

LUDO ARDEN BERTSCH, P. Eng.

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EDUCATION

UNIVERSITY OF SASKATCHEWAN, Saskatoon, Sk, Canada
B.Sc. in Electrical Engineering, 1980
Specialty: electronics, communications and computers.

SUMMARY OF EXPERIENCE

Electronics Engineer and Manager with 30 years of experience in data communications, automation, controls, integration, energy and environment. Extensive work experience in technical design and development (software, hardware, firmware and Internet), system integration and technical management in a manufacturing environment. Collaborative projects involving diverse companies, both private and government, including utilities and municipalities, to facilitate mutual benefit (technical, marketing and monetary).

EMPLOYMENT HISTORY

HORIZON TECHNOLOGIES INC., Victoria, BC, Canada
President; Key Design Engineer (1986 to present)
Founded company. Company specializes in automation, data communications, system integration, control technologies, energy/environment sustainability, Smart Meters/Smart Home/Smart Grid. Intervenor in BCUC regulatory hearings regarding BC Hydro, FortisBC and BCTC. Development of individual and system-wide energy efficiency strategies. Extensive experience in hardware development (digital, analog, integrated systems, home area networks (HAN), data transmission – twisted pair, powerline and RF wireless including Zigbee, Bluetooth, CDMA/GPRS cell), microprocessor real-time firmware, software (Windows, C++, Android/Windows Mobile/Palm/Visor, database), Internet development (HTML, Java, web design), system integration and advising clients. Designed and developed integrated systems and products based on open home automation standards, with an emphasis on energy efficiency and interoperability. Developed RF wireless PDA control system, meter reading and smart appliance control system, HVAC water loop energy monitoring system, cell-networked graphical LCD thermostat and wireless (RF) tracking receiver for finding wandering patients.

AISI RESEARCH CANADA LTD., Victoria, BC, Canada
Director of Research and Development (1987 to 1990)
Built up team of engineers, technologists, software engineers and technical writer to design products (modules, integrated chips and PC software) in the home automation area. Designed and simulated among other products, the first custom chip for CEBus. Personal technical work included firmware and hardware (communications, networks, analog, digital, microprocessor).

DEVELCON ELECTRONICS LTD., Saskatoon, Sk, Canada
Manager of Transmission Group, Research and Development (1980 to 1984)

Coordinated, supervised and built up team of up to 19 technical people including hardware and software engineers, technologists, draftspeople, and technical writers. The development group was responsible for all duties from initial design to first production run of a range of data communications products. Responsibilities included design, development, recruitment, quality control, long and short term goal setting, personnel advancement, budgeting and inter-departmental co-ordination.

Designed and introduced Develcon's largest first production run, patented their first product and developed their first product for personal computers (small local area network).

Also initiated a group for interfacing between R&D and production; including documentation, procedures.

PATENTS HELD

Terminal-powered dataset
Capacitive isolation for transmission
Two-wire doubly balanced hybrid
Programmable distributed appliance control system
Programmable consumer device interface
Programmable distributed appliance control system

PROFESSIONAL AFFILIATIONS

Association of Professional Engineers and Geoscientists of BC

RELATED ACTIVITIES *(Current and Past)*

Chair of Canadian Advisory Committee for ISO/IEC Joint Technical Committee 1 SC25 (Interconnection of Information Technologies)
Working Canadian expert in ISO/IEC JTC1 SC25 WG1 (Home Electronic Systems)
Key Smart Home/Smart Grid technology architect & designer for Solar Colwood (municipality-driven energy efficiency program supported by the Federal Government)
Member of Standards Council of Canada, Canadian National Committee of the IEC Task Force on Smart Grid Technology and Standards
Participant in the North American Energy Standards Board Smart Grid Standards Task Force
Member of BC Hydro's Rates and Conservation Research Initiative - Residential Time of Use Pilot working groups (Smart Meters)
Chairman of Standards Committee of Continental Automated Buildings Association (CABA)
EIA CEBus Home Automation open standards committee contributor
Participant in intelligent meters standards coordinated by Industry Canada
Organizer and consultant for ESVI Energy Solutions for Vancouver Island Society
Director in the Green Victoria Challenge, an environmental awareness group working with industry