



Creating **VALUE** in a cyclical environment

2017 SME ANNUAL CONFERENCE & EXPO
CMA 119th NATIONAL WESTERN MINING CONFERENCE



DENVER, COLORADO | FEBRUARY 19-22, 2017

Safety by Design

Mark Bayley

ASGCO “Complete Conveyor Solutions”



2017 SME ANNUAL CONFERENCE & EXPO
CMA 119th NATIONAL WESTERN MINING CONFERENCE



DENVER, COLORADO | FEBRUARY 19-22, 2017



2017 SME ANNUAL CONFERENCE & EXPO
CMA 119th NATIONAL WESTERN MINING CONFERENCE



DENVER, COLORADO | FEBRUARY 19-22, 2017

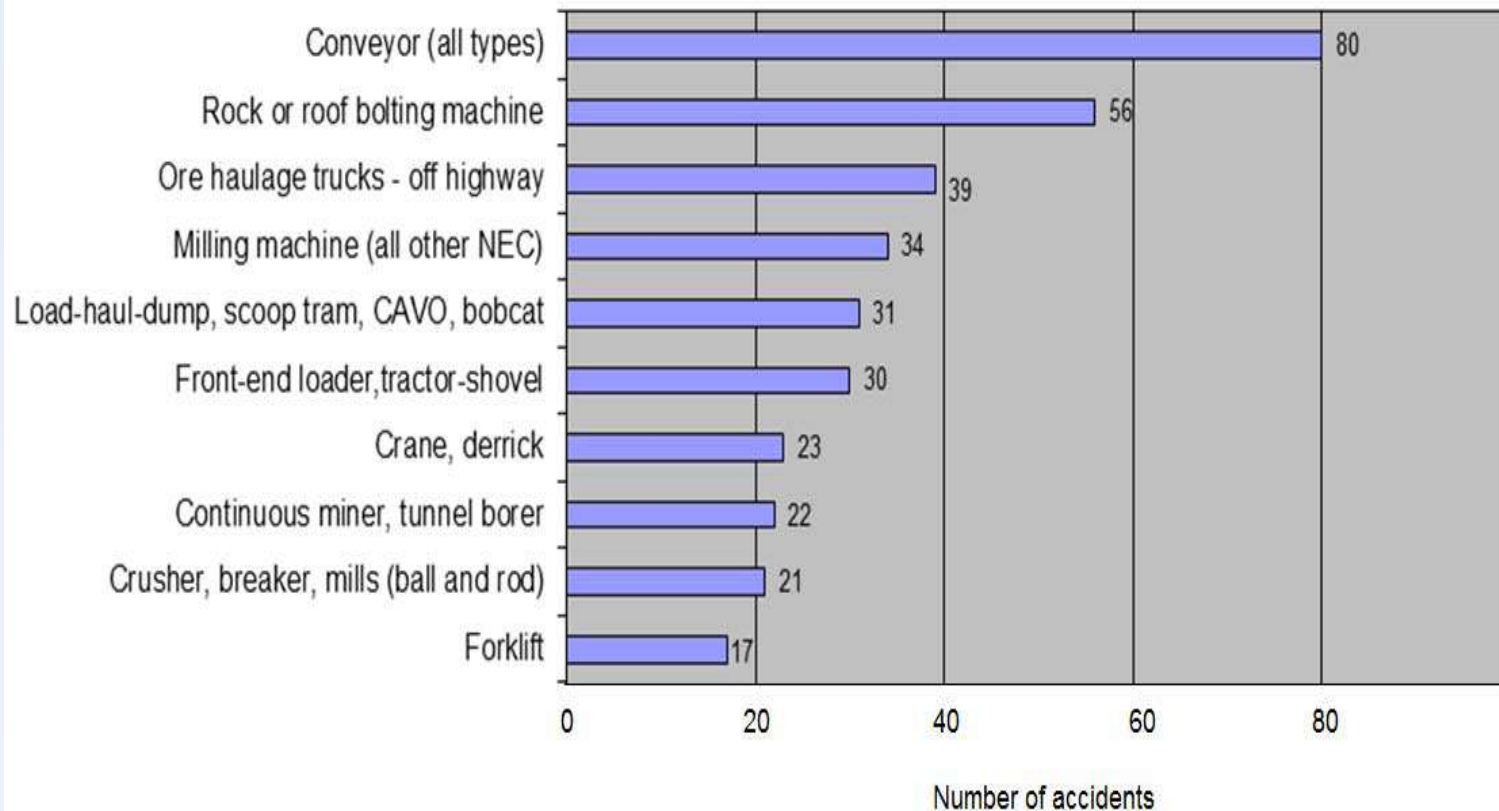
Safety by Design

- Industry Statistics
- Ergonomically Designed Components
- Cloud Point 3D Scanning Conveyor Guarding Case Study

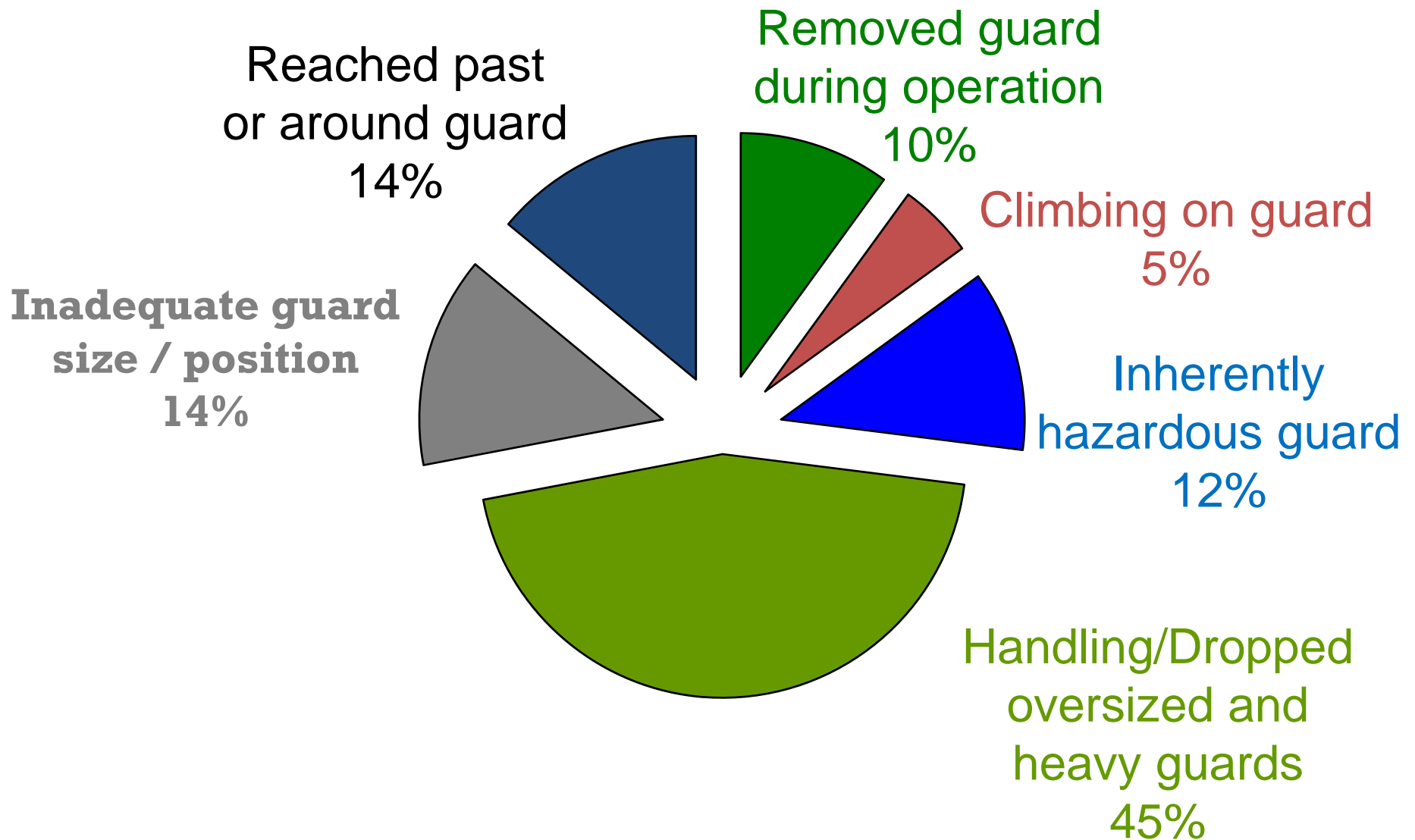
The Problem?

Conveyors Most Significant

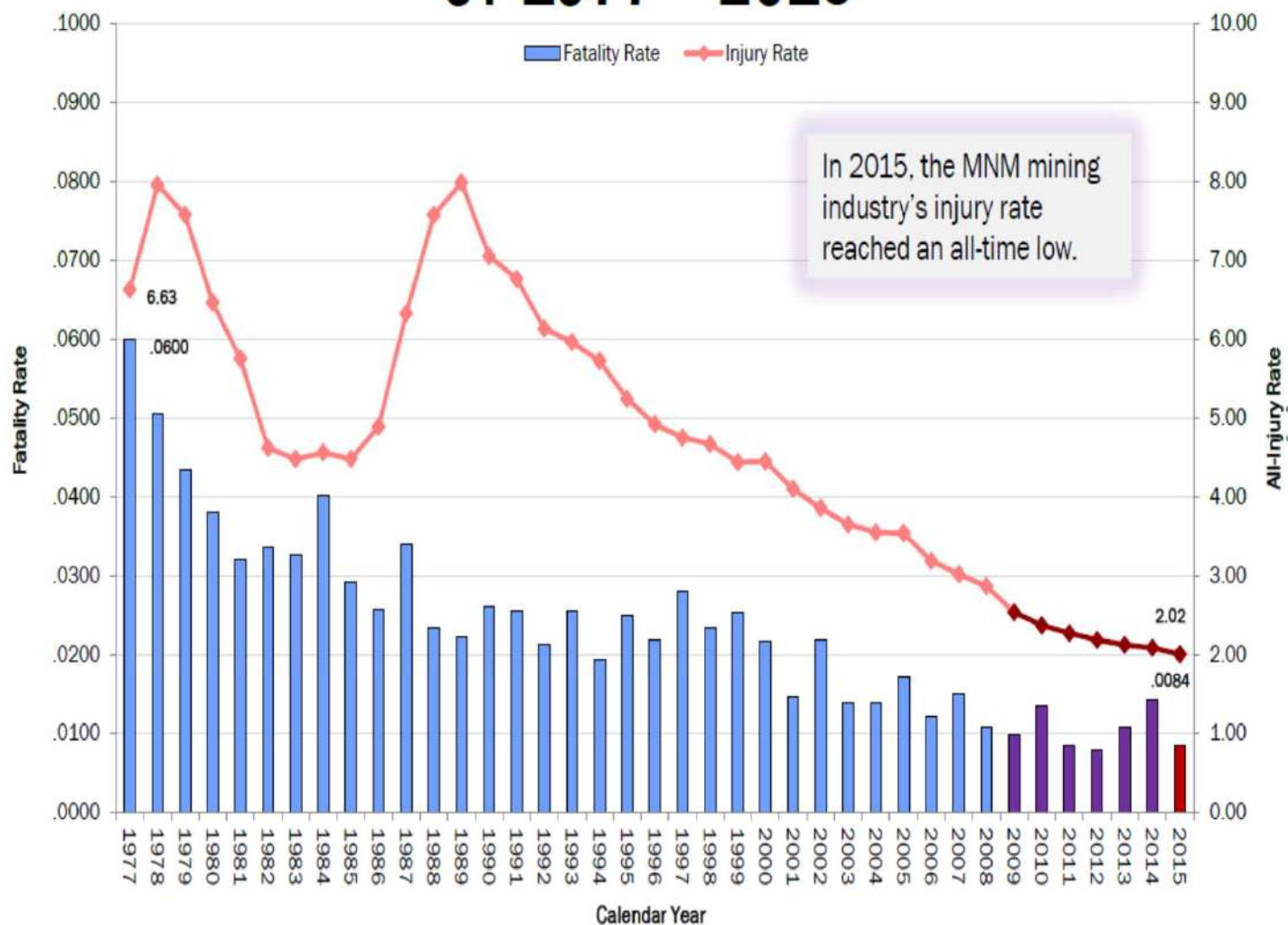
Severe U.S Mining Accidents by Machine Involved
(top 10 in the last 7 years)



