AWARDS 1991

CANADA
AWARDS FOR
BUSINESS
EXCELLENCE

H.G. ROGERS
DEPUTY MINISTER
INDUSTRY, SCIENCE AND TECHNOLOGY CANADA

Canada

AWARDS 1991

CANADA AWARDS FOR BUSINESS EXCELLENCE

Industry, Science and Technology Canada
Industrie, Sciences et Technologie Canada

Canada

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Minister of Industry,
Science and Technology and
Minister for International Trade

CANADA

Ministre de l'Industrie, des
Sciences et de la Technologie et
ministre du Commerce extérieur

As Minister of Industry, Science and Technology and Minister for International Trade, it is a great pleasure to participate in the 1991 Canada Awards for Business Excellence (CABE). Created in 1984, these awards honour outstanding achievement in all sectors of industry.

It is an honour to be selected a CABE winner. The competition is tough and so are the judges. Contestants are evaluated by their keenest critics — their peers — independent panels of distinguished private sector experts and senior executives.

Canadian companies are recognized for their achievements in one of eight categories. These areas of success range from assimilating new technology to applying best labour and business practices.

Winners also demonstrate that an increased commitment to business excellence and higher standards has helped make them, and Canada, more competitive and therefore, prosperous.

These companies have adopted a positive outlook and have said "Yes, we can compete!" and in doing so, have helped make Canada a force to reckon with in the global marketplace.

Past winners will confirm that winning a CABE is good for business in every sense of the word. Along with prestige, the award carries a range of tangible benefits. Winners are spotlighted through media exposure, a national advertising campaign and promotion by federal government offices across Canada and around the world. All that exposure helps attract new customers.

I congratulate all of this year's Canada Awards for Business Excellence participants and encourage you to continue your commitment to excellence.

Michael H. Wilson

Ottawa, Canada K1A 0H5

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The CANADA AWARDS FOR BUSINESS EXCELLENCE (CABE) were created in 1984 by the Government of Canada to honour businesses in all industry sectors for their outstanding achievements. These coveted awards have since become synonymous with the best in Canadian business.

The 1991 CANADA AWARDS FOR BUSINESS EXCELLENCE honour the achievements of 22 winners in eight categories.

This publication highlights the outstanding achievements of the winners of the 1991 Canada Awards for Business Excellence.

THE PROGRAM

The 1991 program recognizes achievement in eight categories: Innovation, Environment, Entrepreneurship, Industrial Design, Small Business, Marketing, Invention and Quality. Up to three trophy winners are selected in each category by independent panels of private sector experts and senior business executives, a separate panel of five or six members being assigned to each award category. The Quality and Environment category panels are assisted by site examiners who visit short-listed companies. The trophies will be presented by the Minister of Industry, Science and Technology, the Honourable Michael Wilson, on October 30, 1991.

The annual awards competition is launched in January with an entry closing date early in April. Entries consist of the responses to category questionnaires contained in the program Entry Guide.

These guides are widely distributed and have been designed to help prospective entrants demonstrate to the jurors how they have achieved outstanding business success.

The jury panels meet in early summer to select winners with the first public announcement of winners being made in the first week of September. Traditionally, a gala awards presentation event is held in the latter part of October and is broadcast on cable TV live by satellite.

The Canada Awards for Business Excellence and The Conference Board of Canada have jointly sponsored several studies of the successful practices exhibited by award winners. This work has resulted in the following publications: *Improving Competitiveness, Winning Strategies, Globalization: Canadian Companies Compete, Excellence in the Management of Innovation,* and *Total Quality Management: The Competitive Imperative.*

In addition to the studies, the awards program sponsors a Conference Board conference on the day of the gala event, to discuss the lessons of the Board's most recent work. The theme of the 1991 conference is "Prosperity Through Quality: A World View."

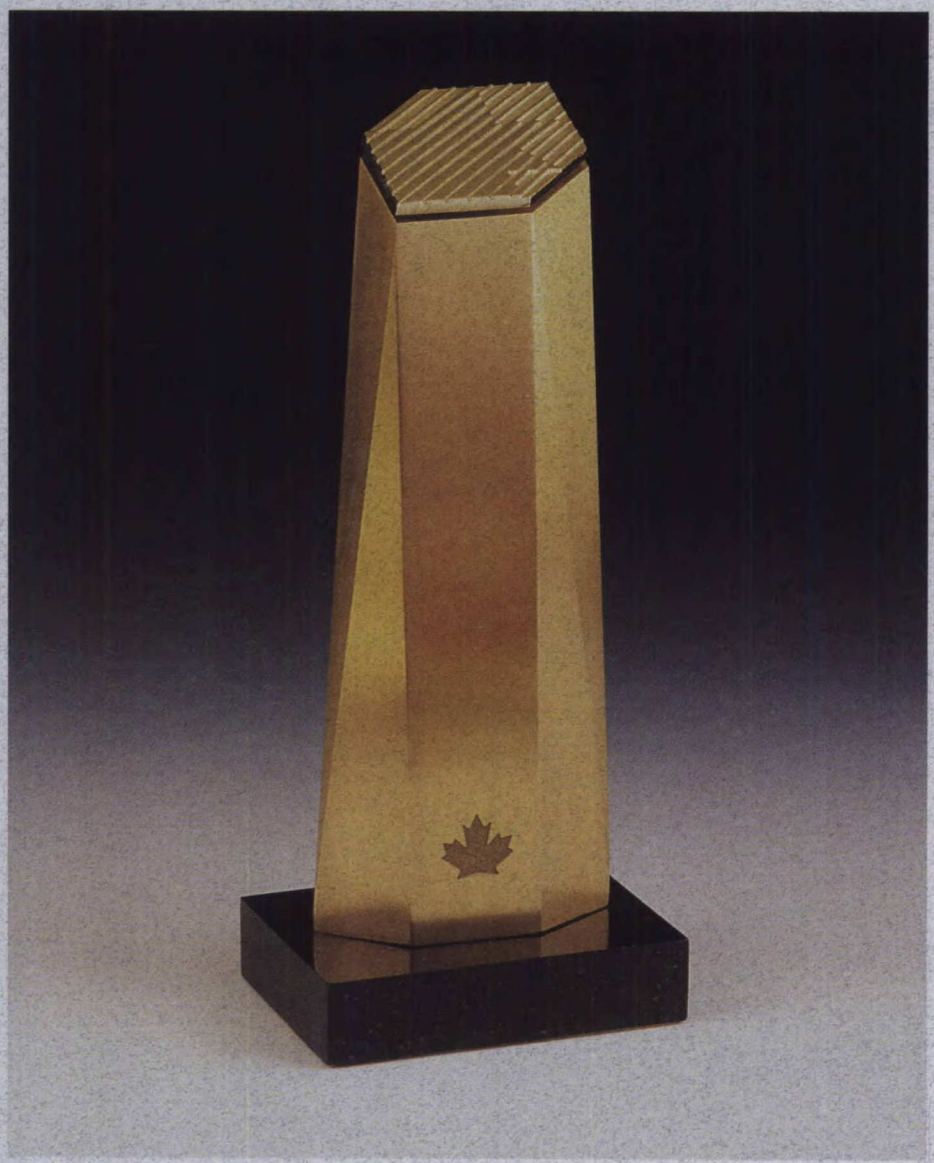
In addition to the privileges and benefits that accrue to winners, such as the use of the CABE logo, 1990-91 saw a new initiative jointly funded by The Conference Board of Canada and CABE. An international tour was organized, which saw a group of 1989 and 1990 CABE winners visit national business award winners in the U.S., Europe and Japan.

The profiles of CABE winners in this booklet focus on excellence and competitiveness. They are intended to encourage other Canadian companies to emulate achievements of winners and to instill pride and confidence in the capabilities of businesses and industries located in Canada.

THE TROPHY

The CANADA AWARDS FOR BUSINESS EXCELLENCE trophy is our nation's symbol of business excellence. Created by the late Madeleine Dansereau, who was one of Canada's foremost art-metal designers, the design highlights the hexagonal emblem of the CANADA AWARDS FOR BUSINESS EXCELLENCE. The emblem, consisting of a stylized maple leaf, was created by GSM Design Montreal in 1984.

This emblem rests on a sculptured hexagonal bronze column, which has been rotated on its base to create an angled surface with gem-like facets and a sense of upward movement. The emblem is struck as a medal in bronze and is plated gold. The pedestal is of black Canadian granite.



