Company Profile

October 2010

Campbell Scientific (Canada) Corp. - Introduction

Claude Labine, as the sole proprietor, founded Campbell Scientific (Canada) in 1978 representing Campbell Scientific, Inc. (CSI) of Logan, Utah. The proprietorship expanded rapidly as demand for CSI's innovative data acquisition and control products grew in Canada. In 1980 the company was incorporated under the laws of Canada to form Campbell Scientific (Canada) Corporation.

Location: Campbell Scientific (Canada) Corp.
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Hours of Operation: 07:00 to 17:00 MST

Web Site: http://www.campbellsci.ca

Year Began Operations: 1978

Year Incorporated: 1980

No. Of Employees: 42

Campbell Scientific (Canada) Corp. (CSC) is a 100 percent Canadian owned provider of quality sensors, measurement instruments and data acquisition systems. CSC is a leader in system design, service, support, integration, calibration and training and currently holds exclusive Canadian distributor rights for products manufactured by the following companies:

- Campbell Scientific, Inc. of Logan, Utah, USA
- R. M. Young Company of Traverse City, Michigan, USA
- Kipp & Zonen of Delft, The Netherlands
- Hydrolab/Hach of Loveland, Colorado, USA.
- Goodrich Sensor Systems (formerly Rosemount Aerospace) of Burnsville, Minnesota, USA
- The OTT Company of Germany

The Campbell Scientific group of companies is located in Australia, Brazil, France, Spain, the United Kingdom, South Africa, the United States of America and Canada. Campbell Scientific products are marketed through direct sales by this worldwide network of companies, as well as sales representatives.

Principal Products

Campbell Scientific Inc.

The Campbell Scientific product line consists of rugged, battery operated data acquisition and measurement and control systems. These systems are suitable for use in industrial applications such as vehicle testing, structural monitoring, geotechnical monitoring, and mining. Our automatic weather stations, meteorological, hydro-meteorological and other sensors are also used in environmental applications such as agriculture, air quality, fire weather, water quality and weather and climate reporting.

R.M. Young

The R.M. Young product group includes various types of indicators and sensors for monitoring wind, temperature, relative humidity, and barometric pressure.

Kipp & Zonen

Kipp & Zonen is a leading manufacturer of solar and sky radiation sensors that are used in climate research, water resource management, agriculture, renewable resource, materials testing, and public health applications.

Hydrolab

Hydrolab has been a world leader for more than 35 years with their innovative designs and manufacture of multiparameter sondes for environmental water quality monitoring.

Goodrich Sensor Systems

Goodrich Sensor Systems (formerly Rosemount) Ice Detectors have a long history of ice detection in Canada and around the world. Goodrich ice detectors are currently used extensively in the aviation industry and have an excellent reputation for performance and reliability. CSC is marketing this same ice detector technology for ground-based applications. Clients in wind energy, power generation, and road weather industries as well as many others will be very interested in these sensors.

The OTT Company of Germany

The OTT Messtechnik Company of Kempten, Germany has been a manufacturer of hydrometric systems for more than 135 years and is a leading manufacturer of state of the art "Quantitative Hydrology" technology in both ground and surface water applications.

Company History

Campbell Scientific (Canada) (CSC) began operations in May 1978 in Edmonton, Alberta and was federally incorporated in June 1980. Since its inception, CSC has been the exclusive Canadian distributor of Campbell Scientific, Inc. equipment, specialising in the development, sales, and maintenance of data acquisition systems.

With company sales growing rapidly, a repair and servicing facility was established in 1981. By 1986, a production facility to manufacture sensors and peripherals of various types was created in order to enhance delivery times. In 1988, CSC secured the manufacturing rights for an ultra sonic snow depth sensor from Environment Canada (then the Atmospheric Environment Service). The original sensor went through two meticulous redesigns, making the unit more robust and sensitive to the demands of snow depth and water level measurement, and is now used world wide in these applications. Campbell Scientific currently has more than 5,000 SR50 ultrasonic sensors in use around the globe. CSC has recently completed the design and production of our highly anticipated state-of-the-art CC640 Digital Camera, which has been received with great enthusiasm where remote, unattended monitoring is required.

CSC continues to be dedicated to supplying instruments of the highest quality at a reasonable price. As the company has expanded and matured, we have also increased the variety of products we carry to better serve the demands of our customers. The most significant was the inclusion of the R. M. Young Company product line in 1990. The R. M. Young group of indicators, sensitive and operational wind instruments, and temperature sensors, are a perfect compliment to Campbell Scientific's line of compact, battery operated, programmable dataloggers. Initially designed to serve the stringent requirements of scientists and engineers involved in agricultural and meteorological research, both product lines are manufactured to the highest standards and capable of operating in a wide range of environments from the two poles and everything in between. Kipp & Zonen solar radiation sensors and water quality monitoring products from Hydrolab were added to the CSC product line in 2000 to further broaden our ability to serve many different monitoring applications.