Injuries Related to Equipment Guarding



MNM US Mines - Fatality and All-Injury Rates CY 1977 - 2015



Based on Injury Data Reported by Mine Operators



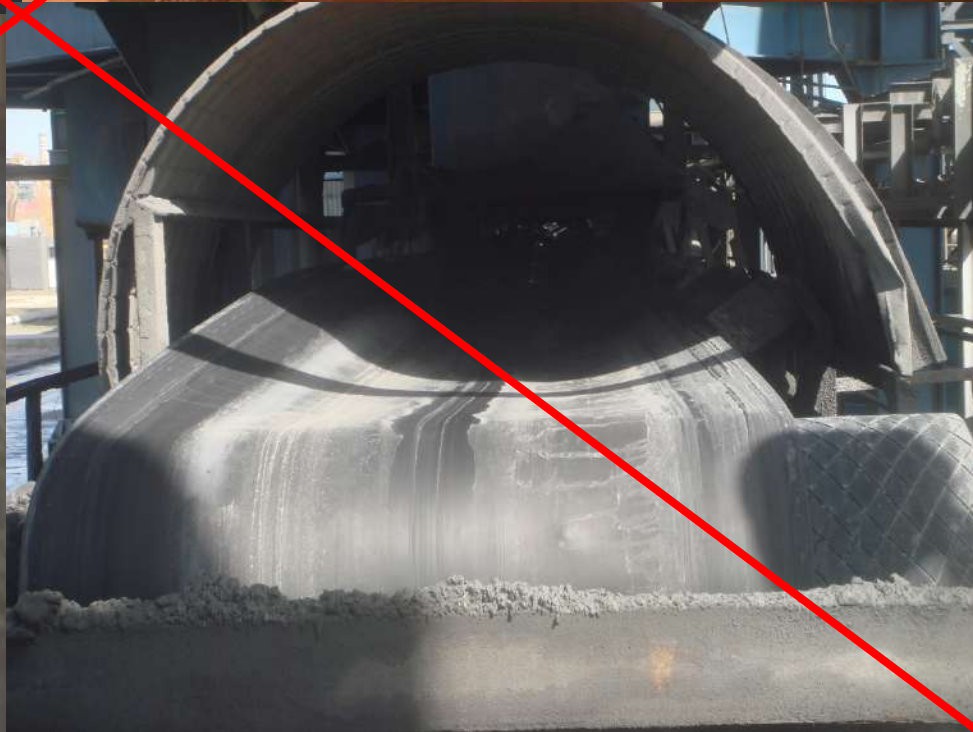
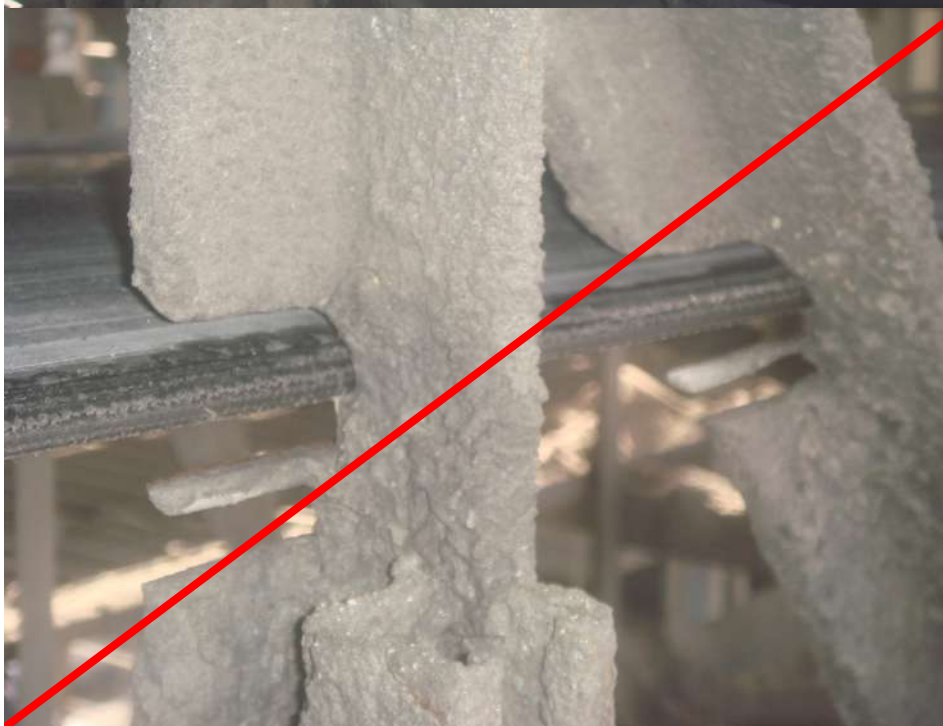
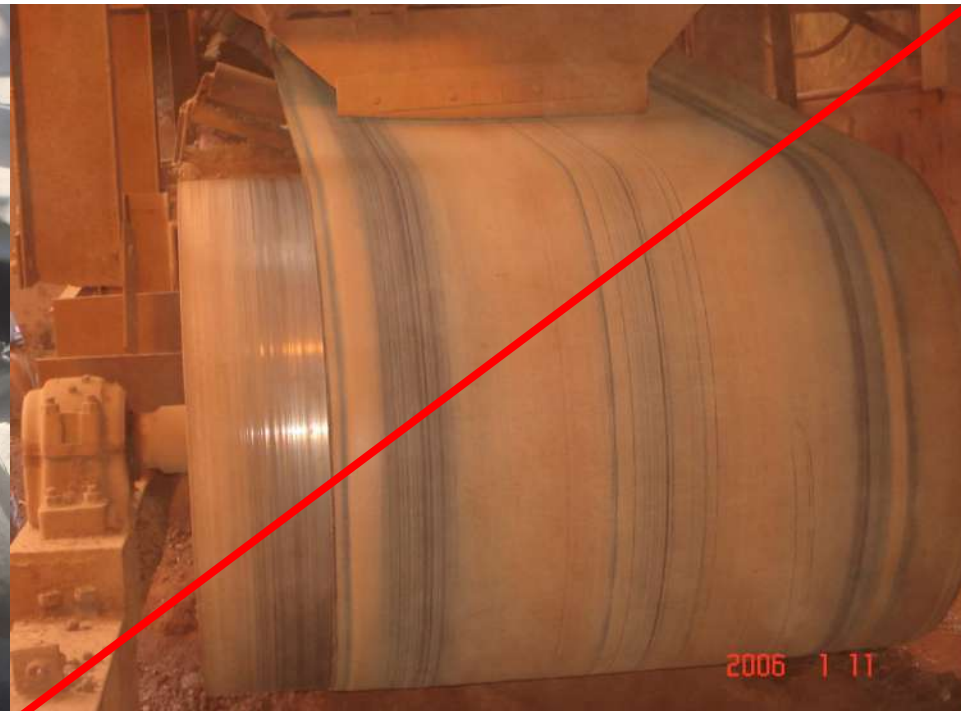
2017 SME ANNUAL CONFERENCE & EXPO
CMA 119th NATIONAL WESTERN MINING CONFERENCE



DENVER, COLORADO | FEBRUARY 19-22, 2017

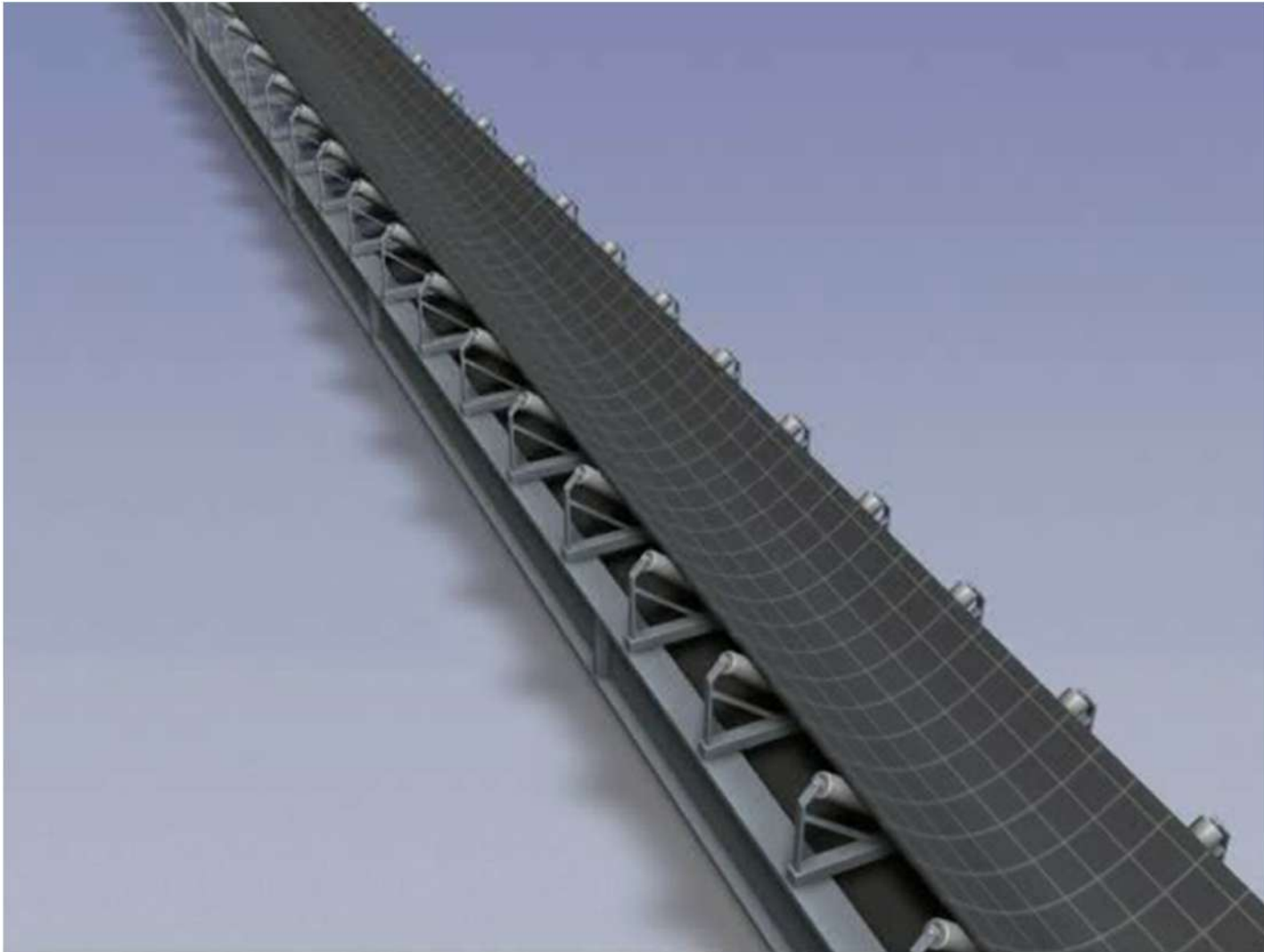
Safeguarding Conveyors

- As conveyor hazards vary depending on the application, employers need to look at each conveyor to evaluate and determine what primary safeguarding methods and energy control (lockout/tagout) practices are required.
- Where necessary for the protection of employees, conveyors need to have mechanical guards that protect the employee from nip points, shear points, and other moving parts, including power-transmission apparatus.
- Guards may include barriers, enclosures, grating, fences, or other obstructions that prevent inadvertent physical contact with operating machine components, such as point of operation areas, belts, gears, sprockets, chains, and other moving parts.

