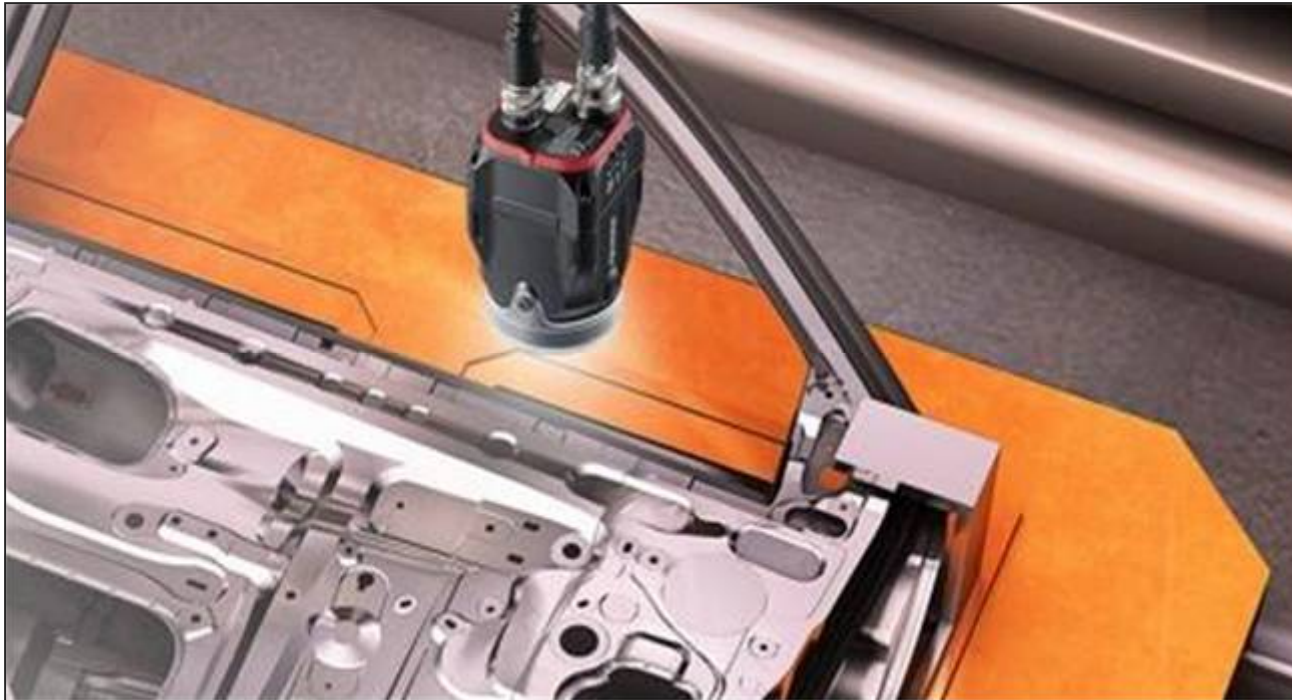


Automated Line-side Solutions **to Meet Honda MPRs** for Packing, Labeling & Shipping



A Vision Sensor Confirms a Part is Correct and In-spec

SPEDE Solutions Enable Compliance with Honda's Minimum Process Requirements (MPRs) for:

1. Pre-production
2. Process Set-up
3. Production / WIP
4. Re-pack / Re-label
5. Small Lot
6. Pass thru
7. Shipping
8. Accountability & Traceability



We Help Suppliers Meet Honda MPRs in 12 Ways:

1. Error Prevention

- Prevents mix-ups of right- and left-hand parts
- Prevents a wrong or scrap part from being packed
- Prevents missing components in a kit
- Prevents under- or over-filling dunnage



Prevents mis-labeling of
similar parts

2. Tool Validation

- Validates a Tool / Die is correct at Start-up or Changeover
- Interfaces to test jigs

3. Accurate Production Data

- Identifies / counts “good pieces” vs. scrap
- Displays real-time piece counts, label status, run data, etc. at line-side
- Counts only good pieces toward pack count qty.



