

## Using Vision Sensors on Conveyors to meet Honda MPRs



## How Do Vision Sensors Support Honda MPRs?

### Error Prevention

- Prevents mix-ups of LH & RH Parts
- Prevents wrong or scrap part from being packed
- Prevents missing components in a Kit
- Prevents unfilled slot in dunnage
- Prevents over-packing of dunnage



Left and Right-hand Parts  
are easily mixed-up

### Accurate Production Data

- Accurately identifies & counts Good Parts made
- Accurately identifies & counts Scrap Parts
- Enables accurate visibility of Actuals vs. Targets

### Tool Validation

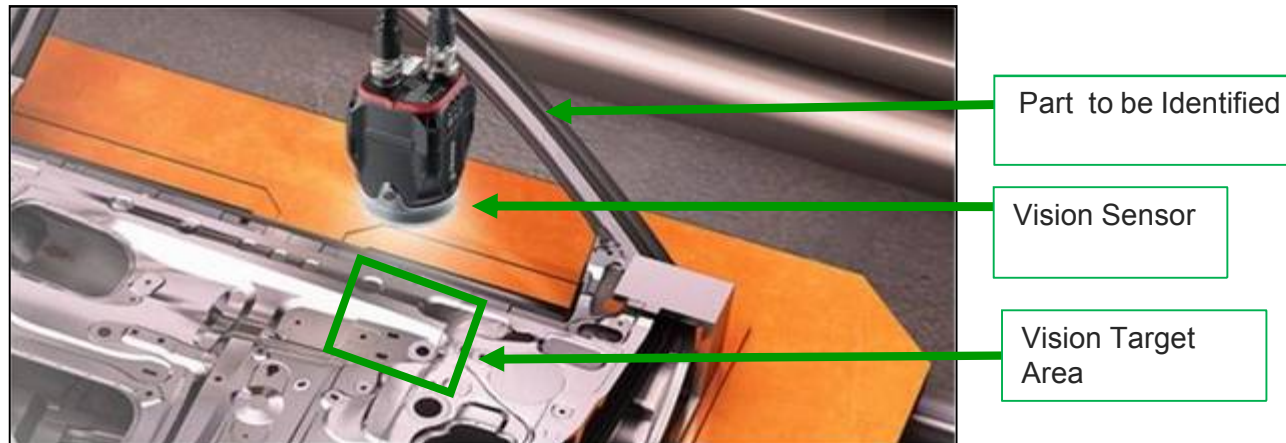
- Validates correct Tool / Die at start-up or changeover



A Keyence Vision Sensor  
Actual Size: 3"

## Vision Sensors Work with SPEDE Line-side software

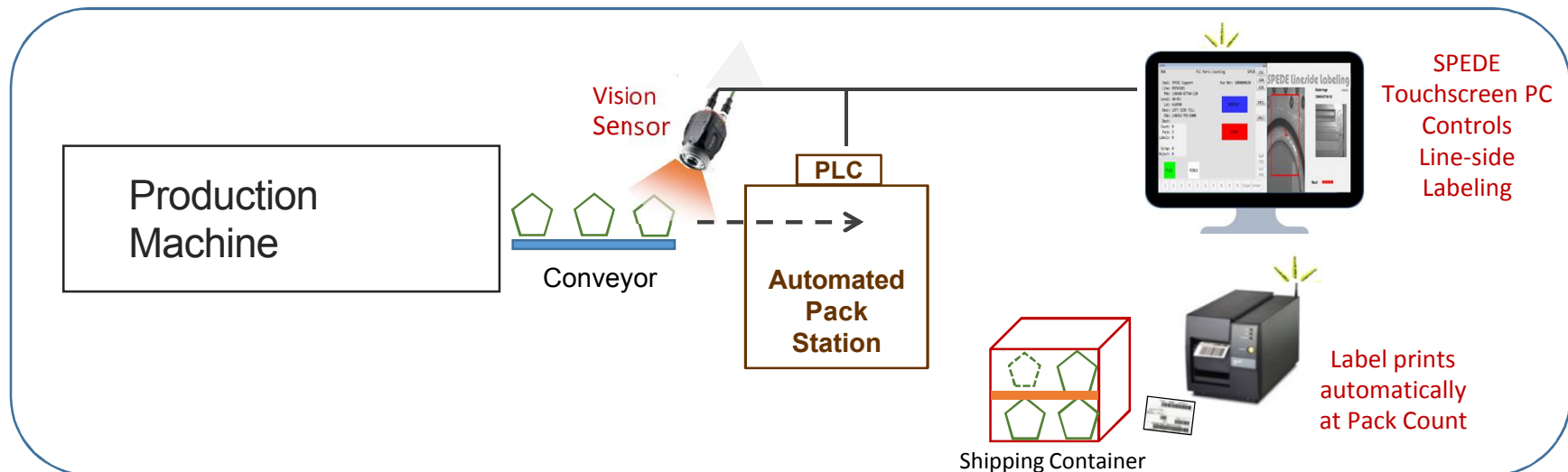
- Vision Sensor is “trained” to recognize a Part by its unique attribute
- Prior to Packing, the Part is moved under the Sensor
- Sensor uses Image Capture & Pixel Analysis to identify the Part
- If Part is Correct, the running Part Count is incremented
- If Part is Wrong, an audio/visual signal prevents an error, diverts part