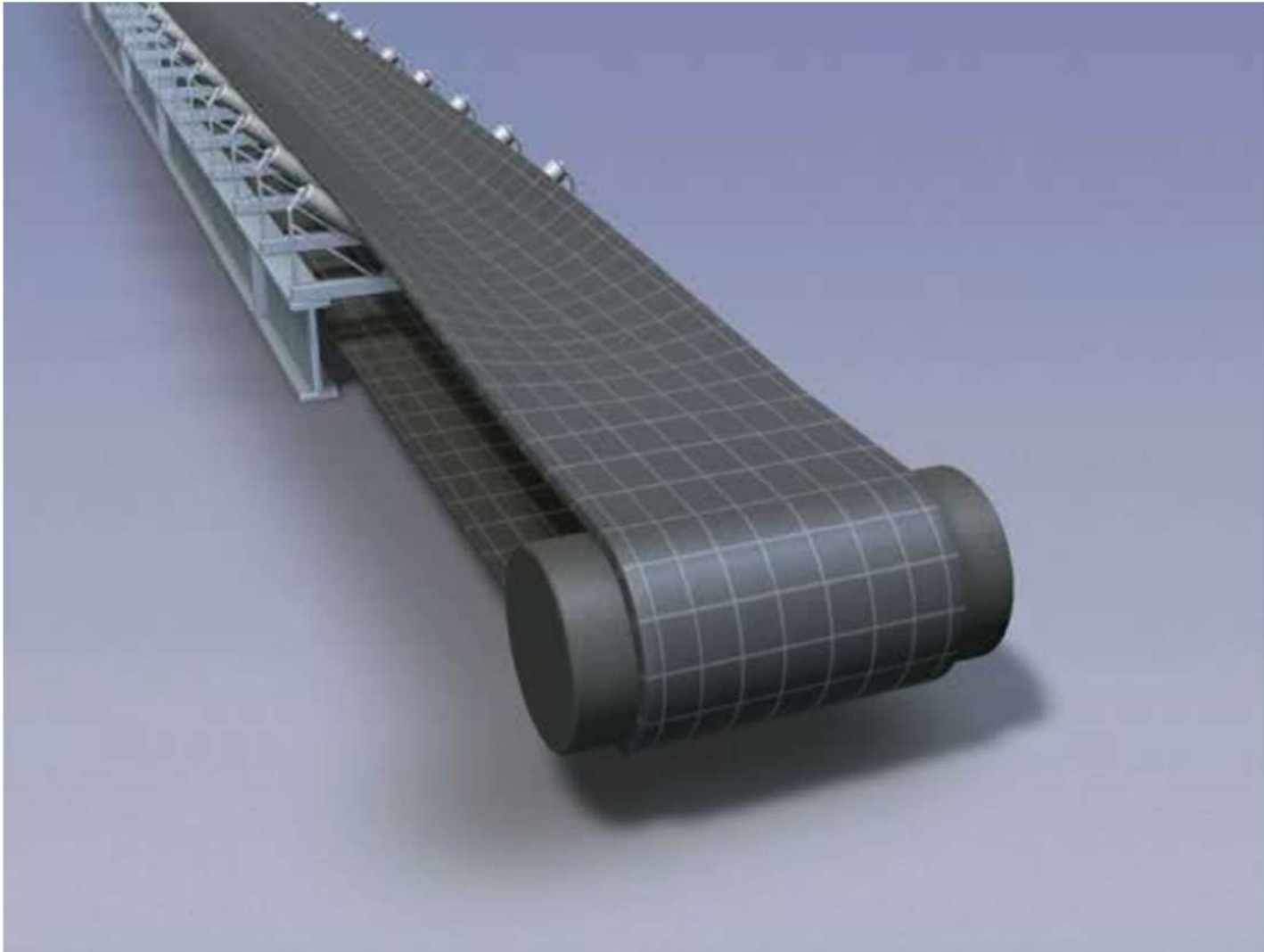




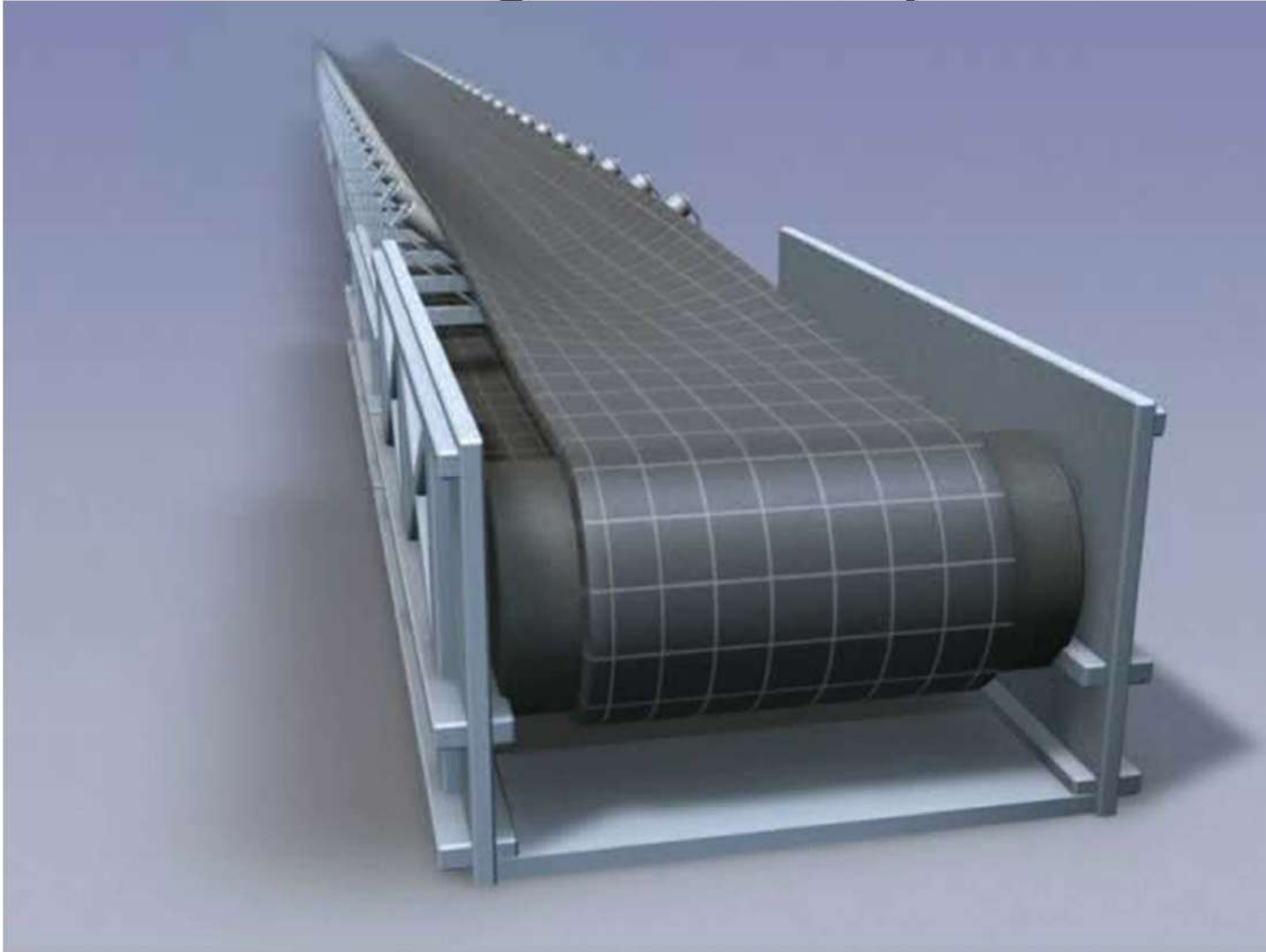
Off Center Loading

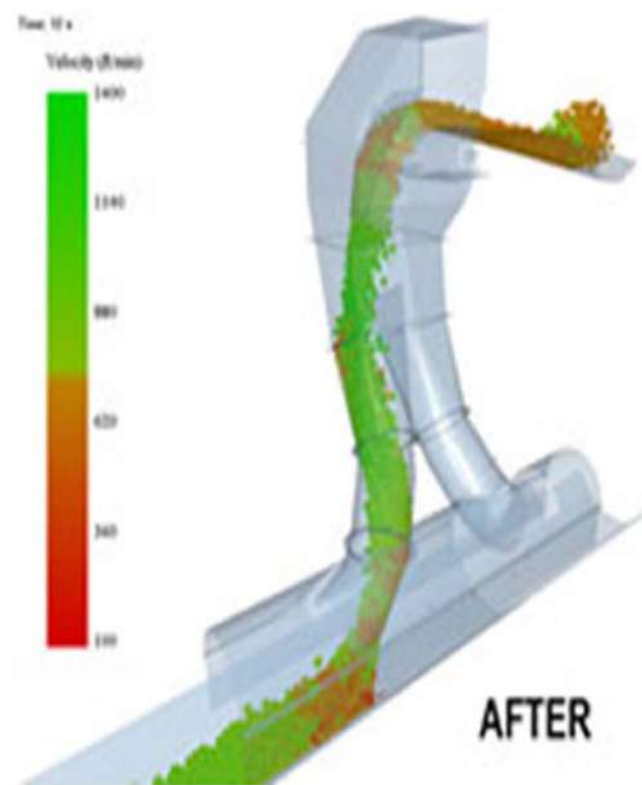
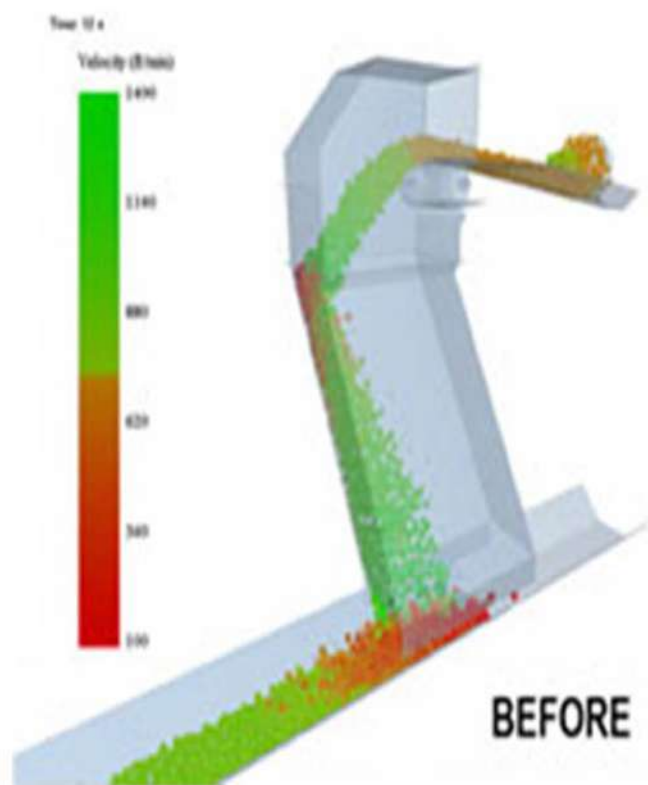


