

Automated Parts Counting Solutions for Non-Serialized Parts *with 9 Customer Examples*



3 Reasons to Automate Parts Counting

1. Accuracy

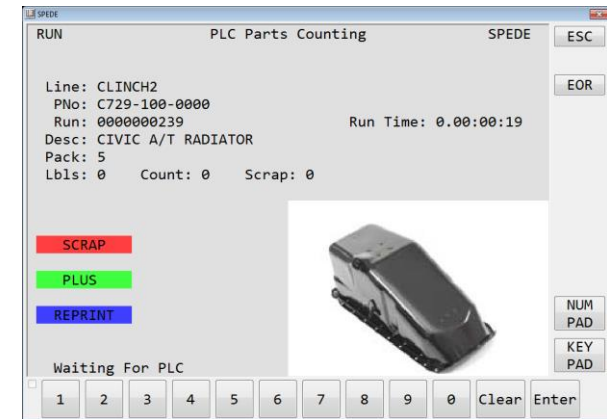
- Accurate Part counts
- Accurate Pack Counts and Container Labeling
- Accurate Production reporting

2. Efficiency

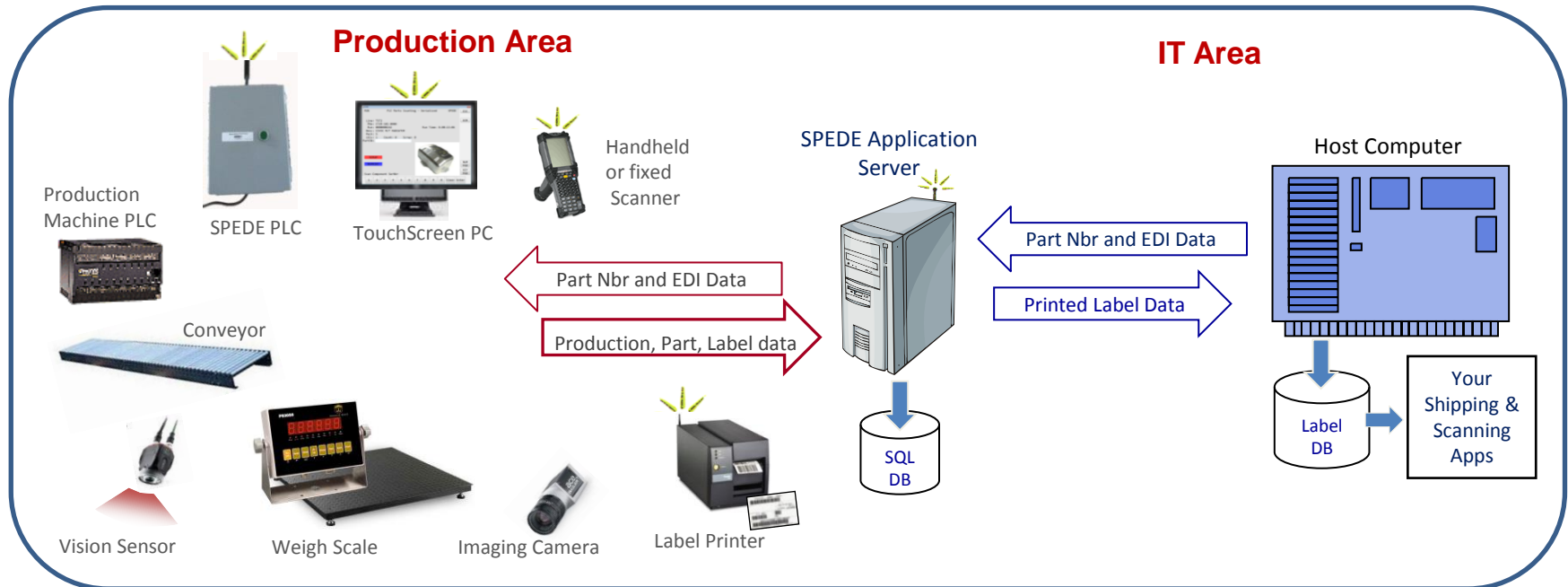
- No labor and expense for manual counting
- No data entry or recordkeeping
- Real-time production run data displays at line-side
- Automatic updates to host systems

3. Traceability

- Automatic traceability from Production back to Raw
- Automatic traceability forward to Customer
- Enables focused inquiries by part, run date, lot, etc.



Overview of SPEDE and your Host Systems



SPEDE Apps Interface to and Control Production Area Devices

- PLC, Touchscreen PC, Handheld Scanner, Vision Sensor, Scale, Printer, Imaging Camera

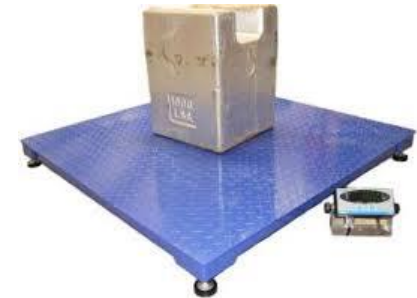
Prints Labels + Collects OEE Data

- Gets label data from host ERP, EDI, Release Accounting
- Time-stamps & logs printed label data, piece count, scrap & cycles data into SQL DB
- Printed Label Data is available to Host systems for Parts Traceability, OEE analysis, Shipping, etc.

