

AcomEVO Controls Vast Western Australia Rail Network



The Zetron AcomEVO systems installed at each of three control centers for Brookfield Rail of Western Australia are providing the updated operations the rail company requires to oversee its vast rail infrastructure effectively and efficiently.

Brookfield Rail is responsible for the safe, efficient, and reliable operation of one of Western Australia's most vital elements of transportation—its 3,418 mile (5,500 kilometer), multi-user, rail-freight network. The rail infrastructure extends across the southern half of Western Australia, spanning an area twice the size of Great Britain. As the only rail-freight network in the southern half of Western Australia, it provides access to the eastern states of Australia and also serves as an important link to six government ports that connect to markets overseas. In 2013 alone, freight carried over the rail system exceeded 71 million tons.

The responsibilities required to ensure the 24/7 operation of such a network are many and varied. They include everything from managing track access, train control, and signaling, to overseeing communication systems, rail construction, and maintenance. That's why Brookfield Rail recently installed Zetron's AcomEVO to update their centralized communications equipment. The

solution, which includes three separate but linked systems, has already improved the quality and reliability of Brookfield Rail's communications. What's more, it is based on updated technology that will be able to support their evolving operations well into the future.

Midland, Avon, and Picton

Owned by global asset management company Brookfield Infrastructure Partners L.P., Brookfield Rail is one of the few independent rail-infrastructure providers in the world. It utilizes train control centers in Midland, Avon, and Picton at Bunbury to coordinate and control its diverse operations. These include the daily movement of over 180 trains across the rail network, and making sure the network runs efficiently and is maintained to meet all safety and compliance standards.

Choosing AcomEVO

Zetron Australasia technical operations engineer, Matthew Essex, explains why Brookfield Rail decided the time had come to update their communication equipment.

"The Zetron Acom system they'd been using in two of their three centers had performed very well for many years," he says. "But a newer version of the system, AcomEVO, offered updated technology and functionality that would better support their activities and plans. They also wanted to install the same type of system at all three sites and expand to include additional train-control desks."

When asked why Zetron's AcomEVO was chosen for the project, Essex says that, for one thing, it would fully meet the project's considerable list of requirements. Brookfield Rail's past positive experiences with Zetron and satisfaction with their previous Acom system also played a key role. "The upgrade to an improved version of an excellent system from a tried-and-proven partner was the most attractive and logical choice," says Essex.

Three centers, three systems

The extensive project for Brookfield Rail involved installing one AcomEVO controller and seven consoles at Midland; one controller and four consoles at Avon; and one controller and four consoles at the Picton site in Bunbury.

This was conducted in two phases, with the Picton and Midland installations taking place in early May of 2015, and the Avon installation taking place a month later. Hardware component upgrades had to be completed before the installations could get underway. But overall, challenges during the project were minimal.

Each system was designed and set up so any console would be able to log into and use any of the three systems. This was done to provide additional layers of redundancy to an already highly redundant solution. In addition, the screens used by the train controllers were configured to have a consistent look and feel across all three centers. So if one center were to go down, the train controllers would be able to go to any of the other locations, sit down, log in, and continue operations without missing a beat.

Training at one site only

No training was required at the two locations where Acom had been used previously because operators at those sites were already familiar with Acom, and the screens on the new systems were designed to resemble those on the earlier version. The operators at Picton were new to the Acom platform, however. They received training at the company's offices in Perth prior to the upgrade, and then onsite once the system had been installed. The screens were designed to be easy to learn and use, so even operators new to the system caught onto it quickly.

Reaping the benefits of AcomEVO

Brookfield Rail's AcomEVO three-site solution is now delivering the features and functionality for which the system was originally chosen—and a few more besides.

For one thing, not only is the equipment fully supported, but the Brookfield Communications Group is trained and equipped to provide first-line maintenance if and when it's needed.

Another important benefit is the ability to log onto any of the systems from consoles at any of the three sites. "This functionality is crucial," says Essex. "It ensures the continuity of Brookfield Rail's operations if a site ever has to be evacuated or a fault condition occurs."

AcomEVO also removes a layer of complexity from their setup. Previously, their equipment's dual-tone multi-frequency (DTMF) signaling had been provided by third-party equipment. But because AcomEVO is able to connect directly to the radio through their telephone infrastructure, they no longer need third-party equipment to make the connection. This direct connection eliminates a possible point of failure.

The updated solution is also designed to support telephone integration into the consoles. "They are planning to implement ISDN phone integration as soon as funding permits," says Essex. "Brookfield Rail is indeed happy with the results of the overall project," he adds. "AcomEVO has met and even exceeded their expectations." ■



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