Material Build up On Terminal Pulleys



Misaligned Pulleys







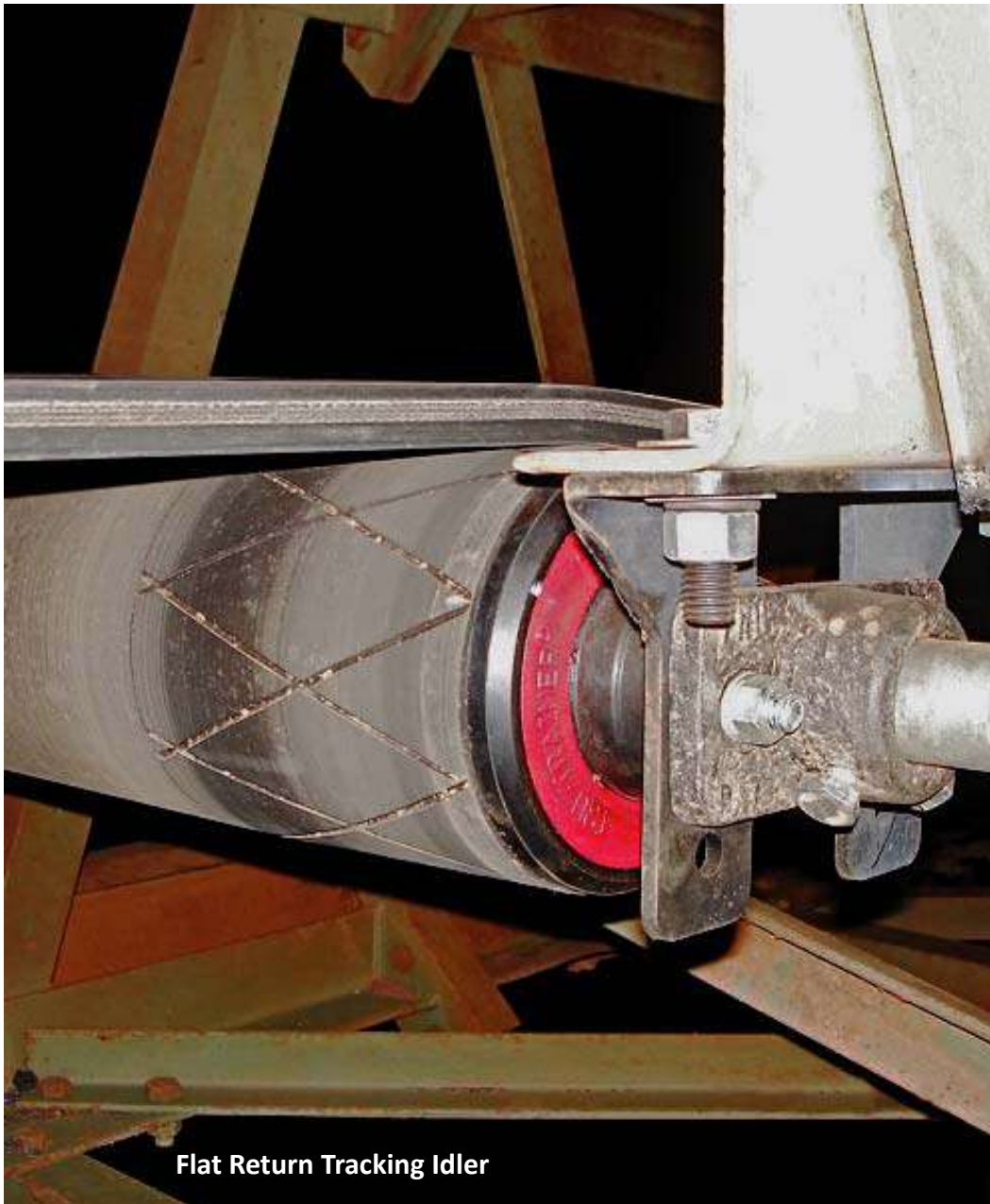


Tapered Troughing Idler

Conveyor Belt Tracking

Belt alignment is also very important to insure that the belt enters the load zone properly and the load is centered on the conveyor.

Conveyor belt tracking idlers are highly effective and react if the conveyor belt begins to drift off center, preventing damage to the belt



Flat Return Tracking Idler

Conveyor Belt Tracking

Belt alignment is also very important to insure that the belt enters the load zone properly and the load is centered on the conveyor.

Conveyor belt tracking idlers are highly effective and react if the conveyor belt begins to drift off center, preventing damage to the belt

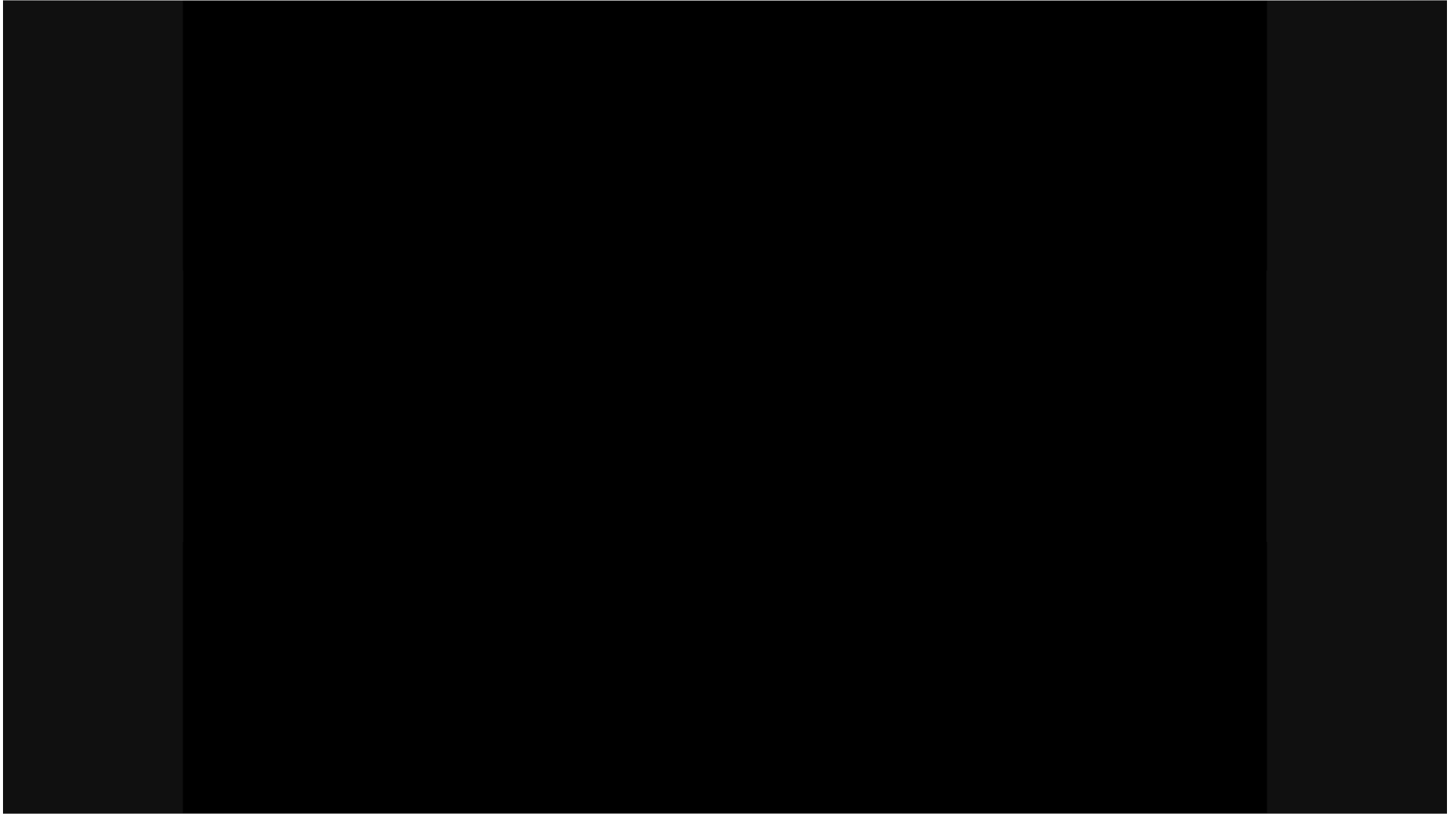
Importance of Belt Cleaners

- Belt cleaners are an essential part of any conveyor system.
- They help remove product carry-back and prevent it from falling off at various points along the return side of the belt causing various housekeeping and maintenance problems.
- Carry-back can lead to:
 - Excessive build-up and wear on belt idlers and pulleys
 - Conveyor belt misalignment due to the artificial crown created by the carry-back
 - Accumulation of material falling off idlers and structure to the ground or on buildings, vehicles or even people
 - Negative and unsafe work environment