Our extensive product range addresses a broad spectrum of markets, from agricultural and hydrological research to environmental monitoring networks, with sophisticated communications and a wide range of industrial applications including vehicle testing (automotive, railway, mass transit), mining, oil and gas production, and engineering. As the expectations of scientists and engineers increase with advances in technology, Campbell Scientific (Canada) maintains our lead in the market and will continue to do so by taking advantage of the latest innovations. The combined world wide sales of Campbell companies is now in excess of 100,000 dataloggers (approximately 8,000 in Canada).

CSC currently employs 42 people, including ten Technical Consultants, a product development engineering group, a production/repair facility and an extensive inventory of products to support service, manufacturing and enhanced delivery times of systems to our clients.

With our awareness of market demands matched only by our commitment to research and development, Campbell Scientific is approaching the future with further development of a range of sophisticated new products, which are scheduled for release in the next few months.

Key Personnel

Brian Day, President (CEO)

Brian Day is a B.Sc. (Hon) graduate of Laurentian University and began network design and system integration of low powered monitoring and data acquisition systems when this technology first became available in Canada in 1978. As a consultant to leaders in the fields of scientific research, education and government, Mr. Day works with these groups on developing standards in proper measurement techniques and data analysis. Mr. Day is the Managing Director of Campbell Scientific (Canada) Corp., with responsibilities that include all project management, operations and supporting functions.

Claude Labine, Chief Scientific Officer (CSO)

Claude Labine studied and attained his MSc. in Agrometeorology at the University of Guelph in 1974 and is currently a Ph.D. candidate in Earth & Atmospheric Sciences (Climatology) at the University of Alberta. He has been involved in environmental monitoring for over 30 years. As an evaluation leader on several United Nations Development Projects, experts in a wide range of fields have called upon Mr. Labine's experience. An accomplished writer, researcher, presenter and instructor, Mr. Labine's main duties at CSC include the support of specialty products such as Eddy Correlation and Bowen Ratio systems, marketing, and advertising. Mr. Labine is the founder and past president of CSC, in April 2010 he stepped down from the executive team to fill the role of Chief Scientific Officer. His responsibilities now include school and university programs, teaching, research, and facilitating technology transfer with government, academia, and other partners. He holds an Adjunct Professorship at the University of Alberta where he has enjoyed a long-standing collaboration with the Department of Earth & Atmospheric Sciences. He has been involved in arctic research and environmental monitoring for over 40 years. He is an Industrial Partner with Dr. J. England's NSERC Northern Chair. Labine was named Fellow of the Canadian Meteorological and Oceanographic Society in 1998. He continues his work in the Canadian High Arctic with Dr. D. Burgess et al. at NRCan glaciology Ottawa, Dr. K. Young, York University, and Dr. G. Henry, UBC Vancouver.

Claude Labine was recently appointed as a Canadian representative on the International Arctic Science Committee (IASC), Atmosphere Working Group.

Carl de Leeuw, Vice-President of Marketing and Sales (CMO)

Carl de Leeuw holds a B.Sc. in Physical Geography and graduated from the University of Toronto in 1986. Mr. de Leeuw has extensive experience in research, cartography and hydrogeology and is the designer of the Canadian Military's MetRanger 1 Quick Deploy Weather Station. He has been with Campbell Scientific (Canada) Corp. since 1988 and assumed responsibility of our Marketing/Sales/Support Department in 1999. Mr de Leeuw managed our Eastern Canadian operations from 1990 to 1999 after which he became the National Sales Manager and moved to Edmonton, AB. In 2005 he became Marketing and Product Manager and has recently been appointed Vice-President of Marketing and Sales.

Glen Bosch, Vice-President of Operations (COO)

Glenn Bosch has been working with government and non-government organizations for several years providing management consulting, project management and business analysis. Notable achievements include his involvement with the Alberta Communicable Disease and Outbreak Management System and integrating the University of Alberta's Registrar's Office with a province wide registration process (Apply Alberta). Mr. Bosch's consulting career included time spent with a large international firm and also operating his own company since 2004. He has a Masters of Business Administration and Bachelors of Education Degree from the University of Alberta, and a Computer Systems Technology Diploma from Northern Alberta Institute of Technology.

Charlie Todd, Production and Repair Manager

Charlie Todd completed his Electronic Technician Apprenticeship in 1974 and by 1976 had earned a Higher National Certificate in Electrical and Electronic Engineering from Napier College in Edinburgh. Mr. Todd joined the Campbell Scientific team in 2003 after decades of experience in the production and servicing of industrial electronic equipment. His main duties are to oversee our production and repair facility to ensure quality is of the highest standard.

