHAM, Ont.
L3R 5J6
Tel.: (416) 475-7717
Fax: (416) 475-7709

CONTACT:
Gilbert Strassguertl
Vice President

Western Industrial Programming

P.O. Box 2044
SALMON ARM, B.C.
V1E 4R1
Tel.: (604) 832-9322
Fax: (604) 832-1885

CONTACT:
Terry Marlott
General Manager

Products Sold:

	% Mfg In Canada	% Import
Programmable Controllers	50	50
Automated Material Handling Systems	100	0
Automated Packaging Systems	100	0
Machine Vision Equipment	50	50
Automated Inspection Systems	50	50
Sensing Systems for Manufacturing Applications	50	50

Markets Served:

- Wooden Furniture and Other Millwork
- Lumber

Western Industrial Programming supplies industrial electrical control and machine vision-based systems to a wide variety of manufacturers. At present, its primary market is the lumber manufacturing industry.

Zakron Industries Inc.

Unit 2
1035 Toy Avenue
PICKERING, Ont.
L1W 3N9
Tel.: (416) 683-0462
Fax: (416) 427-0202

CONTACT:
W.A. Zakrajsek
Administrator

Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	100	0
Programmable Controllers	100	0
Shop Floor PCs/Industrial Computer	80	20

Markets Served:

- Fabricated Metal Products Including Auto Parts

Zakron Industries Inc. manufactures computer numerical controlled (CNC) back gauging and shear gauging systems for press brakes and shears. It also provides customized electronic design for industrial and engineering applications.



Products Sold:

	% Mfg In Canada	% Import
NC/CNC Machines	50	50
Automated Material Handling Systems	100	0
Automated Packaging Systems	100	0
Automated Inspection Systems	50	50

Market Served:

- Packaging Equipment

Zepf Technologies Inc. (ZTI) designs, manufactures and installs material handling and transfer systems and automated processing lines. It has expertise in the high-speed, exact positioning of objects. ZTI has computer-aided design equipment and has developed specialized software for post-processing designs. The company's major markets are in the packaging industry in Canada, the United States, Mexico and the European Community.

**Zepf
Technologies
Inc.**

70 Rankin Street
WATERLOO, Ont.
N2V 1V9
Tel.: (519) 884-6470
Fax: (519) 884-7456

CONTACT:
Larry M. Zepf
CEO

• ***NC/CNC Machines***

Automation Specialties
Beck Technologies Ltd.
Brattan Tool Industries Ltd.
Compustep Products Corp.
Eagle Precision Technologies Inc.
Ferro Products Co. Ltd.

FLV Automation Systems Inc.
Henri Liné Machine Tools Ltd.
Mimik Industries Inc.
Sensor Adaptive Machines Inc.
Zakron Industries Inc.
Zepf Technologies Inc.

• ***Automatic/Advanced Machine Tools***

Automation Specialties
Beck Technologies Ltd.
Compustep Products Corp.
Doucet Machineries Inc.
Eagle Precision Technologies Inc.
Ferro Products Co. Ltd.

FLV Automation Systems Inc.
Henri Liné Machine Tools Ltd.
Microtrol
Proto Manufacturing Ltd.
Sensor Adaptive Machines Inc.
Well Products Ltd.

• ***Programmable Controllers***

Advanced Dynamics Corporation Ltd.
Automation Specialties
Beck Technologies Ltd.
Computerized Cutters Ltd.
Corman Technologies Inc.
Ferro Products Co. Ltd.
Gentec Inc.
Global Laser Systems Inc.
Honeywell Limited

Microtrol
PAC Process Automation Controls Ltd.
RSI RESEARCH LTD.
Sherrex Systems Ltd.
Softac Systems Ltd.
Techware Systems Corporation
Well Products Ltd.
Western Industrial Programming
Zakron Industries Inc.

• ***Automatic Welding Equipment***

Automation Specialties
Centerline Windsor Ltd.
F.H. Welding Machines Ltd.
Irco Automation Inc.
MVS Modular Vision Systems Inc.
NAFO Welding Technology Ltd.
Numet Engineering Ltd.

Olofstrom Automation Ltd.
Proto Manufacturing Ltd.
Relcon Inc.
Techno Scientific Inc.
Valiant Machine & Tool Inc.
Well Products Ltd.

• ***Automatic Marking Equipment***

A.T.S. Inc
Automation Specialties
Cassco Machines

Numet Engineering Ltd.
Proto Manufacturing Ltd.
Softac Systems Ltd.

• *Injection Moulding Machines*

Engel Canada Inc.

Husky Injection Molding Systems Ltd.

• *Water Jet Cutting Equipment*

A.T.S. Inc

Automation Specialties

Ferro Products Co. Ltd.

Microtrol

RSI RESEARCH LTD.

• *Industrial Robots*

Andec Manufacturing Ltd.

A.T.S. Inc.

Automation Specialties

Browdyne Ltd.

Coreco Inc.

CRS Plus Inc.

Husky Injection Molding Systems Ltd.

Ireo Automation Inc.

Microtrol

Mimik Industries Inc.

Numet Engineering Ltd.

Orchid Automation Group Inc.

Vadeko International Inc.

Ventax Robot Inc.

• *Automated Material Handling Systems*

A. Comeau & Associates Ltd.

Advanced Dynamics Corporation Ltd.

AECL-CANDU

AIR TRAC CORP.

AISCO Systems Inc.

Andec Manufacturing Ltd.

A.T.S. Inc.

Automation Devices (Canada) Ltd.

Automation Specialties

Ball Service Group Inc.

Beck Technologies Ltd.

Brandt Manufacturing Inc.

Brattan Tool Industries Ltd.

Browdyne Ltd.

Byronix Computer Controls Inc.

Centerline Windsor Ltd.

Charlottetown Metal Products

Coates Industrial Automation Ltd.

Coreco Inc.

Doucet Machineries Inc.

Eagle Precision Technologies Inc.

Engel Canada Inc.

FLV Automation Systems Inc.

Heathrow Industrial Technologies Inc.

John T. Hepburn Ltd.

Microtrol

Mimik Industries Inc.

Numet Engineering Ltd.

Orchid Automation Group Inc.

Pathex International Ltd.

Ramsey Canada

Scale-Tron Inc.

Softac Systems Ltd.

STROMAG (Niagara) Ltd.

UTDC Inc.

Vallant Machine & Tool Inc.

Well Products Ltd.

Western Industrial Programming

Zepf Technologies Inc.

**Cross-
Reference
by
Products
Sold**

◦ ***Automated Guided Vehicles***

Orchid Automation Group Inc.
Pathex International Ltd.

RSI RESEARCH LTD

◦ ***Automated Warehousing Systems***

Ball Service Group Inc.
Byronix Computer Controls Inc.

Heathrow Industrial Technologies Inc.
Orchid Automation Group Inc.

◦ ***Automated Storage and Retrieval Systems***

A. Comeau & Associates Ltd.
Advanced Dynamics Corporation Ltd.
Heathrow Industrial Technologies Inc.
John T. Hepburn Ltd.

Orchid Automation Group Inc.
Pathex International Ltd.
Well Products Ltd.

◦ ***Automatic Identification Systems***

AECL-CANDU
Advanced Dynamics Corporation Ltd.
A.T.S. Inc.
Automation Specialties
Cassco Machines

Coreco Inc.
Epic Data Inc.
R. Moroz Ltd.
VisionSmart Inc.

◦ ***Shop Floor PCs/Industrial Computers***

Automation Specialties
Beck Technologies Ltd.
Control Microsystems Inc.
Corman Technologies Inc.
Dynapro Systems Inc.
Ferro Products Co. Ltd.
Global Laser Systems Inc.
Les Systèmes Montréal Robotique Ltée

Microtrol
PCL Industrial Systems Inc.
Scale-Tron Inc.
Sherrex Systems Ltd.
Techware Systems Corporation
VisionSmart Inc.
Zakron Industries Inc.

◦ ***Automated Assembly Systems***

Advanced Dynamics Corporation Ltd.
ALSCO Systems Inc.
A.T.S. Inc.
Automated Systems Inc.
Automation Devices (Canada) Ltd.
Automation Specialties
Beta-Tech Inc.
Brandt Manufacturing Inc.

Browdyne Ltd.
Byronix Computer Controls Inc.
Cassco Machines
Centerline Windsor Ltd.
Coates Industrial Automation Ltd.
Eagle Precision Technologies Inc.
FLV Automation Systems Inc.
Gryphon Automation Inc.

Husky Injection Molding Systems Ltd.
Numet Engineering Ltd.
Olofstrom Automation Ltd.
Orchid Automation Group Inc.
Proto Manufacturing Ltd.

• ***Automated Packaging Systems***

Advanced Dynamics Corporation Ltd.
AECL-CANDU
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Dlemaster Tool Inc.

• ***Machine Vision Equipment***

AECL-CANDU
Andec Manufacturing Ltd.
A.T.S. Inc.
Automation Specialties
Beck Technologies Ltd.
Coreco Inc.
Hymarc Ltd.
Irco Automation Inc.
Mayan Automation Inc.
Microtrol

• ***Automated Inspection Systems***

Advanced Dynamics Corporation Ltd.
AECL-CANDU
Andec Manufacturing Ltd.
A.T.S. Inc.
Brandt Manufacturing Inc.
Coreco Inc.
Diffracto Ltd.
FLV Automation Systems Inc.
George Kelk Ltd.
Gray Instruments Inc.
Hymarc Ltd.
Lambda Technology Ltd.
Les Systèmes Montréal Robotique Ltée

Ramsey Canada
STROMAG (Niagara) Ltd.
Vallant Machine & Tool Inc.
Ventax Robot Inc.

Numet Engineering Ltd.
UTDC Inc.
Western Industrial Programming
Zepf Technologies Inc.

MVS Modular Vision Systems Inc.
Numet Engineering Ltd.
RSI RESEARCH LTD.
Sensor Adaptive Machines Inc.
Servo-Robot Inc.
Softac Systems Ltd.
Techno Scientific Inc.
VisionSmart Inc.
Western Industrial Programming

Mayan Automation Inc.
Mimik Industries Inc.
MVS Modular Vision Systems Inc.
Numet Engineering Ltd.
PCL Industrial Systems Inc.
Proto Manufacturing Ltd.
Ramsey Canada
RSI RESEARCH LTD.
Sensor Adaptive Machines Inc.
Techno Scientific Inc.
Vadeko International Inc.
Western Industrial Programming
Zepf Technologies Inc.

**Cross-
Reference
by
Products
Sold**

◦ ***Sensing Systems for Manufacturing Applications***

Advanced Dynamics Corporation Ltd.	Lambda Technology Ltd.
AECL-CANDU	Mayan Automation Inc.
Andec Manufacturing Ltd.	Microtrol
Automation Specialties	Mimik Industries Inc.
Beck Technologies Ltd.	MVS Modular Vision Systems Inc.
Browdyne Ltd.	Numet Engineering Ltd.
Byronix Computer Controls Inc.	Ramsey Canada
Control Microsystems Inc.	Scale-Tron Inc.
Coreco Inc.	Sensor Adaptive Machines Inc.
Diffrauto Ltd.	Softac Systems Ltd.
George Kelk Ltd.	Techno Scientific Inc.
Honeywell Limited	Western Industrial Programming

◦ ***CAD/CAM/CAE Hardware***

Andec Manufacturing Ltd.	Beck Technologies Ltd.
Automation Specialties	Escher-Grad Inc.
Andec Manufacturing Ltd.	

◦ ***Advanced Tooling for Manufacturing Applications***

Automation Specialties	Gryphon Automation Inc.
Ball Service Group Inc.	Husky Injection Molding Systems Ltd
Cassco Machines	Les Systèmes Montréal Robotique Ltée
Centerline Windsor Ltd.	Mimik Industries Inc.
Civic Tool & Die Works Ltd.	Montreal Precision Crafting Company Ltd.
Diemaster Tool Inc.	Olofstrom Automation Ltd.
Eagle Precision Technologies Inc.	Orchid Automation Group Inc.
Ferro Products Co. Ltd.	Vallant Machine & Tool Inc.

◦ ***Other***

Automated Baggage Transfer Systems
UTDC Inc.

• **Wooden Furniture and Other Millwork**

Cassco Machines
Doucet Machineries Inc.
Henri Liné Machine Tools Ltd.
Hymarc Ltd.

Microtrol
Mimik Industries Inc.
STROMAG (Niagara) Ltd.
Western Industrial Programming

• **Printing**

Automation Specialties
Browdyne Ltd.
Cassco Machines
Computerized Cutters Ltd.
Epic Data Inc.
Escher-Grad Inc.

Henri Liné Machine Tools Ltd.
Montreal Precision Crafting Company Ltd.
PCL Industrial Systems Inc.
STROMAG (Niagara) Ltd.
VisionSmart Inc.

• **Clothing and Textiles**

Browdyne Ltd.
Microtrol
R. Moroz Ltd.

Relcon Inc.
Well Products Ltd.

• **Fabricated Metal Products Including Auto Parts**

AISCO Systems Inc.
Andec Manufacturing Ltd.
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Automation Specialties
Ball Service Group Inc.
Beck Technologies Ltd.
Beta-Tech Inc.
Brandt Manufacturing Inc.
Brattan Tool Industries Ltd.
Cassco Machines
Centerline Windsor Ltd.
Coates Industrial Automation Ltd.
Compustep Products Corp.
Coreco Inc.
Corman Technologies Inc.
Dlemaster Tool Inc.
Diffracto Ltd.
Dynapro Systems Inc.
Eagle Precision Technologies Inc.
Epic Data Inc.
Ferro Products Co. Ltd.