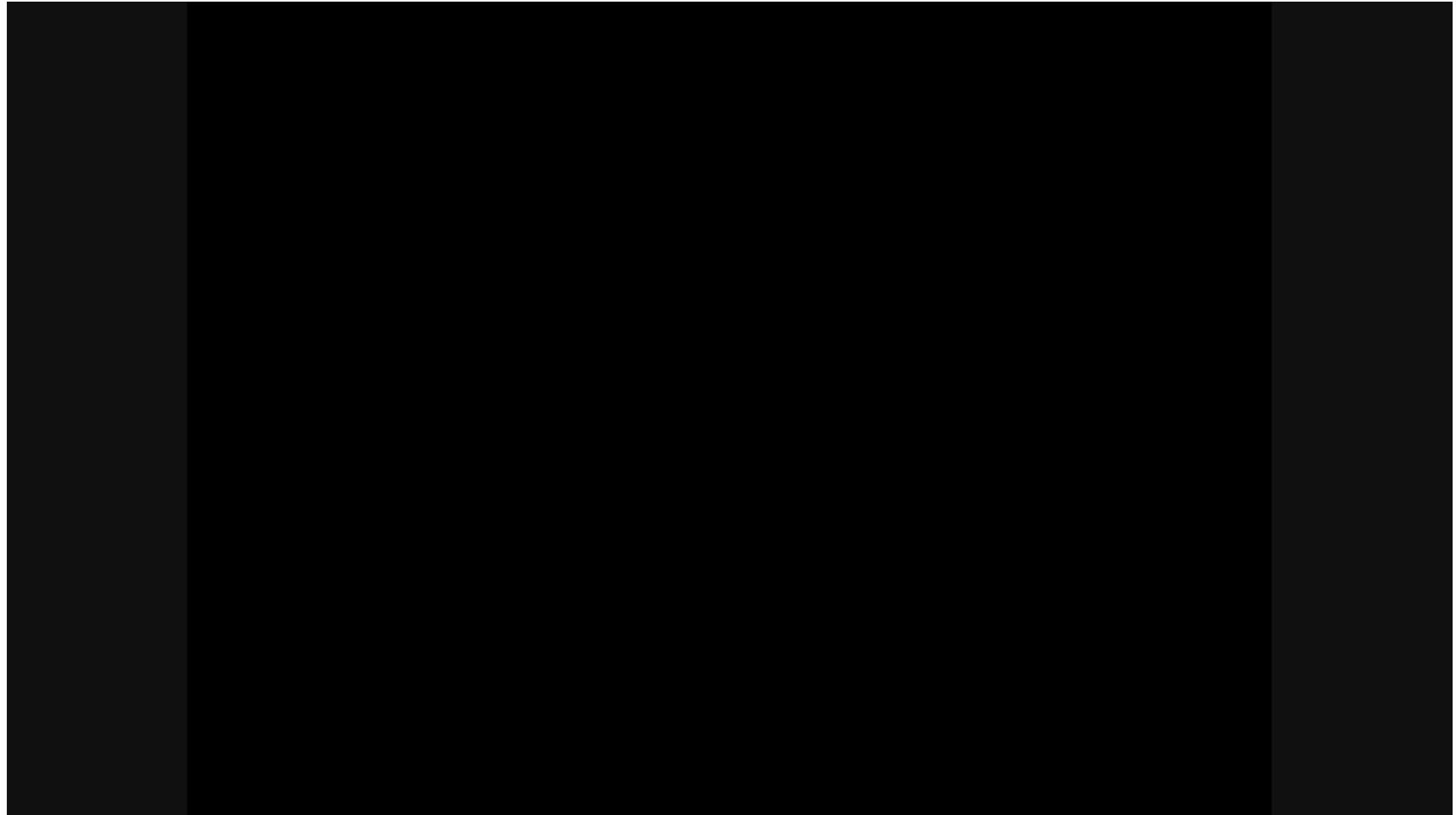




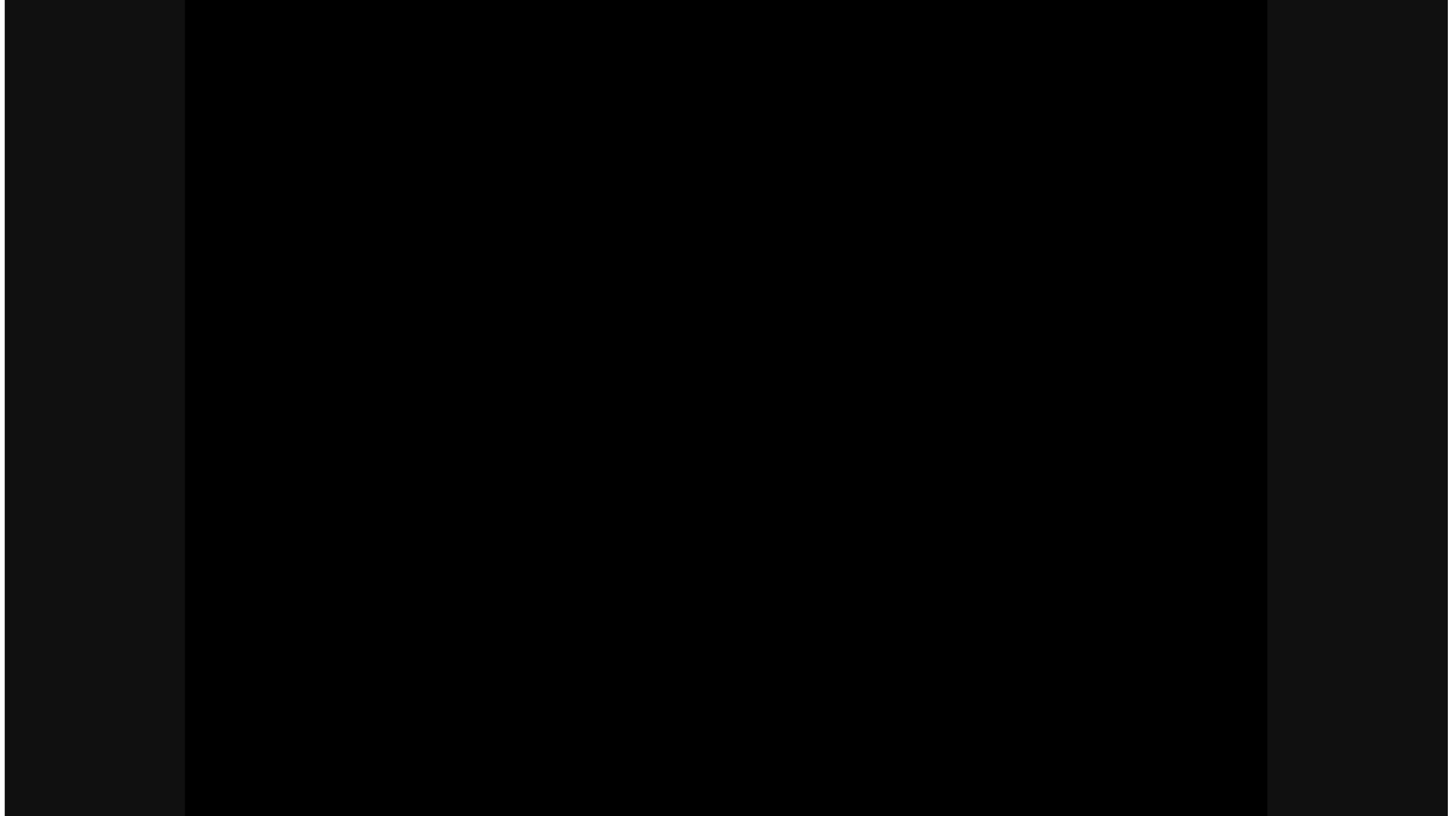
RazorBack Retractable™ System



Change Rolls Without Removing Adjacent Idlers

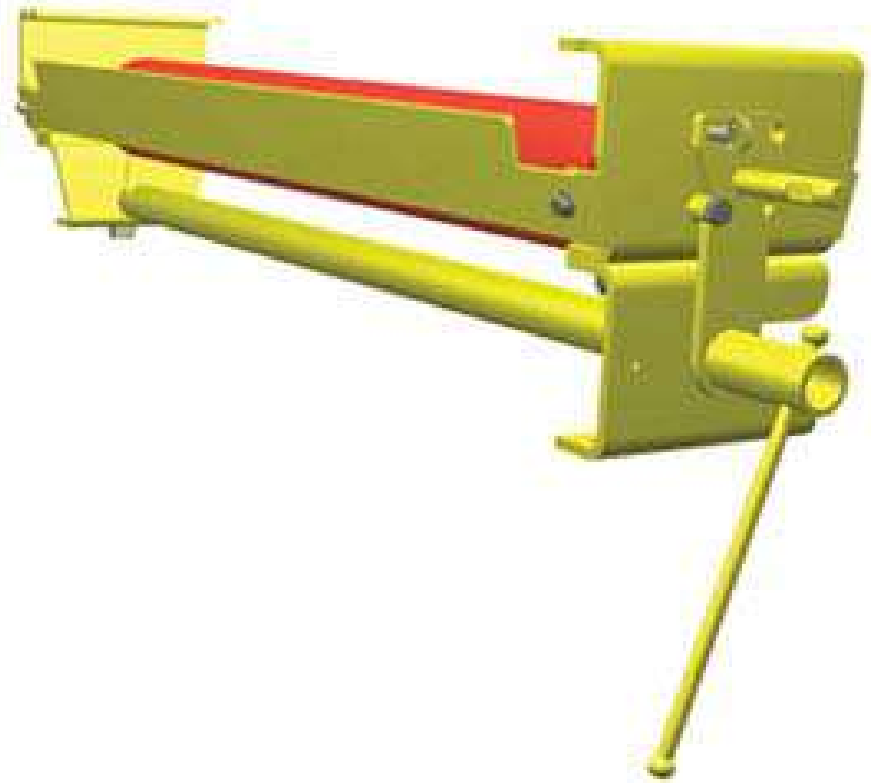


One Sided Roll Change System



Safe-Guard Return (Idler) Roll Changing System

- Return Roll Changer allows you to remove and replace a roller from a single side of the conveyor and/or from whichever side of the catwalk is located.
- Universal Mounting - can be mounted on either side of the conveyor system.
- One Side Return Roller Access - allows removal and replacement from a single side of the conveyor.
- Reduces Maintenance Time - for roller replacement.
- Eliminates the Need for High Lift Equipment.