PRIVILEGES AND BENEFITS

The CANADA AWARDS FOR BUSINESS EXCELLENCE provide a focus on the key business components of national prosperity. They are the only national business awards, recognizing organizations in all fields of economic activity. They are, therefore, unique and prestigious.

Winners are given the exclusive right to incorporate the logo in their advertising, letterhead, packaging or in any other way that will highlight their success to customers and suppliers. The logo is a symbol of excellence.

An award brings well-deserved recognition among business colleagues. As the focus of a national awards ceremony, winners receive media coverage at the national, regional and local levels.

Past winners have noted a marked increase in employee motivation and productivity. Improved sales performance has also been attributed directly to the prestige gained from winning an award.

Trade offices, located in major commercial centres throughout the world, extend recognition to international markets and promote the achievements to businesses and institutions requesting information on potential suppliers, importers, and distributors in Canada.

Winners have been used as examples in case studies developed by The Conference Board of Canada and are also candidates for special promotions of the private or public sector that are designed to recognize excellence.

1992 PROGRAM

The 1992 Canada Awards for Business Excellence will be launched in January 1992. Entry Guides will be available at that time.

Entry Closing: April 10, 1992

Enquiries:
Canada Awards for Business Excellence
235 Queen Street
OTTAWA, Ont.
K1A 0H5
Telephone: (613) 954-4079
Fax.: (613) 954-4074

Innovation

This award recognizes outstanding achievement in the innovative application of technology to processes, products or services in Canadian industry. The originality of the application of technology and its effect on performance and market success are most significant in this category.

SELECTION PANEL

CHAIRMAN

Gordon Cummer
Chief Executive Officer
Canadian Industrial Innovation Centre/Waterloo
Waterloo, Ont.

MEMBERS

Kerry Stinson
Vice-President
ITA, Inverse Theory & Applications Inc.
Calgary, Alta.

Ronald Fournier
President
Lexi-Tech Inc.
Moncton, N.B.

Nicole Beaudoin-Sauvé
Vice-President, Finance
Perkins Paper Limited
Laval, Que.

Alan I. Pelman
President & CEO
Powertech Labs Inc.
Surrey, B.C.

Environment

This award is given in recognition of outstanding achievement in the development of a commercially viable product, process or service that contributes to environmental protection, conservation or enhancement.

SELECTION PANEL

CHAIRMAN

Angus Bruneau
Chairman, President & C.E.O.
Fortis Inc.
St. John's, Nfld.

MEMBERS

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Senior Researcher
Ecology Action Centre
Armdale, N.S.

Robert Fraser
President
Engine Control Systems Ltd.
Newmarket, Ont.

Lorne Giroux
Faculty of Law
Laval University
Quebec, Que.

Tom Beck
President
TBCL Environment Consultants
Calgary, Alta.

Entrepreneurship

This award is given to an entrepreneur in recognition of an outstanding achievement in starting, taking over or substantially changing an independent business venture, while exhibiting an extra measure of leadership, daring and creativity in successfully confronting new and untried situations.

SELECTION PANEL

CHAIRMAN

Ed Martens
President
Wordsnorth Communication Services Ltd.
Winnipeg, Man.

MEMBERS

Jocelyne Côté-O'Hara
Vice-President, Government Relations
British Columbia Telephone Company
Burnaby, B.C.

Regis Duffy
President & C.E.O.
Diagnostic Chemicals Ltd.
Charlottetown, P.E.I.

Ken Kivenko
President
Garrett Canada, a Division of
Allied-Signal Aerospace Canada
St. Laurent, Que.

Carol J. Glass
President
Shred-Tech Limited
Cambridge, Ont.

This award is given for the use of outstanding design by the manufacturer of a Canadian product. The category stresses a cooperative approach to product design, combining market research, product definition, aesthetics, material selection, manufacturing and marketing.

The award is given to the manufacturer of the product or, where the product design was created by a separate design firm, the award is given jointly to both the manufacturer and the design firm.

SELECTION PANEL

CHAIRMAN

Gregory Silver
President
Communication Design Group Ltd.
Halifax, N.S.

MEMBERS

Vello Hubel
President
Association of Canadian Industrial Designers
Toronto, Ont.

Pierre Beaudoin
Vice-President
Product Development Sea-Doo and Ski-Doo
Bombardier Inc.
Valcourt, Que.

Debby Lexier
Interior Designer
Winnipeg, Man.

Jim O'Grady
Associate Professor
Faculty of Environmental Design
University of Calgary
Calgary, Alta.

This award recognizes the achievements in management, marketing, innovation and other management skills demonstrated by small Canadian businesses.

SELECTION PANEL

CHAIRMAN

Edward G. Fitzhenry
President
Pelorus Navigation Systems Inc.
Calgary, Alta.

MEMBERS

Sonia Jones
President & C.E.O.
Peninsula Farm Ltd.
Lunenburg, N.S.

Michel Gendreau
President & C.E.O.
Portes Garaga (2000) Inc.
St. Georges, Beauce, Que.

Derrick Rowe
President
Ultimateast Limited
St. John's, Nfld.

Larry Zepf
President
Zepf Technologies Inc.
Waterloo, Ont.

Marketing

This award is given in recognition of outstanding innovation and creativity in all aspects of marketing. Particular emphasis is placed on market research, planning and market success sustained over time.

SELECTION PANEL

CHAIRMAN

Gordon L. Phippen
Director
The Canadian Institute of Marketing
Moncton, N.B.

MEMBERS

Thomas J. Hayes
President
Atlantic Fish Specialties Ltd.
Charlottetown, P.E.I.

R.W.E. Sterne
President
Datasym Inc.
Brantford, Ont.

Lise Cardinal
President
Lise Cardinal & Associates Inc.
Montreal, Que.

Robert H. Wright
President
Oak Bay Marine Group
Victoria, B.C.

Invention

This award recognizes an institution or business for its outstanding breakthrough of scientific or technical significance contributing to the development of a process, product or technology. The invention must be an original creation or discovery of a unique nature.

SELECTION PANEL

CHAIRMAN

Tom Calvert
President
Science Council of British Columbia
Burnaby, B.C.

MEMBERS

Gilles Lessard
Vice-President, Operations, R. & D. & Sales
Centre de recherche industrielle du Québec
Montreal, Que.

Don Fell
Chairman & C.E.O.
Fell-Fab Products
Hamilton, Ont.

Terry Bergan
President
International Road Dynamics
Saskatoon, Sask.

David Hawkins
Dean of Medicine
Memorial University of Newfoundland
St. John's, Nfld.

Quality

This award is given in recognition of outstanding achievement in quality of product or service and overall business operations through a commitment to continuous quality improvement. Emphasis is placed upon the total involvement of the company, on success in the market place, and on a high level of customer satisfaction.

SELECTION PANEL

CHAIRMAN

John E. Cleghorn
President & C.O.O.
Royal Bank of Canada
Montreal, Que.

MEMBERS

Nick Coyle
President & C.E.O.
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Don S. Reimer
Chairman, President & C.E.O.
Reimer Express Enterprises Ltd.
Winnipeg, Man.

Peter van der Gracht
President
THE NEXUS GROUP OF COMPANIES
Burnaby, B.C.

David McCamus
Chairman
Xerox Canada Ltd.
North York, Ont.

Enermodal Engineering Limited

Enermodal Engineering Limited
Waterloo, Ontario

Number of Employees: ***10***

Sales: $664 000 (1990-91)

Telephone: (519) 884-6421

Fax: ***(519) 884-0103***

Contact:
Stephen Carpenter
President

Enermodal Engineering Limited, a consulting engineering company dedicated to energy conservation, has developed FRAME, an easy-to-use computer program that will help manufacturers design windows that are far more energy-efficient, and encourage the adoption of new window technologies. For this achievement, the company has been awarded winner status in the 1991 Canada Awards for Business Excellence Innovation category.

Windows have traditionally been a building's "weak link" in terms of insulation against heat loss. While the past few years have seen a technological revolution in the design of more energy-efficient windows, adoption of these new technologies has been slow. Because laboratory testing is extremely expensive (approximately $3 000 a window), cost considerations effectively discouraged the development of these new technologies.

Realizing these problems, Enermodal Engineering Limited began developing the FRAME program in late 1987, with financial assistance from Energy, Mines and Resources Canada. Computer programs, like VISION from the University of Waterloo, already existed for simulating heat transfer through windows' centre glazing. By combining these results with FRAME's analysis of heat loss through the frame and edge of the glass, Enermodal aimed to determine the *total* window heat loss.