F.H. Welding Machines Ltd.
FLV Automation Systems Inc.
Global Laser Systems Inc.
Gray Instruments Inc.
Heathrow Industrial Technologies Inc.
Henri Liné Machine Tools Ltd.
Hymarc Ltd.
Irco Automation Inc.
Les Systèmes Montréal Robotique Ltée
Microtrol
Mimik Industries Inc.
Montreal Precision Crafting Company Ltd.
MVS Modular Vision Systems Inc.
NAFO Welding Technology Ltd.
Numet Engineering Ltd.
Olofstrom Automation Ltd.
Orchid Automation Group Inc.
Pathex International Ltd.
PCL Industrial Systems Inc.
Proto Manufacturing Ltd.
Ramsey Canada
Relcon Inc.

**Cross-
Reference
by
Markets
Served**

Sensor Adaptive Machines Inc.
Servo-Robot Inc.
Sherrex Systems Ltd.
Softac Systems Ltd.
STROMAG (Niagara) Ltd.

Techno Scientific Inc.
Vallant Machine & Tool Inc.
VisionSmart Inc.
Well Products Ltd.
Zakron Industries Inc.

◦ *Electrical and Electronic Products*

A. Comeau & Associates Ltd.
Andec Manufacturing Ltd.
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Automation Specialties
Cassco Machines
Coates Industrial Automation Ltd.
Corman Technologies Inc.
CRS Plus Inc.
Diemaster Tool Inc.
Dynapro Systems Inc.
Engel Canada Inc.
Epic Data Inc.
Escher-Grad Inc.
Ferro Products Co. Ltd.
F.H. Welding Machines Ltd.

FLV Automation Systems Inc.
Gentec Inc.
Gryphon Automation Inc.
Honeywell Limited
Hymarc Ltd.
Les Systèmes Montréal Robotique Ltée
Microtrol
Numet Engineering Ltd.
Orchid Automation Group Inc.
Pathex International Ltd.
PCL Industrial Systems Inc.
R. Moroz Ltd.
Relcon Inc.
Softac Systems Ltd.
STROMAG (Niagara) Ltd.
Techno Scientific Inc.

◦ *Rubber and Plastic Products Including Auto Parts*

AIR TRAC CORP.
Andec Manufacturing Ltd.
Automation Devices (Canada) Ltd.
Automation Specialties
Ball Service Group Inc.
Browdyne Ltd.
Cassco Machines
Centerline Windsor Ltd.
Coates Industrial Automation Ltd.
CRS Plus Inc.
Dynapro Systems Inc.
Engel Canada Inc.
Heathrow Industrial Technologies Inc.
Husky Injection Molding Systems Ltd.
Hymarc Ltd.

Mayan Automation Inc.
Numet Engineering Ltd.
Orchid Automation Group Inc.
Pathex International Ltd.
PCL Industrial Systems Inc.
Ramsey Canada
Relcon Inc.
Servo-Robot Inc.
Sherrex Systems Ltd.
STROMAG (Niagara) Ltd.
Techno Scientific Inc.
Vallant Machine & Tool Inc.
Ventax Robot Inc.
VisionSmart Inc.

• **Transportation Equipment**

ALSCO Systems Inc.
Andec Manufacturing Ltd.
Automation Specialties
Ball Service Group Inc.
Cassco Machines
Centerline Windsor Ltd.
Compustep Products Corp.
Corman Technologies Inc.
Diemaster Tool Inc.
Diffracto Ltd.
Dynapro Systems Inc.
Eagle Precision Technologies Inc.
Epic Data Inc.
Ferro Products Co. Ltd.
F.H. Welding Machines Ltd.
Gryphon Automation Inc.

• **Food Processing**

AIR TRAC CORP.
A.T.S. Inc.
Ball Service Group Inc.
Beck Technologies Ltd
Charlottetown Metal Products

• **Other**

Resource Industries (oil, gas and petroleum; plastics, rubber and chemical products; forest products; mining, metals and minerals; marine; energy/utilities), Biotechnology and Health Care Products

Advanced Dynamics Corporation Ltd.
AIR TRAC CORP.
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Browdyne Ltd.
Byronix Computer Controls Inc.
Civic Tool & Die Works Ltd.
Coates Industrial Automation Ltd.
Control Microsystems Inc.
Coreco Inc.
Engel Canada Inc.
George Kelk Ltd.

Heathrow Industrial Technologies Inc.
Henri Liné Machine Tools Ltd.
Hymarc Ltd.
Irco Automation Inc.
Microtrol
MVS Modular Vision Systems Inc.
Olofstrom Automation Ltd.
Orchid Automation Group Inc.
PCL Industrial Systems Inc.
Proto Manufacturing Ltd.
R. Moroz Ltd.
Sensor Adaptive Machines Inc.
Techno Scientific Inc.
UTDC Inc.
Vadeko International Inc.

Coates Industrial Automation Ltd.
Control Microsystems Inc.
Dynapro Systems Inc.
R. Moroz Ltd.

John T. Hepburn Ltd.
Lambda Technology Ltd.
Mayan Automation Inc.
Numet Engineering Ltd.
PAC Process Automation Controls Ltd.
RSI RESEARCH LTD.
Servo-Robot Inc.
Sherrex Systems Ltd.
UTDC Inc.
VisionSmart Inc.
Western Industrial Programming
Zepf Technologies Inc.

Service Industries and Consumer Goods (services; furniture, leisure and grocery products)

Coates Industrial Automation Ltd.
Control Microsystems Inc.
Coreco Inc.

Engel Canada Inc.
Epic Data Inc.
Ferro Products Co. Ltd.

**Cross-
Reference
by
Markets
Served**

**Cross-
Reference
by
Markets
Served**

Global Laser Systems Inc.
Heathrow Industrial Technologies Inc.
Orchid Automation Group Inc.

Building Products

Advanced Dynamics Corporation Ltd.
Eagle Precision Technologies Inc.
FLV Automation Systems Inc.

Optical Products/Inspection Systems

Civic Tool & Die Works Ltd.
Engel Canada Inc.
Gentec Inc.

Defence

A.T.S. Inc.
Dlemaster Tool Inc.
Epic Data Inc.

Telecommunications

A.T.S. Inc

Abrasives

AIR TRAC CORP

Hydraulic Components

Eagle Precision Technologies Inc.

Die/mould Industry

Henri Liné Machine Tools Ltd.

Process Industries

Honeywell Limited

Semiconductor Manufacturing

Techware Systems Corporation

Aerospace

A.T.S. Inc
Dlemaster Tool Inc.
Engel Canada Inc.
Epic Data Inc.
Global Laser Systems Inc.

Nuclear

Dlemaster Tool Inc.
Henri Liné Machine Tools Ltd.
Numet Engineering Ltd.

Material Handling

Dynapro Systems Inc
UTDC Inc.

R. Moroz Ltd.
Scale-Tron Inc.
UTDC Inc.

Scale-Tron Inc.
Servo-Robot Inc.
Sherrex Systems Ltd.

Global Laser Systems Inc.
Lambda Technology Ltd.
Techware Systems Corporation

Numet Engineering Ltd.
RSI RESEARCH LTD.
Servo-Robot Inc.

Henri Liné Machine Tools Ltd.
MVS Modular Vision Systems Inc.
Orchid Automation Group Inc.
Servo-Robot Inc.
Vadeko International Inc.

RSI RESEARCH LTD.
Servo-Robot Inc.

Zepf Technologies Inc.

• **British Columbia**

Byronix Computer Controls Inc.
Civic Tool & Die Works Ltd.
Dynapro Systems Inc.
Epic Data Inc.
Lambda Technology Ltd.
PAC Process Automation Controls Ltd.

• **Alberta**

A. Comeau & Associates Ltd.
Control Microsystems Inc.
Global Laser Systems Inc.
Gray Instruments Inc.

• **Saskatchewan**

Beck Technologies Ltd.

• **Ontario**

AECL-CANDU
AIR TRAC CORP.
AISCO Systems Inc.
Andec Manufacturing Ltd.
A.T.S. Inc.
Automation Devices (Canada) Ltd.
Automation Specialties
Ball Service Group Inc.
Beta-Tech Inc.
Brandt Manufacturing Inc.
Brattan Tool Industries Ltd.
Browdyne Ltd.
Cassco Machines
Centerline Windsor Ltd.
Coates Industrial Automation Ltd.
Compustep Products Corp.
Computerized Cutters Ltd.
Corman Technologies Inc.
CRS Plus Inc.
Diemaster Tool Inc.
Diffracto Ltd.
Eagle Precision Technologies Inc.
Engel Canada Inc.

RSI RESEARCH LTD.
Softac Systems Ltd.
STROMAG (Niagara) Ltd.
Techware Systems Corporation
Western Industrial Programming

NAFO Welding Technology Ltd.
Sherrex Systems Ltd.
VislonSmart Inc.

• **Manitoba**

STROMAG (Niagara) Ltd.

F.H. Welding Machines Ltd.
FLV Automation Systems Inc.
George Kelk Ltd.
Gryphon Automation Inc.
Heathrow Industrial Technologies Inc.
Honeywell Limited
Husky Injection Molding Systems Ltd.
Hymarc Ltd.
Intergraph Canada
Iroco Automation Inc.
John T. Hepburn Ltd.
Mimik Industries Inc.
Numet Engineering Ltd.
Olofstrom Automation Ltd.
Orchid Automation Group Inc.
Pathex International Ltd.
PCL Industrial Systems Inc.
Proto Manufacturing Ltd.
R. Moroz Ltd.
Ramsey Canada
Relcon Inc.
Sensor Adaptive Machines Inc.
STROMAG (Niagara) Ltd.

**Cross-
Reference
of
Company
Location
by
Province**

**Cross-
Reference
of
Company
Location
by
Province**

Techno Scientific Inc.
Techware Systems Corporation
UTDC Inc.
Vadeko International Inc.
Vallant Machine & Tool Inc.

• **Quebec**

Advanced Dynamics Corporation Ltd.
Control Microsystems Inc.
Coreco Inc.
Doucet Machinerles Inc.
Escher-Grad Inc.
Ferro Products Co. Ltd.
Gentec Inc.
Henri Liné Machine Tools Ltd.

• **Prince Edward Island**

Charlottetown Metal Products

Ventax Robot Inc.
Well Products Ltd.
Zakron Industries Inc.
Zepf Technologies Inc.

Les Systèmes Montréal Robotie Ltée
Mayan Automation Inc.
Microtrol
Montreal Precision Crafting Company Ltd.
MVS Modular Vision Systems Inc.
NAFO Welding Technology Ltd.
Scale-Tron Inc.
Servo-Robot Inc.

The tremendous growth in computer software technology for manufacturing applications confronts managers in many industry sectors with some difficult choices. Which packages to purchase and when to do so can be complicated by the variety available and the selection of applications possible.

The goal in preparing this section on Software Suppliers for Advanced Manufacturing Technologies (AMT) is to promote an understanding and awareness of the Canadian products available for discrete manufacturing applications. The section is intended to help smaller manufacturers in the following industries:

- clothing;
- food processing;
- wooden furniture and millwork;
- rubber and plastics;
- metal fabrication;
- printing; and
- electrical and electronic products.

The choice of software can be influenced by the industry sector or product produced, as well as by the method of manufacture (process, repetitive or job shop). For this reason, the suppliers listed in this section are categorized by manufacturing applications as well as by markets served. The suppliers are Canadian sources for these products, some developed in Canada and others from foreign sources.

Diagnostic to Software Applications

The *APICS Dictionary*, prepared by the American Production and Inventory Control Society (Falls Church, Va. APICS, 1987, 6th ed.), has served as a reference in defining many of the manufacturing software applications listed below. These applications have been divided into the primary functions of design engineering, manufacturing engineering, materials management and shop floor support. The terminology and abbreviations covered are:

Design Engineering

- CAD — Computer-aided design
- CAE — Computer-aided engineering

Manufacturing Engineering

- CAPP — Computer-aided process planning
- GT — Group technology
- CAM — Computer-aided manufacturing

Materials Management

- Forecasting
- Order entry
- MPS — Master production schedule
- BOM — Bills of material

Introduction

- Inventory control
- MRP — Material requirements planning
- Scheduling and capacity requirements planning
- Job order costing
- Process costing
- Shop floor control
- MRP II — Manufacturing resources planning
- DRP — Distribution requirements planning

Shop Floor Support

- Simulation
- Data collection
- QA — Quality assurance
- Maintenance

Design Engineering

CAD — Computer-aided design

CAD refers to the use of computers in interactive engineering, drawing and storage of designs. CAD applications complete the layout, geometric transformations, projections, rotations, magnifications and internal (cross section) views of a given part plus its relationship with other parts.

The use of CAD is especially appropriate in industry sectors that produce mechanical and electrical products. CAD represents the starting point for the introduction of computer software in the design engineering department, since drafting can often be a critical bottleneck in an organization's product development cycle. The benefits of CAD come from the faster modification or correction of existing drawings and from the integration with downstream applications such as materials management and process planning. For design work that involves changes or variations on previous designs, large benefits may accrue.

