

Infrabel, Belgium

Barco helps Infrabel live up to its motto of 'When rail means service'

"The visualization of the Belgian rail network using this large Barco display system constitutes a key milestone in raising our safety standards, as it enables collaborative decision-making based on a single overview of the network's status at any one time."

Mr. Luc Lallemand, CEO Infrabel



Infrabel, one of the three pillars of the SNCB/NMBS Group, was set up in 2005 to maintain and manage Belgian railway infrastructure and its regulation and safety systems. Determined to make Belgium's 3,513 km railway network one of the most safe and modern in Europe, Infrabel drew up an ambitious modernization program which includes, among many other initiatives, a signal box concentration plan. By the end of 2012, the network will have 31 new-generation control centers where operators will get an overview of the real time train traffic on a large Barco video wall. We visited the 'model' control center in Bruges, which has been operational since February 2008.

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Infrabel's signal box concentration program aims to drastically reduce the number of signal boxes: from 386 at the start of 2005 to 31 by the end of 2012. "The concentration of signal boxes offers many advantages," explained Koen Verheyden, Railway Signal Engineer at Infrabel. "Zone managers are brought together in one center, so that they gain a better overview of rail traffic in an entire region. This enables them to work more quickly and effectively. A smaller number of signal boxes also means that Infrabel is able to invest more in high-tech equipment, thereby improving the reliability of signaling systems."

First steps towards automated traffic control

When Infrabel's signal box concentration plans took form, the rail network manager decided to rely on Belgosignal, a joint venture between Siemens Belgium and Alstom Belgium, to fit the new control centers with high-tech equipment. "Siemens had been guiding the Belgian Rail on its path towards computerized traffic control since 1992," Verheyden explained. "In that year, we started introducing Siemens' EBP system (*Elektronische Bedienpost*), which automatically proposes a route for each train. As we were satisfied with Siemens' solutions and support, we contracted them to help us in the new signal box project."

Getting it right first time

The plan to install large displays in the control centers had been around since 2000, even before Infrabel was established. However, it wasn't until 2007 that the decision was taken to equip the centralized control rooms with rear-projection display systems. Infrabel was impressed with Barco's countless references in mission-critical environments and by the high quality of its displays. "On top of that, Barco offers a modular solution, which grows in step with our railway network," Verheyden added. "And they lent great support throughout the design phase. They helped us define



the user requirements and design the control room, in accordance with the high ergonomic requirements." Determined to do it right first time, Infrabel chose to team up with Barco.

End-user consultation

Infrabel's signal box concentration plan kicked off at the brand-new control center in Bruges. "Relocating from our old signaling room, with a relay-based signal system, to the new, ergonomically-designed center was a major step forwards for our operators," said Roland Verduyn, Bruges' Adjunct Station Manager. "To make sure our people could work in optimal conditions, the center's architects set great store by functional design and ergonomics. For the video wall, too, we wanted the very best set-up so Infrabel and Barco carefully listed all user requirements and did their best to meet these." In January 2008, Barco installed an 11-meter-long video wall, consisting of 18 DLP rear projector display cubes (67"). Thanks to the flexibility of Siemens' EBP system architecture and Barco's open interfaces, the installation was a smooth one.

Real-time follow-up

At Bruges' railway nerve center, 16 people are tasked with guiding rail traffic safely and efficiently. Barco's video wall helps them in that task. Verduyn: "While Siemens' EBP system delivers the necessary information and images to the Barco system, Barco's graphical con-

troller ensures that all data and video sources are projected on screen, in one comprehensive overview. In this way, our signal operators, station announcers, etc. get all the key information at a glance: the trains, the railway tracks, the signals, bridges, etc., so that they can follow the movements of all trains in real time. If they want to see a specific hot spot in more detail, they consult their desktop displays."

Key in Infrabel's strategy

After one year of operations, Infrabel carried out a survey to gauge user satisfaction in Bruges. Everyone praised the display's brightness, the crisp images, the excellent viewing angle and the high contrast level. Verduyn and Infrabel, for their parts, are satisfied with the service level Barco provides and feel confident that Barco's technology is supporting them in raising the railway's levels of customer service. "Infrabel aims to establish optimal safety across the Belgian railway infrastructure," said Infrabel's CEO Luc Lallemand upon the inauguration of the second video wall, in Namur. "The visualization of the Belgian rail network using this large Barco display system constitutes a key milestone in raising our safety standards, as it enables collaborative decision-making based on a single overview of the network's status at any one time." And as the number of control centers will be growing over the years, Barco's IP-based visualization solutions will offer an ideal platform for collaboration between multiple Infrabel control rooms.

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