



# Canadian National Railway Cuts Chassis Cycle Time Nearly in Half using RFID



“Since the implementation of the RFID solution, we have experienced near-perfect read rates with readers and tags, which has resulted in increased efficiency of our chassis fleet, improved productivity and cost savings.”

— Remy Benmiloud, CN Manager, IMX (intermodal excellence)

## Company overview: Canadian National Railway Company (CN)

The Canadian National Railway Company spans Canada and mid-America, providing service from the Atlantic and Pacific oceans to the Gulf of Mexico, with connections to all points in North America. CN has multiple intermodal terminals, the transfer stations where shipping containers are moved from rail lines to truck chassis and vice versa. CN's Brampton terminal in Toronto, Ontario is the largest of its kind in Canada, with containers moving in and out of the facility daily on CN's fleet of approximately 2,000 chassis.

## The challenge: Increasing asset tracking accuracy

As intermodal transport grew at a rapid pace in recent years, the CN team sought to decrease congestion and increase throughput at its vital Brampton terminal. Key process improvements included the creation of a chassis pool and the replacement of manual tracking with an automated RFID solution, according to Remy Benmiloud, CN Manager, IMX (intermodal excellence).

“With the pool, every container that is unloaded from a train is put on a CN chassis. Private truckers can use the CN equipment at a per diem rate, so we needed a 100-percent accurate way to track this usage. Once we implemented RFID to track our chassis assets accurately, we also saw an increase in our asset utilization,” Benmiloud explained.

With the previous process, as chassis passed through the Brampton entry and exit gates, identification numbers were recorded manually. This system sometimes caused errors, and made it difficult to pinpoint chassis status. With the assistance of its partner Bell Canada, CN implemented an automated RFID system. Today, Bell technology and Motorola Fixed and Handheld RFID Readers and Cargo Tags help CN record identification numbers accurately and automatically as the tagged chassis pass through the terminal gates.

## Customer profile



### Company

Canadian National Railway Company (CN) CN Brampton intermodal terminal

### Location

Toronto, Ontario, Canada

### Industry

Transportation and Distribution

### Symbol products

Motorola RFID Cargo Tags, XR Series Fixed RFID Readers, MC9060-G RFID Handheld RFID Readers

### Application

Automated, integrated RFID asset management system provides status for each of the 2,000 tractor-trailer chassis at CN's Brampton intermodal terminal, enabling efficient management that dramatically reduces cycle time for the chassis.

### Partners

Bell Canada

### Benefits

Cutting chassis cycle time approximately in half (thus nearly doubling productivity), increasing supply chain efficiency, saving costs

"Because we know exactly when the chassis leave and return to the terminal, we can closely manage the cycle time. For example, after three or four days, we can contact the receiver of the goods and request that they unload as soon as possible. When a chassis returns to the Brampton yard, we can use it again, so this is an important productivity measure," said Mark Hallman, Director of Communications, CN.

#### **The solution: RFID asset tracking system**

Bell Canada designed and implemented the RFID-based asset tracking system and acted as system integrator for CN. Bell recommended Motorola technology for the system, which included Motorola's all-weather RFID Cargo Tags, XR Series Fixed RFID Readers and MC9060-G Handheld RFID Readers.

"We were very pleased with Bell Canada's ownership of the project, and Motorola really came through for us. The Motorola RFID Cargo Tags are an excellent example: Motorola designed a ruggedized cargo tag that works at 100 percent in close proximity to metal and withstands the same extreme conditions as our equipment," said Benmiloud.

Motorola XR Series RFID Readers are located at gates where trucks enter and leave the Brampton terminal yard. "We have multiple lanes leading in and out, and avoiding cross-reads across the lanes was very important. Motorola solved that one, too. We have near-perfect read rates with the readers and tags," noted Benmiloud.

With the success of the Brampton project, CN is considering an expansion of the RFID solution to other CN intermodal terminals in Canada.

#### **The benefits: Reduced cycle time and costs and increased productivity and efficiency**

"One of our most important measures is cycle time: from the point that a chassis has a container on it, to the time it comes back to the yard in Brampton. With RFID, we have decreased our cycle time from about six days to approximately 3.4 days, cutting it nearly in half," said Benmiloud. "Increased asset utilization enabled us to decrease our chassis fleet size and continue to do the same volume of business."

For CN, the RFID solution is:

- Cutting cycle time approximately in half, thus nearly doubling productivity
- Increasing supply chain efficiency
- Saving costs

"CN is known in the industry as the most efficient North American railway in terms of operating ratio: CN's operating ratio is approximately 10 to 15 points better than the next competitor.

CN has accomplished this level of efficiency through a focus on precision railroading and close attention to asset utilization, including our ongoing accomplishments with RFID," said Hallman.

#### **Additional resources**

For more information, visit [www.motorola.com](http://www.motorola.com)

#### **About our partner**



Bell Canada is Canada's national leader in communications with 28 million customer connections across the country. The company provides consumers with simple solutions to all their communications needs, including telephone services, wireless communications, high-speed Internet, digital television and voice over IP. Bell also offers integrated information and communications technology (ICT) services to businesses and governments, and is the Virtual Chief Information Officer (VCIO) to small and medium businesses (SMBs). Bell is proud to be a Premier National Partner and the exclusive Communications Partner to the Vancouver 2010 Olympic and Paralympic Winter Games. Bell is wholly-owned by BCE Inc. For information on Bell's products and services, please visit [www.bell.ca](http://www.bell.ca), and for corporate information on BCE, please visit [www.bce.ca](http://www.bce.ca).



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CASE STUDY: CN RAILWAY