For job shop environments where new parts designs are frequently introduced, CAD may not be appropriate, because first-time entry of new drawings with CAD can be slower than manual production. Nor is it suited for process-oriented industries such as printing and food processing.

CAD offers the following advantages:

- drafting productivity gains of two to four times over manual drafting in the long term;
- improved quality of drawings;
- development of a computer data base library of drawings for quick access and drawing modifications;
- three-dimensional design capabilities; and
- ability to interface with bills of material to standardize engineering and production specifications.

Managers should also be aware that selecting and implementing CAD entails the following considerations:

- six-month learning curve;
- reduction in drafting productivity and drawing interpretation when there is too much detail in drawings; and
- need to base software selection on its particular capabilities (mechanical or electronics orientation) as determined by the specific application for which it is purchased.

CAE — Computer-aided engineering

CAE involves the analysis of parts designs to measure the effect of forces and stresses under a variety of operating conditions. It is especially appropriate for designing and producing mechanical and electrical operating parts.

CAE allows designers to analyse manufacturing capabilities of a device without building a prototype, thus saving the cost of expensive pilot trials. Its ability to reduce time spent in performing stress and force analysis can also increase the productivity of an engineer. In addition, functions within CAE support "design for manufacturability" considerations.

CAE can be easily integrated into already installed CAD workstations, making use of available computer hardware and, in many instances, CAD software packages already in place.

Manufacturing Engineering

CAPP — Computer-aided process planning

The process of developing a list of procedures in order to manufacture a product is known as CAPP. A process plan contains the routing and sequence of the various work centres to be involved and the time standards for set-up and running; it may also include a statement of material requirements. In the fabricated metal, electrical and plastics industry sectors, for example, the process plan includes information on tooling, operator skill levels, inspection operations and testing requirements for more explicit direction to the production floor.

CAPP can be thought of as a tool for developing a process recipe for all manufacturing industry sectors operating in a batch, repetitive or process environment. Process planning represents the starting point for the introduction of software into manufacturing engineering; CAPP produces a standardized framework for the production process. In addition, CAPP integrates with material requirements planning for scheduling and capacity requirements, and with group technology used to access the library of "recipes" for an evaluation of process similarities.

The benefits of CAPP include the following:

- Increased throughput of the product and process development cycle;
- Increased throughput of manufacturing and engineering change orders; and
- Improved manufacturing flexibility and quality management of process information.

Introduction

GT — Group technology

The engineering and manufacturing philosophy underlying GT is to identify the "sameness" of parts, equipment or processes. GT provides rapid retrieval of existing designs and anticipates, as well as supports, a cellular-type production equipment layout.

In a job shop environment, product and process similarities may frequently change with the addition of new products. This makes it difficult to develop true cellular manufacturing on the shop floor, since equipment layout is determined, in part, by the flexibility of the material handling applications being used. However, GT enables a manufacturer to quickly classify new products into existing product or process groups.

While improvements can result from the identification of common and similar parts, they are less likely to result from layout changes. Hence GT is less suited to industry sectors that are process-oriented or that manufacture products in a continuous, straight-line method (e.g., food processing, printing, auto assembly).

CAM — Computer-aided manufacturing

CAM relates to the use of computers to program, direct and control production equipment in the fabrication of manufactured items.

The introduction of CAM is appropriate to all industry sectors outlined in this directory, because they all share the potential to introduce automated machinery into the production process. However, it is important to note that CAM requires the appropriate numerically controlled machines in place to support the software application. Moreover, it is a difficult and costly process to retrofit a machine that is manually controlled. For those industries producing mechanical or electrical products that are appropriate to CAD, the CAD application precedes CAM in sequence. This is based on the logical progression of the product development cycle.

The benefits of CAM include the following:

- increased quality from the process and in the product through greater repeatability;
- greater flexibility and shorter changeover time required for programming equipment; and
- improved labour productivity, since operators can operate more than one machine at a time.

Materials Management

Forecasting

Forecasting is an important step in building an integrated system by tying demand to supply. In the production environment, it provides input to material requirements planning and to budgeting for financial planning.

Future demand can be forecast mathematically using historical data or estimated subjectively using informal sources. Often, forecasts are a combination of both.

A mathematical approach works well with industries that have some accurate historical sales trends from which to draw conclusions. A subjective approach must be used when there is no historical record with which to work, for example, when a new product is introduced. Costs associated with the mathematical approach to forecasting are less than those associated with the subjective method because the mathematical approach is faster and more systematic.

Firms with a large number of items to forecast would benefit from automating the process.

Order entry

Order entry is the process of accepting and translating what a customer wants into terms used by the manufacturer or distributor. This can be as simple as creating shipping documents for a finished goods product line or as complicated as a series of activities, including engineering effort, for make-to-order products. Order entry often is the most specific element of the materials management process for a company and an industry. Many companies buy an order entry module and modify it heavily, or else write their own.

MPS — Master production schedule

MPS represents what a company plans to produce, expressed in specific configurations, quantities and dates. It is an anticipated build schedule for manufacturing, which the master scheduler maintains and translates into a set of planning numbers that drive material requirements planning.

MPS acts as a benchmark for comparison of the actual production status with the forecast one. It is a sales forecast that not only represents a statement of demand, but also takes into account the forecast, the production plan and other important considerations such as backlog, availability of material, availability of capacity, management policies and company goals. Improved delivery performance is one of the many benefits of MPS.

BOM — Bills of material

BOMs are listings of all the subassemblies, intermediate parts and raw materials that go into a parent assembly, showing the quantity of each required to make the parent. They serve as a central reference for product definition.

BOMs provide input to material requirements planning, and are critical for accurate product costing. Process planning uses the BOMs to verify that the proper subassemblies are included in a process plan.

In selecting appropriate software, purchasers should verify that the software will display information in the format that is required for the particular production environment. The choices include single-level, indented, summarized and recipe formats.

Inventory control

Inventory control provides a valuable link to purchasing management activity by determining open-order status and tracking lead times on orders. It incorporates activities and techniques for maintaining stocks of items at desired levels, whether they are raw materials, work-in-process or finished products.

Introduction

By providing a basis for recording each item, an organization can gain control over a non-value-added component of costs with an inventory control system that improves inventory accuracy and/or indicates availability.

MRP — Material requirements planning

MRP is a set of techniques that uses bills of material, inventory data and the master production schedule to calculate future requirements for materials. MRP makes recommendations to release replenishment orders for material. In addition, it makes recommendations to reschedule open orders when due dates and need dates are not in phase.

MRP is appropriate to manufacturers with a large number of products and raw materials, for example, in a job shop, where it is a useful tool to track the continual change in products. On the other hand, in very stable environments, such as in the food processing industry, where requirements for products and raw materials rarely change, MRP is not required.

Suppliers often maintain that MRP software packages are applicable to most industries, but some industry-specific packages are available for such activities as injection moulding and textiles.

Scheduling and capacity requirements planning

This activity includes establishing, measuring and adjusting limits or levels of capacity in order to set up a manufacturing schedule. In turn, scheduling assigns the starting and completion dates to operations or groups of operations to show when these must be done if the manufacturing order is to be completed on time. These dates are used in the dispatching operation.

Capacity planning and scheduling facilitate work production and help level out personnel requirements. They assist in maintaining work-in-process inventory levels and/or improving delivery performance.

The decision to introduce a scheduling and capacity requirements planning system into the work situation requires some distinctions to be made. Scheduling against available capacity is a module within manufacturing resources planning and is used to verify that forecast product requirements can in fact be met. Scheduling individual and independent work centres (repetitive and job shop) are not necessarily tied to manufacturing resources planning, but are more dependent on the nature of the manufacturing environment.

Job order costing

Job order costing allocates costs to specific jobs. This system helps with identifying and/or analysing product costs, and can be used with either actual or standard costs in the manufacture of distinguishable units or lots of products.

Process costing

Process costing collects costs by time period and averages them over all the units produced during that period. The system helps identify and/or analyse product costs, and can be used with either actual or standard costs for the manufacture of a large number of identical units.

Based on the bills of material structure and production scheduling, the costing process enables a manufacturer to monitor the costs of goods sold for comparison with pricing levels. Therefore, a proper costing software module will provide a performance monitoring tool. Process costing software does not

usually handle both process and job order costing, so manufacturers must choose the appropriate costing method for their production environment as part of the software selection.

Shop floor control

Shop floor control software includes a range of options for utilizing data from the shop floor to maintain and communicate status information on shop orders and work centres. The major subfunctions of shop floor control are:

- assigning a priority to each shop order;
- maintaining work-in-process quantity information;
- conveying shop order status information to the office;
- providing actual output data for capacity control purposes;
- providing quantity by location by shop order for work-in-process inventory and accounting purposes; and
- providing measurements of efficiency, utilization and productivity of personnel and machines.

MRP II — Manufacturing resources planning

A typical MRP II product may include many, though not necessarily all, of the applications identified under the "Materials Management" function. Bundled together as a package, MRP II offers management a comprehensive and integrated tool with which to plan and control operations.

The key to success with MRP II is integration between the various materials management, computerized and manual functions, especially the inclusion of information feedback loops at key decision points.

DRP — Distribution requirements planning

DRP is the function of determining needs in order to replenish inventory of branch warehouses. DRP software tracks and supports the supply of finished goods to the customer and closes the loop on the order entry function.

A time-phased order-point approach is used where the planned orders at the branch warehouse level are "exploded" via material requirements planning logic to become gross requirements at the supplying source. In the case of a multi-level distribution network, this explosion process can continue through the various levels of distribution centres, master warehouse and factory warehouse to ultimately become input to the master production schedule.

Shop Floor Support

Simulation

Simulation uses a computer to model the movement of materials and parts through a defined sequence of production processes. In addition, simulation can be used to model the operation and assembly of a part and its components to determine ease of production. This enables a thorough analysis of existing problems or proposed new configurations.

Expanding the traditional use of simulation strictly for shop floor material flow analysis into a broader tool for assisting design, material requirements planning and capacity planning can improve the positive impact that simulation will have on the manufacturing environment.

Introduction

Data collection

Data collection is the method of recording a transaction at the source and transmitting it to a central storage device. Options for data collection include:

- key entry (on-line/batch from cards); and
- bar code (a quicker, more accurate method).

Whether or not on-line data collection is required depends on the objectives for such a system. In addition, materials management systems must be able to support an effective link to the shop floor system.

In a just-in-time environment, for an auto parts manufacturer, for example, on-line data collection would indeed be required. Usually, in manufacturing environments that are quite volatile in nature, on-line data collection is appropriate, although next-day updates may also be adequate.

QA — Quality assurance

QA software is used for:

- statistical process control and support analysis;
- report generation and graphic display of key quality performance measurements; and
- integration with MRP II modules (process planning and shop floor control) to indicate quality defects at the root cause.

QA assists managers to define and monitor the requirements for:

- incoming quality (raw materials and purchased parts);
- work-in-process quality; and
- finished goods quality.

Maintenance

Maintenance software is an important support mechanism to production rather than merely a "crisis management" function of manufacturing.

A maintenance software program typically supports:

- the generation of preventive and emergency repair work orders;
- a data base of equipment work centres;
- a data base of preventive maintenance procedures by machine and tradespeople;
- an inventory control module listing spare parts for all related equipment;
- a database of past breakdowns and failures for each machine;
- the generation of labour reports for the various components of a maintenance operation (emergency, preventive, corrective and miscellaneous); and
- maintenance scheduling and capacity planning.

The decision to install a maintenance software package may depend on the importance of the following objectives to the firm:

- Interfacing of maintenance work orders with production schedules;
- control of spare parts inventory;
- generation of summary reports of reasons for downtime and repair frequency to better support production availability and control maintenance costs; and
- linkage with outside maintenance contracts through purchasing.

Approach to Implementation

Before new computer software packages are added to existing production operations, it is important that managers review their situation carefully and prepare a long-term plan for implementing the various functions contemplated. In order to derive the most benefit from the additional cost, a hierarchy of requirements should be established, which will determine the priority for implementation. Only processes that add value and quality to the product should ever be automated.

In addition to, and in many instances simultaneous with, choosing appropriate computer software, there are some key considerations in the selection of computer hardware. These include:

- adequate memory to store software programs;
- processing speed capabilities;
- operating memory to manage software;
- appropriate operating platform (personal computer, mini, workstation or mainframe) for the chosen software; and
- appropriate software operating system (VMS, DOS, Macintosh) that is applicable to both the chosen software and computer hardware.

The selection of manufacturing software applications for a business should take into account characteristics that allow for an overall program of installation and implementation over the long term. These are:

- modularity — availability for purchase as required;
- integrability — ability to be linked with past and future software purchases; and
- applicability — suitability of the proposed software package to the industry sector, product or method of manufacturing.

A sound approach to integrating computerized tools into the advanced manufacturing process is to ensure that each new package (software and/or hardware) builds upon the previous one, providing the skills base and cost savings necessary to implement the next attribute of advanced manufacturing.

One suggested sequence of events in the process of improving the manufacturing environment is:

- create a climate for change — personnel in the operation must recognize a need for improvement and must be determined that such improvement be carried out;

Introduction

- simplify procedures — activities and processes that truly add value to the product or service are identified, and those that do not are eliminated;
- focus on quality — procedures and activities are revised at the source to enhance the level of product or service quality; and
- automate procedures — once the first three priorities are effectively dealt with, automation begins.