First released in June 1988, FRAME can be used easily by window manufacturers, and produces results as accurate as those of the best laboratory test facility. In the words of one of the jury members making the award, the program "seems to have set the standard for North America." FRAME's accuracy has been confirmed by the National Research Council of Canada, which operates the most advanced window test facility on the continent.

As indication of FRAME's success, the program is now used by 500 window manufacturers in North America and by Lawrence Berkeley Laboratory of Berkeley, California (the major U.S. window research agency) for all its window frame analysis. The Canadian Standards Association recognizes FRAME as the only acceptable program for evaluating frame and edge-of-glass heat loss. Moreover, the International Energy Agency Task Force on Low-Energy Buildings has asked for a workshop on the program at its next meeting in Switzerland.

Although FRAME is distributed free of charge, as stipulated by Energy, Mines and Resources Canada, Enermodal generates revenue from training courses, research contracts and simulations of manufacturers' windows. The company has doubled its staff over the past year to keep up with the work associated with FRAME.

Le Groupe Vidéotron ltée

Le Groupe Vidéotron ltée
Montreal, Quebec

Number of Employees: *3 609*

Sales: *$421 900 000*

Telephone: *(514) 281-1232*

Fax: *(514) 985-8794*

Contact: *Jean-Paul Galarneau*
Director, Communications

Vidéoway is a truly interactive television and telecommunications system which uses existing cable distribution networks. Thanks to its totally new concept, unrivalled anywhere in the world, it provides unlimited technical and commercial possibilities for the cable television industry. Offered to Le Groupe Vidéotron subscribers since January 1990, this service exceeded its objective of 50 000 subscribers within the first year; more than 85 000 customers have subscribed in less than a year. For this outstanding technical innovation, Le Groupe Vidéotron ltée has been awarded winner status in the 1991 Canada Awards for Business Excellence Innovation category.

The second major cable distributor in the country, Le Groupe Vidéotron is a fully expanding company which serves approximately 1 065 000 subscribers in Quebec and Alberta, and 22 000 subscribers in the U.K.; the system presently under construction offers a potential of 1 100 000 subscribers. The creator of Vidéoway, the company is currently the product's sole distributor.

Foolproof against illegal decoders, the Vidéoway terminal consists of a cable selector, as well as a decoder allowing the use of pay television services, interactive television, videotext and teletext and a decoder for the hearing impaired. By delivering all these services over the single coaxial wire system, Vidéoway overcomes the need for a variety of attachments to the TV set.

The system has achieved a remarkable degree of interaction and integration. For example, a subscriber watching a sporting event is able to call up an instant replay by the push of a button, or obtain close-ups of favourite players or key plays. Vidéoway also enables the subscriber to access data banks, participate in video games, load specialized applications of software programs and use electronic mail services; in the future, the subscriber will also be able to conclude transactions such as teleshopping, telebanking, meter readings and a home surveillance system.

Easy to install, this product fits perfectly in the cable distribution network; it enables the cable television distributors to reduce their maintenance costs, to enlarge their range of services and to increase their market share.

Invented in the U.S., interactive television was adapted and expanded upon by Le Groupe Vidéotron for commercial purposes. Its affiliate, Les Entreprises Vidéoway Ltée, undertook all the R&D activities and the manufacture of Vidéoway.

Thanks to Vidéoway and its strategy of universality, Le Groupe Vidéotron hopes that its cable television subsidiaries will attain 100 percent market penetration by the year 2000. It forecasts that the revenues obtained from the companies providing telematic services could represent half of its sales by 1999. Vidéoway, also released commercially in the U.K. in September 1991, will open the doors of the international market which Le Groupe Vidéotron hopes to conquer.

Sutherland-Schultz Limited

Sutherland-Schultz Limited
Kitchener, Ontario

Number of Employees: ***630***

Sales: ***$80.3 million***

Telephone: (519) 743-4123

Fax: ***(519) 743-1628***

Contact: James L. Balsillie
Executive Vice-President

Sutherland-Schultz Limited has developed Direct-Link™, a supremely efficient and inexpensive communications product that allows direct connection between the host computer and the programmable controllers that drive automated plant floor manufacturing equipment. This interface technology thus ensures a much faster, smoother start-up of the manufacturing process. For this achievement, the company has been awarded winner status in the 1991 Canada Awards for Business Excellence Innovation category.

Computer Integrated Manufacturing (CIM) is the way of the future in the manufacturing industry. In the past, however, a primary problem was the communication bottleneck that developed between the host computer and the control devices on the plant floor. Responding to clients' needs, Sutherland-Schultz Limited began developing the original Direct-Link™ technology in 1985 to allow the Programmable Logic Controller (PLC) system and program to be set up and tested before they were delivered to the customer. By testing and debugging the program and even training operators, before its installation, the company could guarantee a short, problem-free start-up. Out of these beginnings came the present product which has been on the market since 1986. The University of Waterloo and the Waterloo-based company, Research in Motion, also contributed to the technology's development.

The Direct-Link™ cards are communications co-processors that allow the host computer to communicate on the various PLC networks, while largely liberating it to perform other more important functions. The card handles such details as timing, message transmission and reception.

The only product of its kind on the market, Direct-Link™ provides the fastest, simplest, most flexible communication, and is easy to implement. Among its highlights, Direct-Link™ typically makes all data available within milli-seconds, performs all communication error checking on the Direct-Link™ card, and simplifies host software development.

Direct-Link™ has enabled Sutherland-Schultz Limited to enter various new major markets that either use or license the technology. The product has helped the company's engineering division grow between 1985 and 1990, from seven to 130 employees and from $1 million to $20 million in annual sales.

Eco-Tec Inc.

Eco-Tec Inc.
Pickering, Ontario

Number of Employees: *49*

Sales: *Not disclosed*

Telephone: *(416) 831-3400*

Fax: *(416) 831-3409*

Contact: *Kevin Munns*
Marketing Manager

Eco-Tec Inc. has developed a Copper Recovery System which is a major development for printed circuit board manufacturers, and for the environment as a whole. In the circuit board manufacturing process, copper-coated plastic boards are etched in acid to remove unwanted copper so that fine circuit lines are left. The copper that is removed ultimately ends up as hazardous waste sludge in a landfill site. This copper is potentially damaging to the environment, particularly to small plants and shellfish. Eco-Tec's system has effectively resolved this problem. It allows circuit board manufacturers to extract copper from waste water before it leaves the plant, and eliminates the need for costly landfill sites. As well as reducing the waste sludge, the Eco-Tec system produces a recyclable copper metal which the circuit board manufacturers can then sell. For this achievement, Eco-Tec Inc. has been awarded winner status in the 1991 Canada Awards for Business Excellence Environment category.

When Eco-Tec first entered the chemical recovery and purification system field in 1970, recovery systems of this kind were virtually non-existent. Today, there is a global market for such products, and Eco-Tec has major competitors in Europe, Japan and the U.S. In North America, the company has secured approximately 25 percent of the metal finishing chemical recovery system business. Organizations with which Eco-Tec has worked include IBM, General Motors, Kodak, Boeing, British Steel, Alcan and Hewlett-Packard.

Eco-Tec developed its Copper Recovery System with the assistance of the Hewlett-Packard company in 1986. The system has since been installed in many of the larger printed circuit board manufacturing operations in Canada and the U.S.

The system has two key steps. The first step uses an advanced ion exchange (IX) process known as Recoflo, which was invented at the University of Toronto. This process removes nearly all of the dissolved copper from the waste water, and converts it into a copper sulphate concentrate for further recovery. The second step uses a unique electrolytic cell that converts the copper sulphate concentrate into solid copper sheets. The cell has various special design features to increase plating rates and the quality of the deposits.

The system is also fully automatic and has modest space requirements.

As proof of the product's success, Du Pont Electronics last year selected the Eco-Tec Copper Recovery System for inclusion in its global EcoPact program. This innovation program promotes environmental excellence in electronics.

This association with Du Pont means Eco-Tec has excellent prospects for future business in the printed circuit board industry. Already, the connection has opened the doors to three major opportunities worth a total of $3 million to Eco-Tec Inc.