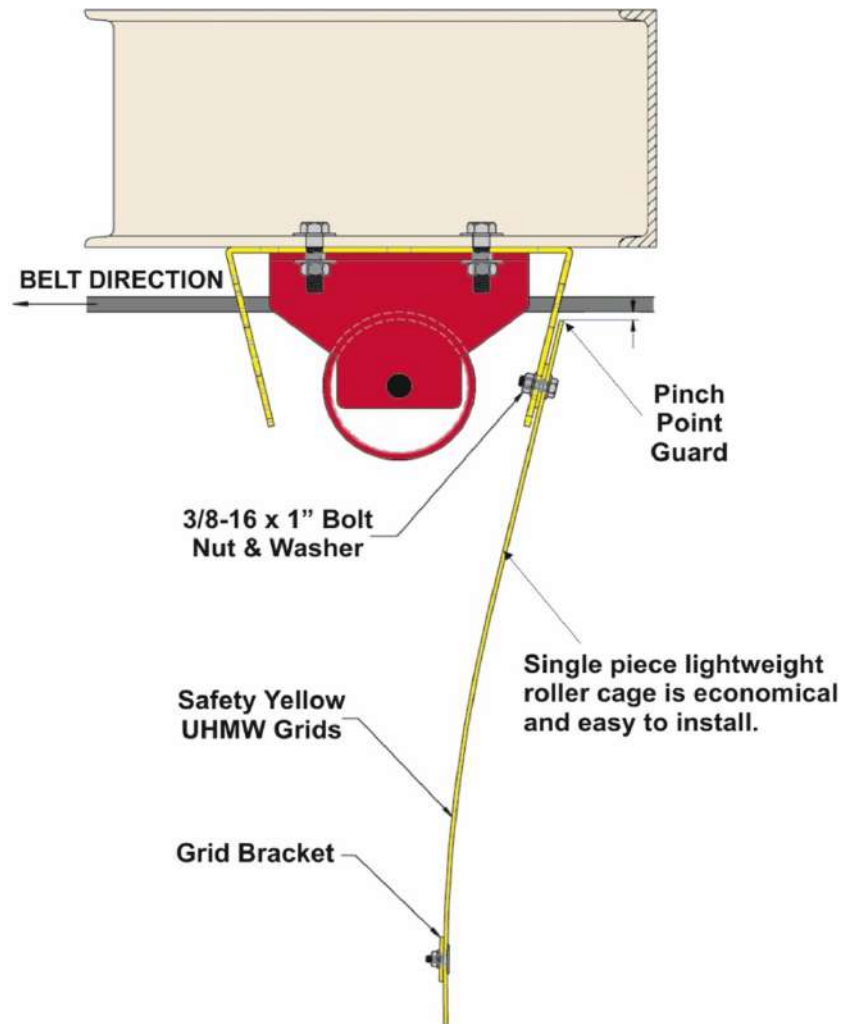








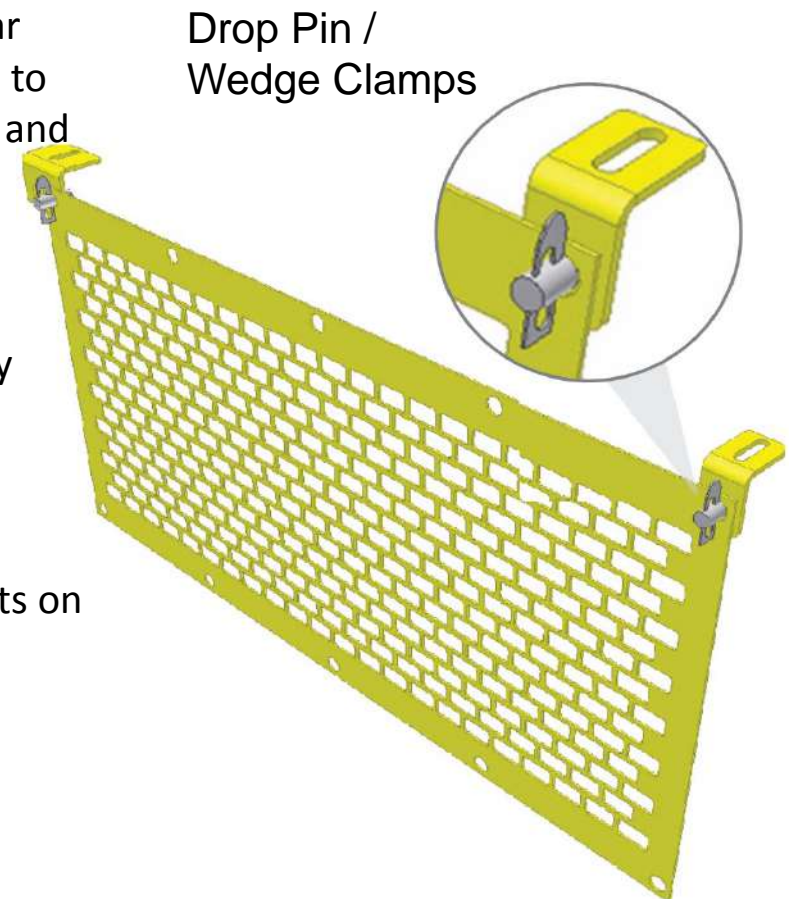
Safe-Guard Return Idler Guards





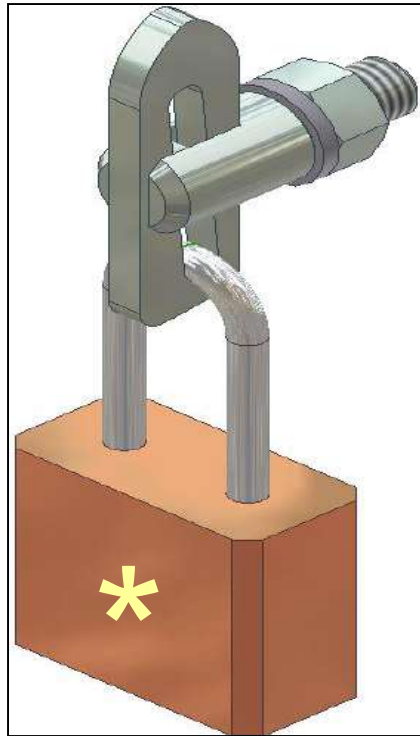
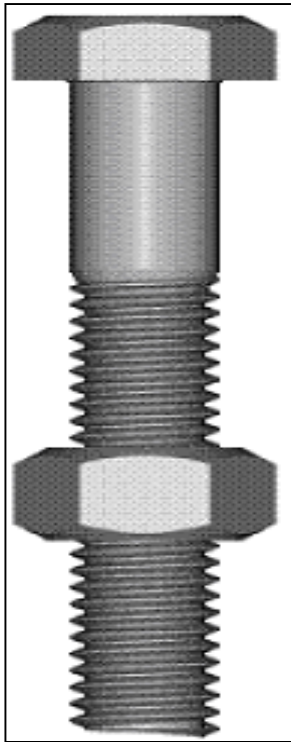
Conveyor Side Guards

- The ASGCO Safe-Guard Modular Flat Guard is a modular powder coated all steel guard that is typically mounted to the conveyor steel to guard against moving equipment and protect workers from injury.
- Drop pin / wedge clamps holds the guard securely
- Shipped complete with mounting kit for quick assembly
- Effective Safety yellow powder coated steel for high visibility
- Designed for use on multiple safety locations
- Keeps workers away from moving parts and pinch points on the conveyor
- Compliant Meets MSHA, OSHA, and Canadian Safety Standards



Fasteners & Fastening Systems

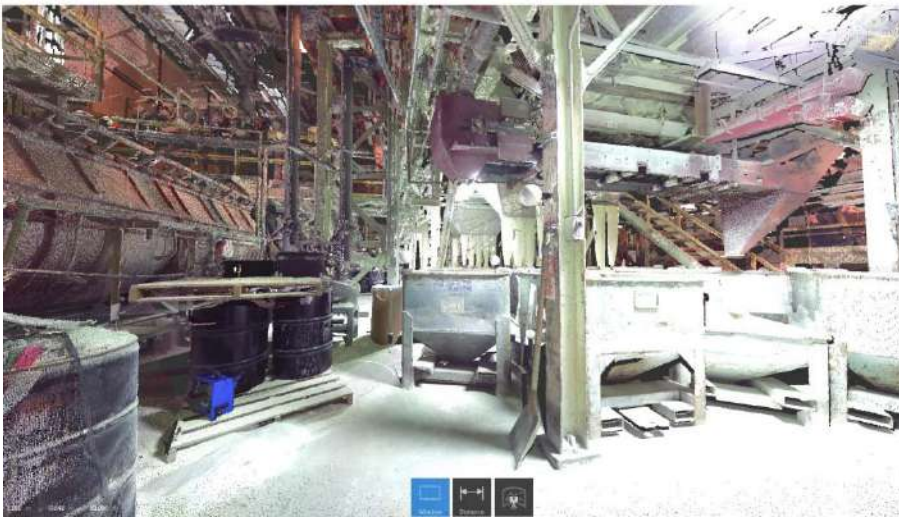
- Many types of fasteners are acceptable



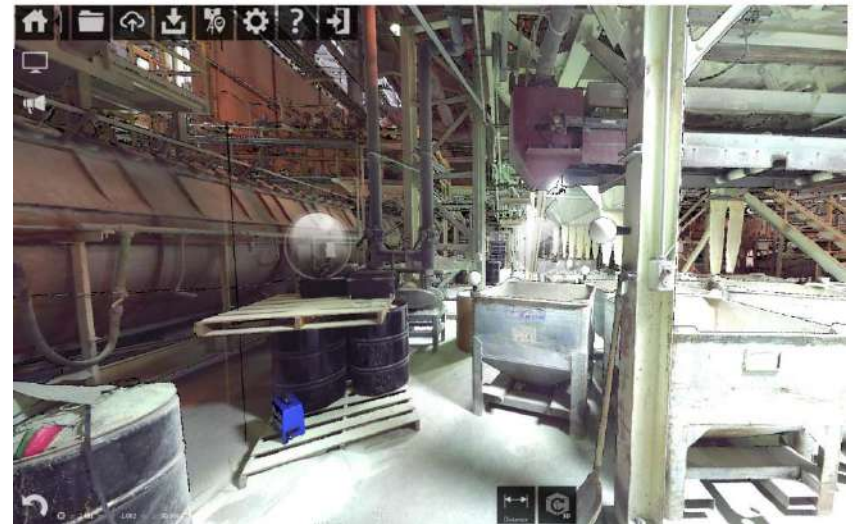
* Fastener locking devices are not required.
Tools are required to remove a fastener.



HOW DOES IT WORK?