Non-Serialized Counting: Example 1

Parts Are Counted by Weigh Scale

- Scale connected via RS-232 or TCP/IP
- Part level piece weight, layer count, total pieces
- SPEDE provided Tare Button on touch screen
- Tare between layers if inter-layer dunnage
- +/- percentage variance
- Removing parts from scale decreases count
- Weights recorded in SPEDE



Interface to Weigh Scale ensures
Packed Quantity is correct

Customers:

- Nissin - brake pad
- TGMO - map pocket
- Busche – suspension knuckle



Non-Serialized Counting: Example 2

Parts Are Counted by Weigh Scale + Vision Verification

- Scale connected via RS-232 or TCP/IP
- Part level piece weight, layer count, total pieces
- SPEDE provided Tare Button on touch screen
- Tare between layers if inter layer dunnage
- +/- percentage variance
- Keyence Vision Sensor controlled by SPEDE
- Part must pass vision then weight
- Removing parts from scale decreases count



Customer:

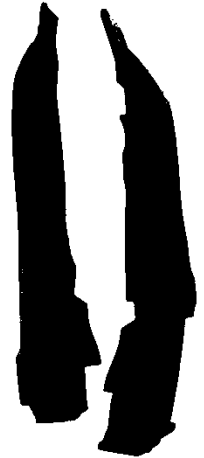
Nissin Brake - engine mount bracket, aluminum castings



Non-Serialized Counting: Example 3

Parts Are Counted by Vision only

- Keyence Vision Sensor controlled by SPEDE
- 1 to 4 Sensors per line
- Sensors can be ganged together
- Logical AND, all sensors must pass
- Logical OR, any sensor can pass
- Triggered by external object sensor
- Only “good part” increments count
- Onscreen minus, can be supervisor only



Customers:

- Sonoco OH and TN – EPS/EPE bumper filler, door filler
- TMD vision only – 4 vision sensors for Honda service



Non-Serialized Counting: Example 4

Parts Counting with Vision + Conveyor Controls

- SPEDE provided PLC controls/panel box
- Dry contact to start/stop/reset conveyor
- SPEDE touchscreen conveyor controls for start/stop/reset
- Keyence Vision Sensor (1 to 4)
- Vision fail = bad part
- Dry contact for pneumatic diverter for good/bad parts
- Good parts diverted by pack count
- Multiple pack out trays, printer per pack out tray

