APPLICATION BREAKDOWN:

Barcode Scanning and Full Pallet Verification

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A cereal manufacturer had two issues to resolve to fully automate their palletizing and shipping system.

The first challenge was identifying which product was on the pallet coming out of the elevator. Reading the Interleaved 2 of 5 barcodes on the shippers should have been easy.
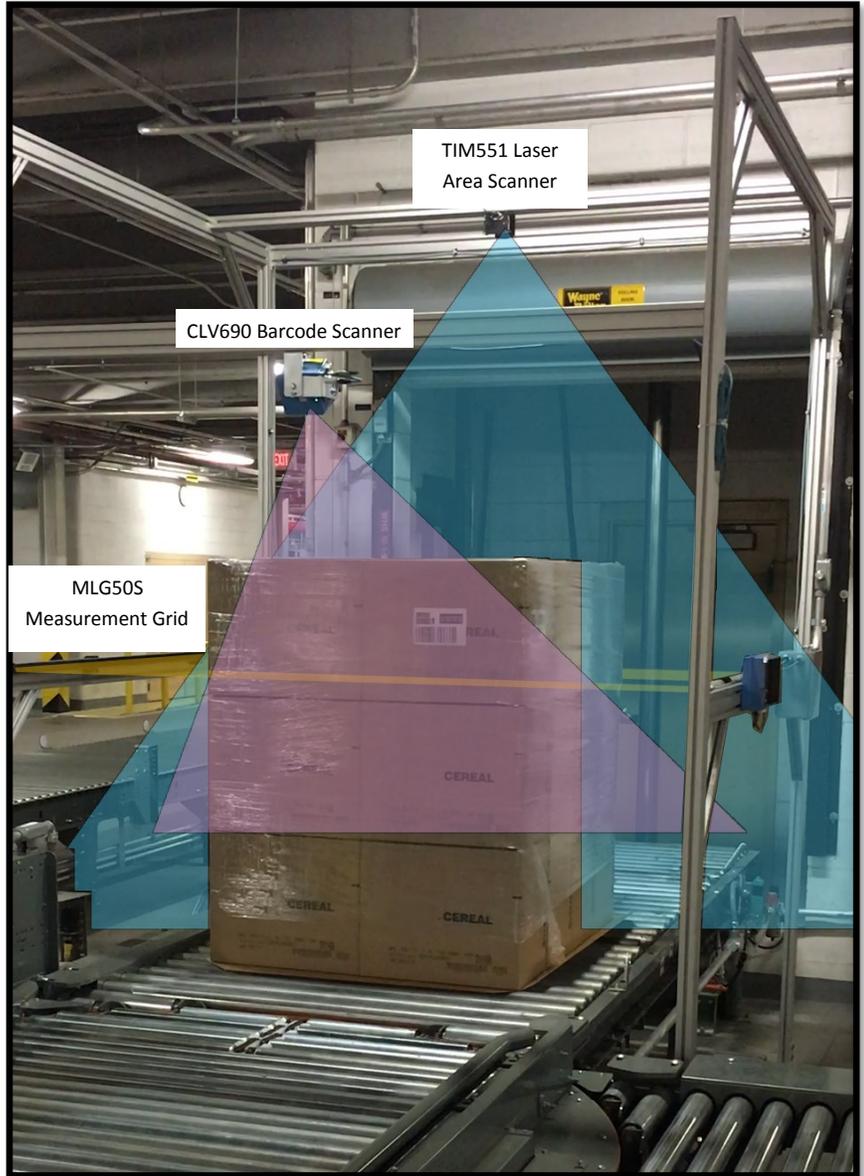

CLV690 Barcode Scanner

Unfortunately, the pallets were already wrapped with 3 to 6 layers of shrink wrap, so their scanners could not read the codes. Sensors Incorporated solved this problem by using the Sick CLV690 scanner. With its powerful laser scan line, and its SMART+ decoding algorithm, the CLV690 was able to read the codes in spite of the layers of shrink wrap, the low contrast codes, and the steep reading angle.

The next application for this install was verifying a complete pallet. The automated palletizing system

TIM551 Laser Area Scanner

stacks one pallet of cases on top of another. With only 4 cases per layer, a missing case meant the top layer could fall. Sensors used the TIM551 area scanner to look down from above, taking multiple "slices" of the pallet as it passed underneath. A missing case would cause the pallet to be diverted before the palletizer.