Edmonds Landscape and Construction Services Limited
Edmonds Environmental Services Division

Edmonds Landscape and Construction Services Limited
Edmonds Environmental Services Division
Halifax, Nova Scotia

Number of Employees: ***125***

Sales: ***$5 288 000***

Telephone: (902) 423-8174

Fax: ***(902) 455-9956***

Contact: ***Margaret Ann Burgess***
Marketing Manager

In 1989, Edmonds Landscape and Construction Services Limited established Edmonds Environmental Services, a new company department dedicated to providing totally organic lawn, garden and home care services. The company has set up an energetic education program to encourage customers to take a long-term interest in the environmental health of their properties. This year Edmonds also began a backyard composting program to recycle yard waste into usable compost for improving lawn and garden soils. Sales for its organic lawn and tree care programs have risen steadily as the public becomes more aware of these services. For these achievements, Edmonds Landscape and Construction Services Limited, Edmonds Environmental Services Division, has been awarded winner status in the 1991 Canada Awards for Business Excellence Environment category.

Edmonds has been providing landscaping services in the Halifax-Dartmouth area for the past 28 years, and has over 4 000 customers. In starting its Environmental Services department, Edmonds' objective was to use 100 percent natural biological systems to do the work, instead of relying on chemicals that harm the habitat. The company's three programs (Organic Pro-Lawn Program, Tree Care and Garden and Shrub Care and Integrated Pest Management) all aim to enhance the landscape's natural growing conditions, and let natural processes dominate. The lawn program, for example, is founded on building a proper soil base. This results in healthier plant growth, which in turn increases plant resistance to diseases and insect pests.

Edmonds' new backyard composting system recycles grass clippings, garden waste and leaves into usable organic matter. It also reduces the amount of material sent to local landfill sites by over 1 500 tons a year. The use of compost lessens the need for topsoil that is being stripped from farmland and trucked to urban areas for landscape use. Moreover, Edmonds is also now working with a topsoil company to manufacture topsoil from sand, peat moss and compost. This product will help eliminate the practice of destroying prime agricultural land.

Another of Edmonds' initiatives was to approach National Sea Products Limited about the possibility of using processed fish waste for organic fertilizer. The two companies collaborated to produce SEAGREEN, a fertilizer that National Sea Products Limited is now selling across Canada.

Edmonds' customer education program includes the newsletter *GREENFACTS*, published several times a year. The company also encourages its employees to expand their understanding of the biology of ecosystems.

Community-wide, Edmonds promotes a healthy environment through its involvement with schools, churches and as a major sponsor of Earth Day. The company's President, John Edmonds, was recently named to the Nova Scotia Environmental Trust, a board concerned with funding environmental protection projects.

Linda Lundström, President
Linda Lundström Ltd.

Linda Lundström
President
Linda Lundström Ltd.
Don Mills, Ontario

Number of Employees: ***75***

Sales: ***$7 267 514***

Telephone: (416) 391-2838

Fax: ***(416) 391-0788***

Contact: Michele Mauviel
Executive Assistant

When Linda Lundström started her women's clothing design and manufacturing business 17 years ago, she took considerable financial risk, including borrowing $80 000 from her parents, and signing over all personal assets to the bank as guarantees of the company's operating line of credit. For the first three years of business, she did not draw a salary. Today, Linda Lundström Ltd. (L.L.L.) produces five collections a year, selling sportswear, evening wear, coats, shoes and accessories to boutiques across the country. For the past six years, the company has experienced an average annual growth rate of 32 percent. In addition, her most successful design, the LAPARKA, has become a selling phenomenon. For these achievements, Linda Lundström has been awarded winner status in the 1991 Canada Awards for Business Excellence Entrepreneurship category.

L.L.L.'s successes can be attributed to Linda Lundström's strategic approach to product development, her unique fabrics and colours (formulated by Linda Lundström herself), her focused distribution strategy, and her emphasis on quality, efficiency and financial controls.

Eight years ago, Linda Lundström set out to design and develop a range of products uniquely Canadian in appearance, and that would have future export potential. The result was the LAPARKA, a coat inspired by the Inuit parka, and designed to be worn through winter, summer, spring and autumn. The LAPARKA consists of two layers. The outer shell, a year-round raincoat, is water-resistant, windproof and machine washable. The inner wool duffle is brushed on both sides for thermal warmth and blanket-stitched together for a smooth, moulded look. Removable artificial fur on the hood and hidden storm cuffs protect the wearer from the wind. Matching boots, storm pants and mittens are also available to complete the look. In 1987 Linda Lundström began working with the Canadian Native Arts Foundation to find designs by native artists to incorporate into the LAPARKA. Members of the jury making the award praised the garment's "innovative and creative design, geared to our weather patterns."

When the LAPARKA first reached the consumer six years ago, it met with instant acceptance and incredible demand. During the process of its development, however, Linda Lundström encountered many obstacles. With typical dedication and ingenuity, she overcame each of these in turn.

First came the extensive and costly research to find the right materials. Then L.L.L. was forced to commit itself to very large fabric orders purely on speculation that the product would sell. When the LAPARKA was first presented, retailers were enthusiastic, but initially extremely cautious. L.L.L.'s large fabric supply and new equipment costs were therefore not being offset by enough orders at that point. But the LAPARKA's overwhelming success when it reached the customer meant production staff were scrambling to meet retailers' re-orders.

To this day, L.L.L. has been able to offset all production expenses through its strategic marketing plan to create continuous customer demand and gain retailer confidence in the LAPARKA product. L.L.L. holds 2.7 percent of the Canadian working women's clothing market, and company sales for the fiscal year ending September 1990 slightly exceeded $7 million.

Linda Lundström started her company with no job security and large financial risk. What she did have was a deep belief that her company would succeed. Her personal total dedication and commitment to her company explain her business success.

Raymond Ouellette
President
Novatech Glass Inc.

Raymond Ouellette
President
Novatech Glass Inc.
Sainte-Julie, Quebec

Number of Employees: ***83***

Sales: ***$12.2 million***

Telephone: (514) 649-1045

Fax: ***(514) 649-4642***

Contact: ***Raymond Ouellette, President***

Raymond Ouellette started his door-window manufacturing business eight years ago with the desire to create a non-conventional product with an innovative character, aimed at an untapped market. He found his answer in stained glass. His next step was to create a market for stained-glass windows inserted in doors. His objective was to fabricate these door windows using an industrial process. Undertaking considerable financial risk when he first set up his company, Les Produits Verriers Novatech Inc., Raymond Ouellette also had to stimulate customer interest himself, through aggressive participation as an exhibitor at trade shows. As a result of his efforts, he has established his own unique niche in a traditional market, making his company Canada's leading manufacturer of door windows. For this achievement, Raymond Ouellette has been awarded winner status in the 1991 Canada Awards for Business Excellence Entrepreneurship category.

When he first set up his company in 1982, Canada was in the middle of a recession. Rather than being discouraged by these market conditions, Raymond Ouellette was strengthened in his belief that an outstanding, differentiated product was the only way to beat the competition. So strong was his faith in his idea that he left a secure $80 000-a-year job, plus accumulated bonuses of over $50 000. He then mortgaged the family home for the initial investment for the company. Moreover, he agreed to forego any salary during the first year of the company's operation.

Raymond Ouellette's success today is due to his "visionary" outlook and a passion for new ideas and developments that will confirm his unique position in the market. He is continually seizing opportunities. Novatech aims to introduce products that stand out from others already available on the market; to differentiate existing products by enhancing certain features; and to bring in new technologies and work methods.

Novatech assembles the pieces of stained glass through an industrial adaptation of the traditional method. The stained glass is then sealed between two window panes, thus improving the product's energy-conservation factor, protecting the stained glass itself, facilitating maintenance and ensuring the product is air- and water-tight.

The company has also introduced and patented a system of removable glass panes for fixed door windows.

Given his concern with differentiating his product, Raymond Ouellette constantly researches new procedures in the countries most advanced in plastics and glass technologies. Novatech was the first Quebec manufacturer to introduce new German technologies for PVC bending and for laminating PVC mouldings. The company has also introduced breakthrough technologies from Italy and the U.S.

Faced with competition from inexpensive, foreign-made products, Raymond Ouellette is maintaining a strong business strategy emphasizing aesthetically striking, high-quality products. Thanks to this philosophy, the company now has a 25 percent share of the Canadian conventional door windows market and a 60 percent share of the Quebec market. For stained-glass windows, it has nearly a 40 percent share of the Canadian market, and a 70 percent share in Quebec.

Actar Airforce Inc. and Studio Innova Inc.

