

## **TECHNOLOGICAL INNOVATION: 2004**

### **Airchime**

The 2004 inductee into the Railway Hall of Fame in the Technology category is Airchime, based in Langley, B.C. The company — which has been developing, manufacturing and marketing railway locomotive signal products since 1929 — invented and patented the first air horn that duplicated the sound of traditional steam whistles.

Bob Swanson (Robert Eugene Swanson), Don Challenger (Donald Moss Challenger), and Bill Piercy (George Wilber Piercy) founded the company in 1948, when they patented the Model M five-chime air horn.

Swanson was researcher and developer and is credited with the invention of the first six- and five-chime air horn. Swanson had worked as the chief engineer of a company called Victoria Lumber Manufacturing in the 1920s, when he developed a hobby for making steam whistles for locomotives. Eventually, Swanson designed and built a large steam whistle for the mill where he worked.

Later, Swanson would go on to work as the chief inspector of railroads for the Province of British Columbia. It was here he met his future partner, Don Challenger, who operated a logging company. The two knew each other through the logging industry, which relied heavily on rail transportation in those days.

Piercy worked for a contract machining company, and took a great interest in the whistle manufacturing, having been a draftsman during World War II.

“They all died still employed; none of them ever retired. They loved their work, making whistles is fun,” says Bill Challenger, Don Challenger’s nephew, and current president of Airchime. “I hope it’s a recipe for a long life.”

Many Airchime whistles have been in constant service on the railroads for over 30 years. The company has been servicing industrial, railroad, and marine sectors all over the globe with their sound-signal equipment after first focusing principally on manufacturing steam whistles for locomotives, ships, and factories.

Incorporated in 1954, Airchime’s products are also manufactured in the United States and Great Britain. The company’s 1338-square-metre facility in Langley, B.C. includes one of the largest anechoic test facilities in the world, employing state-of-the-art acoustical test equipment and instrumentation.

The different whistle models include the: Classic Railroad Whistle, Model KSV Vertical Mounting Series, Model CS Rapid Transit Series and Small Air Steam Whistles.



## **Intermodal Operations**

As a technology that has revolutionized the railway industry in Canada over the past several years, intermodal freight transport truly deserves recognition and celebration within the Canadian Railway Hall of Fame.

Both Canadian National and Canadian Pacific Railway have experienced remarkable growth in intermodal movement during the past five years. It is now the biggest single commodity moved by rail, and continues to be the railways' fastest growing line of business.

Today, intermodal freight primarily consists of high-value, time-sensitive shipments moving in containers both within North America, and between North America and other continents. The technology that was pioneered through "piggybacking" a standard trailer on a rail flat car has indeed come a long way.

CN and CPR divide their intermodal business into two segments — international (import/export) and domestic. The international import traffic is represented primarily by containerized traffic moving from the ports of Halifax, Montreal and Vancouver to inland destinations across Canada and the United States.

Major financial investments have been made by both national railways in the construction of intermodal facilities to encourage future growth.

For their domestic intermodal markets, CN and CPR operate long-haul domestic train services that, together with strategically-placed intermodal terminals, ensure highly competitive transit times, service reliability, and door-to-door delivery ability for customers. The co-operation of the short-haul truck mode and the railways has resulted in the extension of rail's reach to many retail customers who could not otherwise access the economic value of rail transportation.

Over the long term, containerized trade of consumer products on a global scale is expected to continue to rise and is likely to match recent annual growth rates. North American consumer spending and the continued increase in imports for Asian countries, and specifically China will drive this growth.

Domestic intermodal traffic growth is also expected to continue due to a general increase in consumer spending, new gains in the Canadian transcontinental food business, and growth in the Canada–United States and Mexico trans-border market.

Canada's railways stand ready to face the challenge. In 2003, for example, CPR implemented special "Locotrol III" on intermodal trains — or mid-train power controlled by the head-end train crew — as another efficiency measure in the operation of intermodal services.

This is a significant development that illustrates the growth of intermodal traffic, with the railway using technology that in the past was used on long and heavy bulk trains such as coal, potash, grain and sulphur. Now CPR is taking advantage of longer and heavier intermodal trains as well — part of an innovative way to create capacity to meet the ongoing demand for intermodal services.



The growth of intermodal traffic will continue to ensure that rail also meets public policy objectives — and in particular represents a viable alternative to costly expansion of congested highway networks, and the reduction of greenhouse gases, making a positive contribution to Canada's environment and to Canadians' quality of life.