By following such steps, a company can be more certain it will not pay a penalty for automating too soon and then discover that money spent automating has been wasted.

Computer-Integrated manufacturing (CIM) is often introduced as the objective in advanced manufacturing. This term defines the situation where all activities and processes are well integrated, having solid links with the information flow but not necessarily all automated. In any environment, automation may be appropriate for some functions but not others; CIM merely describes the situation where the manual and automated procedures are well integrated. Since the improvement process is continuous, more and more functions within a CIM environment may become automated.

It is generally wise to automate information handling (for example, inventory control, computer-aided design or production scheduling) before automating material handling or shop floor processes. This approach assists in establishing a framework of structured information at the management level first, which physical automation can later utilize to produce more efficiently.

Many sequences for installing and implementing the various software packages available for manufacturing are possible. The "right" one for any company can be determined only after a careful review of that company's actual requirements.

However, a generally accepted approach would be similar to the following list:

- accounting functions;
- finished goods inventory;
- order entry;
- bills of material;
- computer-aided process planning;
- product costing;
- inventory control;
- purchasing;
- master production scheduling;
- material requirements planning;
- scheduling and capacity planning;
- forecasting; and
- distribution requirements planning.

Hardware Platform:

- Workstation: UNIX
- Mini: UNIX
- Mainframe: UNIX

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Scheduling and capacity requirements planning
- Bills of material
- Job order costing
- Inventory control
- Shop floor control
- Order entry
- General accounting applications

Name of Software Package: (from \$2k to \$30k)

- Systèmes Comptables Ciel

Service Provided for Software:

- Developed by company — Modification, Other support

ALGO DESIGN INC.'s accounting and manufacturing software package Ciel is written in the relational data base management software Informix. The system is resident in the client's machine. Base modules provide the strength for the custom fabrication system. All these products are written in French.

ALGO DESIGN INC.

Suite 502
3090 Carrefour Boulevard
LAVAL, Que.
H7T 2J7
Tel.: (514) 681-2584
Fax: (514) 681 2589

CONTACT:
Louis Charbonneau
President

Ambrose Frederic Ltd.

Suite 803
350 Rathburn Road West
MISSISSAUGA, Ont.
L5B 3Y2
Tel.: (416) 949-9875
Fax: (416) 949-8198

CONTACT:
A. Dus, P.Eng.
Sales Manager

Hardware Platform:

- IBM and compatibles
- Personal Computer: MS-DOS, Windows 3.0
- Workstation: DOS

Manufacturing Software Applications:

- Inventory control
- Data collection
- Job order costing
- Shop floor control

Name of Software Package: (\$485)

- PERC — Production Efficiency and Reporting Control

Service Provided for Software:

- Developed by company

Ambrose Frederic Ltd. provides off-the-shelf software, custom-designed software and other consulting services to companies across Canada and the United States. Specializing in dBase, Foxbase and Clipper (Including Novell networks), Ambrose Frederic Ltd. has numerous installations in the food processing and manufacturing sectors.

Hardware Platform:

- Personal Computer: MS-DOS, OS/2, XENIX, AIX
- Mainframe: AIX, UNIX
- Workstation: UNIX, AIX
- Mini: AIX, XENIX, UNIX

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Group technology
- Bills of material
- Data collection
- Maintenance management
- Distribution requirements planning
- Shop floor control
- Bar coding and scanning
- Scheduling and capacity requirements planning
- Inventory control
- Job order costing
- Forecasting
- Order entry
- EDI (electronic data interchange)

Name of Software Package: (from \$10k to \$100k)

- ABC

Service Provided for Software:

- Developed by company

American Business Computer (ABC) and its affiliates have set up more than 5 000 customer sites in more than 15 years in business. ABC is a leader in the electronic data interchange (EDI) field, having more than 1 000 installations. The company provides total software packages comprising EDI, manufacturing, distribution, financial management, bar coding and scanning for manufacturers. ABC specializes in the automotive repetitive industry segment.

American Business Computer (Canada)

Suite 205
4000 Steeles Avenue
West
WOODBIDGE, Ont.
L4L 4V9
Tel.: (416) 747-6556
Fax.: (416) 856-5954

CONTACT:
Dietmar Szymanowski
General Manager

AMTEK Management

Division of Atlantic Canada Research Canada Inc.

9 Slack Road
NEPEAN, Ont.
K2G 0B7
Tel.: (613) 727-5040
Fax: (613) 727-1262

CONTACT:
Scott W. Campbell
Director
Management Information
Systems

Other Addresses
In Canada:

AMTEK Testware Division
5104 — 82nd Avenue
EDMONTON, Alta.
T0B 0E6
Tel.: (403) 466-6953
Fax: (403) 469-1397

Atlantic Research Canada
Inc.
102 Bank Street
OTTAWA, Ont.
K1P 5N4
Tel.: (613) 563-2554
Fax: (613) 563-4975

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: DOS
- Mini: VMS
- Mainframe: VMS

Manufacturing Software Applications:

- Maintenance management
- Integrated logistics support
- Configuration management

Name of Software Package: (from \$50k to \$200k)

- Logistics Analysis and Management System

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from Canadian company — Modification, Other support
- Licensed from foreign company — Modification, Other support

AMTEK Management Division provides professional engineering and management services to both industry and government in Canada, the United States and Europe. The key areas of AMTEK staff experience related to its business are integrated logistics support, data management systems and training systems.

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: UNIX
- Mini: VMS, UNIX
- Mainframe: UNIX

Networking Capabilities:

- Modular
- Multi-user
- Networked

Manufacturing Software Applications:

- Computer-aided process planning
- Material requirements planning
- Bills of material
- Scheduling and capacity requirements planning
- Inventory control
- Data collection
- Job order costing
- Maintenance management
- Distribution requirements planning
- Order entry
- Shop floor control

Name of Software Package: (from \$10k to \$50k)

- C4-object-oriented 4GL

Service Provided for Software:

- Developed by company — Modification, Other support

Axon Development Corporation has designed systems for custom fabricators, equipment manufacturers, food processing companies and electronics manufacturers, including inventory systems as well as specialized accounting, time-and-billing, job costing, work order control, equipment maintenance and accounts receivable systems. Each application is tailored to user needs, working from an extensive library of existing programs.

Axon Development Corporation

Suite 102
294 Venture Crescent
SASKATOON, Sask.
S7K 6M1
Tel.: (306) 652-8202
Fax: (306) 652-7733

CONTACT:
Ken Sparrow
President

Berclain Inc.

Suite 200
3175 Quatre-Bourgeois
Road
SAINTE-FOY, Que.
G1W 2K7
Tel.: (418) 654-1454
Fax: (418) 654-0645

CONTACT:
Louis Tetu
Vice-President
Marketing

Other Addresses
in Canada:

Jean-Pierre Provençal
Hi-Tech Complex
Suite 200
1050 St. Regis Boulevard
DORVAL, Que.
H9P 2T5
Tel.: (514) 685-7960
Fax: (514) 685-7979

Hardware Platform:

- Personal Computer: UNIX, SYSTEM II, SCO UNIX
- Workstation: UNIX, DG-UX, AIX, AUX, HP-WX
- Mini: VMS, UNIX, AIX

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Bills of material
- Inventory control
- Simulation
- Shop floor control
- Scheduling and capacity requirements planning
- Data collection
- Order entry

Name of Software Package: (from \$30k to \$120k)

- FCSS-MOOPI — production scheduling software

Service Provided for Software:

- Developed by company — Modification, Other support

The Berclain group specializes in manufacturing technologies. It employs industrial engineers, computer analysts and experts in industrial production and manufacturing. Its systems are installed in metal fabrication and assembly companies, in aerospace companies, in specialized job shop and machining companies as well as in plastics, wire and cables, textiles, electronic fabrication and assembly companies.

Berclain's main product is called FCSS-MOOPI. FCSS stands for factory control and scheduling system; MOOPI is the equivalent short form in French. It was conceived and developed entirely by Berclain's staff. In addition to manufacturing management services offered by Berclain, the technologies actively supported by the group are:

- the MOOPI software — synchronized manufacturing software combining simulation technologies and traditional decision-making rules;
- the SYMIX software — totally integrated manufacturing management and financial management software, which has been specially adapted for Canada, as well as being bilingual; and
- three-dimensional stereolithography — the technology allowing fabrication of prototypes directly from a computer-aided design (CAD) system using photopolymers and laser technology.

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: UNIX
- Mini: VMX, UNIX
- Mainframe: VAX/VMS

Networking Capabilities:

- Modular
- Multi-user
- Networked

Manufacturing Software Applications:

- Computer-aided manufacturing
- Computer-aided process planning
- Material requirements planning
- Scheduling and capacity requirements planning
- Bills of material
- Data collection
- Inventory control
- Job order costing
- Simulation
- Order entry
- Distribution requirements planning
- Shop floor control

Name of Software Package: (from \$16k to \$100k)

- Calculus Fabrication

Service Provided for Software:

- Developed by company — Modification, Other support

The manufacturing software of Calculus Cie d'Informatique Ltée is a complete bilingual management solution. Applications include general ledger requirements, accounts receivable, accounts payable, order entry and invoicing, payroll, inventory control and production management. Each module has parameters designed for integration with other modules as well as for specific and standard forms of design.

Calculus Cie d'Informatique Ltée

3200 Laval Autoroute
West
LAVAL, Que.
H7T 2H6
Tel.: (514) 682-5050
Fax: (514) 682-8671

CONTACT:
Richard Proulx
Sales Representative

Canadian Manufacturing Systems

Suite 101
9011 Leslie Street
RICHMOND HILL, Ont.
L4C 7B5
Tel.: (416) 886-4916
Fax: (416) 886-9428

CONTACT:
Barry Gibbon
President

Other Addresses
In Canada:

14 Winding Way
KITCHENER, Ont.
N2N 1M1
Tel.: (519) 570-2658

CONTACT:
Paul Craven
Area Manager

Hardware Platform:

- Mini: SSP, OS/400

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Bills of material
- Inventory control
- Simulation
- Forecasting
- Order entry
- Scheduling and capacity requirements planning
- Data collection
- Job order costing
- Quality assurance
- Shop floor control

Name of Software Package: (from \$4k to \$72k)

- CMS — Canadian Manufacturing System

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from Canadian company — Other support
- Licensed from Foreign company — Modification, Other support

Canadian Manufacturing Systems (CMS) specializes in the development, implementation and support of software solutions on IBM computers designed specifically for job shop and repetitive manufacturing companies. With its superior products and a staff dedicated to customer service, CMS has experienced strong and consistent growth, which in turn has provided the company with a solid financial foundation.

Hardware Platform:

- Mini: UNIX

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Inventory control
- Forecasting
- Order entry
- Bills of material
- Data collection
- Distribution requirements planning
- Shop floor control

Name of Software Package: (from \$15k to \$50k)

- CAMS — Cantel Apparel Management System

Service Provided for Software:

- Developed by company — Modification, Other support

Cantel Computer Corp. provides turnkey computer systems to the apparel industry and related fields, including apparel, footwear, textiles and retail areas. Its specially designed packages cover the manufacturing process, the importing of raw materials or finished goods, sales and distribution as well as a complete accounting function. The company also provides services in consulting, programming, training as well as hot-line and modem support, in addition to hardware integration services.

Cantel Computer Corp.

*Suite 1005, North Tower
433 Chabanel Street West
MONTREAL, Que.
H2N 2J9
Tel.: (514) 383-4452
Fax: (514) 383-6415*

CONTACT:
*Dennis Koury
Vice-President*

Carleton Technologies Inc.

1 Caesar Avenue
NEPEAN, Ont.
K2G 0A8
Tel.: (613) 225-0283
Fax: (613) 225-5128

CONTACT:
Herb Osborne
President

Hardware Platform:

- Mini: HP3000

Networking Capabilities:

- Networked

Manufacturing Software Applications:

- Computer-aided process planning
- Group technology
- Bills of material
- Data collection
- Job order costing
- Forecasting
- Order entry
- Material requirements planning
- Scheduling and capacity requirements planning
- Inventory control
- Simulation
- Maintenance management
- Distribution requirements planning
- Shop floor control

Name of Software Package: (from \$60k to \$1 000k)

- WORKWARE 3000

Service Provided for Software:

- Developed by company — Modification, Other support

Carleton Technologies Inc. has been addressing the needs of manufacturers for 17 years. Companies that require precise, timely reporting rely on the integrated modularity of its product, WORKWARE. Users' individual requirements are met by Carleton's design and support team.

Hardware Platform:

- Personal Computer: MS-DOS, OS/2, QNX
- Mini: RM Basic, UNIX
- Workstation: UNIX, RM Basic

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Data collection
- Shop floor control
- Automation control
- Quality assurance
- Automated testing equipment

Names of Software Packages: (from \$10k)

- CIM test, CIM da/c

Service Provided for Software:

- Developed by company — Modification, Other support

CIMTEK Automation Systems Inc. was founded in 1986 by a team of engineers whose entrepreneurial spirit led them from Hewlett-Packard's system engineering and applications group to form a company specializing in quality control automation and data acquisition. Its proprietary software is integrated with industry-standard instrumentation and computer-hardware components, along with general automation and systems integration for manufacturing environments.

CIMTEK Automation Systems Inc.

