

Niagara Falls Bridge Commission [USA]



Security solution keeps Niagara Falls Bridge crossings safe and traffic flowing efficiently

Niagara Falls' reputation as a natural world wonder beckons visitors from around the globe. But it is the bridges that actually bring most of them here.

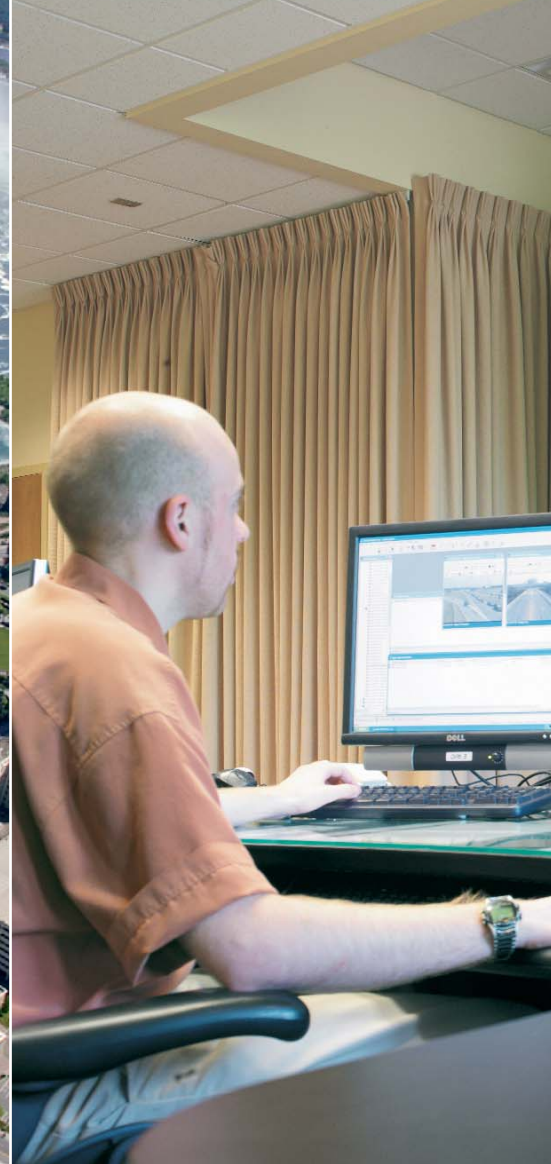
No other single factor contributes more to tourism growth - indeed the export trade economy overall - than the NFBC's three monumental linkages of concrete and steel. Niagara Falls crossings rank second only to Kennedy International as the busiest port of entry between Windsor (ON, Canada) and Detroit (MI, USA).

The breathtakingly beautiful journey across the Niagara River between the United States and Canada, now flows better and is more secure with the help of a new system that includes video surveillance and access control. The Niagara Falls Bridge Commission (NFBC) owns and operates the Lewiston-Queenston, Rainbow and Whirlpool Bridges. Each year nearly 12 million passages and \$32 billion in trade cross the bridges.

Some 160 video cameras and 96 access control points have been placed at the bridges as well as at six U.S./Canadian Customs' Plazas and the NFBC's new \$5.8 million administrative headquarters in Lewiston, New York. Security functions are housed in the headquarters' Operations Center.

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Secure passage

The mission of the NFBC is to make sure the facilities are secure for the safe and efficient movement of people and goods across the border in both directions.

Security cameras have been placed at strategic locations along the bridges and at the Customs' plazas at either end of each bridge. In addition to security, cameras are also used to help to clear up any traffic incident or issues. Depending on traffic conditions, the Operations Center is able to change the direction of the traffic flow in the lanes at the Lewiston-Queenston Bridge. Video cameras in each lane enable the operators to view traffic; electronic signs tell the public which lanes are open and which are closed. As tourists, commuters and people transport goods across the three bridges connecting the U.S. and Canadian sides of the Niagara Frontier, a sophisticated array of cameras and

access control devices will continue to ensure they have a safe passage. By having a visual verification of the reported problem, the appropriate specialist teams and resources may be deployed more efficiently and quickly to resolve the issues.

The NFBC began installation of a Lenel OnGuard 2005 security management system two years ago, and while the system is in a state of continual growth and change, it is now complete and fully functional. The system works in conjunction with a Barco display wall on which camera images are displayed. An Axis Communication network camera system is used for both Axis digital cameras and to convert Pelco analog cameras to digital outputs.

In-house Operations Center operators view the cameras and coordinate responses to alarms around the clock. Michael O'Reilly, Head of Management

Information Systems (MIS), says "If there is an incident, a video pops up showing the incident point to the operator. The converged network then transports data, voice and video. Once video enters our network, it is routed to the servers. From there, it is transported to any client that requests video anywhere on the network, including and mainly, at the Operations Center. The video goes to two security-designated workstations and directly to the display wall. The wall can be configured in many different ways and in the future the operators will be able to change the views with the click of a mouse."

Brent Gallaugher, Agency Relations and Security Manager, says "The images on the display wall are extremely clear and crisp. We can either project one large image or a combination of many different feeds onto the display wall. Images from up to 14 (16 with 4 SVC's) cameras at this size are readily



viewable at one time. This significantly reduces response times and helps us to make better decisions.”

Agency cooperation and integrated digital solutions

The NFBC has always been a hallmark of inter-agency and international cooperation due to its unique nature and mandate. The only way to operate successfully for so many years was to have a cooperative relationship with both local police and federal customs officials.

