

BULK TERMINALS

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BIG BERTHERS

New innovations boost port efficiency around the globe

UP AND AWAY

Saving time and money with the latest loading and unloading solutions

SAFE AND SOUND

Why training across the industry will improve safety in enclosed spaces



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SWIFT SOLUTIONS

Coming up with loading and unloading solutions for the shipping industry is becoming increasingly important as a means of saving time and money



Conveyors are among the most dynamic and potentially dangerous equipment in bulk handling, according to Martin Engineering.

The operational basics of belt conveyor systems regarding the hardware installed and the performance required from the components are too often a mystery to many employees. This knowledge gap also creates a safety gap. Since personnel are the single most important resource of any industrial operation, to meet workplace safety standards, the consensus among safety professionals is to design the hazard out of the component or system, which historically yields more cost-effective and durable results.

Designs should be forward-thinking. This means exceeding compliance standards and enhancing operators' ability to incorporate future upgrades cost-effectively by taking a modular approach. This method alleviates several workplace hazards, minimises cleanup and maintenance, reduces unscheduled downtime and extends the life of the belt and the system. Before the drafting phase, designers should:

- » establish the goals of reducing injuries and exposure to hazards (dust,

spillage, etc.)

- » increase conveyor uptime and productivity
- » seek more effective approaches to ongoing operating and maintenance challenges.

To meet the demands for greater safety and improved production, some manufacturers have introduced equipment designs that are not only engineered for safer operation and servicing, but also reduced maintenance time.

An example is the Martin® QC1™ Cleaner HD/XHD STS (Safe-to-Service) primary cleaner and the Martin SQC2S™ STS secondary cleaner, designed so the blade cartridge can be pulled away from the belt for safe access and replacement by a single worker.

The same slide-out technology has been applied to impact cradle designs. Systems like the Martin Slider Cradle are engineered so operators can work on the equipment safely, without breaking the plane of motion. External servicing reduces confined space entry and eliminates reach-in maintenance while facilitating faster replacement. The result is greater safety and efficiency, with less downtime.

An example of a safer belt cleaner is the CleanScrape®, which received the Australian Bulk Handling Award in the “Innovative Technology” category for its design and potential benefits. The revolutionary patented design reduces the need for bulky urethane blades altogether. It delivers extended service life, low belt wear

and significantly reduced maintenance, which improves safety and lowers the cost of ownership.

Unlike conventional belt cleaners that are mounted at an angle to the belt, the CleanScrape is installed diagonally across the discharge pulley, forming a three-dimensional curve beneath the discharge area that conforms to the pulley’s shape.

The novel approach has been so effective that in many operations, previously crucial secondary belt cleaners have become unnecessary, saving further on belt cleaning costs and service time.

Although the policy is generally not explicitly stated by companies, the “low-bid process” is usually an implied rule that is baked into a company’s



MARTIN® GUARDING IS DESIGNED TO PROTECT WORKERS FROM REACH-IN INJURIES IN UNAUTHORISED AREAS



THE TRACK-MOUNTED MARTIN® SLIDER CRADLE CAN BE SERVICED QUICKLY AND SAFELY, WITH NO REACH-IN MAINTENANCE.



THIS MARTIN SQC2S STS SECONDARY CLEANER ALLOWS FOR SAFE EXTERNAL MAINTENANCE BY A SINGLE WORKER



THE CLEANSCAPE® FORMS A 3-D CURVE BENEATH THE DISCHARGE THAT CONFORMS TO THE PULLEY'S SHAPE
(ALL IMAGES © MARTIN ENGINEERING 2023)

culture. It encourages bidders to follow a belt conveyor design methodology that gets the maximum load on the conveyor belt with the minimum compliance to regulations using the lowest price materials, components and manufacturing processes available.

When companies buy on price, the benefits are often short-lived, and costs increase over time, eventually resulting in losses. In contrast, when purchases are made based on the lowest long-term cost (life-cycle cost), benefits usually continue to accrue and costs are lower, resulting in a net savings over time.