2526 Speers Road
OAKVILLE, Ont.
L6L 5M2
Tel.: (416) 847-8811
Fax: (416) 847-8822

CONTACT:
James Egan
General Manager

Circuit Design Corp.

8170 Mountview Road
MONTREAL, Que.
H4P 2L7
Tel.: (514) 738-7640
Fax: (514) 735-5020

CONTACT:
Jay Shatilla
President

Hardware Platform:

- Personal Computer: OS/2
- Workstation: UNIX
- Mini: UNIX

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Group technology
- Bills of material
- Inventory control
- Data collection
- Simulation
- Maintenance management
- Quality assurance
- Shop floor control

Names of Software Packages: (from \$20k to \$100k)

- MONITROL, AWSS, BOSS, PSI

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from foreign company — Modification, Other support

Circuit Design Corp. (CDC) has extensive expertise in systems integration combining software and hardware components to generate a turnkey solution. With respect to the software components, CDC has standard packages to address certain vertical market segments as well as the capacity to custom design software to satisfy specific applications.

Hardware Platform:

- Personal Computer: MS-DOS, XENIX, OS/2
- Minl: VMS, UNIX
- Workstation: UNIX

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Material requirements planning
- Bills of material
- Inventory control
- Job order costing
- Order entry
- Scheduling and capacity requirements planning
- Simulation
- Distribution requirements planning

Name of Software Package: (from \$2.5k to \$15k)

- Solution TDL

Service Provided for Software:

- Developed by company — Modification, Other support

CLARI Inc. now has around 1 000 customers in Canada, the United States and Africa. Its modern and user-friendly software is used in various sectors in manufacturing, distribution, construction and professional industries. Its highly portable software runs from DOS to Network, UNIX and VMS and gives high-quality documentation and support. Its staff is bilingual.

CLARI Inc.

Unit L
9620 Ignace Street
BROSSARD, Que.
J4Y 2R4
Tel.: (514) 444-0810
Fax: (514) 444-0988

CONTACT:
André Boudreault
President

Epic Data Inc.

7280 River Road
RICHMOND, B.C.
V6X 1X5
Tel.: (604) 273-9146
Fax: (604) 273-1830

CONTACT:
Rick Eppich
Manager
Marketing Support

**Other Addresses
in Canada:**

Unit 11
100 Westmore Drive
REXDALE, Ont.
M9V 5C3

Hardware Platform:

- Personal Computer: OS/2, IBM/VAX
- Mini: UNIX, OS/2
- Workstation: UNIX, OS/2
- Mainframe: OS/2, UNIX

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Scheduling and capacity requirements planning
- Job order costing
- Quality assurance
- Order entry
- Inventory control
- Data collection
- Maintenance management
- Distribution requirements planning
- Shop floor control

Names of Software Packages:

- Various packages available

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from Canadian company — Modification, Other support

Epic Data Inc. designs, manufactures and markets data collection hardware and software internationally to provide fully integrated system solutions. Its terminals, controllers and software incorporate modular design, ensuring both reliability and flexibility.

Hardware Platform:

- Personal Computer: MS-DOS

Manufacturing Software Applications:

- Computer-aided process planning
- Bills of material
- Inventory control
- Forecasting
- Order entry
- Material requirements planning
- Scheduling and capacity requirements planning
- Job order costing
- Distribution requirements planning
- Shop floor control

Name of Software Package: (from \$1.2k to \$1.8k)

- MSIM — Manufacturing System Implementation Methodology

Service Provided for Software:

- Developed by company — Modification, Other support

Expert Perspective Consulting Inc. provides services and products relating to manufacturing system project planning and education to firms in the process, job shop and repetitive manufacturing sectors. Its MSIM line of products is designed to help these firms implement manufacturing systems the right way the first time. MSIM is a comprehensive implementation methodology.

Expert Perspective Consulting Inc.

*Suite 3100
3300 Bloor Street West
TORONTO, Ont.
M8X 2X3
Tel.: (416) 234-0991
Fax: (416) 239-9526*

CONTACT:
*Charles Best
President*

Fleming Systems Corporation

Suite 402, Plaza 2
2000 Argenta Road
MISSISSAUGA, Ont.
L5N 1V8
Tel.: (416) 567-4733
Fax: (416) 567-4737

CONTACT:
George K. Fleming
President

Other Addresses In Canada:

1118 Roland Street
THUNDER BAY, Ont.
P7B 5M4
Tel.: (807) 623-2310
Fax: (807) 622-4251

Hardware Platform:

- Workstation: VAX/VMS
- Mini: VAX/VMS
- Mainframe: VAX/VMS

Networking Capabilities:

- Modular
- Multi-user
- Networked

Manufacturing Software Applications:

- Material requirements planning
- Maintenance management
- Accounts payable
- Cost accounting

Name of Software Package: (from \$60k to \$1 870k)

- PMIS — Plant Management Information System

Service Provided for Software:

- Developed by company — Modification, Other support

Fleming Systems Corporation (FSC) was founded to satisfy the information systems requirements of industrial plants and large institutions. The company was among the first to recognize the need for industry to reduce its maintenance costs. FSC developed the Plant Management Information System (PMIS), which serves facilities maintenance, stores, purchasing, accounts payable and cost accounting requirements.

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: HP BASIC, UNIX

Manufacturing Software Applications:

- Computer-aided engineering
- Simulation

Names of Software Packages: (from \$1.2k to \$7.5k)

- ANTOL, FEDESK

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from Canadian company — Modification

H. G. Engineering is a consulting engineering company that provides services to heavy industry. It also offers an advanced analysis capability for engineering design.

H. G. Engineering

400 Carlingview Drive
ETOBICOKE, Ont.
M9W 5X9
Tel.: (416) 674-8505
Fax: (416) 674-8520

CONTACT:
A. Firmin
Vice-President

Hitek Computer Systems

Unit C 4
1 Wilkinson Road
BRAMPTON, Ont.
L6T 4M6
Tel.: (416) 452-0461
Fax: (416) 452-1324

CONTACT:
Kiran Kataria
President

Hardware Platform:

- Personal Computer: MS-DOS, OS/2, DEC/VAX
- Workstation: UNIX, DOS, OS/2, VAX

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Bills of material
- Inventory control
- Order entry
- Accounts payable
- General ledger
- Scheduling and capacity requirements planning
- Job order costing
- Shop floor control
- Accounts receivable

Name of Software Package:

- OPICS

Service Provided for Software:

- Developed by company — Modification, Other support

Hitek Computer Systems provides professional and complete computer solutions to small and medium-sized companies in the manufacturing sectors of the economy. Hitek's experienced staff have successfully developed and implemented software projects ranging from \$5 000 to over \$1 million.

Hardware Platform:

- Personal Computer: MS-DOS
- Mini: VMS
- Workstation: UNIX
- Mainframe: VM/MVS

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Computer-aided design
- Computer-aided manufacturing
- Scheduling and capacity requirements planning
- Job order costing
- Shop floor control
- Computer-aided engineering
- Computer-aided process planning
- Bills of material
- Simulation
- Forecasting

Names of Software Packages: (from \$1k to \$50k)

- Various packages available

Service Provided for Software:

- Developed by company — Modification
- Licensed from Canadian company — Modification, Other support
- Licensed from foreign company — Modification

ICAM is a leading manufacturing software company, having developed and supported 28 different software products for discrete parts manufacturers in the automotive, aerospace, electronics and machinery sectors. The products include computer-aided design/manufacturing/engineering (CAD/CAM/CAE) and computer-integrated manufacturing in several user-interface languages.

ICAM

1900 Sources Road
POINTE-CLAIRE, Que.
H9R 4Z3
Tel.: (514) 697-8033
Fax: (514) 697-8621

CONTACT:
John J. Nassr, Jr.
Vice-President

Other Addresses in Canada:

Suite 317
CIIT Building
1135 Ellice Avenue
WINNIPEG, Man.
R3B 1Y6

INFO-POWER Software Corporation

5759 Coopers Avenue
MISSISSAUGA, Ont.
L4Z 1R9
Tel.: (416) 507-2100
Fax: (416) 507-2108

CONTACT:
Dr. Prabir Dutt
CEO

Hardware Platform:

- Personal Computer: MS-DOS, MAC

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Computer-aided process planning
- Group technology
- Bills of material
- Data collection
- Job order costing
- Forecasting
- Distribution requirements planning
- Shop floor control
- Material requirements planning
- Scheduling and capacity requirements planning
- Inventory control
- Simulation
- Maintenance management
- Quality assurance
- Order entry

Name of Software Package: (from \$110k to \$350k)

- I-Manufacturer

Service Provided for Software:

- Developed by company — Modification, Other support

INFO-POWER Software Corporation is dedicated to developing, implementing and supporting world-class software solutions for manufacturing, distribution and facilities maintenance. Its application systems are totally integrated using the ORACLE fourth generation language and relational data base management system, which provides full portability across numerous hardware platforms and offers flexibility as well as compatibility.

Hardware Platform:

- Personal Computer: MS-DOS, OS/2

Manufacturing Software Applications:

- Data collection
- Shop floor control
- Quality assurance

Name of Software Package: (from \$100 to \$200)

- COLORMET Data Collection

Service Provided for Software:

- Developed by company — Modification

INSTRUMAR Ltd. designs and manufactures intelligent electronic sensors using innovative sensing techniques. The company, located in St. John's, Nfld., has a staff of electronics engineers, physicists and manufacturing personnel who, as a team, bring new techniques involving physical sensors from concept to market.

**INSTRUMAR
Ltd.**

P.O. Box 13246, Station A
ST. JOHN'S, Nfld.
A1A 2R1
Tel.: (709) 726-8460
Fax: (709) 726-8613

CONTACT:
David Prince
Applications Consultant

Integrated Engineering Software Inc.

Suite 347
435 Ellice Avenue
WINNIPEG, Man.
R3B 1Y6
Tel.: (204) 942-5636
Fax: (204) 942-8010

CONTACT:
Bennetta Benson
Manager
Sales and Marketing

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: UNIX

Manufacturing Software Applications:

- Computer-aided engineering

Names of Software Packages: (from \$4k to \$25k)

- ELECTRO, MAGNETO, COULOMB and AMPERES

Service Provided for Software:

- Developed by company — Modification, Other support

Integrated Engineering Software Inc. specializes in computer-aided engineering programs for solving electrical and magnetic field problems. ELECTRO (two-dimensional) and COULOMB (three-dimensional) software packages are used in the design and analysis of electrical and electronic equipment such as insulators, bushings and communication cables. MAGNETO (two-dimensional) and AMPERES (three-dimensional) software packages are used in the design and analysis of electromagnetic devices and components such as transformers and motors.

Hardware Platform:

- Personal Computer: MS-DOS, Novell
- Mini: VMS

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Maintenance management

Names of Software Packages: (from \$15k to \$100k)

- Logimaint Industrial 3000, Logimaint Vehicle 2000

Service Provided for Software:

- Developed by company — Modification, Other support

Logimaint Maintenance Consultants provides complete services in maintenance management, including software, technical training and consulting services in the organization of maintenance departments.

Logimaint Maintenance Consultants

Suite 300
1100 Cremazie East
MONTREAL, Que.
H2P 2X2
Tel.: (514) 374-9221
Fax: (514) 376-7813

CONTACT:
Nigel Hamer
Director

Microstructure Inc.

171 Pilgrim Avenue
WINNIPEG, Man.
R2M 0L5
Tel.: (204) 233-7732
Fax: (204) 237-5156

CONTACT:
Doug Anderson
President

Hardware Platform:

- Personal Computer: MS-DOS

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Bills of material
- Job order costing
- Shop floor control
- Inventory control
- Order entry

Name of Software Package: (from \$1.1k to \$15k)

- Realworld Accounting Software

Service Provided for Software:

- Developed by company — Modification
- Licensed from Canadian company — Modification
- Licensed from foreign company — Modification

Microstructure Inc. is a value-added reseller of computer business specializing in UNIX/XENIX-based environments. The owner of the company has more than 15 years of experience in product design, systems, standards design, engineering and data processing in a manufacturing environment. Its systems are supported and built in a variety of environments based on work experience as well as the UNIX/XENIX systems.

Hardware Platform:

- Personal Computer: PICK
- MinI: PICK
- Workstation: PICK
- Mainframe: PICK

Networking Capabilities:

- Modular
- Multi-user

Manufacturing Software Applications:

- Bills of material
- Order entry
- Report generator
- Purchase orders
- Inventory control
- Accounting
- Work orders

Name of Software Package: (\$895 and up)

- QCS Manufacturing System

Service Provided for Software:

- Developed by company — Modification

From initial analysis to after-sales service and support, MINIMICRO INC. can provide solutions to fit clients' exact requirements. Clients can take advantage of numerous built-in features, such as multiple warehousing and multiple currency. The software is transportable from mini to micro to mainframe hardware platforms, with vertical application integration and a direct spreadsheet interface.

MINIMICRO INC.

P.O. Box 1482
BELLEVILLE, Ont.
K8N 5J2
Tel.: (613) 967-2300
Fax: (613) 967-1067

CONTACT:
Bill Mound
Marketing Manager

Other Addresses in Canada:

KINGSTON, Ont.

TORONTO, Ont.
(opening August 1991)

Northern Computer Systems Inc.