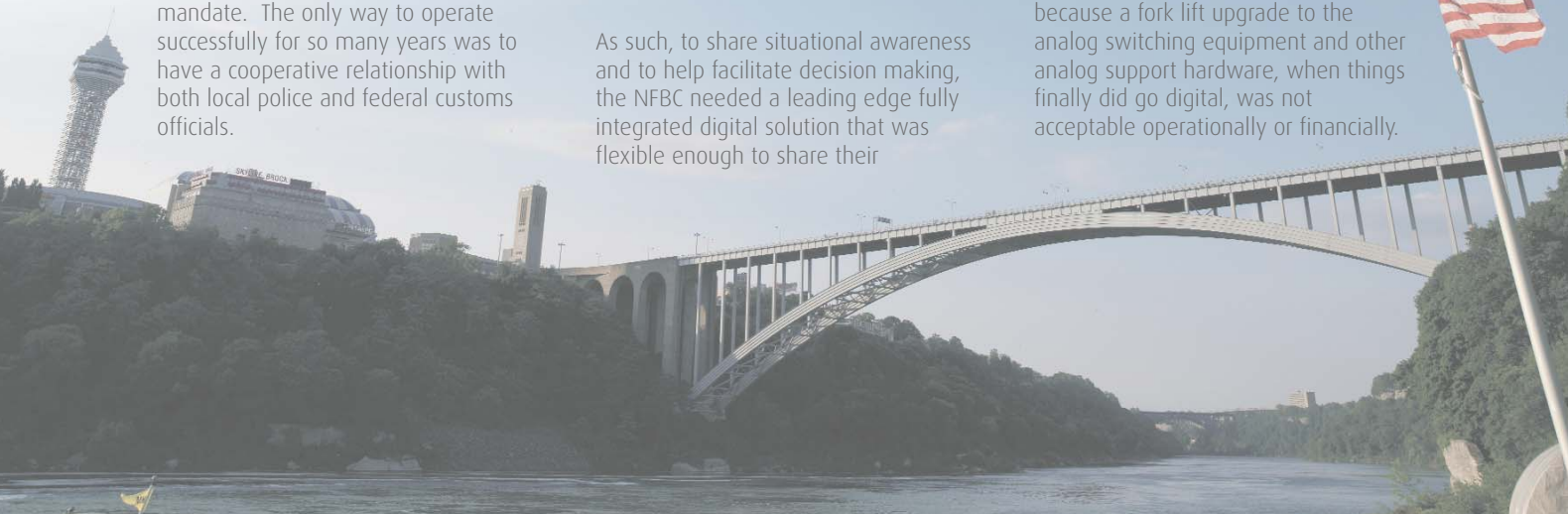
In Canada, they work with local law enforcement agencies, Ministry of Transportation (MTO) and Canada Border Services Agency.

In the United States, they work with local law enforcement agencies, Niagara International Transportation Technology Coalition (N.I.T.T.E.C.), and U.S. Customs and Border Protection.

As such, to share situational awareness and to help facilitate decision making, the NFBC needed a leading edge fully integrated digital solution that was flexible enough to share their

information across multiple agencies and systems.

The NFBC, however found out after research that this was a pioneering move because no-one else had attempted it on this scale. The NFBC needed a solution that offered a smooth migration path because a fork lift upgrade to the analog switching equipment and other analog support hardware, when things finally did go digital, was not acceptable operationally or financially.



Thomas Garlock, General Manager, NFBC:

The new state-of-the-art 24/7 Operations Center is a critical part of the safe passage of people and commerce across the three bridges and through the six plazas. “

After extensive research and discussions with many different vendors, the NFBC found that most of the solutions were not fully integrated between the hardware and software, and generally were not acceptable. The deciding factor in the end was digital integration and migration. The NFBC found that while many vendors met almost all of the design criteria, they were not able to provide a direct digital streaming solution nor were they planning on developing this in the foreseeable future.

When NFBC approached Barco on a direct digital streaming solution, the exact solution that NFBC wanted for MJPEG streams was not available. By partnering with Barco they received a promise to deliver the desired solution for MJPEG through a Barco API that NFBC could use for higher level system integration. NFBC also worked closely with the security vendor Lenel to develop a Barco-Lenel integration via the API that could seamlessly control the wall. Together, the three companies agreed on a timeline and deliverables resulting in the current successful site.

The future of integrated security

The fully integrated solution allows NFBC to stream both digital streams directly from the Lenel Security system, which includes both live and recorded video streams available from the clustered DVR's directly to the Barco display wall. This integration allows for future developments for other agencies to view and share their signals to achieve the hallmark interagency co-operation that NFBC is known for.



Since the solution is all digital, the system can be scaled much easier than an analog solution.

Michael O'Reilly says "With ground breaking projects like this, it is important to team up and align yourself with people who have a proven track record that can deliver what they promise. Barco and Lenel are those kinds of people. It was and still is a pleasure to work with them throughout this project. Barco was open for development and delivered what it had promised with honesty, professionalism, and integrity.

I foresee a bright future of co-operation between our three organizations together and would not hesitate to recommend Barco to anyone. If you look at all of the features of Barco's products and the vast amount of knowledge and skill they have in the industry, I do not believe there is another viable choice for a 'streaming digital' solution today. As it turns out we may have done more work to get there but our hard work paid off in the system we have and the savings we have made."

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