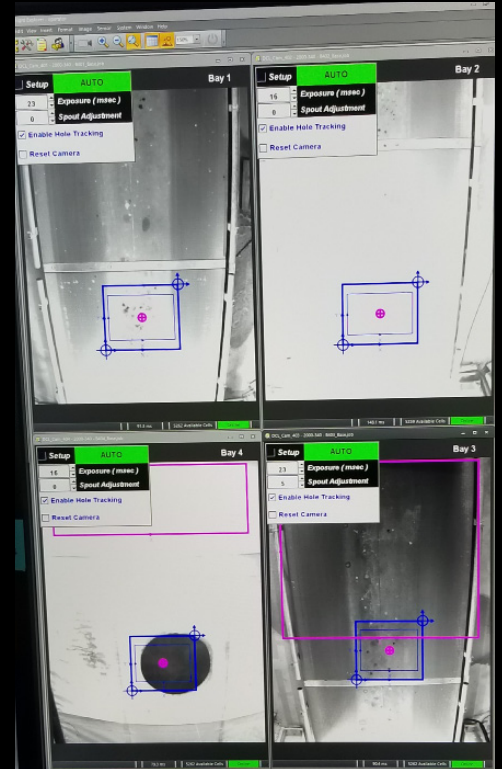




DUST CONTROL AND LOADING SYSTEMS INC.



SMART  LOADER™
VISION SYSTEM



THE SMARTLOADER™

The SmartLoader™ increases load out efficiency by minimizing loading cycle times. This is accomplished by scanning the top of the trailer for an open hatch. Once the hatch is identified, the driver is instructed to slow down and stop by traffic signals located within the loading bay. The loading spout is then automatically positioned and lowered into the hatch. The dust free loading sequence is initiated and stops when the desired scale weight is reached. The spout is then retracted into the store position and the driver is given the green light to exit the loading bay. The SmartLoader™ can be used with any type of DCL spout positioner and can be adapted to work with an existing load out system.

SMART LOADER™ VISION SYSTEM



THE VISION SYSTEM

Each DCL SmartLoader™ is composed of a variety of options that can be integrated into the loading process for partial or full automation of the loading of trucks, railcars, or other containers. The components consist of: the DCL SmartLoader™ Vision System, weigh scale systems, loading spouts, radio frequency identification systems, spout positioners, dust collection equipment, product metering equipment, and automation control systems. Each component is designed at DCL and purpose built for each application.

The DCL Vision System is the heart of the SmartLoader™ and enables the automation to function, as such, each DCL SmartLoader™ will have a DCL vision system no matter the additional components.

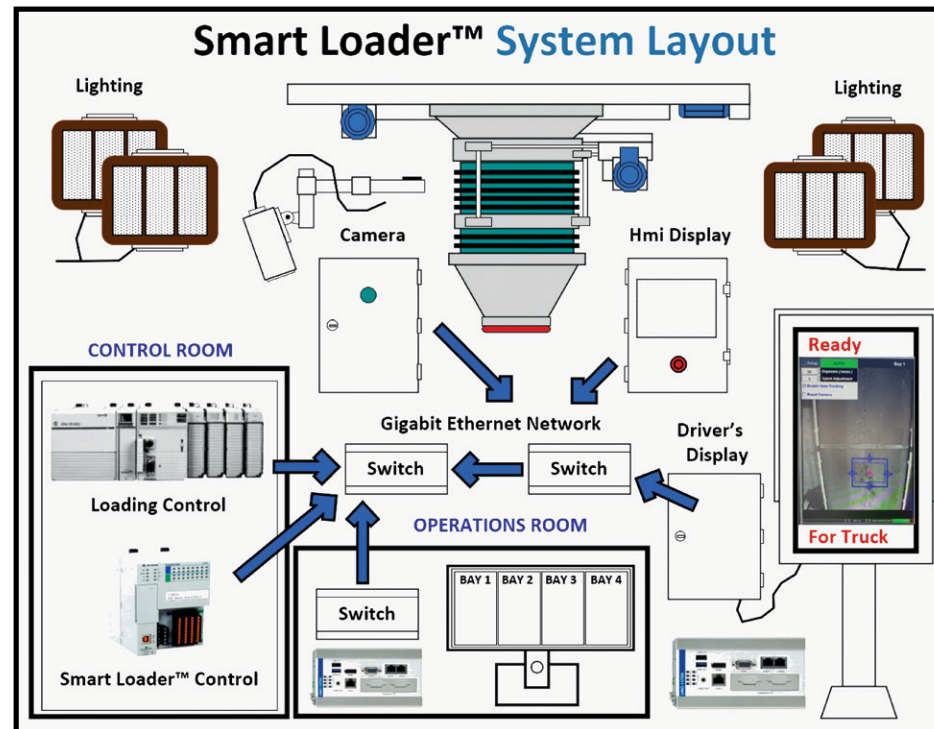
The DCL Vision System consists of three major sections: the vision controller and monitor, the light source, and the camera system. These three systems running together allow for loading sequence automation such as: container positioning, hatch locating, loading spout positioning, and other information feedbacks which allow automated loading.

Many customers prefer to operate the SmartLoader™ via existing control equipment. However, DCL can design and build controls systems to run all, or some, of the systems required to get automation operational.