Greg Kalmbach, Sales Manager

Greg Kalmbach attained his B.Sc. in Meteorology from the University of Alberta in 1992 and began his career with Campbell Scientific (Canada) the following year. Mr. Kalmbach worked as a Sales & Support Technician for more than 10 years, specializing in system design and client support. He developed our training courses and many of our installation procedures during this tenure and became the Manager of the Sales & Technical Support Department in 2005. Mr. Kalmbach and his staff of nine technicians are responsible for overseeing all of CSC's client requests.

Robert Herfst, International Sales Manager

Robert Herfst completed his B. Sc. (Hon) in Earth Science at the University of Waterloo. He has been with Campbell Scientific (Canada) Corp. since 1989. His extensive experience includes installations, training courses, and international travel. In 2004 he assumed the responsibilities of overseeing the development of the India market working with our distributors in the sub-continent.

Special Services

Monitoring/Data Acquisition Workshops:

The majority of our client base is self-taught using our detailed operator's manuals. However, Campbell Scientific offers a variety of Monitoring/Data Acquisition Workshops, which are based on a hands-on approach.

GENERAL COURSE:

CSC routinely offers a two day General Course at our Edmonton facility. Individuals completing the General Course will achieve a solid understanding of the logic behind a Campbell System, which will allow them to set up systems for almost any application.

PRIVATE COURSES:

We offer private courses either by travelling to the customer's facility or holding them at our Edmonton location, with the concept of the private course being similar to our in-house workshops but tailored to the client's specific application.

Installations and On-Site Maintenance:

Campbell Scientific has a long history of installing turnkey systems for our customers throughout Canada including harsh environments like the Arctic. This process includes the system design and programming of the logger in consultation with the client. As part of the installation phase and when required, Campbell Scientific will provide specific hands on training. Many of our customers find this the most efficient and cost effective method of commissioning a new system and even contract Campbell Scientific to do the on-site maintenance of their systems.

Custom Products

Campbell Scientific (Canada) Corp. understands that each measurement and control application is unique. We are committed to assisting our clients in the design of a custom measurement system for their specific monitoring needs, with the flexibility of the Campbell datalogger allowing us to connect to virtually any required sensor.

In-House Facilities

Product Design

Solid Works and AutoCAD are used for site engineering drawings for station installations, and to produce working drawings, assembly guidelines and mechanical designs for new products. Protel is our program of choice for developing electronic circuit board designs.

Production

Our facilities include highly efficient and experienced personnel for the assembly of associated peripherals and sensors and the manufacture of complete systems tailored to the customer's requirements. Large production efforts, such as stuffing of circuit cards, are carried out by ISO 9000 registered and certified third party companies, with final assembly and testing completed in-house. Our inventory includes upwards of 4000 finished products, unfinished products, and spare parts.

Test and Repair

CSC has acquired a comprehensive range of test equipment, which is serviced and calibrated yearly to NIST (National Institute of Standards and Technology) values. A series of environmental freezers, plus a state-of-the-art environmental chamber for testing electronic equipment over the range of -65^{o}C to +85^{o}C ensures that Campbell Scientific products will operate to specification in harsh conditions. This is a major segment in the testing and evaluation of our products and components.

Computing

An IBM AS400 supported by a Windows Server Ethernet Network integrates purchasing, inventory control, production, the tracking of customer orders and all accounting functions. Marketing software running under the Windows Server Technology provides information and support to our staff. A total of 60 PC's are used in Administration, Engineering, Marketing and Production.

Company Mission Statement

Campbell Scientific (Canada) Corp. (CSC) is dedicated to developing and providing cost effective, quality solutions to our clients' measurement and control instrumentation needs. Its employees, customers and suppliers, and their perception of how well CSC balances the following guidelines, will judge the measurement on how successful this company is in executing the Mission Statement.

- Individual dedication to understanding the client's needs and the importance they place on the information and data our products provide.
- Providing quality workmanship, service and products while controlling costs.
- A current knowledge base of appropriate technologies.
- A positive, safe working environment for our employees, providing opportunities for personal growth. We believe if our employees are challenged and continually learning, our clients will be forever better served.
- Effective communication between employees. This is mandatory both to increase efficiency and to foster a sense of common purpose, with each employee being aware of the company's objectives and how their individual effort works towards attaining them.
- Employee compensation and benefits according to individual accomplishment, company financial position, and competitive demand for comparable talent.
- Freedom from financial, legal or other control by those unfamiliar or unsympathetic to the company philosophy and purposes.

Selected Application Installation References

These references are representative of a CSC customer and their application requirements. Please contact our office to discuss a specific application.