Engineering safer conveyors is a long-term strategy. Although design absorbs less than 10 percent of the total budget of a project, engineering / procurement / construction management (EPCM) services can be as much a 15% of the installed cost of a major project, additional upfront engineering and applying a life cycle-cost methodology to the selection and purchase of conveyor components proves beneficial.

Safety-minded design at the planning stage reduces injuries by engineering hazards out of the system. The system will likely meet or exceed the demands of modern production and safety regulations, with a longer operational life, fewer stoppages and a lower cost of operation.

AUGMENTED REALITY

Bruks Siwertell has introduced the use of augmented reality (AR) into its planned service agreements for Siwertell road-mobile ship unloaders.

The AR glasses allow operators to remotely connect with expert service support, enabling surveyors to have a direct visual link to equipment. This ensures that technical issues can be addressed even more quickly, along with streamlining communications.

"This latest advance is part of Bruks Siwertell's ongoing commitment to improving customer service, and minimising environmental impact through the use of digital technology," says Jörgen Ojeda, sales director mobile unloaders at Bruks Siwertell.

"Planned service is always better than reactive," continues Ojeda. "Siwertell Care agreements (STC) offer significant customer benefits, including maintaining peak operational performance, substantial cost savings and budgeting advantages. The addition of AR only adds to these advantages.

"If both parties can see exactly the same in real-time, issues can be resolved much faster and equipment downtime minimised. The number and cost of engineer call-outs can also be reduced," adds Ojeda. "This delivers an additional environmental benefit from minimising travel and ensures that parts are not replaced unnecessarily."

Specialist service agreements provide regular mechanical, hydraulic and electrical inspections; ongoing operator and maintenance training, based on in-house, expert knowledge; fixed-cost agreement for the required number of planned visits; and a spare parts discount.

In addition to these benefits, when customers opt for an STC-AR agreement, AR glasses can be used to remotely supervise any work being carried out, which can speed up tasks and ensure that they are correctly performed. The use of AR glasses can also mean that more complex maintenance tasks can be undertaken in-house and the operational performance of equipment can be evaluated and discussed in real-time.

STC-AR agreements are currently available for Siwertell road-mobile ship unloaders.

DEMURRAGE RISKS

Voyager, the operations and demurrage management platform for bulk commodity shipping, is urging shipping companies to take a proactive stance and adopt a number of Best Practices in order to reduce the costs and risks of demurrage.

A dramatic surge in port congestion and associated supply chain disruptions have led to longer waiting times and higher demurrage costs, says Voyager co-founder and CEO Matthew Costello. "This issue is particularly severe in the bulk shipping sector, where demurrage

costs can exceed 20% of the total freight cost for a voyage," he says.

"However, demurrage doesn't have to be a substantial burden on a company's resources. By implementing three key Best Practices, companies can significantly reduce the cost of demurrage and streamline their operations."

Voyager says companies should estimate and analyse demurrage in real-time, automate their Statement of Fact (SoF) data processing and logically analyse their charter parties.

"These changes will give your company the necessary tools to stay ahead, making informed, data-driven decisions that result in savings and greater efficiency," says Costello.

According to Voyager, many businesses make the mistake of calculating laytime and estimating demurrage claims only after they receive a claim from the shipowner – leaving no room for adjustment.

Instead, companies should take a proactive stance: by estimating and analysing demurrage immediately after the first load port, they can gain a real-time assessment of their demurrage risk at every stage.

By taking into account historical factors such as waiting times, congestion and line-ups, operators can gain a realistic estimate of the demurrage risk for the entire voyage; these costs can be allocated to profit-and-loss-statements accurately and any claim can be anticipated in advance.

This also offers dynamic opportunities for risk mitigation by coordinating with terminals and other vessels to expedite discharge and avoid unnecessary delays.

Second, Voyager recommends that companies digitise all their SoF events data, to provide granular insight throughout the loading and discharging process – invaluable in assessing the efficiency of the terminal, the berth and the discharge itself.

By automating the processing of this data, companies can streamline their demurrage calculations and gain real-time insights, informing decisions related to seasonality, congestion and efficiency.

Finally, Voyager urges companies to