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## ANTI-COLLISION SYSTEMS ENHANCE OPERATIONAL SAFETY

Siwertell ship unloaders and ship loaders can be fitted with a range of optional features that are designed to boost operational efficiency and safety. Siwertell dry bulk handling machinery can be fitted with advanced anti-collision systems that create a real-time 3D representation of the hold and cargo surface, including the identification of low-speed zones. This enables greater operational confidence, as the system will automatically stop if a potential collision is imminent.

Safety and operational performance, reduced insurance claims and the knock-on impact of equipment damage, are just some of the benefits that can be gained with the introduction of optional anti-collision systems on Siwertell dry bulk handling equipment.



### DESCRIPTION

Bruks Siwertell offers anti-collision systems for its range of dry bulk handling equipment. The use of the systems means that even in challenging environmental conditions such as dust, fog, and snow, digital image generation is still possible.

The systems digitally recreate the hold and cargo surface. Anti-collision systems have programmed zones: a zone for collision protection and a movement speed-reduction zone, this protects it from any collisions within the hatch opening when the ship unloader is moving within the hatch.

### A ZONED APPROACH

Collision zones around the vertical ship unloader arm, for example, are programmed with safety distances. The low-speed zones are programmed to be activated sooner than the collision zones. This maintains a safe, reduced-

speed operation.

In the low-speed zone, all movements are reduced, including traveling, slewing, luffing and pendulum, in all directions until the ship unloader arm exits the safety zone.

If any radar has been activated within the collision zone, continuing movement in that direction will be prevented. The unloader will still be able to move in the opposite direction to deactivate the collision zone.

If a collision zone has been activated, a steady indication light will be displayed inside the cabin and on the radio remote control handset. It is also possible to see on the monitor which zone or zones have been triggered. An alarm will also sound on the human machine interface (HMI), indicating which zone has been triggered to enable a rapid response and resolution. If the low-speed zone is triggered, the indication light will flash.

This provides assurance that an operator can confidently get closer to the edge of the hold, without potentially damaging the unloader's inlet feeder, or the ship's hold or coamings. In the event of an impending potential collision, the system automatically stops.

## **BENEFITS**

Siwertell anti-collision systems offer a number of benefits. These include:

- increased safety
- reduced potential for damage and collisions
- reduced downtime
- improved operational efficiency
- reduced insurance claims
- enhanced operator confidence