THE ORIGINAL ARTICLE WAS PUBLISHED
IN WAY UP MAGAZINE 2/2008.

The bigger cranes bring benefits

CONNECTING THE SPECIALTIES

The new cranes provided by Konecranes to the Seattle and Los Angeles terminals of Burlington Northern Santa Fe Railway (BNSF) raised capacity to a new level.

Cranes dot the Grand Harbor of Seattle. This is the container ship harbor of Washington State, a link between the United States and Asia. Director of Intermodal Hub Operations and Technology **Tom P. Kelly,** steps inside the terminal office of BNSF.

"The bigger cranes bring benefits. We have a lot of flexibility and much more capacity with this design. We will save time and money. It's an enormous improvement to our procedures."

The four new wide span Rail Mounted Gantry (RMG) cranes were introduced at the BNSF Seattle International Gateway Terminal last November. The 126-feet (38 meters) across, 105-feet (32 meters) wide cranes are more than double the size of any other cranes in the terminal.

Thanks to the wide span cranes, the facility can have as many as six tracks. The cranes are able to load and unload containers between trucks and railroad cars standing on the tracks. The crane is so wide that it can reach over the track next to it.

Engineering, project management, assembly and erection were done by Konecranes.

Tom Kelly has held supervisory positions for 35 years, and nowadays he is based in the BNSF headquarters in Fort Worth, Texas. He has been able to follow the rapid growth of the transportation business in the past 40 years from a vantage point. For example, trailers have mostly been replaced by containers.

The Seattle terminal realized that it was time for a big change, and so plans got underway to buy better cranes.

The process started very simply. Tom Kelly, who has a strong background in container and lifting equipment design and an interest in art, sketched a crane on a napkin.

With his colleagues he refined the design further and discussed practical arrangements. BNSF decided to contact Konecranes because it knew that the company made high-quality products.

The project began with both parties meeting and reviewing the needs and procedures of BNSF. This way the cranes could be designed to meet the exact requirements of the Seattle terminal. The new cranes are based on BNSF's experience of railway terminals and Konecranes' specialized lifting technology know-how.

"We have really enjoyed our relationship with Konecranes. And it's been fun! It's serious business, but we try to keep it relaxed."

Space and location are key

The most important reason for switching to wide span cranes is lack of space in the downtown areas of big cities like Seattle. When you run out of space, you have to go upward, like skyscrapers.

"We have limited space in most of our facilities. We can't build an intermodal facility far away from our railways, because the expenses would be too high," Kelly notes.

Another reason is city dwellers' resistance to the expansion of

Seattle terminal: Cooperation between Konecranes and BNSF is serious business, but has also been fun. BNSF has its roots in the legendary Santa Fe Railway: in 1995 Santa Fe Railway merged with Burlington Northern.

KONECRANES®

The new cranes at Los Angeles terminal are able to turn their tires ninety degrees, which improves their flexibility.

industrial areas and the encroachment of heavy traffic in residential areas. Also, people today take environmental issues seriously and demand environment accountability.

In Seattle's terminals, electric power has replaced all the hydraulic-driven, diesel-powered engines normally used in cranes. And with their regenerative network braking system, the new cranes consume little energy and operate at low noise levels.

"Regeneration of power is certainly effective. But the main thing is no emissions," Kelly underscores and tells that BNSF is even looking at using battery-powered trucks for trips between the port and the facility.

According to Tom Kelly, the new cranes have four times the capacity of the old ones. The benefits that BNSF has reaped from the cranes have sparked interest among its five competitors.

"This serves as a model for the other US railway companies. These cranes cost more but are also more effective than the previous ones."

"We do think that in the United States, intermodal terminal design will eventually move to full container stack operations. These cranes will provide us with all that we need for many years", says Kelly.

RTG cranes at LA

The Los Angeles Basin turns the city of Los Angeles into a poaching pot. The heat is stagnant. To the right of Washington Boulevard, the BNSF Los Angeles terminal spreads out over more than 200 acres (81,000 hectares). The company's largest intermodal facility was established already in the early 1960s.

In its Los Angeles terminal, BNSF has stacker cranes instead of wide span cranes. Two new Rubber Tired Gantry cranes, 85 feet (26 meters) tall and 65 (20 meters) feet wide, were installed during the summer–this makes a total of six cranes from Konecranes. The cranes are designed to go five containers high, meaning more skyward space.

The containers are recorded by customer, size, and destination. When a trucker comes to pick up a container with an empty chassis, he goes to the pile, where a crane lifts the container and loads it onto the truck. This way you don't have to dig through the whole pile to find a specific container.

"We're trying to create a seamless connection with our steamship partners, the truckers, and all ramp operations," says **Tom Ison**, General Director of the L.A. terminal, as he describes the procedures.

BNSF aims at coordinating information between all parties, so that everybody knows exactly when a train arrives and where a container will be.

A smooth and quick process is important for the truckers, who get paid per load. This brings more customers to BNSF, too. Communication and a good understanding of operations improve safety.

Easy maintenance

The Los Angeles Harbor is twenty miles away from the terminal. The containers are brought from there by truck to the terminal and then taken by train to inland destinations like Chicago or Memphis, and vice versa. On a busy day up to eight thousand trucks go in and out of the facility. More than five thousand lifts are done daily.

Tom Ison is happy about Konecranes' quick replies regarding the warranty.

"Konecranes listens to what we want, and some of the things we ask for, they already have."

Since the cranes are computerized, maintenance becomes easier. If there's a problem, a mechanic can see the fault's location from a computer.

"This way the machine can be brought back to service in a short time."

Tom Ison appreciates the new cranes' ability to turn their tires ninety degrees, which makes the operations more flexible. The ergonomics of the new cranes receive praise.

"The operator's cabin is very spacious, you have very good visibility and the controls are easy to operate and understand."

I feel safe climbing way up to the top of the crane. Even all the gates on the stairs have a safety feature that keeps the crane from moving in case a gate isn't closed. A crane operator can admire the Los Angeles skyline and is greeted on a clear day by the Hollywood sign.

STORY AND PHOTOS BY **TEEMU HOLMI**

The two new cranes in BNSF Los Angeles terminal are designed to go five containers high, meaning more skyward space.

KONECRANES®