93 James Street
PARRY SOUND, Ont.
P2A 1T7
Tel.: (705) 746-5873
Fax: (705) 746-5178

CONTACT:
John V. Cox
Vice-President

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: DOS

Networking Capabilities:

- Modular
- Networked

Manufacturing Software Applications:

- Computer-aided process planning
- Bills of material
- Job order costing
- Shop floor control
- Scheduling and capacity requirements planning
- Simulation
- Forecasting
- Interface to MRP and other systems

Names of Software Packages: (from \$10k to \$42k)

- RSS — Resource Scheduling System
- CALMS — Computer Assisted Loss Management System

Service Provided for Software:

- Developed by company — Modification, Other support

Northern Computer Systems Inc. has developed a highly successful, finite capacity scheduling package. Its large users report achieving work-in-progress reductions of 50 percent or more as well as productivity improvements of 25 percent in job shop environments. The company's software system has recently been introduced into the United States.

The Computer Assisted Loss Management System (CALMS), introduced in mid-1990, is the world's first series of comprehensive computer systems for recording, tracking and analysing safety, health, fire and loss control management activities. CALMS is based on the International Safety Rating System (ISRS) developed by the International Loss Control Institute of Loganville, Georgia, and is used around the world. CALMS results are impressive in terms of paperwork reduction, compliance to procedures and regulations and reduction in operating costs through such burdens as insurance premiums and claims.

RSS and CALMS run stand-alone or on personal computer networks. Users interface these products with mid-range and mainframe systems very effectively.

Hardware Platform:

- Personal Computer: XENIX/UNIX
- Workstation: UNIX

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Scheduling and capacity requirements planning
- Supply chain management
- Simulation
- Distribution requirements planning
- Logistics network optimization

Names of Software Packages: (from \$55k to \$72k)

- Schedulex, Llnx

Service Provided for Software:

- Developed by company — Modification, Other support

Numetrix Ltd. helps manufacturers optimize their supply chain planning from sourcing through production to distribution, and is a leading supplier of finite capacity scheduling software for the process industries. Its clients have become more competitive by improving response times and customer service, reducing inventories and improving productivity. Clients include P&G, Coors, Nestlé, Unilever, Union Carbide, Scott Paper Canada and Bristol-Myers-Squibb.

Numetrix Ltd.

Suite 1700
2 Bloor Street West
TORONTO, Ont.
M4W 3W2
Tel.: (416) 323-3744
Fax: (416) 323-3116

CONTACT:
Paul Watzinger
Manager

**Paul Ahrens
& Associates
Ltd.**

Suite 203
7 Duke Street West
KITCHENER, Ont.
N2H 6N7
Tel.: (519) 742-4540
Fax: (519) 742-3441

CONTACT:
Paul Ahrens
President

Hardware Platform:

- Personal Computer: MS-DOS
- Mini: UNIX, DOS

Networking Capabilities:

- Networked

Manufacturing Software Applications:

- Material requirements planning
- Scheduling and capacity requirements planning
- Bills of material
- Job order costing
- Inventory control
- Distribution requirements planning
- Forecasting
- Order entry

Service Provided for Software: (from \$5k to \$20k)

- Developed by company — Modification, Other support

Paul Ahrens & Associates Ltd. provides services in the manufacturing and distribution sectors, including data processing, systems consulting and software application. Its main emphasis is on providing management information solutions through computer systems design, implementation, training and support.

Hardware Platform:

- Mini: AS/400, UNIX

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- | | |
|--------------------------|--------------------------------------|
| • Bills of material | • Inventory control |
| • Data collection | • Job order costing |
| • Maintenance management | • Forecasting |
| • Quality assurance | • Distribution requirements planning |
| • Order entry | • Shop floor control |

Name of Software Package: (from \$50k to \$250k)

- SMARTS

Service Provided for Software:

- Developed by company — Modification, Other support

P. M. Sulcs & Associates Ltd. is based in western Canada and provides expertise and services in the mini and super-mini computer markets. The company specializes in on-line, interactive, screen-oriented business application solutions.

P. M. Sulcs & Associates Ltd.

Suite 201
4240 Manor Street
BURNABY, B.C.
V5G 1B2
Tel.: (604) 437-4494
Fax: (604) 439-9419

CONTACT:
Dale Monrad
Sales Manager

**Other Addresses
In Canada:**

Suite 1506
141 Adelaide Street West,
TORONTO, Ont.
M5H 3L5

Probe Software Sciences Ltd.

Suite 800
666 Sherbrooke
Street West
MONTREAL, Que.
H3A 1E7
Tel.: (514) 842-8141
Fax: (514) 842-1250

CONTACT:
Adriano G. Russo
President and CEO

Hardware Platform:

- Mini: HP3000 MPE

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- Computer-aided process planning
- Bills of material
- Inventory control
- Job order costing
- Quality assurance
- Order entry
- Material requirements planning
- Scheduling and capacity requirements planning
- Data collection
- Forecasting
- Distribution requirements planning

Name of Software Package: (from \$50k to \$200k)

- SIP 3000

Service Provided for Software:

- Developed by company — Modification, Other support

Over the years, Probe Software Sciences Ltd. has invested several million dollars in research and development. This has enabled the company to develop a software package that is rapidly becoming the standard in the process industry.

Hardware Platform:

- Personal Computer: MS-DOS
- Mini: AS/400

Networking Capabilities:

- Modular
- Multi-user
- Networked

Manufacturing Software Applications:

- Inventory control
- Job order costing
- Order entry

Name of Software Package: (from \$5k to \$200k)

- Lumber Production and Sales System

Service Provided for Software:

- Developed by company — Modification, Other support

Progisys Inc. is a software developer and a data-processing consulting organization. It specializes in sawmill management software and metal shop software as well as software for accounting, payroll and human resources systems. It is an IBM agent for the AS/400 line of computers and the PS/2. Progisys designs and installs turnkey solutions.

Progisys Inc.

Suite 220
5055 Wilfrid-Hamel
Street West
QUEBEC, Que.
G2E 2G6
Tel.: (418) 871-4880
Fax: (418) 871-9755

CONTACT:
Denis Plante
Vice-President
Marketing

Promac Inc.

1375 Morningside
Avenue
SCARBOROUGH, Ont.
M1B 3C5
Tel.: (416) 284-8440
Fax: (416) 284-8147

CONTACT:
Hans J. Hansen
General Manager

Hardware Platform:

- Mini: AOS

Manufacturing Software Applications:

- Bills of material
- Job order costing
- Inventory control
- Shop floor control

Name of Software Package: (from \$50k to \$100k)

- PROMICS

Service Provided for Software:

- Developed by company — Modification, Other support

Promac Inc. works mainly in design and systems integration. The main emphasis is on manufacturing. Today, Promac manufactures a wide range of electronic products for use in process control. This has led to the design and implementation of the powerful PROMICS software package, which has been characterized by accountants from three firms as "the best they have seen" for inventory control.

Hardware Platform:

- Workstation: VMS, DEC Net
- Mini: VMS

Networking Capabilities:

- Networked

Manufacturing Software Applications:

- Computer-aided manufacturing
- Material requirements planning
- Bills of material
- Inventory control
- Simulation
- Maintenance management
- Quality assurance
- Shop floor control
- Computer-aided process planning
- Scheduling and capacity requirements planning
- Data collection
- Job order costing
- Forecasting
- Order entry

Name of Software Package: (from \$150k to \$500k)

- PROMIS

Service Provided for Software:

- Developed by company — Modification, Other support

PROMIS Systems Corporation has developed PROMIS 5.1, a comprehensive software package that directs, controls and plans all aspects of a manufacturing shop floor. PROMIS 5.1 is particularly valuable where stringent operating procedures exist, where regulatory compliance and traceability are crucial and where real-time transactions are required. PROMIS 5.1 is the market leader in this field, with a decade of experience and a well-established user base. The company's target markets are industries that use batch-based processes, such as electronics, semiconductor, pharmaceutical, food and beverage, and fine chemicals industries.

PROMIS Systems Corporation

175 Bloor Street East
TORONTO, Ont.
M4W 3R8
Tel.: (416) 960-0960
Fax: (416) 960-1222

CONTACT:
Edward A. Tomlinson
Marketing Director

PROSIG Informatique Inc.

Suite 201
2323 Versant
Boulevard North
SAINT-FOY, Que.
G1N 4P4
Tel.: (418) 688-9828
Fax: (418) 688-9908

CONTACT:
Tony Haddad
Account Manager

Hardware Platform:

- Mini: VMS, UNIX

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Computer-aided process planning
- Bills of material
- Inventory control
- Distribution requirements planning
- Shop floor control
- Material requirements planning
- Scheduling and capacity requirements planning
- Quality assurance
- Order entry

Name of Software Package:

- PRO-MRP

Service Provided for Software:

- Developed by company — Modification, Other support

PROSIG Informatique Inc. is a data-processing consulting firm that specializes in management information systems, more specifically in integrated administrative, manufacturing and distribution systems. All of its software products are developed around relational database management systems (RDBMS) using fourth generation languages (4GL).

Hardware Platform:

- Workstation: UNIX

Manufacturing Software Applications:

- Simulation

Names of Software Packages: (from \$17k to \$70k)

- BoardScan, Greenfield

Service Provided for Software:

- Developed by company — Modification, Other support

Quantic Laboratories Inc. was formed as a spin-off from the Numerical Methods Research Laboratory of the University of Manitoba. Quantic Laboratories specializes in the computational solution of electromagnetic problems. The company is a leading developer of analogue simulation software for the electronics market worldwide.

**Quantic
Laboratories
Inc.**

Suite 200
281 McDermot Avenue
WINNIPEG, Man.
R3B 0S9
Tel.: (204) 943-2552
Fax: (204) 957-1158

CONTACT:
Curtis Rebizant
Manager
Product Marketing

RPT GROUP
T. W. Rogers
Consulting
Inc.

Suite 310
29 Gervais Drive
DON MILLS, Ont.
M3C 1Y9
Tel.: (416) 391-1778
Fax: (416) 391-1781

CONTACT:
Tom Rogers, CA
President

Hardware Platform:

- Personal Computer: MS-DOS

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Material requirements planning
- Bills of material
- Inventory control
- Job order costing
- Forecasting
- Shop floor control
- Scheduling and capacity requirements planning
- Data collection
- Maintenance management
- Order entry

Name of Software Package: (from \$20k to \$50k)

- RPT Management Series (15 separate modules)

Service Provided for Software:

- Developed by company — Modification, Other support

The RPT GROUP has a special staff of consultants, programmers, technicians and trainers who appreciate the real needs of the graphic arts industry. As a professional team, the RPT consultants possess a unique combination of financial accreditation and computer experience in the printing industry, which enables them to recommend, install and implement solutions.

Hardware Platform:

- Personal Computer: MS-DOS
- Workstation: UNIX
- Mini: UNIX, DEC VAX

Networking Capabilities:

- Networked

Manufacturing Software Applications:

- Scheduling and capacity requirements planning
- Simulation
- Forecasting
- Job order costing
- Activity-based costing of products/services
- Process modelling
- Scenario playing/decision support
- Profitability analysis

Names of Software Packages:

- NetProphet (from \$6.5k)
- NetProphet Educational Version (\$500)

Service Provided for Software:

- Developed by company — Modification, Other support

Sapling Software Aided Planning Corporation is a Canadian company specializing in business planning and cost management systems, including the internationally used activity-based modelling tool NetProphet. Unlike conventional planning methods or spreadsheets, NetProphet simultaneously addresses both the operational and financial considerations relevant to a business. NetProphet models are based on a thorough knowledge of the processes, activities and policies that define a company.

Using demands for products or services, the model calculates the required operational flow of activities, including materials, resources and overheads, taking into consideration options and constraints. Financial results are then automatically developed by tracking the costs of the associated operational flow. Sapling's services include specialized consulting, training and training packages, software development and systems integration. It also provides upgrades, a telephone hot-line with extended customer support and training workshops that can be customized on request.

Sapling Software Aided Planning Corporation

400 Carlingview Drive
ETOBICOKE, Ont.
M9W 5X9
Tel.: (416) 674-8737
Fax: (416) 674-8520

CONTACT:
Derek Sandison
President

Soft Warehouse Ltd.

4695 Hastings Street
BURNABY, B.C.
V5C 2K6
Tel.: (604) 294-4004

CONTACT:
Daye Dancer
President

Hardware Platform:

- Personal Computer: PICK
- Mini: PICK
- Workstation: PICK
- Mainframe: PICK

Networking Capabilities:

- Multi-user

Manufacturing Software Applications:

- Bills of material
- Job order costing
- Inventory control
- Order entry

Name of Software Package: (\$5 000 per user including hardware)

- ZELDA

Service Provided for Software:

- Developed by company — Other support

Soft Warehouse Ltd.'s software package ZELDA, a multi-user sales and inventory system, is designed to serve customers and to make sales people productive and administration lean through total control of sales as well as invoicing, inventory and general ledger requirements.

Hardware Platform:

- Personal Computer: MS-DOS

Networking Capabilities:

- Modular
- Networked

Manufacturing Software Applications:

- Computer-aided design
- Computer-aided manufacturing
- Bills of material
- Inventory control
- Simulation
- Job order costing
- Shop floor control

Name of Software Package: (from \$30k to \$50k)

- Steelcad

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from foreign company — Other support

Steelcad International Inc. was a structural-steel drafting company that got into computer programming. It now sells programs in Canada and the United States, and recently began selling in Europe. It has the largest customer base of firms offering similar programs. The system works in metric and Imperial measure, and meets all Canadian standards and design requirements.