We can help you meet Honda MPRs in 12 Ways:

4. Real-time Container Labeling

- SPEDE interfaces to PLC, Vision, Weigh Scales, Host apps
 - PLC supplies the part number / run data / count
 - Vision sensors count and verify the manufactured part is “good”
 - Vision or Scale verifies dunnage is correct
- Host ERP / EDI supplies label data
- Prints serialized label when pack count is correct



Interface to Weigh Scale ensures
Packed Quantity is correct

5. Production / WIP

- Prints serialized Internal (WIP) or Customer label
- Scan serial number on WIP label to create new Honda label



6. Re-pack / Re-label

- Scan serial number on container to be re-packed /re-labeled; verifies part is correct before it is re-packed / re-labeled

We can help you meet Honda MPRs in 12 Ways:

7. Small Lots

- Controls non-standard pack counts at End of Run / End of Shift
- Controls partial containers of Parts available for Re-pack or Re-work

8. Pass Thru

- Vision Technology confirms Supplier's Part is correct as shown on the Supplier's label



9. Shipping

- SPEDE label data is sent real-time to your EDI/Shipping application
- Partial containers / Split containers do not update EDI

10. Process Control

- Automates and standardizes processes to ensure consistent quality
- Confirms correct process is being followed in real-time

We can help you meet Honda MPRs in 12 Ways:

11. Accountability

- All SPEDE operations require the Associate to sign-in
- All transactions are retained and accessible in SQL Txn database

12. Traceability

- Serial number is linked to each part's production data
- Traceability by part, lot, container, line number, run date, associate, etc.
- Forward traceability from production -> Customer
- Backward traceability from production -> raw components -> suppliers

Printed By: Dan Worthington
Report Date: 01/08/2013
Report Time: 08:35:00
Page: 1 of 1

Container Trace: 0319804-05088465

Part Nbr	Description	Run Nbr	Line Nbr	Create Date	Create By	Qty	Item S/N
C729-101-0000	CIVIC M/T RADIATOR	000012001	CLINCH2	11/05/2012	JS MITH	5	AB879762351 AB879762352 AB879762353 AB879762354 AB879762355



SPEDE Line-side Labeling can interface to Weigh Scales:

- SPEDE integrates to existing weigh scale to receive piece weight
- Weight can be used for piece counting / full pallet validation
- Adjustable tolerances to accommodate piece weight variances
- Actual weights collected and stored with label data

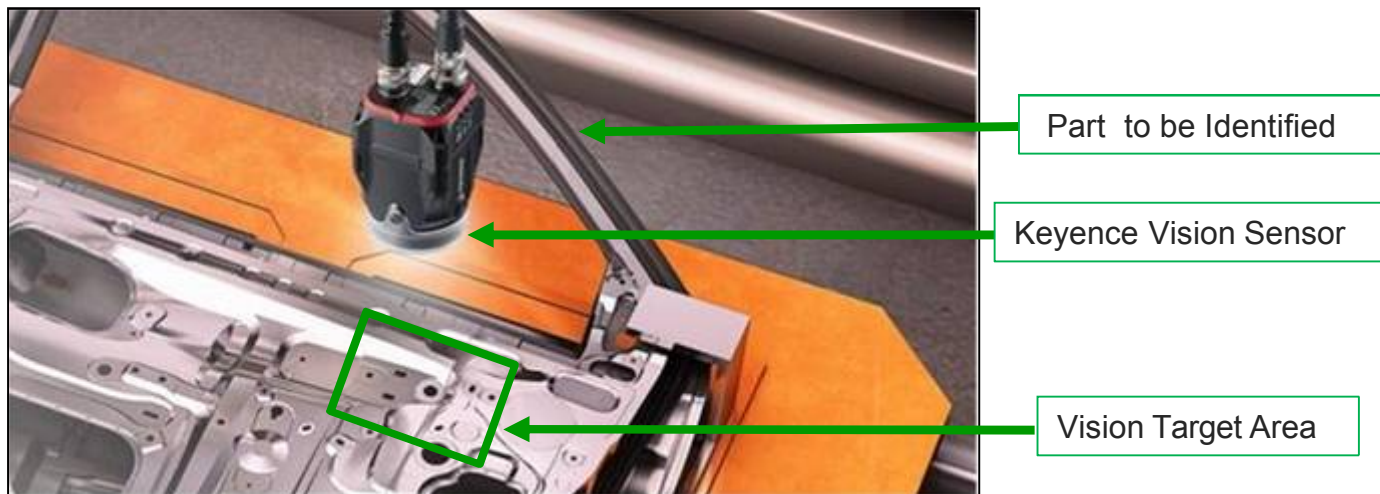


Optional integration with Vision Sensors
can also provide:

- A “vision check” to ensure part is correct
- Weight verification to ensure part is placed in dunnage

SPEDE Vision Solutions prevent errors in Packing:

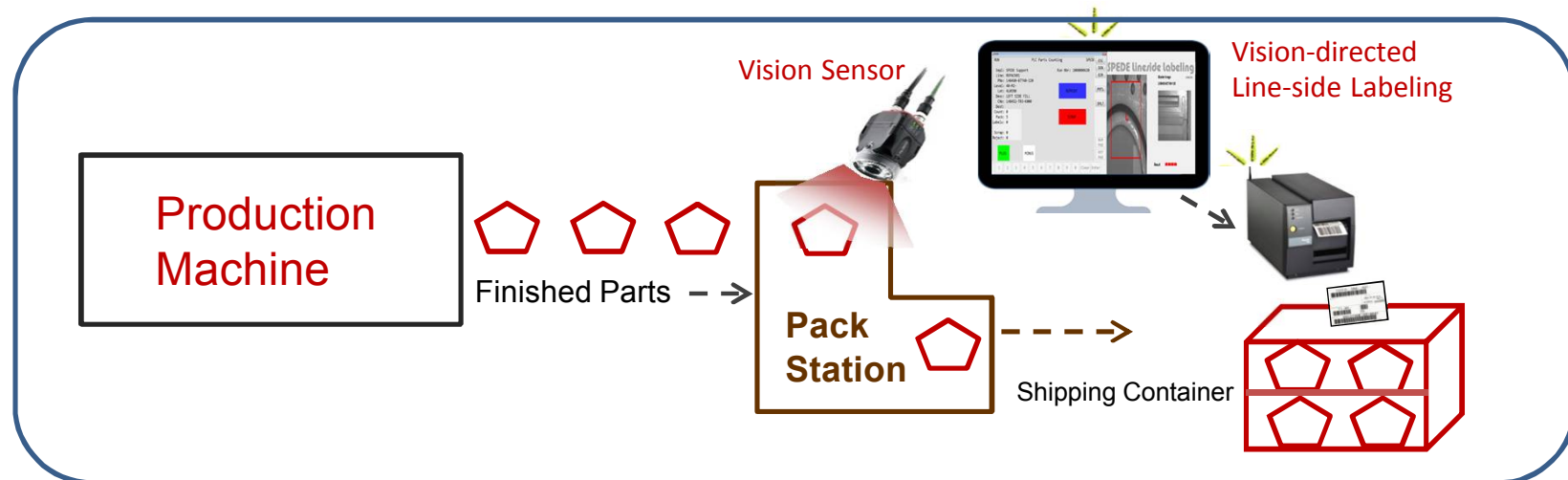
- Vision Sensor is “trained” to recognize a part number by its unique attribute
- At Packing, the part is moved under the sensor
- Sensor uses image capture & pixel analysis to identify the part
- If part is correct, the running part count is incremented
- If part is wrong, an audio/visual signal prevents a packing error
- When pack count is reached, SPEDE prints a container label