TIM551 Laser Area Scanner

CLV690 Barcode Scanner

MLG50S Measurement Grid

MLG50S Measurement Grid

Telling the TIM551 when to scan the pallet would normally be done by an array of photoeye triggers. The difficulty is that it requires multiple photoeyes to be wired up and mounted; more importantly, pallets of different size cases may need scans at different points along the pallet.
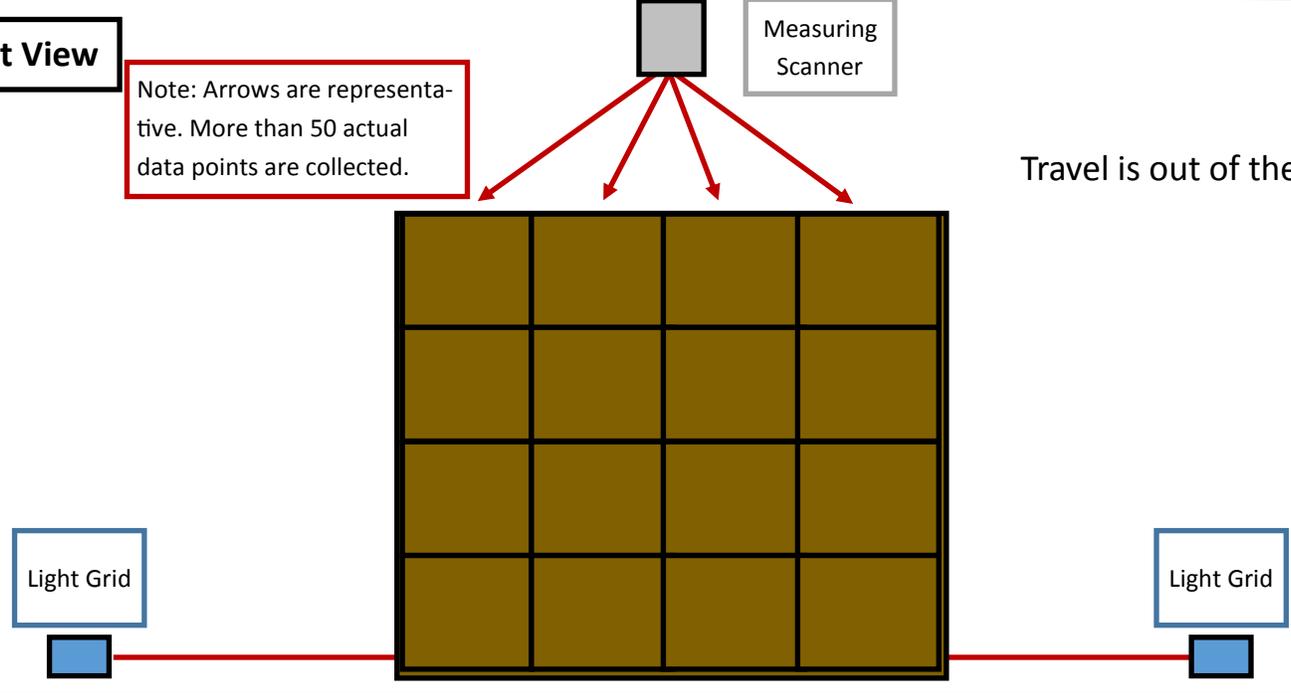
The elegant solution was to use the MLG Prime Measurement Light Grid. This measurement light curtain was mounted horizontally, sending a signal to the TIM510 at each measurement point. No physical changes would be necessary for different case sizes and instead of many photoeyes, brackets and cables there was a single pair. See the backside for a complete application breakdown diagram. **Let the engineers at Sensors Integration help you with your tough applications!**

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Side View

Barcode Scanner

Measuring Scanner

Light Grid

Measuring Scanner
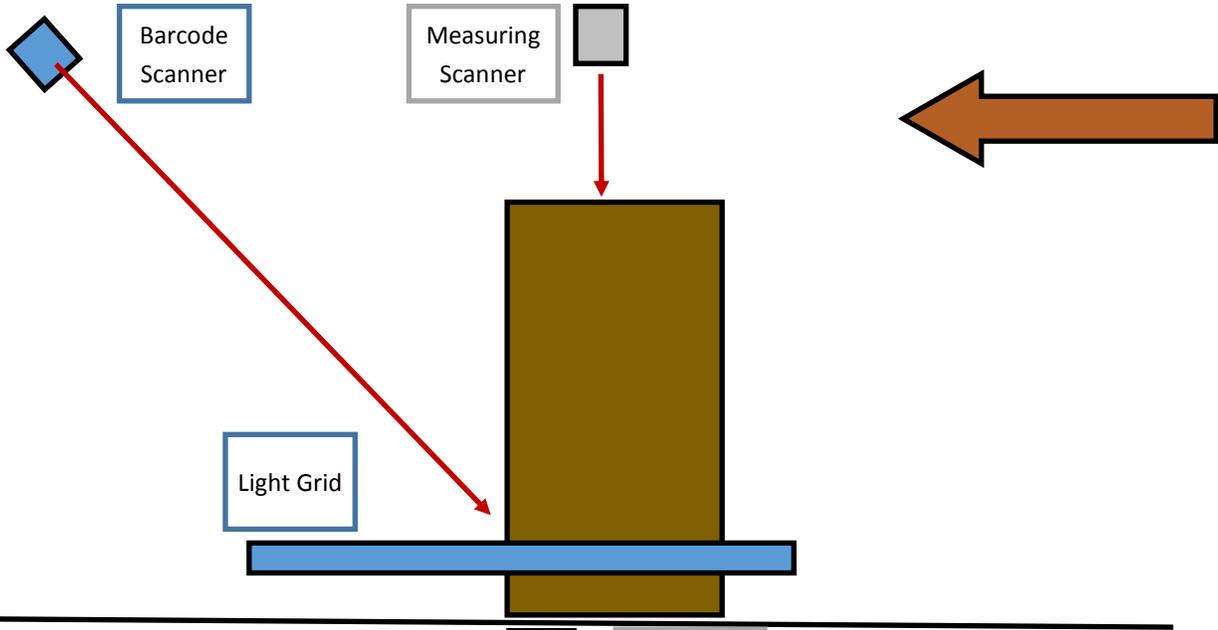
Front View

Note: Arrows are representative. More than 50 actual data points are collected.

Travel is out of the page

Light Grid

Light Grid

Top View

Note: Slices are representative. 7-9 actual data points are collected.

Slice 1

Slice 2

Slice 3

Slice n