Actar Airforce Inc.
Toronto, Ontario

Number of Employees: *4*

Sales: ***Not disclosed***

Telephone: (416) 594-1114

Fax: ***(416) 594-1094***

Contact: ***Dianne Croteau***
President

AND

Studio Innova Inc.
Toronto, Ontario

Telephone: (416) 594-1114

Fax: ***(416) 594-1094***

Contact: ***Richard Brault***
Vice-President

ACTAR 911™, a manikin for use in cardio-pulmonary resuscitation (CPR) training, combines simplicity of design, low-cost manufacture, functionality and portability. For this achievement, the manufacturer, Actar Airforce Inc., and the design firm, Studio Innova Inc., have been awarded joint winner status in the 1991 Canada Awards for Business Excellence Industrial Design category.

When Studio Innova designers Dianne Croteau and Richard Brault initiated the ACTAR 911™ project, their challenge was to develop a "less expensive, more accessible" CPR stylized manikin for training laypersons. Existing manikins were extremely costly, heavy, difficult to store and far too complex in design for basic community training.

Most organizations did not have the financial resources to purchase CPR manikins in quantities large enough to allow for effective group use. This meant long periods of waiting for all students to get hands-on practice.

After drawing up specifications based on numerous interviews with CPR instructors, the designers developed a CPR practice manikin providing all the necessary anatomical and mechanical features, but at a cost 10 to 30 times less than that of a conventional training unit.

This low cost was due entirely to the simple industrial design which created a fully functional manikin using only five basic parts. Conventional manikins can have over 100 components.

ACTAR 911™ is also very compact and lightweight. Ten units nest one inside the other and are stored in a bag that takes up about the same space as one conventional manikin. The product is manufactured using sanitary materials that are easy to clean and disinfect. It is very durable, designed for repetitive use and abuse, and made entirely of materials that are 100 percent recyclable. The ACTAR 911™ thus allows the CPR instructor to teach more people more effectively, in less time and at much less expense. The jury making the award also praised ACTAR 911™'s effective and attractive packaging, and "vibrant blue colour" and supporting "sports-like graphics" material, which together heightened the manikin's user-friendly aspect.

Since it was introduced to the market in April 1990, ACTAR 911™ sales have surpassed projections and the product is being exported to 13 countries. Canada's sole manufacturer of CPR manikins, Actar Airforce Inc., competes primarily with two long-established foreign manufacturers in the domestic and export markets. In one year, the company has gone from zero market share to an expected 50 percent share in Canada. In the U.S., the company's share was expected to reach 5 percent by July 1991.

Black & Decker Canada and KAN Industrial Designers

Black & Decker Canada
Brockville, Ontario

Number of Employees: *716*

Sales: *$209 million*

Telephone: *(613) 342-6641*

Fax: *(613) 342-7347*

Contact: *Colin Overy*
Manager, Product Development

AND

KAN Industrial Designers
Toronto, Ontario

Telephone: *(416) 362-7737*

Fax: *(416) 362-5767*

Contact: *Ian Norton*
Partner, ACIDO, RCAA

Black & Decker Canada's TurboCat™ vacuum floor tool incorporates several unique design features including its aerodynamically shaped low-profile construction for reaching easily under furniture, and built-in double-edge cleaning that allows the machine to pick up dirt at its outer limits. Because the floor tool is vacuum-driven, avoiding the need for electric cords and switches, it is lighter, more manoeuvrable and costs less than products powered by electric motors. For these achievements, Black & Decker Canada and KAN Industrial Designers have been awarded joint winner status in the 1991 Canada Awards for Business Excellence Industrial Design category.

In 1987, Black & Decker Canada recognized that its 10-year-old turbine floor tool was losing market share because of its high cost, dated appearance and lack of marketable features. The company identified industrial design as being a key to the new product's success. Black & Decker's project team guided the initial design work which resulted in many varied concepts. The final industrial design was developed by the design consultant firm of KAN Industrial Designers of Toronto.

The final concept chosen represented an unusual design challenge. In vacuum-powered turbine products, the internal geometry is critical for maximizing efficiency and making the best possible use of the modest power available in the air stream.

At the same time, the company wanted the product's external appearance to be aesthetically pleasing to customers. Black & Decker's solution to this challenge was to integrate the engineering and industrial design teams from the very start of the project to achieve the right balance of engineering and aesthetic requirements. In making the award, the jury cited this early involvement of both teams in the development process as one of the factors that helped produce an exceptional final product.

The TurboCat™ was designed to a cost target of 70 percent of the former model. In addition to its low-profile design and light-weight manoeuvrability, it features rounded corners to prevent damage to walls and furniture, and a clear housing on the underside that can be removed simply and without tools to clean the turbine entry channel. The machine's distinctive design details include a subtle turbine form on the top surface, and an attractive mid-range colour that can blend well with a wide range of home decors.

First produced in February 1990, the new floor tool is selling at nearly twice the volume of the former model in the mid- to late-1980s. It has successfully rejuvenated the market segment, and is in high-volume production in the Brockville plant. TurboCat™ contributes $2 million, or 1 percent of the company's total sales, with 80 percent exported, and 20 percent supplied to the Canadian domestic market.

Atlantic Fish Specialties Ltd.

Atlantic Fish Specialties Ltd.
Charlottetown,
Prince Edward Island

Number of Employees: *26*

Sales: *$3 230 000*

Telephone: *(902) 894-7005*

Fax: *(902) 566-3546*

Contact: *Thomas J. Hayes*
President

Atlantic Fish Specialties Ltd. (AFS) was established in 1981. It produces and markets a wide range of high-quality smoked seafood products throughout North America. Sold under the brand names AFS and Royal Oak, products include smoked Atlantic and Pacific salmon, smoked trout, mackerel, scallops and herring. In addition to its food service and retail customers in Canada and the U.S., AFS has successfully created niche markets in the airline industry and the rapidly expanding cruise line industry, with sales of over $3.2 million for 1990. What makes this success so remarkable is that in 1985 the company was close to bankruptcy, and had been identified by the bank as a wind-up operation. Through dedication, a dramatic cost-cutting program, and a persistent search for new markets, the present co-owner and company President, Thomas J. Hayes, turned the fortunes of the company around. By 1986, the bank had been completely paid off and shareholder confidence was restored. Since that time, AFS has more than doubled its workforce. For these achievements, Atlantic Fish Specialties Ltd. has been awarded winner status in the 1991 Canada Awards for Business Excellence Small Business category.

In July 1990, AFS attracted a new operating partner, James M. Dunphy, who had 17 years' management experience with Canada's largest seafood company, National Sea Products Ltd. This addition of a general manager allowed Mr. Hayes to concentrate more fully on the marketing side of the business.

AFS is continually developing new and innovative products. Its smoked scallops, for example, are now a feature of Air Canada's Executive Class service. The company's latest developments are centred on smoked shrimp.

AFS is also one of the first plants in Prince Edward Island to receive accreditation under the new "Quality Management Program" offered by the federal Department of Fisheries and Oceans. In addition, it has developed the first mechanized rack cleaner in the industry, leading to reduced labour costs and a much more sanitary work environment.

The company's operation ensures steady, year-round employment for its staff. AFS has instituted bonus programs for key supervisory staff, as well as cash awards for employees who contribute good ideas.

The company relies heavily on personal contact and credibility in marketing its products. Using local firms, it develops attractive point-of-sales material to support marketing efforts. It also makes extensive use of government and industry-sponsored trade shows, as well as product presentations to retailers, restaurant and hotel chefs, airlines and cruise lines. AFS is now working with the first-class menu designer for American Airlines to come up with a cold smoked-fish platter for use on their increasing number of international flights. In a highly competitive market, AFS stands out because its relatively small size allows it to maintain control over service and product quality.

Freda's Originals Inc.

Freda's Originals Inc.
Toronto, Ontario

Number of Employees: *65*

Sales: *$3 472 990*

Telephone: *(416) 366-0304*

Fax: *(416) 366-6048*

Contact: *Freda Iordanous*
Vice-President

When Freda's Originals Inc. was first founded as a small boutique in 1971, its sales were $10 000. Today the company has grown to sales of nearly $3.5 million in 1990, with sales of $5 million anticipated in 1991. The company's dynamic growth is based on its success as Canada's leading designer and manufacturer of custom women's and men's business apparel. Since 1974, Freda's Originals' reputation has attracted corporate clients such as Molson Breweries, Ontario Place, Air Canada, Touram and provincial government ministries. In addition, the company has single-handedly created a market designing and manufacturing apparel for an estimated 170 000 employees representing five major Canadian banks. This market has a conservative potential sales value of over $75 million. For these achievements, Freda's Originals Inc. has been awarded winner status in the 1991 Canada Awards for Business Excellence Small Business category.