Steelcad International Inc.

Suite 201
550 Alden Road
MARKHAM, Ont.
L3R 6A8
Tel.: (416) 479-0399
Fax: (416) 513-0155

CONTACT:
Bob Pettitt
President

SYMTEC INTERNATIONAL

3253 Lacombe Street
MONTREAL, Que.
H3T 1L6
Tel.: (514) 343-4571
Fax: (514) 342-6248

CONTACT:
Michel Virard
President

Hardware Platform:

- Personal Computer: MS-DOS
- Mini: HP3000, UNIX
- Workstation: UNIX
- Mainframe: VMS, UNIX

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Material requirements planning
- Scheduling and capacity requirements planning
- Bills of material
- Simulation
- Inventory control
- Shop floor control
- Order entry

Names of Software Packages: (from \$3k to \$250k)

- SIMSOFT, PRODSTAR

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from foreign company — Modification, Other support

SYMTEC INTERNATIONAL provides Canadian manufacturers with proven and standard solutions to their problems involving inventory management, production management, scheduling, costing, short- and long-term planning and material flow planning. Once this sound base is operating, SYMTEC can provide custom-designed additions to meet specific needs.

Hardware Platform:

- Personal Computer: MS-DOS, OS/2 • Workstation: UNIX, DOS, AIX
- Mini: UNIX

Networking Capabilities:

- Modular
- Networked
- Multi-user

Manufacturing Software Applications:

- Material requirements planning
- Bills of material
- Inventory control
- Job order costing
- Order entry
- Estimating for job shoppers
- Scheduling and capacity requirements planning
- Data collection
- Distribution requirements planning
- Shop floor control
- All accounting modules

Name of Software Package: (from \$2k to \$50k)

- IMPACT IV

Service Provided for Software:

- Licensed from foreign company — Modification

The core package by Syspro International was developed in the United Kingdom. All changes specific to Canada and the United States are written and supported by a Canadian-owned and -operated company.

Syspro Impact Software Inc.

Suite 202
4190 Lougheed Highway
BURNABY, B.C.
V5C 3Y5
Tel.: (604) 298-3922
Fax: (604) 293-3430

CONTACT:
Trevor L. Daniel
President

Other Addresses In Canada:

Syspro — Ontario
KITCHENER, Ont.

Source Data Products
TORONTO, Ont.

CSB Systems Ltd.
EDMONTON, Alta.

Phoenix Systems
NEWMARKET, Ont.

System Dynamics Corporation

151 Esna Park Drive
MARKHAM, Ont.
L3R 3B1
Tel.: (416) 475-5155
Fax: (416) 475-9378

CONTACT:
Frank Clacel
President

Hardware Platform:

- Personal Computer: MS-DOS, OS/2
- Workstation: UNIX, DOS, OS/2
- Mini: UNIX
- Mainframe: UNIX

Networking Capabilities:

- Modular
- Multi-user
- Networked

Manufacturing Software Applications:

- Computer-aided engineering
- Computer-aided process planning
- Material requirements planning
- Scheduling and capacity requirements planning
- Bills of material
- Data collection
- Inventory control
- Job order costing
- Simulation
- Forecasting
- Maintenance management
- Shop floor control

Names of Software Packages: (from \$5k to \$200k)

- Dynamic*Manufacturing, Dynamic*Distribution

Service Provided for Software:

- Developed by company — Modification, Other support

System Dynamics Corporation has been providing business software solutions to computer users since 1975. The company sells its manufacturing/distribution software to run on a host of hardware platforms. The company's Dynamic* Manufacturing and Dynamic*Distribution applications are geared toward customers in the pharmaceutical, food processing, chemical, beverage and bottling industries.

System Dynamics provides a wide range of integrated solutions for accounting, distribution, manufacturing, project management and preventive maintenance. All software is available in both COBOL and ORACLE, the fourth generation language and relational database product.

Hardware Platform:

- Personal Computer: MS-DOS

Networking Capabilities:

- Modular
- Networked

Manufacturing Software Applications:

- Data collection
- Forecasting
- Quality assurance
- Shop floor control

Names of Software Packages:

- QUASAR, Dynamic*Manufacturing, INCENTIVE

Service Provided for Software:

- Developed by company — Modification, Other support

TAVEL Limited provides engineering and automation consulting as well as products to the tool and light manufacturing industries. TAVEL's strengths are in process engineering and software development.

TAVEL Limited

38 Fielding Ave
DARTMOUTH, N.S.
B3B 1E4
Tel.: (902) 468-2344
Fax: (902) 468-2457

CONTACT:
William Apold
President

Time Terminals of Canada

298 Garry Street
WINNIPEG, Man.
R3C 1H3
Tel.: (204) 947-9500
Fax: (204) 956-4026

CONTACT:
Bill Loewen
Product Manager

Hardware Platform:

- Personal Computer: MS-DOS, Waterloo Port
- Workstation: DOS, Waterloo Port

Networking Capabilities:

- Networked

Name of Software Package: (from \$8k to \$30k)

- Electronic Time Card System

Service Provided for Software:

- Developed by company — Modification, Other support
- Licensed from Canadian company — Modification, Other support

Time Terminals of Canada is a division of Comcheq Services Ltd., Canada's largest independent payroll processing company. Time Terminals is involved in the manufacture and sales of the Electronic Time Card (ETC) terminal and its associated microcomputer-based software, which collects labour cost data and time and attendance information at the employee's workstation using the low-cost ETC terminal.

Hardware Platform:

- Personal Computer: OS/2¹
- Mini: VMS,² UNIX
- Workstation: UNIX, OS/2

Networking Capabilities:

- Multi-user
- Networked

Manufacturing Software Applications:

- Computer-aided process planning
- Bills of material
- Inventory control
- Job order costing
- Distribution requirements planning
- Shop floor control
- Material requirements planning
- Scheduling and capacity requirements planning
- Data collection
- Forecasting
- Order entry

Name of Software Package: (from \$50k to \$150k)

- TXBASE Manufacturing System

Service Provided for Software:

- Developed by company — Modification, Other support

TXBASE Systems Inc., is a Canadian developer and marketer of manufacturing resources planning (MRP II) software packages on SYBASE, relational database management systems and fourth generation language tools, using computer-aided software engineering (CASE) tools and client/server techniques. The TXBASE manufacturing system offers all the services required by most manufacturing companies. Software can be customized and interfaced with data collection devices.

¹ awaiting porting by SYBASE

² planned, second quarter of 1991

TXBASE Systems Inc.

Suite 101
20 Valleywood Drive
MARKHAM, Ont.
L3R 6G1
Tel.: (416) 771-8100
Fax: (416) 771-0164

CONTACT:
Ray Talwar
President

Waterloo Engineering Software

22 Dupont Street East
WATERLOO, Ont.
N2J 2G9
Tel.: (519) 885-2450
Fax: (519) 746-7931

CONTACT:
Bruce Macdonald

Hardware Platform:

- Personal Computer: MS-DOS

Networking Capabilities:

- Modular

Manufacturing Software Applications:

- Scheduling and capacity requirements planning
- Inventory control
- Shop floor control
- Forecasting
- Factory modelling

Name of Software Package: (to \$30k)

- WATTPASS: The Scheduler's Assistant

Service Provided for Software:

- Developed by company — Other support
- Licensed from Canadian company — Other support

Waterloo Engineering Software markets several engineer applications software programs. Its strengths include quality products that are advanced in their field and supported by extensive research, after-sales service and support, an expanding value-added resellers' distributor network, and development of a user-friendly environment. Its planning software is specifically designed to address finite capacity requirements.

List of Suppliers of Manufacturing Software by Method of Manufacture and by Major Application

Design Engineering	Process	Repetitive	Job shop
H. G. Engineering	•	•	•
ICAM		•	•
Integrated Engineering Software Inc.	•		
RPT GROUP T. W. Rogers Consulting Inc.			•
Steelcad International Inc.	•	•	•
System Dynamics Corporation	•	•	•

Manufacturing Engineering	Process	Repetitive	Job shop
American Business Computer (Canada)	•	•	•
Axon Development Corporation	•	•	•
Calculus Cie d'Informatique Ltée	•	•	•
Carleton Technologies Inc.		•	•
Circuit Design Corp.	•	•	•
Expert Perspective Consulting Inc.	•	•	•
ICAM		•	•
INFO-POWER Software Corporation	•	•	•
Northern Computer Systems Inc.		•	•
Probe Software Sciences Ltd.	•		
PROMIS Systems Corporation	•	•	•
PROSIG Informatique Inc.	•	•	•
RPT GROUP T. W. Rogers Consulting Inc.			•
Steelcad International Inc.	•	•	•
Syspro Impact Software Ltd..		•	•
System Dynamics Corporation	•	•	•
TXBASE Systems Inc.	•	•	•

Materials Management	Process	Repetitive	Job shop
ALGO DESIGN INC.		•	•
Ambrose Frederic Ltd.	•	•	•
American Business Computer (Canada)	•	•	•
AMTEK Management	•	•	•
Axon Development Corporation			•
Berclain Inc.		•	•
Calculus Cie d'Informatique Ltée	•	•	•
Canadian Manufacturing Systems		•	•
Cantel Computer Corp.	•	•	•
Carleton Technologies Inc.		•	•
CIMTEK Automation Systems Inc.	•	•	•
Circuit Design Corp.	•	•	•
CLARI INC.	•	•	•

**List of
Suppliers of
Manufacturing
Software by
Method of
Manufacture
and by Major
Application**

Epic Data Inc.	•	•	•
Expert Perspective Consulting Inc.	•	•	•
Fleming Systems Corporation	•	•	•
Hitek Computer Systems	•	•	•
ICAM		•	•
INFO-POWER Software Corporation	•	•	•
INSTRUMAR Ltd.	•	•	•
Microstructure Inc.	•	•	•
MINIMICRO INC.	•		•
Northern Computer Systems Inc.		•	•
Numetrix Ltd.	•	•	
Paul Ahrens & Associates Ltd.		•	•
P. M. Sulcs & Associates Ltd.	•	•	•
Probe Software Sciences Ltd.	•		
Proglsys Inc.		•	•
Promac Inc.		•	•
PROMIS Systems Corporation	•	•	
PROSIG Informatique Inc.	•	•	•
RPT GROUP T. W. Rogers Consulting Inc.			•
Sapling Software Aided Planning Corporation	•	•	•
Soft Warehouse Ltd.	•	•	•
Steelcad International Inc.	•	•	•
SYMTEC INTERNATIONAL	•	•	
Syspro Impact Software Ltd..		•	•
System Dynamics Corporation	•	•	•
TAVEL Limited	•	•	•
TXBASE Systems Inc.	•	•	•
Waterloo Engineering Software		•	•

Shop Floor Support

	Process	Repetitive	Job shop
Ambrose Frederic Ltd.	•	•	•
American Business Computer (Canada)	•	•	•
AMTEK Management	•	•	•
Axon Development Corporation			•
Berclain Inc.		•	•
Calculus Cie d'Informatique Ltée	•	•	•
Canadian Manufacturing Systems		•	•
Cantel Computer Corp.	•	•	•
Carleton Technologies Inc.		•	•
CIMTEK Automation Systems Inc.	•	•	•
Circuit Design Corp.	•	•	•
CLARI INC.	•	•	•
Epic Data Inc.	•	•	•

Fleming Systems Corporation	.	.	.
H. G. Engineering	.	.	.
ICAM		.	.
INFO-POWER Software Corporation	.	.	.
INSTRUMAR Ltd.	.	.	.
Logimaint Maintenance Consultants	.	.	.
Northern Computer Systems Inc.		.	.
Numetrix Ltd.	.	.	.
P. M. Sulcs & Associates Ltd.	.	.	.
Probe Software Sciences Ltd.	.		
PROMIS Systems Corporation	.	.	
PROSIG Informatique Inc.	.	.	.
Quantic Laboratories Inc.	.		
Sapling Software Aided Planning Corporation	.	.	.
Soft Warehouse Ltd.	.	.	.
Steelcad International Inc.	.	.	.
SYMTEC INTERNATIONAL	.	.	
Syspro Impact Software Ltd.,		.	.
System Dynamics Corporation	.	.	.
TAVEL Limited	.	.	.
TXBASE Systems Inc.	.	.	.

List of Suppliers of Manufacturing Software by Method of Manufacture and by Major Application

**List of
Suppliers of
Manufacturing
Software by
Method of
Manufacture
and by
Industry
Sector**

Clothing

	Process	Repetitive	Job shop
American Business Computer (Canada)		°	
AMTEK Management	°	°	°
Axon Development Corporation			°
Cantel Computer Corp.	°	°	°
Expert Perspective Consulting Inc.	°	°	°
Hitek Computer Systems	°	°	°
INFO-POWER Software Corporation		°	
INSTRUMAR Ltd.	°	°	
Logimaint Maintenance Consultants	°	°	°
Numetrix Ltd.	°	°	
PROSIG Informatique Inc.	°	°	°
Sapling Software Aided Planning Corporation		°	
SYMTEC INTERNATIONAL		°	
TAVEL Limited	°	°	°
Time Terminals of Canada	°	°	°
TXBASE Systems Inc.			°

Food Processing

	Process	Repetitive	Job shop
Ambrose Frederic Ltd.	°	°	°
American Business Computer (Canada)	°	°	
AMTEK Management	°	°	°
Axon Development Corporation			°
Berclain Inc.		°	
Calculus Cie d'Informatique Ltée	°	°	
Carleton Technologies Inc.		°	
CIMTEK Automation Systems Inc.	°		
Circuit Design Corp.	°	°	°
CLARI INC.		°	
Expert Perspective Consulting Inc.	°	°	°
Fleming Systems Corporation	°		
INFO-POWER Software Corporation	°		
INSTRUMAR Ltd.	°	°	
Logimaint Maintenance Consultants	°	°	°
Numetrix Ltd.	°	°	
P. M. Sulcs & Associates Ltd.	°	°	°
Probe Software Sciences Ltd.	°		
PROMIS Systems Corporation	°		
Sapling Software Aided Planning Corporation	°		
Soft Warehouse Ltd.	°	°	
SYMTEC INTERNATIONAL	°	°	
Syspro Impact Software Ltd..		°	



System Dynamics Corporation	.		
TAVEL Limited	.	.	.
Time Terminals of Canada	.	.	.
TXBASE Systems Inc.	.	.	