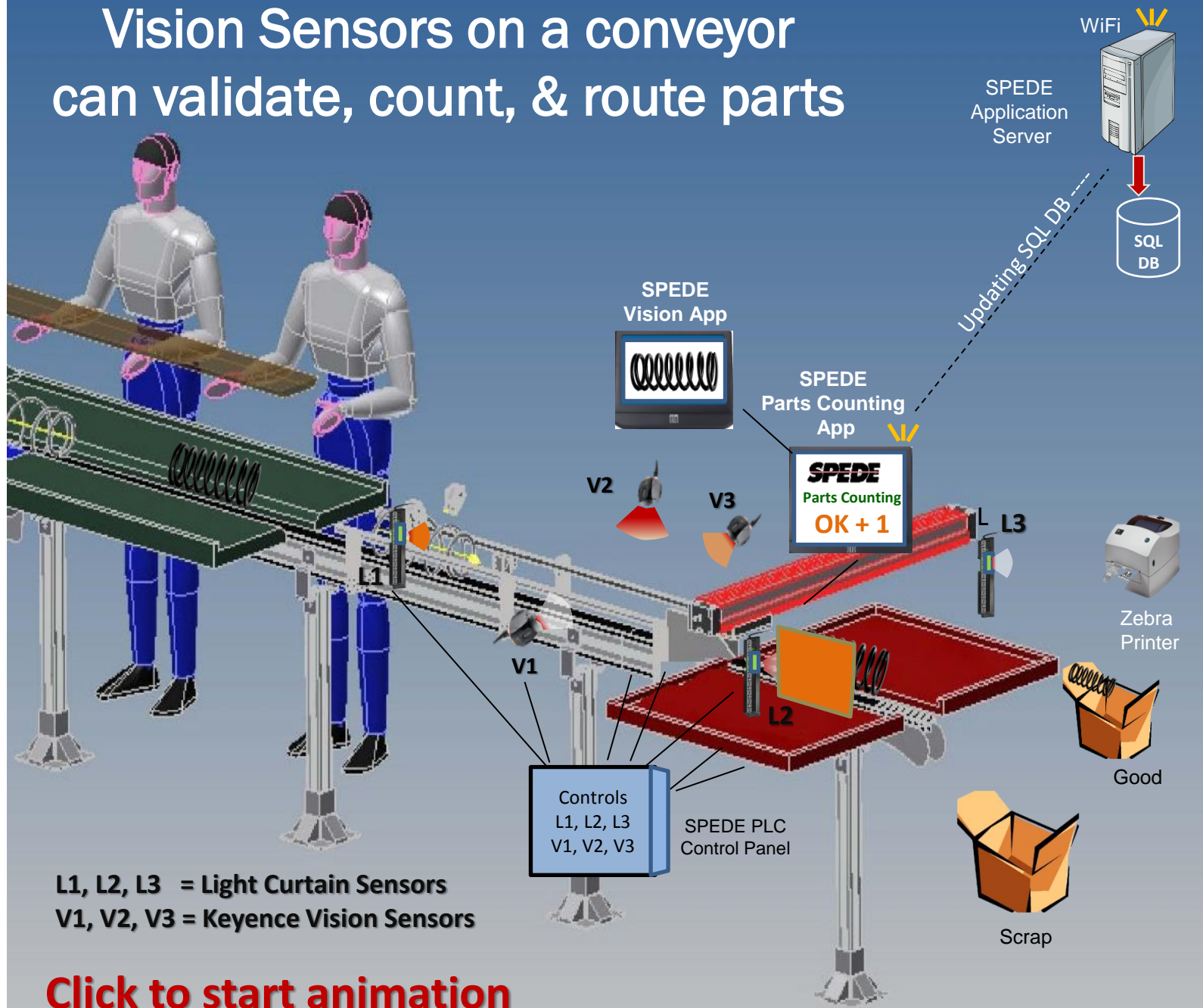


Customer:

NASCO Conveyor – Non Honda coil suspension springs



Vision Sensors on a conveyor can validate, count, & route parts



L1, L2, L3 = Light Curtain Sensors
V1, V2, V3 = Keyence Vision Sensors

[Click to start animation](#)

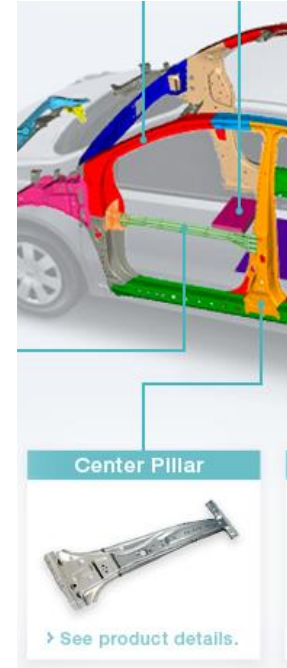
Non-Serialized Counting: Example 5

Parts Counting by discrete I/O from Production Machine PLC to SPEDE PLC

- SPEDE provided PLC controls/panel box
- Dry contact input to SPEDE PLC
- +/- contact for increment/decrement
- Optional binary contacts for part number determination
- Onscreen +/- count adjustments, can be supervisor only

Customer:

Topre - Center pillar and L/R threshold



Topre

Non-Serialized Counting: Example 6

Simple PLC Count

- Dedicated Poka Yoke per part number
- SPEDE reads "COUNT"
- Optional onscreen Plus/Minus/Scrap button

Customer:

TMD Fayetteville – HVAC duct, dedicated part poka yoke



Non-Serialized Counting: Example 7

Simple PLC Count with Part Validation

- SPEDE reads machine “cycle counter” address
- Reads “PLC Part Number” address
- Compares PLC part number to current, error if incorrect
- On counter “change” piece count increment +1
- Optional onscreen Plus/Minus/Scrap button

Customer:

TMD Jefferson - HVAC duct components



Non-Serialized Counting: Example 8

Simple PLC Count with Part Validation with Heart Beat

- SPEDE writes to Heartbeat address every 500 msecs, PLC verifies and clears
- Reads machine “cycle counter” address
- Reads “PLC Part Number” address
- Compares PLC part number to current, error if incorrect
- On counter “change” piece count increment +1
- Optional onscreen Plus/Minus/Scrap button



Customer:

Nissin Brake OH – Caliper Lines



Non-Serialized Counting: Example 9

PLC-Generated Count with Part Validation

- SPEDE reads machine “piece counter” address
- Reads “PLC Part Number” address
- Compares PLC part number to current, error if incorrect
- Matches PLC piece counter
- Optional onscreen Plus/Minus/Scrap button



Customer:

Topre 2500A Press



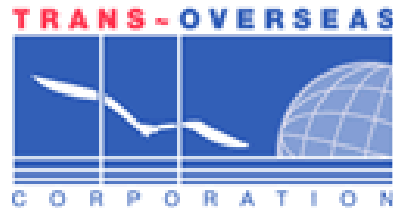
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About Us:

We are a software and systems integration company founded in 1980 as Computer Software Corporation, specializing in technology solutions for automotive suppliers and manufacturers. Our focus is automating production area processes to prevent errors, increase efficiency and provide real-time 20/20 visibility of shop floor operations.

The name SPEDE (pronounced speedy) is an acronym for Standard Platform for Electronic Data Entry. We assumed this d/b/a in 1994 to reflect the wide range of new and legacy technologies that we can integrate to form a single real-time communications platform on the plant floor.

Our Customers are mid-size to Fortune 500 companies with multiple plant sites throughout the U.S. and in Mexico. They rely on SPEDE Automated Line-side Solutions to keep their mission-critical processes running smoothly, 24/7.



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