The identification of the demand for high-quality, fashionable corporate apparel in the Canadian financial services industry was a critical, innovative step for Freda's Originals. Traditionally, corporate apparel had been cheaply produced and was limited in design, giving it the appearance of a uniform. When Freda and Demos Iordanous first approached the large financial institutions, each presentation cost them as much as $25 000 for labour, original design and materials.

This investment paid off and in 1984 Freda's Originals secured a contract with the Bank of Montreal. The company also now serves the Canadian Imperial Bank of Commerce and the Royal Bank of Canada. Given the risks of the present economic climate in the garment industry, Freda's Originals is increasingly determined to serve fewer, but larger, and more secure clients.

The company constantly updates styles and fabric blends so that the clothing will remain contemporary, while taking into account the requirements of the corporate environment. All garments are accompanied by a response card asking customers for their comments on the apparel.

Staff loyalty and low turnover have also helped ensure Freda's Originals' success. Employees have responded positively to an empowerment program giving them personal responsibility for various production and purchasing functions. In addition, since the introduction in 1986 of a computerized production monitoring system, production has increased by 40 percent, while maintaining consistent quality control.

The company has never experienced a work shortage and wages average 15 percent higher than those paid by competitors. The Ministry of Labour has cited the company's factory as exemplary in design, safety and working conditions.

Minerva Technology, Inc.

Minerva Technology, Inc.
Calgary, Alberta

Number of Employees: *82*

Sales: *$4.5 million*

Telephone: *(403) 263-7533*

Fax: *(403) 266-3594*

Contact: *Revett Eldred*
Chairman

Minerva Technology, Inc. specializes in developing custom computer systems to operate on Personal Computers (PCs) and/or Digital Equipment Corporation VAX computers. It also provides contract programmers, analysts and support specialists to work as members of clients' project teams. The company was started six years ago with an $18 000 personal investment by its founder and chairman. Today it generates almost $5 million a year in sales, and its major clients include Shell Canada, Petro-Canada, Canadian Airlines International, Northern Telecom and BP Canada Ltd. Minerva Technology had to overcome several obstacles in establishing this success. One of the main obstacles was a severe local recession in 1986 in Calgary, the company's home city, which resulted in two-thirds of its contracts being cancelled. Despite this set-back, the company has flourished in a highly competitive market, principally through the use of state-of-the-art tools and methodologies, such as data modelling and computer-assisted software engineering. For these achievements, Minerva Technology, Inc. has been awarded winner status in the 1991 Canada Awards for Business Excellence Small Business category.

Minerva Technology chose its specialty in 1985 in the belief that the PC (then largely used as a word processor) would eventually become the key user/system access point in large applications. The company therefore developed its expertise in the tools and culture of the PC, while maintaining a thorough understanding of the issues of data management and structured system development.

Each year since Minerva Technology started business, it has averaged over 60 percent compounded annual revenue growth. It attributes this expansion to the growth of its specialty area, its aggressive marketing, focus on quality and its ongoing commitment to stay at the leading edge of systems engineering methods.

When Minerva provides contract personnel to work as members of a client's project team, the client may cancel the project at any time within the first 10 days and owe the company nothing. This provides the client with a "test drive" of the people Minerva supplies.

In addition to a monthly marketing newsletter, the company has junior full-time sales staff. They make multiple sales calls, listen to what clients want and generally look for opportunities. Outside courses and two-hour lunchtime seminars are regularly available to all staff to ensure they are up to date in their field.

Employees own 20 percent of the company's shares, and this will increase to 49 percent over the next four years. In the November 1990 "Best Bosses" issue of *Profit* magazine, the company was ranked one of the 50 best small-business employers in Canada.

Classy Formal Wear Inc.

Classy Formal Wear Inc.
Montreal, Quebec

Number of Employees: *453*

Sales: *$18 489 000*

Telephone: *(514) 861-5416*

Fax: *(514) 861-7709*

Contact: *Harold J. Simpkins*

Through a five-year (1986-90) marketing strategy, Classy Formal Wear Inc. increased its share of the national men's formal wear rental market from 35 to over 43 percent and began a successful retail sales program making it one of the major sellers of tuxedos in Canada. In addition, the company received recognition from major industry bodies, like the Retail Council of Canada, for the quality of its advertising campaigns, store design and catalogue printing. For these achievements, the company has been awarded winner status in the 1991 Canada Awards for Business Excellence Marketing category.

Classy Formal Wear first identified a long-term opportunity to increase its revenues and profits in 1985, when the Canadian formal wear market was showing signs of mild decline. The company perceived various reasons for this downturn, including a very fragmented market on a regional cross-Canada basis, and uneven levels of merchandise selection, garment quality and customer service across the country.

In 1986 Classy put in place its five-year marketing strategy specifically geared to the customer. Key elements included company expansion into new geographic markets, including Kitchener, Windsor, London, Winnipeg, Edmonton, Calgary and Victoria. By 1990, the chain had grown from 19 to 46 stores. To make formal wear shopping as convenient as possible for its customers, in 1986 Classy began opening stores only in major regional malls and primary downtown locations. These outlets also offer ready-to-wear tuxedos that are far less expensive but of comparable quality to made-to-measure. By 1990, there were 28 such stores in the chain, all with a layout designed to attract mall customers.

Classy's extensive advertising and promotion campaign was aimed at the company's relatively young target market. In addition, the company expanded its selection of merchandise, including securing an exclusive licensing agreement with Yves Saint-Laurent and creating its own Uomo Classico line. To meet customers' varied tastes and budgets, Classy established a broad range of rental prices.

As a result of its marketing strategy, Classy Formal Wear Inc. has increased total company revenues by approximately 44 percent, and achieved annual operating cash flow levels to cover the costs of its national expansion. This success has led to the company's creation of 147 jobs and the transfer to Canada of over $2 million worth of garment production, previously handled in the Far East.

Pursuit Fisheries (1987) Limited (a Division of Clearwater Fine Foods Inc.)

Pursuit Fisheries (1987) Limited (a Division of Clearwater Fine Foods Inc.)
Bedford, Nova Scotia

Number of Employees: ***186***

Sales: ***Not disclosed***

Telephone: (902) 457-2354

Fax: ***(902) 443-8365***

Contact: ***Doug Robinson***
Vice-President, Corporate Development

Pursuit Fisheries (1987) Limited, a Division of Clearwater Fine Foods Inc., harvests, processes and markets Arctic surf clams found in the waters off the coast of Nova Scotia. Through an innovative marketing campaign tailored to its clients, the company has successfully developed various Japanese markets for its product. For this achievement, Pursuit Fisheries (1987) Limited has been awarded winner status in the 1991 Canada Awards for Business Excellence Marketing category.

Pursuit Fisheries (1987) Limited first acquired a licence to harvest Arctic surf clams in February 1987. The company's market research identified Japan as offering major opportunities because a significant proportion of their clam sales were for high-grade sushi and sashimi products. One of these products, from a clam very similar to Pursuit's, was known as hokkigai.

Pursuit defined and met extremely high quality standards to satisfy the needs of Japanese sushi patrons. These standards were developed in conjunction with a sushi chef. In addition, company personnel made many trips to Japan to better understand market requirements.

It was established, for example, that mere minutes were crucial between harvesting and product-stabilization (such as freezing) to ensure their capability of consistently satisfying the exacting quality and taste standards of sushi and sashimi buyers. The company therefore designed the world's first harvester-freezer processor allowing all of its products to be completely frozen within one hour of catch, locking in the "fresh" taste.

After sea-trials and test shipments of the product, customer technicians declared it ready for launching by mid-1989.

To educate its customers, Pursuit developed a 10-minute video in Japanese explaining the company's Canadian hokkigai operation from harvest to table, and the product's features and advantages. A sales kit was also developed including product fact sheets, presentation cards and brochures. Other promotional activities included advertisements in Japanese food service magazines, a direct mail-out campaign aimed at sushi shops in the Tokyo area and a series of graphic 1-kg boxes emphasizing the product's superior quality.

Based on this successful marketing strategy, the Arctic surf clam resource — once a major cash drain for the Clearwater Corporation — has turned into a positive contributor. Moreover, the clam operation has created 186 new jobs, all of them on Cape Breton Island.