## Packing + Labeling using Vision Sensor on Conveyor:

### At the Production Machine Conveyor

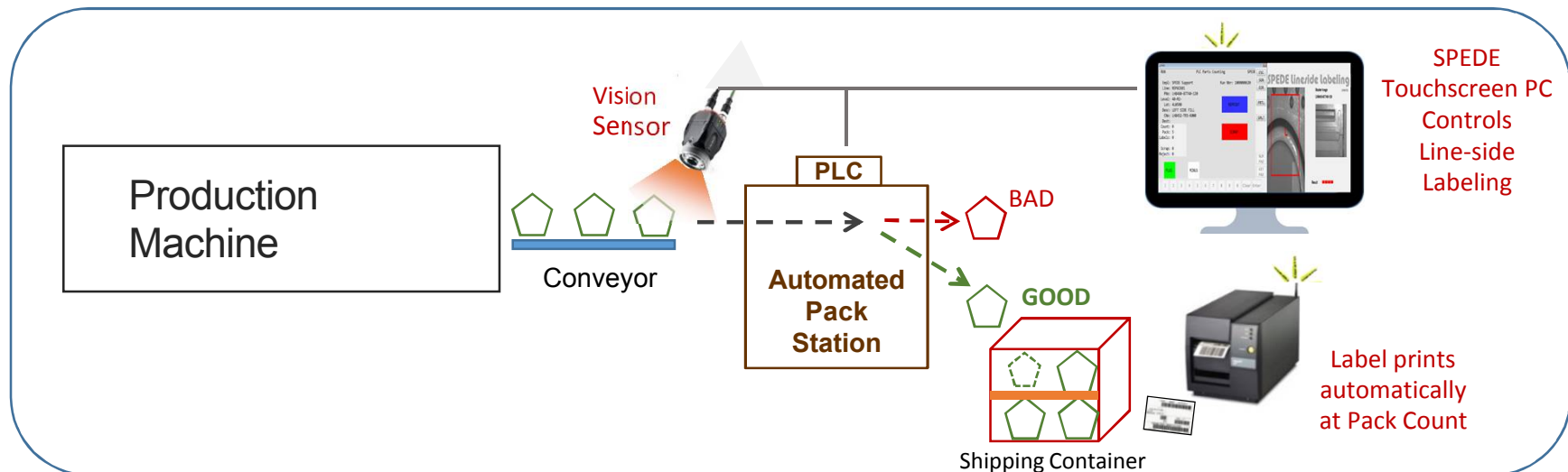
- Finished Parts are placed on conveyor
- Vision Sensor verifies part is correct
- Vision Sensor counts Good Parts
- SPEDE PLC routes Good Parts to container, diverts Bad Parts
- SPEDE prints the Container Label at Pack Count of Good Parts