3 Packing & Labeling Scenarios using Vision Sensors:

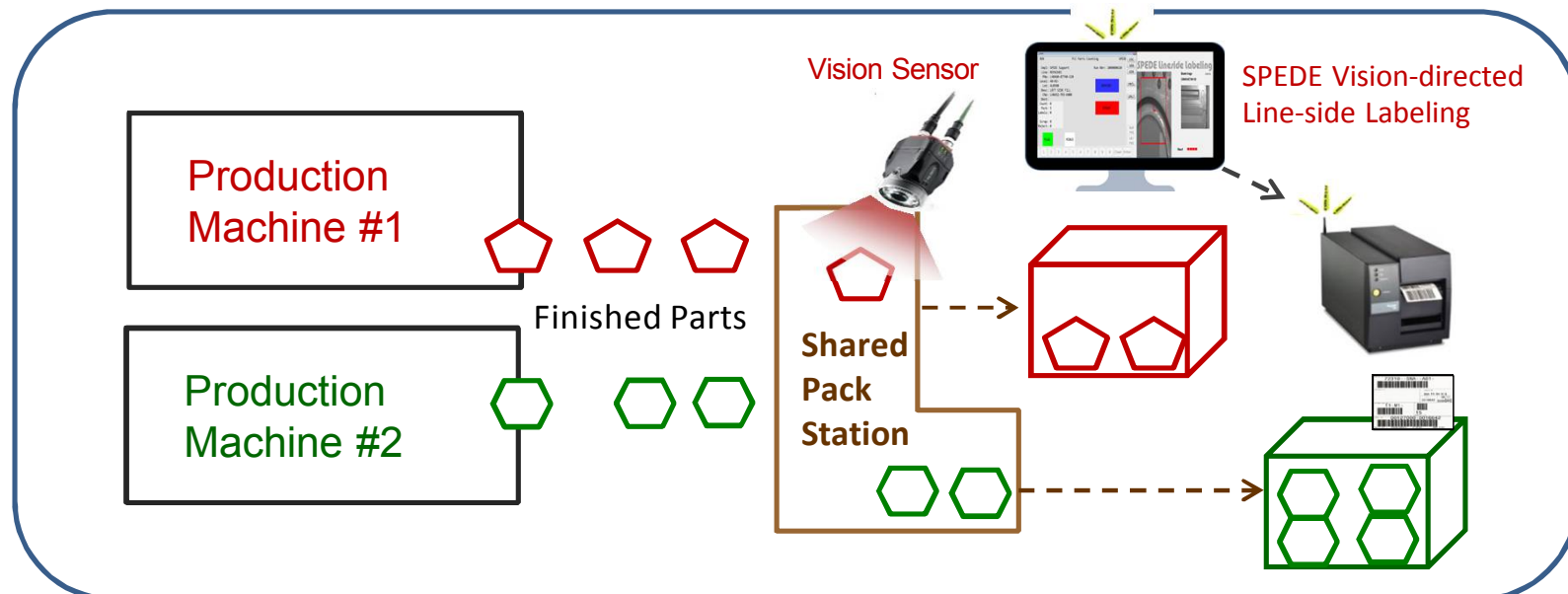
Scenario 1: At the Production Machine

- Parts are packed at the production machine
- No PLC is needed to count parts
- Vision sensor identifies and counts “good” parts
- Operator can press a TouchScreen to record scrap
- SPEDE prints the container label at pack count of good parts



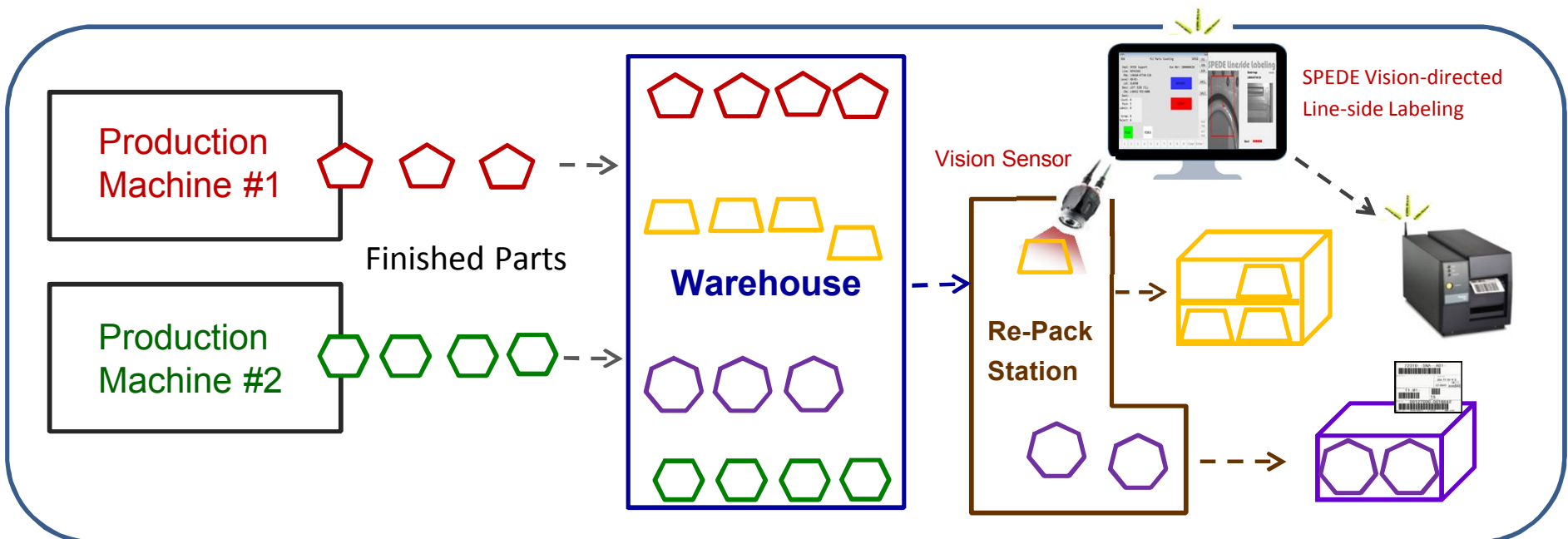
Scenario 2: Using a Shared Pack Station

- Parts are conveyed to a shared pack station
- Different part numbers arrive
- Vision sensor identifies part number being packed
- Vision sensor will alert if wrong part is picked for a container
- SPEDE prints the container label at pack count of good parts



Scenario 3: At a Re-Pack Station

- Parts are made, put away and packed later
- Re-pack station has no PLC to validate parts
- Vision sensor identifies correct part to be packed in a container
- Vision sensor will alert if wrong part is picked for a container
- SPEDE prints the container label at pack count of good parts



Many Honda Suppliers are using Vision Sensors for Packing Control

Here are 3 SPEDE Vision Customers...