W.C. Wood Company Limited

W.C. Wood Company Limited
Guelph, Ontario

Number of Employees: ***751***

Sales: ***$100 000 000***

Telephone: (519) 821-0900

Fax: ***(519) 767-1458***

Contact: ***John F. Wood***
President and C.E.O.

During the last five years, W.C. Wood Company Limited has attained significant and growing success in the domestic and export marketing of its home freezers. For this achievement, W.C. Wood Company Limited has been awarded winner status in the 1991 Canada Awards for Business Excellence Marketing category.

In continuous operation since 1930, W.C. Wood designs, manufactures and distributes consumer durable goods — including home freezers. During 1984-85, the company saw that the major appliance industry around the world was rapidly restructuring, with increased consolidation of the industry giants, intense competitiveness and far fewer viable marketing channels. W.C. Wood concluded that it could not succeed by continuing to concentrate primarily on the Canadian market. During this period, it therefore conducted evaluations of growth opportunities in Europe and the U.S., including trips and extensive efforts to learn distribution structures and to establish personal contacts.

The company concluded that the U.S. offered much more marketing opportunity than did Europe, where the distribution structure is very complex. Implemented over several years, Wood's marketing strategy involved a team effort to which all company sectors contributed: Purchasing, Manufacturing, Engineering, Labour, Corporate Management and Marketing Departments.

One of its primary strategic marketing objectives was to participate only in those areas where the company could achieve the "number 1" or "number 2" position in North America. It aimed at developing a market with private-label retailers, and with major appliance producers who obtained their freezers from companies who were their competitors in other sectors.

W.C. Wood also aimed to produce the best possible product at a competitive price, and to respond to all their distributors' needs. Among the company's specific measures were standardization of components for lower cost and faster response to distributors; modification of the plant and procedures to shorten manufacturing lead times; and the introduction of a company-owned truck fleet for improved delivery service.

As an indication of the company's growing export success in a highly competitive international environment, approximately half of W.C. Wood Company Limited's sales today are outside Canada.

Alcan International Limited
Arvida Research and Development Centre

Alcan International Limited
Arvida Research and Development Centre
Jonquière, Quebec

Number of Employees: ***241***

Budget: ***$32 million***

Telephone: (418) 699-3806

Fax: ***(418) 699-3956***

Contact: ***Jean-Paul Huni***
Research Director

The Arvida Research and Development Centre, a Division of Alcan International Limited, has developed a new closed loop salt-free plasma process to recover aluminum from dross. This invention marks the first time since the beginnings of the aluminum industry more than 100 years ago, that a salt-free process for recovering aluminum from dross has been developed on an industrial scale. Dross is a by-product of the production of aluminum, a mixture of various oxides formed during the melting and processing of liquid aluminum alloys. The amount generated varies between 2 and 8 percent of the production of aluminum and can contain up to 75 percent metallic aluminum. In the traditional dross recycling process, dross is blended with salt and melted in a rotary furnace heated by fossil fuel. This process produces corrosive vapours, as well as toxic spent salt residues which must be disposed of in secured landfill sites. Alcan's revolutionary new process, using plasma gas heating, allows the recovery of aluminum from dross without harmful salt. In addition to reducing energy and metal losses, this salt-free plasma dross treatment process results in a valuable nonmetallic by-product that can be used for abrasive and refractory materials. For these achievements, the Arvida Research and Development Centre, Alcan International Limited, has been awarded winner status in the 1991 Canada Awards for Business Excellence Invention category.

The Arvida Research and Development Centre, the largest private industrial research centre in the province of Quebec, developed the plasma dross treatment process from conceptual stage to the pilot plant demonstration. This breakthrough plasma process results from an integrated research program launched by Alcan International Limited in 1986, and led by Ghyslain Dubé, Director of the Centre's molten metal research team.

The process is the first industrial application of plasma heating technology in the aluminum industry. It is also the first dross treatment process that totally eliminates environmental risks, and provides a closed loop, solid-waste-pollution-free process. Moreover, the system's simplicity and flexibility allow the setting up of mini-installations very close to the sources generating dross.

The essence of the process is a rotary furnace heated by a high-power (1–2 megawatts) plasma gas heater, a device that converts electrical energy directly into heat. This means that high temperatures can be reached without subjecting the dross to reactive combustion products (water vapour, carbon dioxide) associated with traditional fossil fuel. Under these conditions, the metallic aluminum finely dispersed in the dross can be agglomerated with minimum loss and separated very efficiently (90–95 percent) from the solid mineral base.

The potential market for the plasma dross treatment process is enormous. In North America, the quantity of dross produced by the aluminum industry alone is approximately 700 000 tonnes, of which 50 000 tonnes are produced in Canada.

Alcan has filed a number of patents in Canada and the U.S. for different aspects of the plasma dross process, and for the use of nonmetallic products in high temperature ceramic and refractory application. The technology was recently cross-licensed to Plasma Processing Corporation, a subsidiary of First Mississippi Corporation, to use or license worldwide, except in Europe and within Alcan. Discussions are underway with several potential users throughout the world.

Canada Wire and Cable Limited

Canada Wire and Cable Limited
Don Mills, Ontario

Number of Employees: *2 230*

Sales: *$466 million*

Telephone: *(416) 424-5275*

Fax: *(416) 424-4060*

Contact: *Dr. F.W. Hintze*
Technical Vice-President

Canada Wire and Cable Limited is a Canadian-owned manufacturer of electrical wire and cable. It has 10 manufacturing locations across Canada, and markets its products and services in over 60 countries. Dedicated to ingenuity in engineering, the company, in collaboration with Noranda Technology Centre, has developed an Eccentricity and Diameter Monitor for manufacture of medium and high voltage cable. This monitor functions at the beginning of the cable's long production line, immediately detecting any diameter errors and conductor eccentricity. Previously, at least 150 metres of cable had to be produced before existing equipment could detect any such defects. This could take an hour or more, making the manufacturing process very inefficient. Moreover, the failure to detect eccentricity at an early stage meant that thousands of dollars worth of flawed cable had to be scrapped. With the new Eccentricity Monitor, any needed changes in the manufacturing process can be made and checked in a few minutes. For this achievement, Canada Wire and Cable Limited has been awarded winner status in the 1991 Canada Awards for Business Excellence Invention category.

R&D on the Eccentricity Monitor began in November 1983 and was completed in September 1990. The device's primary objective was to measure manufactured cable's eccentricity; specifically, any poor centring of the conductor in the surrounding insulation. In the manufacturing process, the conductor is first drawn through an extruder that applies the insulation. What was required, therefore, was a detector, at the beginning of the production line, that could "see" through the heavy steel casing of the extruding machine.

The challenge the inventors faced was considerable. The thick steel tube surrounding the cable not only presented a formidable barrier, but it was also quite hot (about 100 degrees Celsius). Moreover, it enclosed a hostile atmosphere of high pressure nitrogen and volatile organic compounds which tended to deposit on the tube's bore. These conditions meant that instruments could not be located inside the tube. To complicate the inventors' task, the cable oscillated slowly about an axis which could change position relative to the extrusion line. The measurement accuracy under these difficult conditions was nevertheless required to be about one-tenth of a millimetre.

The solution was a narrow, computer-controlled gamma particle beam. This beam seeks out the inner and outer insulation boundaries to determine their precise locations through analysis of scattered gamma particles. Once the boundary positions are established, a computer calculates the cable's diameter and degree of eccentricity.

Canada Wire has been granted Canadian and U.S. patents for the Eccentricity Monitor. Patent applications in Denmark, Europe, Finland, Japan and Korea are pending.

The cost savings from using the Eccentricity Monitor on a typical cable production line is estimated at $525 000 a year. This corresponds to a 67-percent increase in a typical line's operating profit contribution of $788 000 per year. Based on its selling price of about $250 000, users could expect the device to pay for itself in six months.

Norvik Technologies Inc.

Norvik Technologies Inc.
Burlington, Ontario

Number of Employees: 8

Sales: $15 000 (7 months to January 31, 1991)

Telephone: (416) 634-1718

Fax: (416) 634-5153

Contact: E.C. (Ted) Higgins, President

Norvik Technologies Inc. is a Canadian electronics firm that has developed a system for extremely rapid charging of large and small nickel-cadmium and/or lead-acid batteries. The invention, Minit-Charger™, senses the battery's internal status by intermittently measuring its voltage. This information is then used to deliver optimum power during recharging. Minit-charging the large lead-acid batteries will use 15 to 20 percent less hydro-electric power than conventional charging. In a forklift truck application, for example, Minit-Charger™ can adequately recharge batteries during coffee breaks and lunch breaks, rather than taking hours overnight as a conventional charger would. The Minit-Charger™ method also significantly improves battery life by a factor of two to three for nickel-cadmium batteries. For these achievements, Norvik Technologies Inc. has been awarded winner status in the 1991 Canada Awards for Business Excellence Invention category.