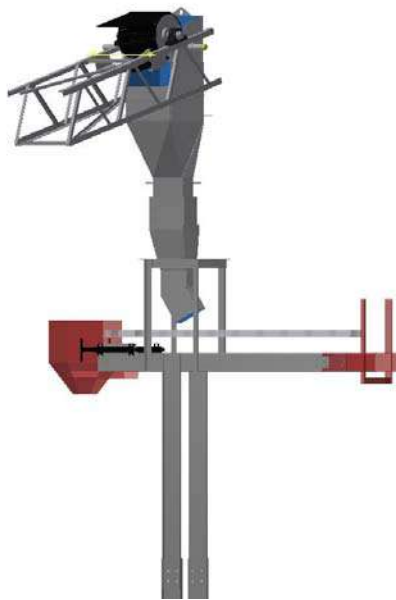


Cloud Point Scan

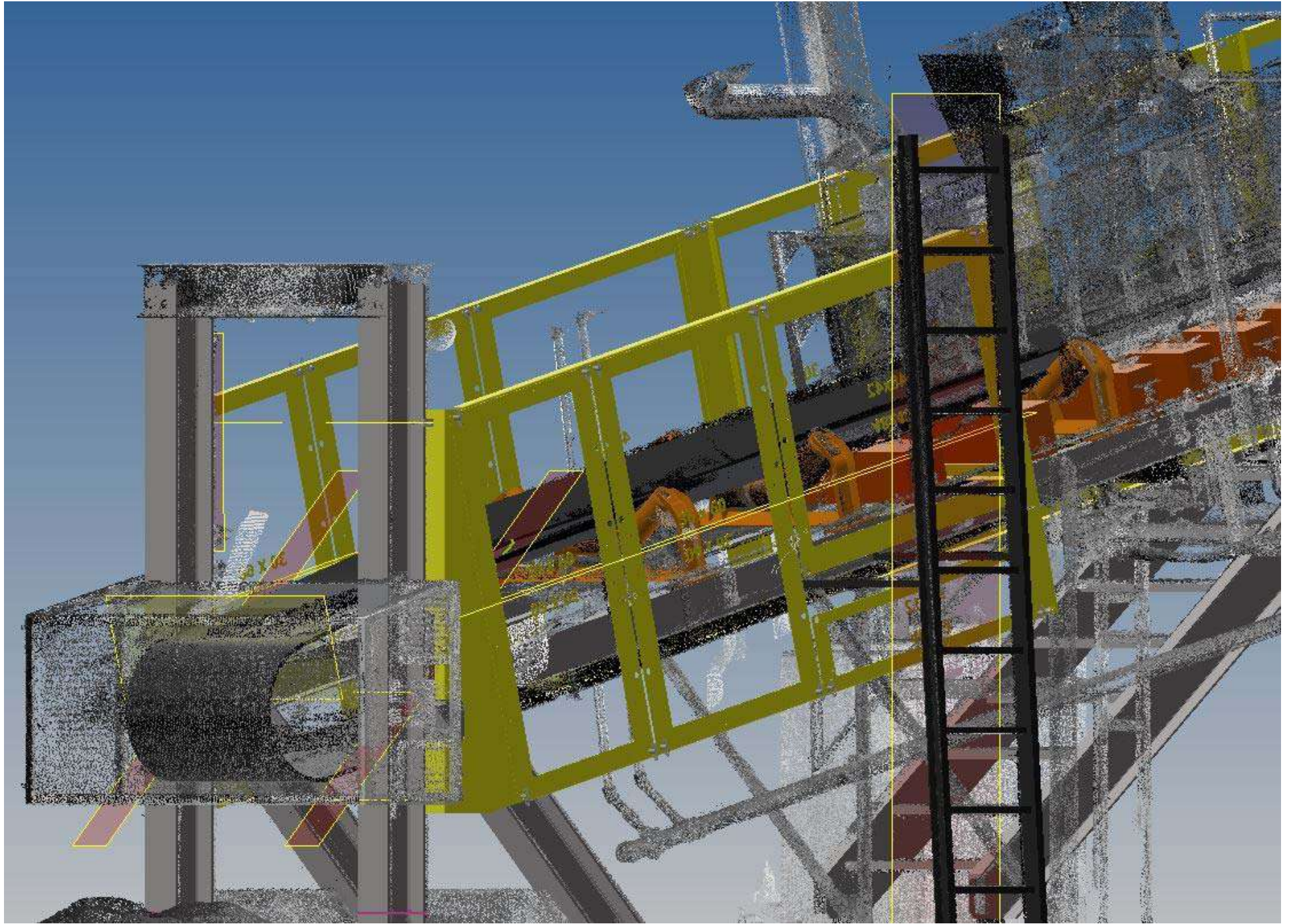


Cloud Point Picture

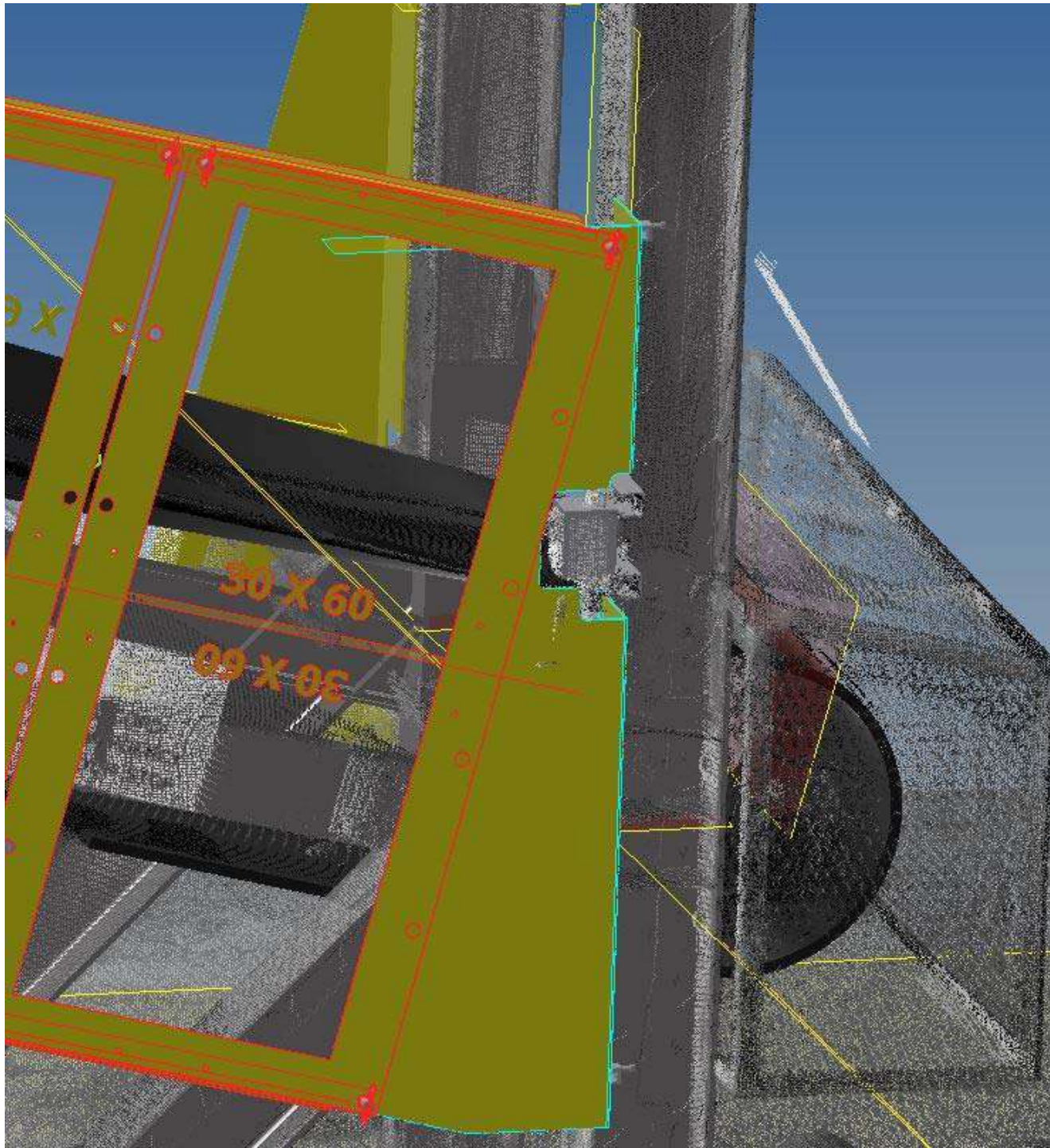
HOW DOES IT ENSURE ACCURACY?



ON THE LEFT YOU CAN SEE A MODEL OF A CHUTE AND CONVEYOR. ONCE MODELED IT IS OVERLAYED INTO THE CLOUD POINT SCAN TO ENSURE THERE ARE NO INTERFERENCES AND THAT ALL MODELED EQUIPMENT FITS PROPERLY.