List of Suppliers of Manufacturing Software by Method of Manufacture and by Industry Sector

Wooden Furniture and Millwork	Process	Repetitive	Job shop
ALGO DESIGN INC.		.	.
American Business Computer (Canada)		.	.
AMTEK Management	.	.	.
Berclain Inc.			.
Canadian Manufacturing Systems		.	.
Carleton Technologies Inc.		.	.
Circuit Design Corp.	.	.	.
CLARI INC.	.	.	.
Expert Perspective Consulting Inc.	.	.	.
Hitek Computer Systems	.	.	.
ICAM		.	
INFO-POWER Software Corporation			.
Logimaint Maintenance Consultants	.	.	.
Microstructure Inc.	.	.	.
MINIMICRO INC.	.		
Numetrix Ltd.		.	
Paul Ahrens & Associates Ltd.		.	.
Progsys Inc.	.	.	.
PROSIG Informatique Inc	.	.	.
Soft Warehouse Ltd.		.	
SYMTEC INTERNATIONAL		.	
Syspro Impact Software Ltd.		.	
System Dynamics Corporation		.	
TAVEL Limited	.	.	.
Time Terminals of Canada	.	.	.
TXBASE Systems Inc.			.
Waterloo Engineering Software		.	.

Rubber and Plastics	Process	Repetitive	Job shop
American Business Computer (Canada)		.	.
AMTEK Management	.	.	.
Berclain Inc.		.	.
Calculus Cie d'Informatique Ltée	.	.	
Canadian Manufacturing Systems		.	.
Circuit Design Corp.	.	.	.

**List of
Suppliers of
Manufacturing
Software by
Method of
Manufacture
and by
Industry
Sector**

Expert Perspective Consulting Inc.	•	•	•
Fleming Systems Corporation	•	•	•
H. G. Engineering	•	•	•
Hitek Computer Systems	•	•	•
ICAM		•	•
INFO-POWER Software Corporation	•	•	
INSTRUMAR Ltd.	•	•	•
Logimaint Maintenance Consultants	•	•	•
Microstructure Inc.	•	•	•
MINIMICRO INC.	•		
Northern Computer Systems Inc.		•	•
Numetrix Ltd.	•	•	
Paul Ahrens & Associates Ltd.		•	•
P. M. Sulcs & Associates Ltd.	•	•	•
Probe Software Sciences Ltd.	•		
PROSIG Informatique Inc.	•	•	•
Sapling Software Aided Planning Corporation	•	•	
SYMTEC INTERNATIONAL	•	•	
Syspro Impact Software Ltd.		•	•
System Dynamics Corporation	•	•	•
TAVEL Limited	•	•	•
Time Terminals of Canada	•	•	•
TXBASE Systems Inc.		•	
Waterloo Engineering Software			•

Metal Fabrication

	Process	Repetitive	Job shop
ALGO DESIGN INC.		•	•
American Business Computer (Canada)		•	•
AMTEK Management	•	•	•
Axon Development Corporation			•
Berclain Inc.		•	•
Calculus Cie d'Informatique Ltée	•	•	•
Canadian Manufacturing Systems		•	•
Carleton Technologies Inc.		•	•
CIMTEK Automation Systems Inc.	•	•	•
Circuit Design Corp.	•	•	•
Epic Data Inc.	•	•	•
Expert Perspective Consulting Inc.	•	•	•
Fleming Systems Corporation		•	•
H. G. Engineering	•	•	
Hitek Computer Systems	•	•	•
ICAM		•	•
INFO-POWER Software Corporation		•	•

Logimaint Maintenance Consultants	.	.	.
Microstructure Inc.	.	.	.
MINIMICRO INC.			.
Northern Computer Systems Inc.		.	.
Numetrix Ltd.	.	.	
Paul Ahrens & Associates Ltd.		.	.
P. M. Sulcs & Associates Ltd.	.	.	.
Proglsys Inc.			.
PROSIG Informatique Inc.	.		.
Sapling Software Aided Planning Corporation	.	.	.
Soft Warehouse Ltd.	.	.	.
Steelcad International Inc.	.	.	.
SYMTEC INTERNATIONAL		.	
Syspro Impact Software Ltd.,		.	.
System Dynamics Corporation		.	.
TAVEL Limited	.	.	.
Time Terminals of Canada	.	.	.
TXBASE Systems Inc.		.	.
Waterloo Engineering Software		.	.

Printing

	Process	Repetitive	Job shop
American Business Computer (Canada)	.	.	
Axon Development Corporation			.
Berclain Inc.			.
Calculus Cie d'Informatique Ltée	.	.	.
Carleton Technologies Inc.		.	.
Circuit Design Corp.	.	.	.
Epic Data Inc.	.	.	.
Expert Perspective Consulting Inc.	.	.	.
INFO-POWER Software Corporation	.		
INSTRUMAR Ltd.	.	.	.
Logimaint Maintenance Consultants	.	.	.
Northern Computer Systems Inc.		.	.
RPT GROUP T. W. Rogers Consulting Inc.			.
SYMTEC INTERNATIONAL		.	
Syspro Impact Software Ltd.,		.	.
TAVEL Limited		.	.
Time Terminals of Canada	.	.	.
TXBASE Systems Inc.			.

List of Suppliers of Manufacturing Software by Method of Manufacture and by Industry Sector

**List of
Suppliers of
Manufacturing
Software by
Method of
Manufacture
and by
Industry
Sector**

<i>Electrical and Electronic Products</i>	Process	Repetitive	Job shop
American Business Computer (Canada)		•	•
AMTEK Management	•	•	•
Axon Development Corporation			•
Berclain Inc.		•	•
Canadian Manufacturing Systems		•	•
Carleton Technologies Inc.		•	•
CIMTEK Automation Systems Inc.	•	•	•
Circuit Design Corp.	•	•	•
Epic Data Inc.	•	•	•
Expert Perspective Consulting Inc.	•	•	•
H. G. Engineering	•	•	•
Hitek Computer Systems	•	•	•
ICAM		•	•
INFO-POWER Software Corporation		•	•
Integrated Engineering Software Inc.	•		
Logimaint Maintenance Consultants	•	•	•
Microstructure Inc.	•	•	•
MINIMICRO INC.			•
Northern Computer Systems Inc.		•	•
Numerix Ltd.		•	
Paul Ahrens & Associates Ltd.		•	•
P. M. Sulcs & Associates Ltd.	•	•	•
Promac Inc.		•	•
PROMIS Systems Corporation	•	•	
PROSIG Informatique Inc.	•	•	•
Quantic Laboratories Inc.	•		
Sapling Software Aided Planning Corporation		•	
SYMTEC INTERNATIONAL		•	
Syspro Impact Software Ltd..		•	•
System Dynamics Corporation		•	•
TAVEL Limited		•	•
Time Terminals of Canada	•	•	•
TXBASE Systems Inc.	•		•

• **British Columbia**

Epic Data Inc.
P. M. Sulcs & Associates Ltd.

• **Alberta**

AMTEK Management

• **Manitoba**

ICAM
Integrated Engineering Software Inc.
Microstructure Inc.

• **Ontario**

Ambrose Frederic Ltd.
American Business Computer (Canada)
AMTEK Management
Canadian Manufacturing Systems
Carleton Technologies Inc.
CIMTEK Automation Systems Inc.
Epic Data Inc.
Expert Perspective Consulting Inc.
Fleming Systems Corporation
H. G. Engineering
Hitek Computer Systems
INFO-POWER Software Corporation
MINIMICRO INC.

• **Quebec**

ALGO DESIGN INC.
Berclain Inc.
Calculus Cle d'Informatique Ltée
Cantel Computer Corp.
Circuit Design Corp.
CLARI Inc.

• **Nova Scotia**

TAVEL Limited

Soft Warehouse Ltd.
Syspro Impact Software Ltd.,

• **Saskatchewan**

Axon Development Corporation

Quantic Laboratories Inc.
Time Terminals of Canada

Northern Computer Systems Inc.
Numetrix Ltd.
Paul Ahrens & Associates Ltd.
P. M. Sulcs & Associates Ltd.
Promac Inc.
PROMIS Systems Corporation
RPT GROUP T. W. Rogers Consulting Inc.
Sapling Software Aided Planning Corporation
Steelcad International Inc.
Syspro Impact Software Ltd.,
System Dynamics Corporation
TXBASE Systems Inc.
Waterloo Engineering Software

ICAM
Logimaint Maintenance Consultants
Probe Software Sciences Ltd.
Progsys Inc.
PROSIG Informatique Inc.
SYMTEC INTERNATIONAL

• **Newfoundland**

INSTRUMAR Ltd.

**Cross
Reference
of Company
Location by
Province**

For Further Information

For further information about the companies, products and services profiled in this directory, please feel free to:

- contact the company directly;
- contact the Trade Commissioner at the nearest Canadian foreign mission; or
- contact an International Trade Centre, as listed below.

International Trade Centres

NEWFOUNDLAND

International Trade Centre
Suite 504
Atlantic Place
215 Water Street
P.O. Box 8950
ST. JOHN'S, Nfld.
A1B 3R9
Tel.: (709) 772-5511
Fax: (709) 772-2373

PRINCE EDWARD ISLAND

International Trade Centre
Suite 400
National Bank Tower
Confederation Court Mall
134 Kent Street
P.O. Box 1115
CHARLOTTETOWN, P.E.I.
C1A 7M8
Tel.: (902) 566-7400
Fax: (902) 566-7450

NOVA SCOTIA

International Trade Centre
Central Guaranty Trust Tower
1801 Hollis Street
P.O. Box 940, Station M
HALIFAX, N.S.
B3J 2V9
Tel.: (902) 426-7540
Fax: (902) 426-2624

NEW BRUNSWICK

International Trade Centre
Assumption Place
770 Main Street
P.O. Box 1210
MONCTON, N.B.
E1C 8P9
Tel.: (506) 851-6452
Fax: (506) 851-6429

QUEBEC

International Trade Centre
Suite 3800
Tour de la Bourse
800 Victoria Square
P.O. Box 247
MONTREAL, Que.
H4Z 1E8
Tel.: (514) 283-8185
Fax: (514) 283-8794

ONTARIO

International Trade Centre
4th Floor
Dominion Public Building
1 Front Street West
TORONTO, Ont.
M5J 1A4
Tel.: (416) 973-4782
Fax: (416) 973-8161

MANITOBA

International Trade Centre
9th Floor
330 Portage Avenue
P.O. Box 981
WINNIPEG, Man.
R3C 2V2
Tel.: (204) 983-8036
Fax: (204) 983-2187

SASKATCHEWAN

International Trade Centre
Suite 401
119-4th Avenue South
SASKATOON, Sask.
S7K 5X2
Tel.: (306) 975-5315
Fax: (306) 975-5334

International Trade Centre
4th Floor
1955 Smith Street
REGINA, Sask.
S4P 2N8
Tel.: (306) 780-5020
Fax: (306) 780-6679

ALBERTA

International Trade Centre
Suite 540
Canada Place
9700 Jasper Avenue
EDMONTON, Alta.
T5J 4C3
Tel.: (403) 495-2944
Fax: (403) 495-4507

International Trade Centre
11th Floor
510 – 5th Street Southwest
CALGARY, Alta.
T5P 3S2
Tel.: (403) 292-6660
Fax: (403) 292-4578

BRITISH COLUMBIA

International Trade Centre
Suite 900
Scotia Tower
650 West Georgia Street
P.O. Box 11610
VANCOUVER, B.C.
V6B 5H8
Tel.: (604) 666-0266
Fax: (604) 666-8330

YUKON

ISTC
Suite 301
108 Lambert Street
WHITEHORSE, Y.T.
Y1A 1Z2
Tel.: (403) 668-4655
Fax: (604) 668-5003

NORTHWEST TERRITORIES

ISTC
10th Floor
Precambrian Building
P.O. Bag 6100
YELLOWKNIFE, N.W.T.
X1A 2R3
Tel.: (403) 920-8575
Fax: (403) 873-6228

**For Further
Information**

TS183/.A3/no.5
Canada. Industrial and El
Advanced manufacturing
technologies : Canadian
BNPD c. 2 aa ISTC

DATE DUE - DATE DE RETOUR

[illegible]

ISTC 1551 (2/90)

INDUSTRY CANADA/INDUSTRIE CANADA



69486

