



## Powerwave Coverage Solutions

# Alberta Children's Hospital

## Powerwave Partners with TAC Mobility to Enhance Public Safety Communications at New Alberta Children's Hospital

In 2003, the Alberta Children's Hospital building committee tapped TAC Mobility to implement a wireless communications system for the new hospital to support public safety and in-house paging for doctors, nurses and other staff members throughout the 1 million-square-foot building and attached parking garage.

As a Powerwave Technologies partner and Western Canada's lead dealer for Motorola Two-Way radios, TAC Mobility has become Calgary's premier supplier of wireless communications products and services, having supported wireless communications for the Ironman Triathlon in 1998, the G8 Summit in 2002, and the 1988 Winter Olympics.

The new Alberta Children's Hospital in Calgary, Alberta, is the first free-standing pediatric facility to be built in Canada in more than 20 years. The hospital, which opened to the public in Fall 2006, is located on the University of Calgary's West Campus, and was built with the needs of patients and their families in mind. Physicians, nurses, parents, youth, children and many others contributed their expertise to the design and planning of the hospital.

Key objectives the Alberta Children's Hospital hoped to achieve in establishing wireless communications inside the new facility were to:

- Create a comprehensive communications access system leveraging state-of-the-art technology to provide public safety personnel with seamless wireless communications.
- Implement a wireless coverage system that supports comprehensive in-house paging for nurses, doctors and other staff members.
- Offer a 95-percent coverage guarantee.

To achieve these objectives, TAC Mobility partnered with Powerwave to design and implement an indoor distributed antenna system (DAS) comprised of an 800 MHz & UHF trunking system (24 channels) and UHF and VHF paging system for in-house paging services.

### Removing Communication Barriers

When TAC Mobility conducted their first site visit, they were astonished to discover that none of the wireless devices they tested worked within the hospital. And, while

the hospital officials knew what they wanted to accomplish in terms of providing access to wireless services within the facility, it took four change orders to settle on a system that now supports 800 MHz public safety frequencies (24 channels) and UHF public safety communications as well as UHF and VHF paging throughout the hospital and attached parking facilities.

Leveraging Powerwave's broad-based experience in developing systems accommodating wireless communications for law enforcement and public safety agencies worldwide, TAC Mobility implemented a highly reliable and flexible wireless coverage solution that could overcome the hospital's wireless communications challenges. Today, multiple RF signals are being distributed throughout the new Alberta Children's Hospital, enabling public safety personnel and hospital staff to effectively communicate via two-way radio and paging systems.

At the outset of the project, the goal was to achieve 95 percent coverage within the building and parking structure. According to TAC Mobility's Tim Adams, since the DAS was installed the smallest return to date has exceeded coverage expectations.

"Due to our close relationship with local law enforcement, we have had a number of officials from the fire and police departments tour and test the facility, and no matter where they were within the facility -- whether it was a stairwells or an obscure corner of the parking garage -- they were able to receive reliable, uninterrupted coverage," said Adams.

### **The Anatomy of a DAS**

When it came to the design of the indoor DAS at the new Alberta Children's Hospital, Powerwave and TAC Mobility relied on the use of a series of bi-directional amplifiers to support the 800 MHz trunking, UHF trunking and UHF paging system, and Powerwave's LinkNet modules for the VHF in-house paging system.

Powerwave's distributed antenna system includes coaxial cable, patented Tap-In® signal distribution taps, and ceiling antennas. Together these items support the distribution of one or more wireless services over a single distributed antenna network, resulting in low infrastructure costs and reducing the lifespan cost of the wireless communication system.

### **The Final Test**

In September 2006, Powerwave and TAC Mobility completed build-out of the indoor DAS at the new Alberta Children's Hospital. The planning and installation of the system was completed within 14 months.

The first "real-world" test of the system occurred when hundreds of patients were moved from the old Alberta Children's Hospital to the new facility following the grand opening of the hospital in late September 2006. During the move, hospital personnel and public safety officials experienced uninterrupted communications via the two-way radio and paging systems, making the move much easier for everyone involved.

Since the public safety communications system was installed, Calgary's Emergency Medical Services have also experienced a measurable improvement in their ability to communicate with personnel inside Alberta Children's Hospital.

“With the health care system lacking the capacity to effectively manage the volume of patients coming into the system, our EMS teams are spending more time inside hospitals waiting to transfer patient care to the hospitals,” said Mike Plato, Assistant Deputy Chief for Calgary EMS. “However, because most Calgary hospitals do not provide adequate support for radio communications, this has created a critical day-to-day need for improved communications with our crews while within these facilities, a need that has been met by Alberta Children’s Hospital through the deployment of a wireless communications system that supports public safety frequencies throughout its entire facility.”

### About Powerwave Technologies

A global leader in end-to-end wireless coverage and capacity solutions, Powerwave Technologies, Inc. offers cutting edge wireless infrastructure to address the demands of enterprise and commercial customers. Powerwave offers a comprehensive suite of solutions, including Antennas, Base Station Solutions and Coverage Solutions. Powerwave’s product line supports all wireless network protocols and frequencies including Next Generation Networks in 4G technology such as WiMAX™ and LTE®. Powerwave solutions, products and services also help wireless operators and OEMs reduce capital and operating expenses, speed rollout of services, improve coverage and capacity, and reduce environmental impact. For more information, visit us at [www.powerwave.com](http://www.powerwave.com).



[www.powerwave.com](http://www.powerwave.com)

#### Worldwide Corporate Headquarters

1801 East St. Andrew Place  
Santa Ana, CA 92705 USA  
+1 714 466 1000  
+1 714 466 5800 FAX

#### Main European Office

Knarrarnasgatan 7 8tr.  
164 40 Kista, Sweden  
+46 8 540 822 00  
+46 8 540 824 91 FAX

#### Main Asia-Pacific Office

2018-2019 Chevalier Commercial Building  
8 Wang Hoi Road, Kowloon Bay,  
Kowloon, Hong Kong  
+852 2512 6123  
+852 2575 4860 FAX