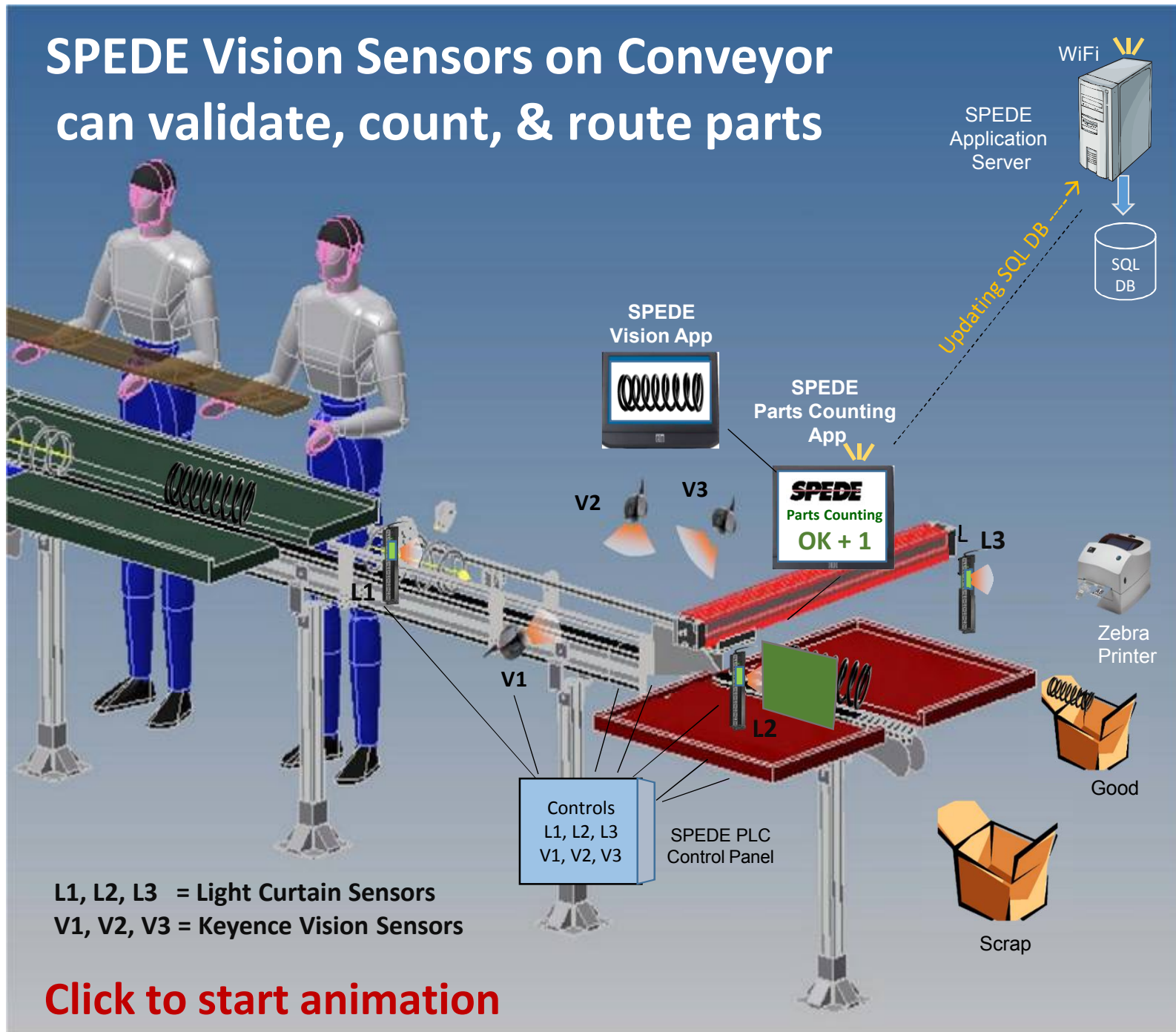
## Simple Animation of Vision Sensors on Conveyor:

### On the Next Slide, a Coil Spring undergoes Vision testing

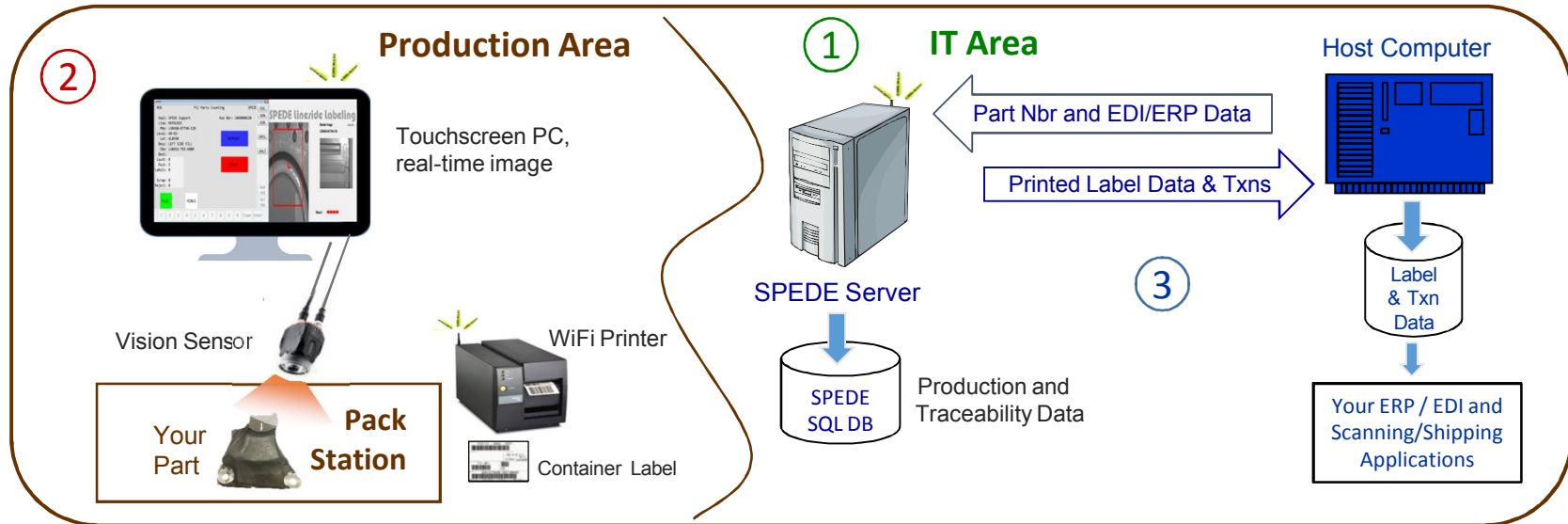
- Spring travels down the conveyor and trips L1 Light Curtain Sensor
- L1 signals PLC which triggers 3 Vision Sensors to activate and inspect part
- If Vision Sensor indicates a Good Part, then SPEDE increases count by 1
- Spring moves to the paddle, SPEDE pushes it left or right: L2 or L3 confirms
- SPEDE prints the Container Label at Pack Count of Good Parts



