



World's First LEED Platinum Convention Centre Uses Crestron Integrated Building Technology

East and West Buildings Integrate Crestron Lighting, Climate and AV Control

Background

Located on Vancouver's downtown waterfront with a dramatic mountain backdrop, the Vancouver Convention Centre is a state-of-the-art facility designed with the latest environmentally sustainable features and technologies. Recognized as one of the leading convention centers in the world, the Centre is the only two-time winner of the International Association of Congress Centres' prestigious APEX award for World's Best Conference Centre.

The Centre has completed a significant expansion and renovation project in 2009, tripling its size to cover 1.1 million square feet or an equivalent of four city blocks.

Spanning two connected buildings, the Vancouver Convention Centre features 466,500 square feet of flexible pre-function, meeting, exhibition and ballroom space.

The Challenge

The large multi-purpose facility went through a \$883.2 million construction project with the construction of the new West facility and renovation of the original East building. The multi-phased integration of all building systems aimed to create a seamless, consistent interface between the building automation systems, fire and life safety systems, audio visual systems and the communications systems.

Vancouver-based, AVW-TELAV consulted, designed and will be completing the integration of AV, lighting and HVAC systems in both buildings "In terms of technology, communication and consistency is the goal to leverage the same design concepts and integrate them into both buildings," explains Byron Tarry, AVW-TELAV General Manager.

West Building Expansion

Crestron building control technology was selected for the West building expansion project. The design features 60 touch screens which enable push button control of audio/video, lighting and HVAC in each room, all from an intuitive graphical interface. The implementation included complete AV systems in 52 meeting rooms, which feed more than 600 PA speakers throughout the facility.

Systems at a Glance

A Crestron PRO2 control system enables simple touch screen control of room lighting and dimming, climate and AV devices including video projectors, plasma displays, DVD players, screens and lifts. Using TPS-12 or TPMC-8X WiFi wireless touch screens, presenters in any of the 75 meeting rooms or ballrooms can control room settings and presentation environments with the tap of a button.

East Building Renovation

Following completion of the West Building expansion project, the existing East space, under the iconic sails of Canada Place, was fully renovated to ensure the same levels of detail and functionality as the expanded building at the centre. Once complete, the fully integrated Crestron control systems will enable simplified AV, lighting and climate control in all meeting spaces.

Systems at a Glance

Complementing the design and implementation efforts toward sustainability throughout the project, the integration of the Vancouver Convention Centre room booking scheduling software with Crestron RoomView® Server Edition aims to reduce energy consumption significantly. By tracking room bookings and validating this with room occupancy from the Crestron motion sensors, the system will shut off lighting and HVAC when rooms are not in use, and likewise pre-set rooms in advance of an event.

As part of the Crestron Integrated Building Technology (IBT) platform, GLS-ODT-C-2000 occupancy sensors were installed in each room, allowing the Vancouver Convention Centre to power off each of the 40 amplifiers in the facility when not in use. This custom automation feature is projected to save an estimated 23,000 Kilowatt hours of energy annually, not including additional savings from the reduction in heat produced during this time. The amps are part of a new DSP audio system that includes 400 speakers throughout the meeting spaces.

Lighting fixtures that had been part of the existing building's original construction were re-designed and replaced with high efficiency fluorescent and LED fixtures throughout the entire facility. This re-design allowed the installation of a digitally





controllable dimming system which permits users to adjust lighting levels from room touch screens. The re-design aimed to drive further energy efficiencies by allowing lighting zones to be capped at maximum required lighting levels. Using Crestron GLX 6 Channel Dimmer Modules, more than 200 channels of dimming were retrofitted throughout the facility.

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Byron Tarry, AVW-TELAV General Manager

A client interface to the existing building’s HVAC system was installed to integrate with the existing building automation system for climate control. Because the existing building is leased space in the larger Canada Place facility and does not have direct control over the base building system, this added

a layer of complexity in designing and managing this portion of the project. Under the Vancouver Convention Centre’s direction, AVW-TELAV worked with Canada Place engineers and various outside consultants to develop an interface to the Crestron control system, which will result in successfully matching the room control capabilities of the West Building.

Results and Benefits

The expansion of the Vancouver Convention Centre provided the optimal opportunity to design and build a convention facility that is not only functional, but one of the ‘greenest’ in the world. The Vancouver Convention Centre achieved this in early 2010 when its West building was awarded LEED Platinum certification for new construction by the Canada Green Building Council. This makes the Centre the first convention center in the world to achieve the highest LEED designation.

AVW-TELAV estimates that the Crestron control solutions create significant energy savings for the Vancouver Convention Centre. “With the Vancouver Convention Centre commitment, the integrator’s expertise and Crestron control solutions, the long-term winner is the environment,” Tarry added.