Sonoco

Vision is set up on a mobile cart



Bumper Filler



Vision detects unfilled slots in a Jack Kit

Nissin Brake

Vision is set-up on a fixed table



Machined Casting

Nisco

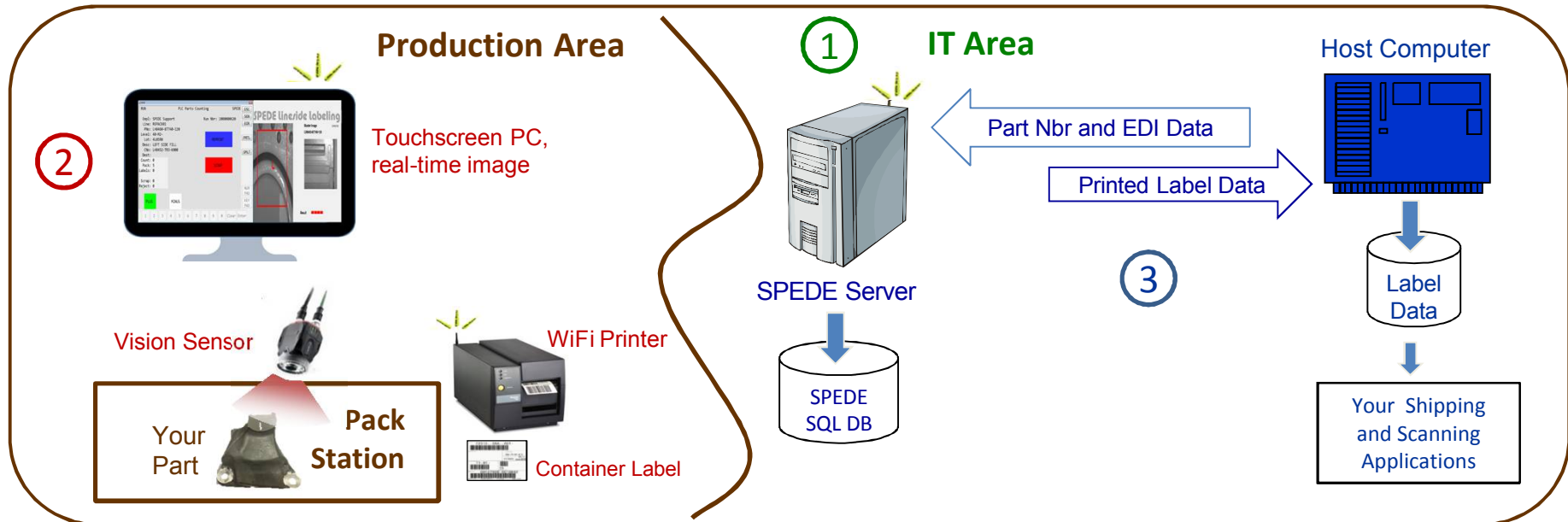
A Laser etches
2D Serial Number

Vision reads the
2D Serial Number for Part
Tracking & Traceability



Door Trim

How SPEDE Vision interfaces to ERP, EDI and Shipping Apps



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

 - Pulls data needed for container label at start of packing operation
- ② SPEDE TouchScreen Client PC Software**

 - Controls Vision Sensor
 - Verifies correct part; allows for scrap counts; collects OEE data
 - Prints serialized label; inserts a unique Log Record into SQL DB for the label
- ③ SPEDE Server Presents Label Data to Host Shipping System**

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

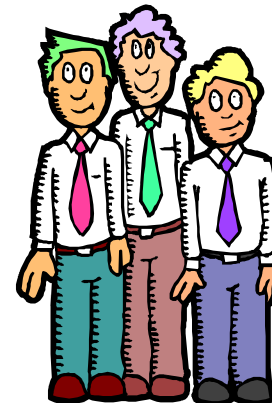
SPEDE Line-side Solutions Will Boost your Bottom Line:

- Every Container has the Correct Part, Count, Label and Data
 - Accurate Piece Counts, including Good and Scrap
 - Real-time Production Reporting and Visibility
 - Serialized Parts / Container Traceability
 - OEE data capture to improve production efficiencies
- Meets Honda MPRs for an Accurate Line-side Processes



Everybody's Happy ...

QC, Management and Your Customers!



Please Contact:

Bob Bunsey

440-808-8888 x11
bbunsey@SPEDE.com

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 Mexico. They rely on SPEDE Automated Line-side Solutions to keep their mission-critical processes running smoothly and error-free, 24/7.