VIDEO ALIGNMENT SYSTEM

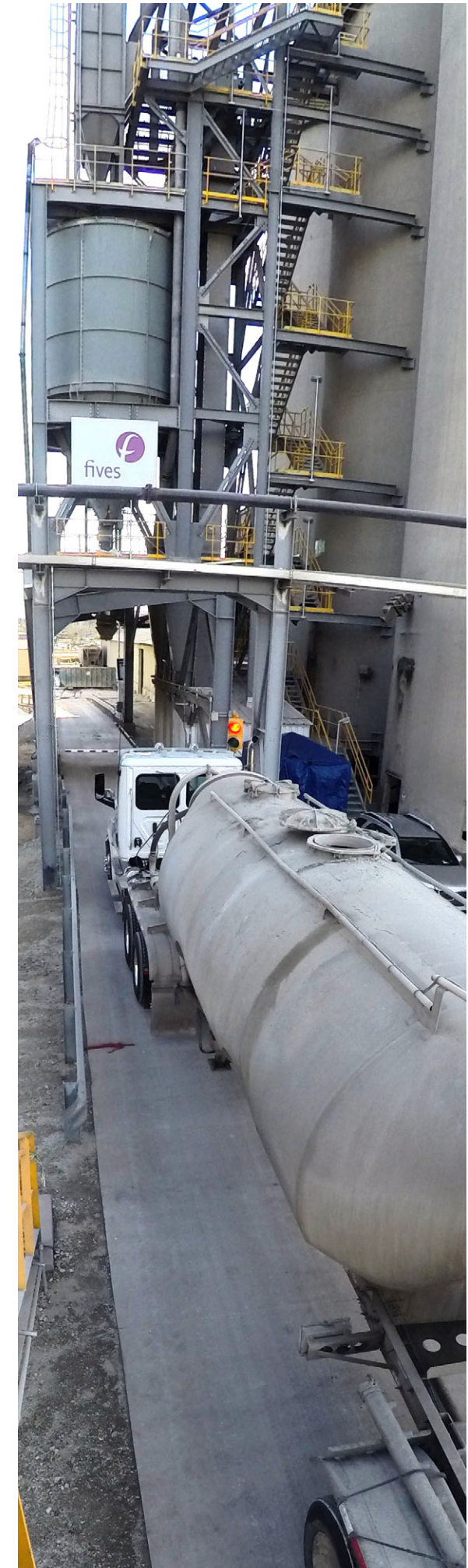
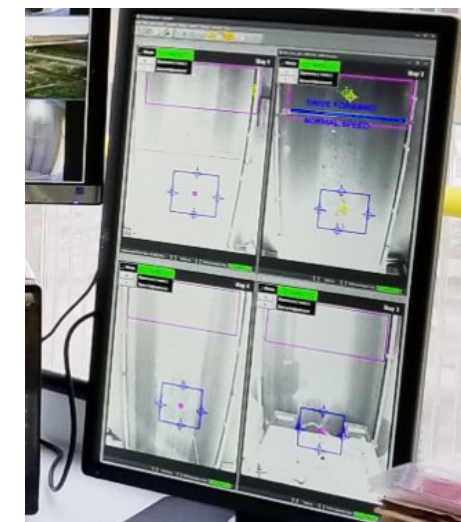
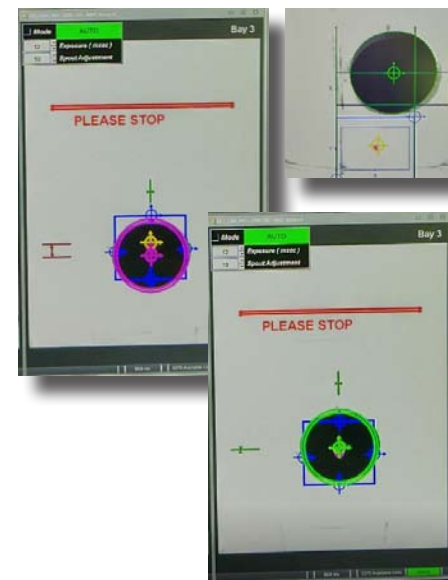
When a SmartLoader™ Vision System is not in the budget, the Video Alignment System is an alternative option. This system helps the truck driver pull forward and back up into loading position, eliminating the need of a spotter and allows the driver to position the truck in a single move.

The Video Alignment System can be used with new or existing equipment to speed up loading times.

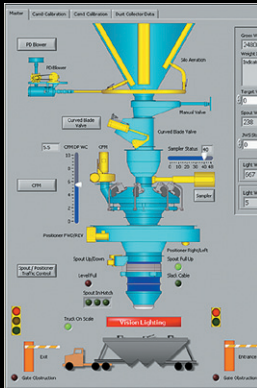


SMARTLOADER™ UNATTENDED LOADOUT SEQUENCE

- Driver opens trailer hatch(s).
- Driver scans ID at gate, gate is opened, and traffic lights direct driver to enter loadout station.
- The SmartLoader™ features a patented Vision System that automatically detects open hatches as the truck and trailer enter the loadout station.
- The driver is notified when to stop and the loading spout is automatically positioned and lowered into the open hatch.
- Loading sequence is started and stops when weight, or full level, is indicated. Spout is retracted.
- Driver is given green light to exit loadout station and can collect ticket paper work and close the hatches.



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