Canadian Climate Reference Network

Environment Canada began establishing a Climate Reference Network to World Meteorological Standards in 2001. This series of weather stations, located across Canada and in the Arctic, is based on the CR10X Measurement Control Module and the CR23X Micrologger.

Canadian Bio-Climate Network

The Canadian Bio-Climate Network has been established since 1996 with sites in British Columbia, Alberta, Ontario, Quebec and Nova Scotia using 21XL Microloggers. The sites provide air and soil temperature profiles, photosynthetic response radiation, air temperature and relative humidity data. Sites in Saskatchewan and Manitoba were installed in 1997.

Confederation Bridge Project

The Confederation Bridge linking Prince Edward Island to New Brunswick is being monitored using a network of seven CR9000 (high speed) Measurement and Control Systems and seven CR10X Measurement and Control Modules, which provides information to researchers on the effects of ice impacts and loading on the bridge during winter conditions. A 21XL-based weather station is also used to gather general background weather information in support of this project.

Department of National Defense (CFB Gagetown, NB)

Since our installation of eight CR10-based weather stations in 1989, and their subsequent upgrades to the CR23X's, we have continued to maintain this radio-based network of weather stations located throughout CFB Gagetown, NB. The stations provide ambient environmental conditions which are processed by a central computer to provide information such as: Fire Weather, Heat Stress Index, UV Index and Wind Chill data for the control of troop activities in the training area. The MetRanger 1 systems that we have been providing for use at CFB Gagetown since 2001 are also used as quick deploy stations in applications around the globe.

Environment Canada Radiation Monitoring Network

Beginning in 1988, sixty 21XL's have been deployed as replacements to the Honeywell Chart Recording Systems to monitor various solar radiation parameters across Canada.

Manitoba Hydro

Manitoba Hydro currently uses a network of Campbell Scientific CR10X's with Telephone Modem and Radio Telemetry systems to operate an extensive network that monitors vibrating wire for structural stress of dams as well as reservoir water levels.

Ministry of Transportation (British Columbia)

The Ministry of Transportation in British Columbia has maintained a network of 100 stations (a combination of CR10, 21XL and CR10X dataloggers) throughout the province since 1985 for the purposes of supporting its Avalanche Forecasting Program. All the stations are polled through a central computer using Campbell Scientific's telephone/RF Telemetry system, NL100 or digital cell phone. Since 2000, the Ministry has been expanding its extensive Road Weather Information System and Frost Probe Monitoring network by adding a combination of CR10X based RWIS Stations with Vaisala and Anderrea Road Pavement Sensors.

National Research Council

The Council uses a number of CR10 and CR7 systems extensively for its various research projects.

USA

There are a significant number of weather station networks in Canada and the US parent company, Campbell Scientific, Inc., also has many applications in mainland USA. The list includes the US Army's **White Sands Missile Range** at New Mexico, which has 140 weather stations in a network; the **Oklahoma Mesonetwork** consisting of 114 automated observing stations distributed across the state; the **Berkeley Solar Group** which operates 20 dataloggers over a telephone network for monitoring solar efficiency; and the **University of Nebraska** which has a total of 92 weather stations located in North West USA, 39 of which communicate by telephone.

Other Clients

Other users of Campbell Scientific systems include:

Consultants

- Genivar
- Heli-Max
- Klohn-Crippen Consultants Ltd.
- Golder Associates
- M.A. O'Kane Consultants Inc.
- MDH Engineered Solutions
- Ontario Windsmith
- RWDI
- Thurber Engineering
- Zephyr North

Industry

- Alcan
- Amoco
- Cameco
- Conoco-Phillips
- General Motors Canada
- Hydro Quebec
- Inco
- Manitoba Hydro
- Newfoundland & Labrador Hydro (NALCO)
- OPG
- P. E. I. Wind Test Site
- Suncor
- Syncrude
- Whistler Blackcomb

Provincial Governments

(Campbell products used by the departments listed below in most Provinces)

- Ministry of Agriculture
- Ministry of Environment
- Ministry of Forests
- Ministry of Natural Resources
- Ministry of Transportation

Federal Government of Canada

- Agriculture Canada
- Bedford Oceanographic Institute
- Canadian Coast Guard
- Canadian Inland Waters
- Environment Canada
  - Atmospheric Environment Service
  - Water Survey Canada
- Fisheries and Oceans
- Forestry Canada
- Indian Affairs
- National Hydrology Research Institute
- Parks Canada

Universities

(includes several departments at each university)

- Carleton University
- Laurentian University
- McGill University
- McMaster University
- Memorial University
- Queens University
- Université Laval
- Université de Montréal
- Université de Québec
- University of Alberta
- University of British Columbia
- University of Calgary
- University of Guelph
- University of Manitoba
- University of Regina
- University of Saskatchewan
- University of Toronto
- University of Waterloo
- University of Western Ontario
- University of Windsor