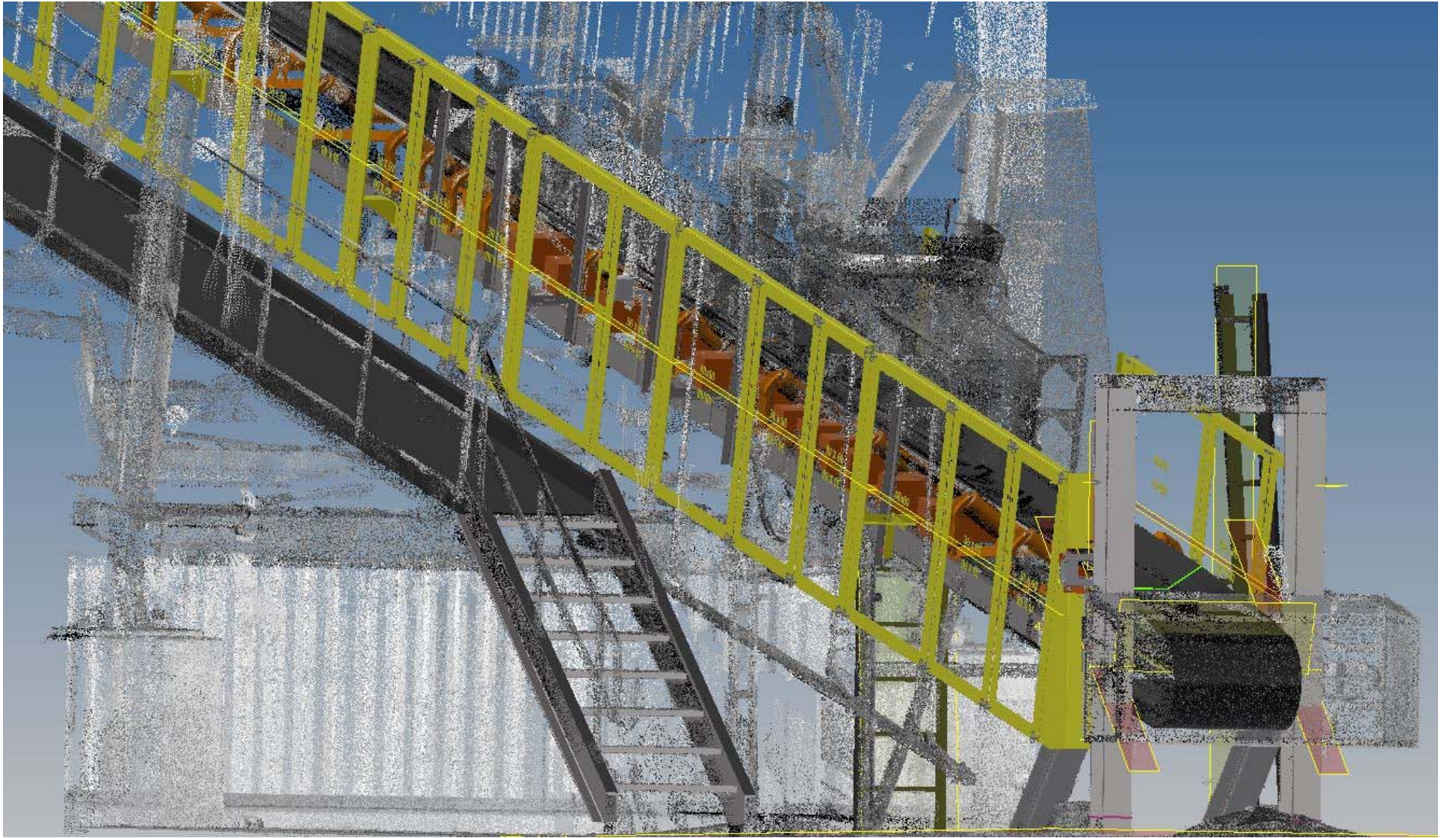


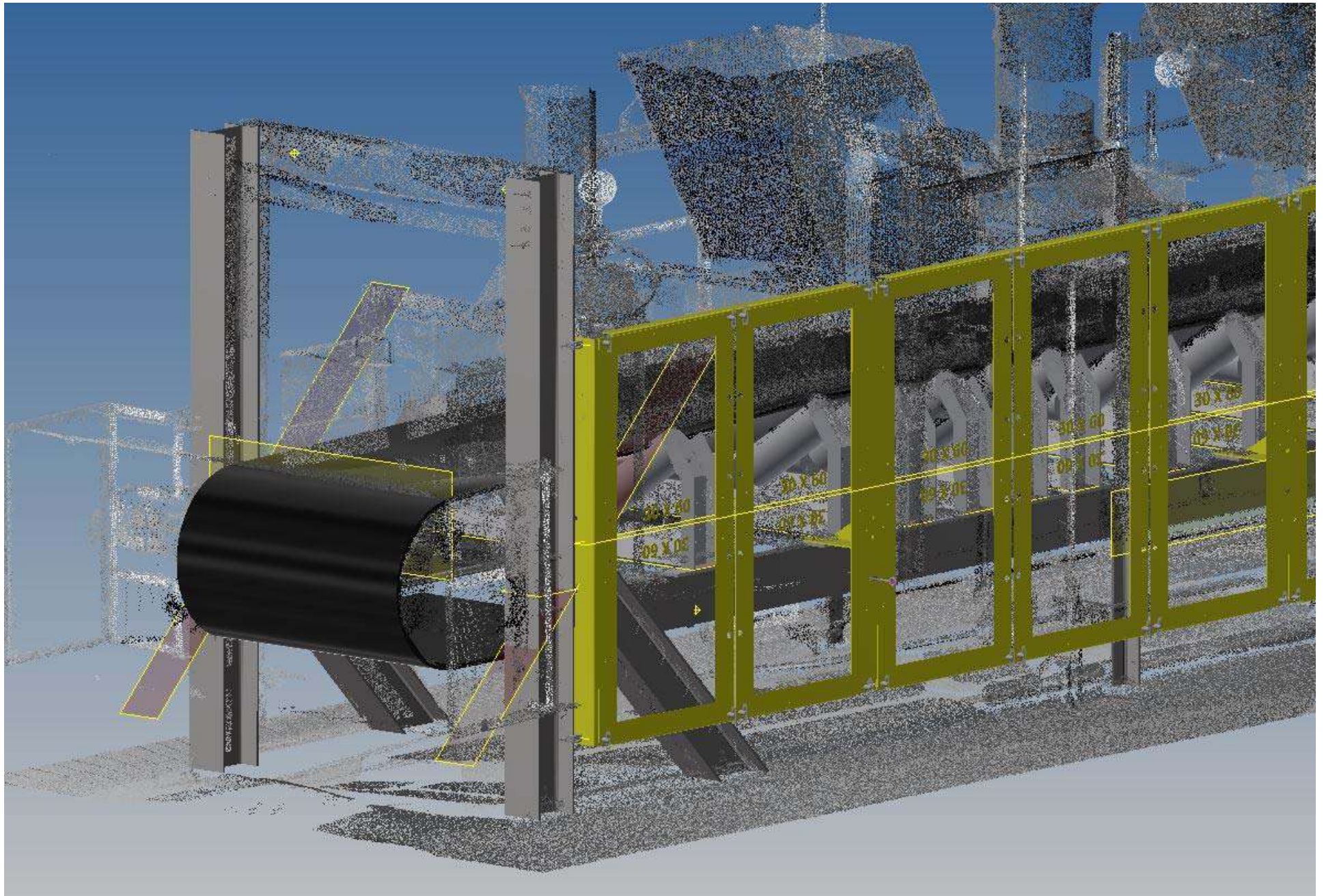


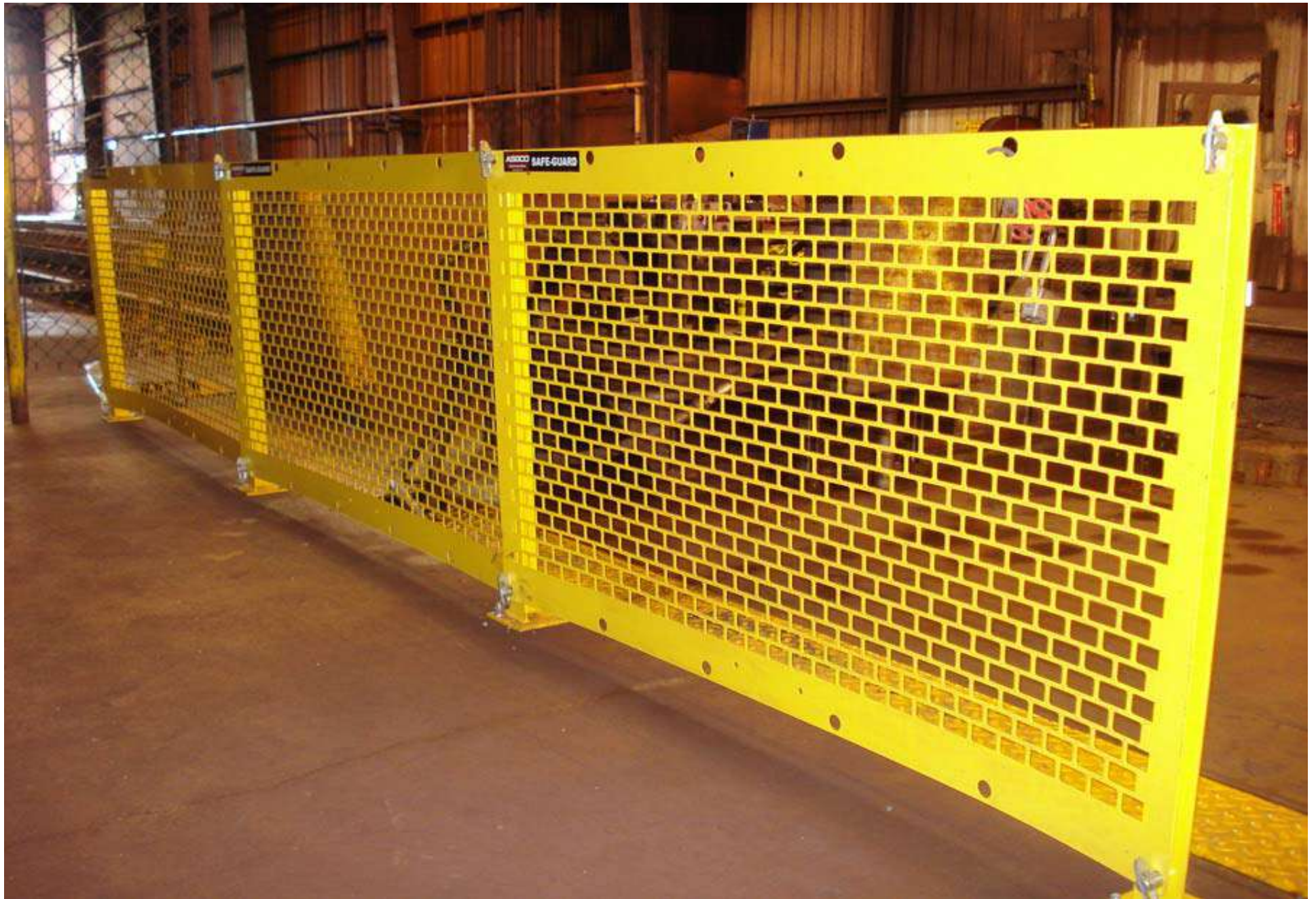












ASGCO 3D LASER SCANNING



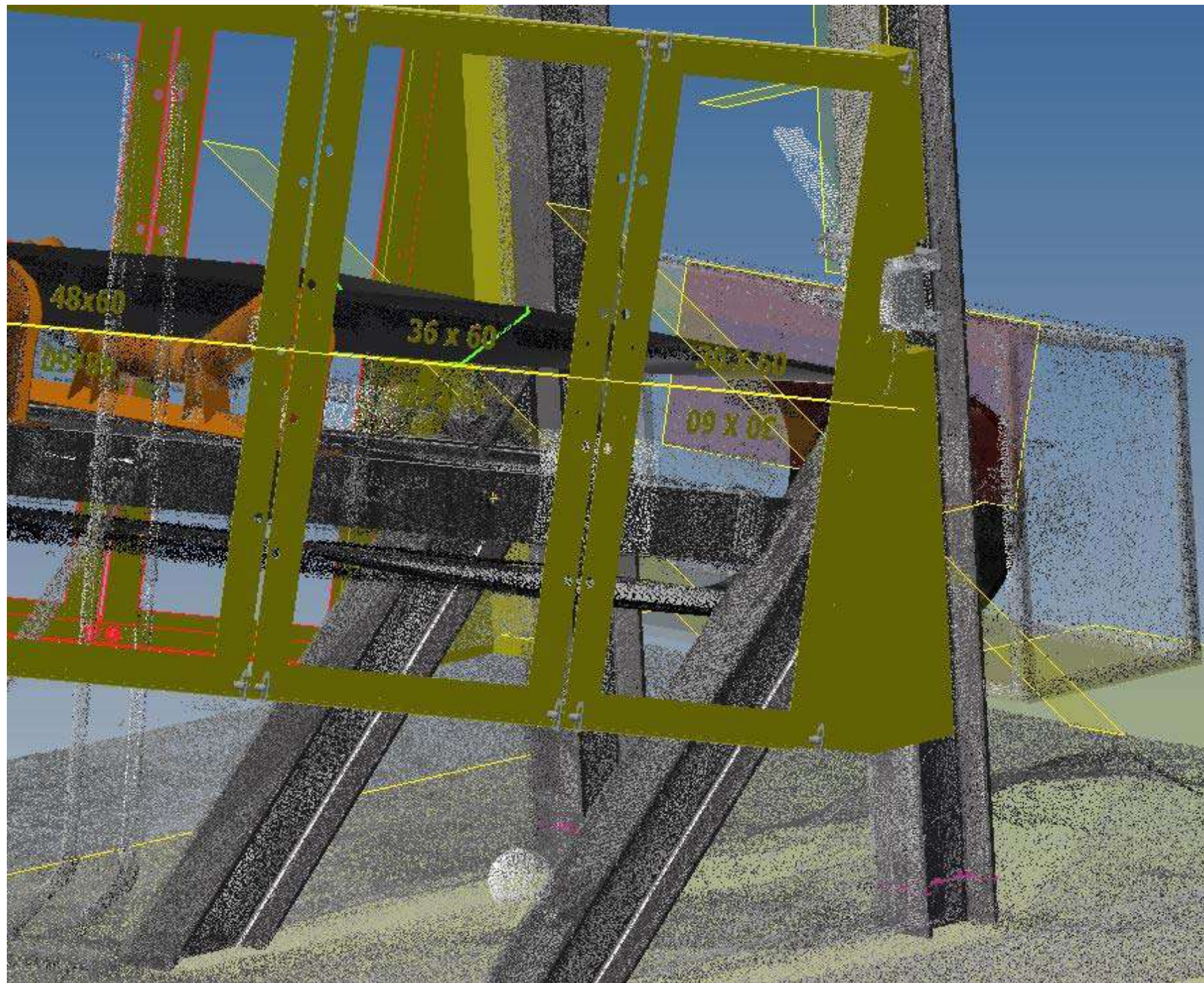
The ultra-portable Focus^{3D} X 130 enables fast, straightforward, and accurate measurements of objects and buildings. It records architectural façades, complex structures, production and supply facilities, accident sites, and large-volume components..

- Distance accuracy up to $\pm 2\text{mm}$
- Range from 0.6m up to 130m
- Noise reduction 50%

WHAT ARE THE BENEFITS?



- SAVES TIME.
- ELIMINATES HUMAN ERROR IN MEASURING.
- ENSURES ALL INFORMATION IS GATHERED IN ONE FIELD VISIT.
- ALLOWS MODELS TO BE OVERLAYED ONTO CLOUD POINT SCAN TO DOUBLE CHECK ACCURACY.





Global Solutions. Local Support

**“A Complete Conveyor Solutions
Company”**

Complete Conveyor Safety

Need Solutions....to improve efficiency, safety and productivity? ask... ASGCO®

www.asgco.com | 800.942.7263





2017 SME ANNUAL CONFERENCE & EXPO
CMA 119th NATIONAL WESTERN MINING CONFERENCE



DENVER, COLORADO | FEBRUARY 19-22, 2017

Slide Title Goes Here

- Slide Text. Text goes here. Slide Text. Text goes here.
- Slide Text. Text goes here. Slide Text.
- Slide Text. Text goes here. Slide Text. Text goes here.
- Slide Text. Text goes here.