# SPEDE Vision Sensors on Conveyor can validate, count, & route parts



**How SPEDE and Vision Sensors interface to EDI, ERP and Shipping Apps**



- 1 SPEDE Server Gets Container Label Data from Host EDI/ERP Systems**

  - Pulls data needed for container label at start of packing operation
- 2 SPEDE TouchScreen Client PC Software with Vision Sensors and Conveyor controls**

  - Accepts input from object sensors, controls Vision Sensors, controls conveyor diverters
  - Verifies correct part; allows for scrap counts; collects OEE data from Production Machine
  - Prints serialized label; inserts a unique Log Record into SQL DB for the label
- 3 SPEDE Server Presents Label Data to Host EDI/ERP and Shipping System**

  - Inserts data from printed label into Host tables to support later scanning operations

## To Summarize ...

### Vision Sensors Enable 100% Accurate Packing and Labeling

- Correctly identifies every Part
- Accurately counts Good Parts
- Can verify all Components are in a Kit
- Can verify Dunnage is correct, all part slots filled
- Triggers the Correct Label to print automatically
- Automates the processes of Identifying, Packing, Labeling Parts
- Eliminates human errors, guesswork and inconsistent quality





## One More Benefit ...

### Serialized Traceability

- Serial number is linked to each part's production data
- Traceability by part, lot, container, line, run date, associate, etc.
- Forward traceability from Production Machine to Customer
- Backward traceability from Production back to Raw Components used and back to your Suppliers

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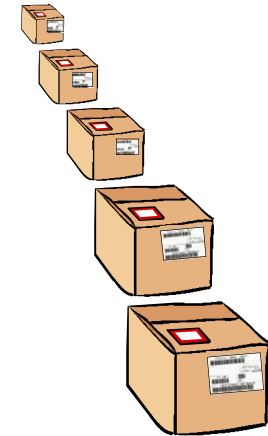
**Container Trace: 0319804-05088465**

Part Nbr	Description	Run Nbr	Line Nbr	Create Date	Create By	Qty	Item S/N
CT29-101-0000	CIVIC M/T RADIATOR	000012001	CLINCH2	11/05/2012	JSMITH	5	AB879762351 AB879762362 AB879762353 AB879762354 AB879762355



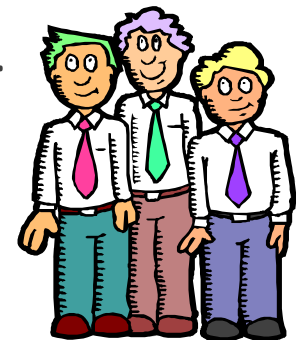
## SPEDE Vision Sensors Boost your Bottom Line:

- Every Container has the Right Part.
- Every Container has the Right Count.
- Every Container has the Right Label.
- Every Container Label has the Correct Data.
- Provides Real-time Production Visibility
- Provides Parts Traceability – forward and back
- Provides OEE data capture to improve production efficiencies



Meets Honda MPRs for Accurate Labeling, Packing, Shipping.

Everybody's Happy ... QC, Management and Your Customers!





# Learn More...

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To Discuss your Line-side Project,  
and for Details and Pricing...  
Please Contact:

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**[bbunsey@spede.com](mailto:bbunsey@spede.com)**  
**[www.spede.com](http://www.spede.com)**

## **About Us:**

SPEDE Technologies is a software and systems company with 30+ years of IT experience in the automotive industry. We specialize in Automated Line-side Solutions that streamline and error-proof processes for Identifying, Counting, Packing, Labeling, Shipping and Traceability of Finished Parts.

Our Customers are mid-size to Fortune 500 auto suppliers 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 and error-free, 24/7.