Jiri K. Nor originated the Minit-Charger™ technology in 1987. INCO Limited, an equity investor in Norvik Technologies Inc., contributed financially to its development. The prototype was built in 1987 and was tested by INCO in 1988-89 for Ni/Cd batteries and in 1990 for lead-acid batteries. The first commercial recharger for a Sony Video Camcorder power pack was released in 1991. Patents for the invention are pending in Canada, the U.S., Japan and throughout Europe.

Most conventional battery chargers initially undercharge the battery. Towards the end of the process, however, they overcharge it. This is because these chargers are unable to diagnose the battery's inner state, and its capacity to accept more charge. As a result, they subject batteries to unnecessarily long charge times, and abuse. In contrast, Minit-Charger™ avoids overcharging, associated battery abuse and energy waste. The key feature of the Minit-Charger™ method is its ability to recognize the boundary of the overcharge zone on the basis of electrochemical potentials, and a unique feedback method which allows continuous adjustment of the charge current to match the battery's ability to accept the charge. This diagnostic method allows the electrochemical reaction to be driven at the highest possible rate, without driving the battery into overcharge. Minit-Chargers™ range in size from 5 amperes charging current (12 volt DC input) to 900 amperes (550 volt, 3 phase AC input).

Minit-Charger™ encourages the use of rechargeable batteries by making them more convenient. Rechargeable, small, sealed cells are also much more environmentally friendly than non-rechargeable "throw-away" batteries. In addition, Minit-Charger™ has the potential to promote increased use of battery-powered vehicles. This would in turn greatly reduce the air pollution caused by internal combustion engines.

Early in 1991 Norvik Technologies Inc. booked sales of 2 500 units of its first product, the Sony Video Camcorder battery charger. Since every device charged by a rechargeable battery needs a charger, Norvik's potential market worldwide would appear to be virtually unlimited.

Chrysler Canada Ltd.
Windsor Mini-Van Assembly Plant

Chrysler Canada Ltd.
Windsor Mini-Van
Assembly Plant
Windsor, Ontario

Number of Employees: *4 518*

Sales: *$2.59 billion*

Telephone: *(519) 973-2550*

Fax: *(519) 973-2744*

Contact: *D.E. Kreibich*
Plant Manager

To meet the challenge of remaining profitable in an extremely competitive North American vehicle market, the Chrysler Windsor Mini-Van Assembly Plant introduced a long-term Quality Policy in September 1985. This policy, which requires every individual to fully understand and meet customer needs, defect-free, is a primary focus of the plant's Five-Year Strategic Business Plan. In the 1991 model year the plant realized a 43-percent improvement in outgoing product quality, compared with that of 1985. At the same time, the Chrysler mini-van continues to dominate its segment, holding close to 50% of the market. For these achievements, the Chrysler Windsor Mini-Van Assembly Plant has been awarded winner status in the 1991 Canada Awards for Business Excellence Quality category.

To empower plant employees through the Quality Improvement Process (QIP), each division has a clearly defined mission statement to meet the number one objective of customer satisfaction. Employees can discuss individual and plant goals with senior management through formalized skip-level meetings and the Meet the Manager program. Individual operating divisions can express concerns about products they receive from other divisions by setting up Corrective Actions Teams. If the division is still not satisfied, it can submit an Error Cause Removal (ECR) form. In the 1991 model year, 116 of 143 ECRs were resolved, which combined with other cost improvement actions resulted in a reduction of $7.8 million in the price of non-conformance.

The coaching, training and involvement of all employees are also a major focus at the plant, with Statistical Process Control training for employees at all levels. The Chrysler Quality Awareness Workshop, dedicated to the individual's role in quality improvement, supports a co-operative Chrysler/Canadian Automotive Workers survival effort into the future.

Other employee programs include Chrysler's Employee Special Recognition Award and goals for employee health and safety integrated into the Business Plan. The Automated Labour Relations System, implemented in 1988, gives senior management access to a daily overall activity summary of employee satisfaction and morale. A reduction in employee grievances by 35 percent occurred in 1989, followed by another 12.6 percent reduction in 1990.

Team work is a key factor as evidenced by the Core Team, a group of 24 employees, representing each division and shift. Interacting with supervisors and workers, Core Team members strive for continuous quality improvement by making representations on behalf of their departments, visiting dealers and identifying training needs.

The plant involves suppliers in QIP through Chrylser's Supplier Quality organization which provides quality system guidelines. An open-door policy allows outside suppliers to make quality improvement and cost-saving suggestions. Chrysler's Corporate Supplier Quality Assurance group visits outside supplier plants, surveys products and processes and then rates the overall quality system. Suppliers who receive a high rating are given Chrysler's Quality Excellence Award; more than half of the plant's 643 suppliers received this award in the 1990 model year.

Key methods for determining customer requirements include Customer Response Questionnaires, visits to dealers by plant personnel and a hot line. Since QIP was introduced in 1985, the plant has experienced a 44-percent improvement in warranty performance.

The plant's dedication to the Quality Improvement Process will continue in future. It has set up a New Mini-Van Quality Function Deployment Team to ensure that customer requirements drive both product design and the manufacturing process of the 1995 mini-van.

Linamar Machine Limited

Linamar Machine Limited
Guelph, Ontario

Number of Employees: *1 321*

Sales: *$128.6 million*

Telephone: *(519) 836-7550*

Fax: *(519) 824-8479*

Contact: *Larry Pearson, President*

From its incorporation in 1966, Linamar Machine Limited has been engaged in high-precision, subcontract machining, generally to specialized vehicle builders and their component suppliers. Major clients include Ford Motor Company, General Motors Corporation and Xerox Corporation. Recognizing the importance of providing its customers with high-quality products and services, Linamar established a Quality policy in October 1988, to provide products, services and processes that specifically meet customers' quality requirements. The program ensures prompt detection of discrepancies, and timely corrective action in all areas affecting contract performance. Results include dramatic product quality improvements initiated by employees, excellent methods for analyzing productivity and monitoring financial variance, and low employee turnover. For these achievements, Linamar Machine Limited has been awarded winner status in the 1991 Canada Awards for Business Excellence Quality category.

Each of the company's subsidiaries has introduced Quality statements that are posted throughout the plant. These plans incorporate multiple business functions, including quality assurance, production, materials management, accounting and engineering.

Linamar's emphasis on employee involvement, satisfaction and morale has resulted in a downturn in absenteeism, down one percent between February 1989 and October 1990, and an extremely low employee turnover rate. Linamar promotes a safe, healthy and environmentally friendly workplace through Safety Awareness talks, and consultation with the provincial Ministries of Labour and Environment.

The company communicates its commitment to quality to its employees through meetings and its quarterly newsletter. Employees are encouraged to contribute ideas to increase productivity and quality, and to help develop the Quality policy through programs such as Team Oriented Problem Solving and Design of Experiments. To support employees' advancement, Linamar has a Tuition Improvement program. Employee training in Quality covers subjects such as Statistical Process Control.

Linamar incorporates essential input from customers and suppliers through exercises like Advanced Quality Planning. Representatives from the company's various functions meet with an equivalent team from the customer, or supplier, to anticipate potential problems before the job starts.

Linamar sees suppliers as an extension of its operations, and requires them to meet high standards. The company's Supplier Certification Program, as well as supplier system survey questionnaires and self-assessments reinforce this.

To identify each customer's specific needs, Linamar requests and studies customers' manuals and videos, in which they specify their fundamental requirements for a supplier. Other procedures to ensure quality products include an Electronic Data Input program that allows customers to communicate needs quickly through computer; a Preventive Maintenance Program to avoid major machine breakdowns; and Quality Reject Processes to deal with any customer dissatisfaction rapidly. All Linamar customers are encouraged to supply the company with bi-monthly quality reports.

As evidence of the results of its Quality program, Linamar has been awarded the Ford Preferred Supplier Award twice in the past two years. As well, a reporting system has been set up that tracks ongoing productivity on all volume-related production jobs.

Linamar's plan for the future includes keeping pace with advancing technologies, and making timely acquisitions of evolving machine tools and the latest quality assurance equipment. The company will also broaden its product and client base.

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