Benefits of Using PLCs for
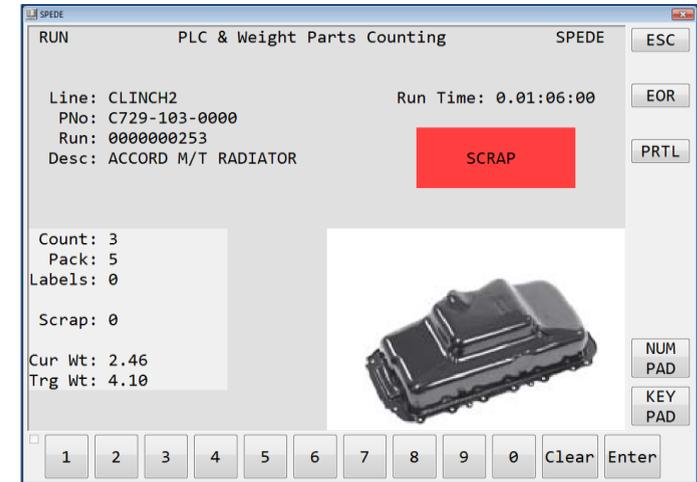# Parts Counting & Container Labeling

1. Error-proof Parts Counting

Parts are counted automatically:

- By individual pieces not just containers

- Counts good, scrap & rework pieces

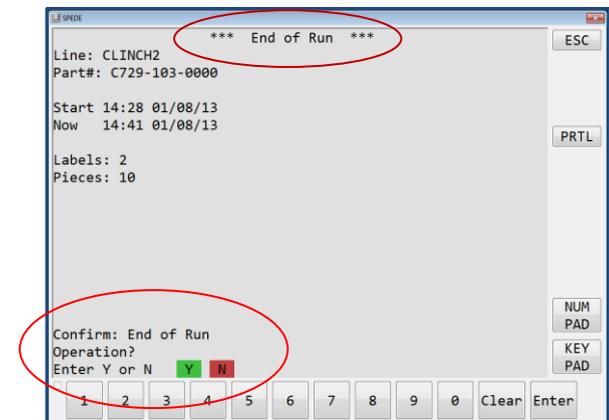- Count serialized / non-serialized pieces
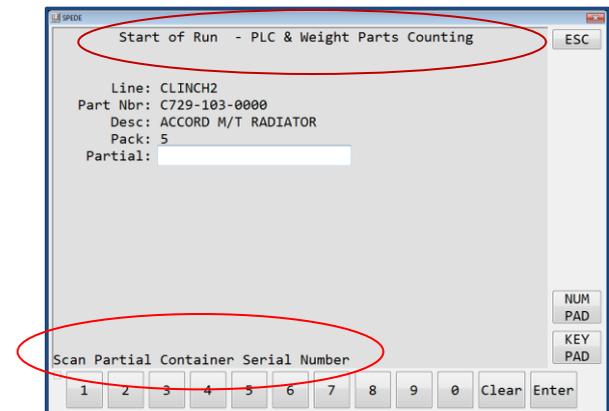
Optional Interfaces to:

- Weigh Scales to count by weight

- Vision sensors (e.g. Keyence) to count; identify scrap

- Cameras to count; identify scrap

- Conveyors/diverters to divert scrap

- 2D Scanners or OCR to read & record serial numbers of pieces

2. Control of Partials & Rework

Controls Piece Counts at Start / End of Run:
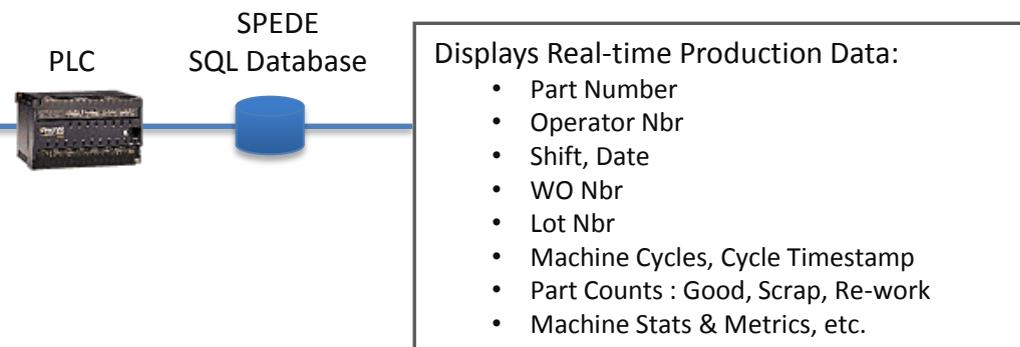
- Uses the Container Serial Number for control

- Controls Partial Pack Counts at End of Run and End of Shift

- Pack Qty can be adjusted using a virtual keypad on the TouchScreen

- Validates aggregation of multiple containers of Partials with the same Part Number

- Validates new Full Pack containers built from multiple Partials

- Provides for Re-work operations on Partials

3. Real-time Production Visibility

Real-time production data via PC browser at lineside:

- Production Counts - by Part, Date, Line, Shift, Operator, etc.

- Scrap Counts - by Part, Date, Line, Shift, etc.

- Partial Containers available for Re-pack, Re-work

- Production Counts of Re-work Pieces and Re-work Containers by Part, Date, Line, Shift, Operator, etc.

- Automatically exports production data to host ERP

PLC   SPEDE SQL Database

Displays Real-time Production Data:
- Part Number
- Operator Nbr
- Shift, Date
- WO Nbr
- Lot Nbr
- Machine Cycles, Cycle Timestamp
- Part Counts : Good, Scrap, Re-work
- Machine Stats & Metrics, etc.

SPEDE Technologies

4. Error-proof Container Labeling

The PLC is the most accurate source of information about the Part being made

- The PLC supplies Part Number, Run data, Piece Count

- SPEDE controls piece counts at Start of Run, End of Run

- SPEDE controls partial packs & counts at End of Run, End of Shift

  - Label prints automatically at full pack count of good parts
  - Can interface to vision sensors to identify scrap
  - Can interface to conveyor/diverter to divert scrap
  - Can interface to Weigh Scales for piece counts
  - Can interface to USB Cameras to ensure accurate packing of dunnage layers
  - Can use a SPEDE-built PLC at production lines and packing areas where no PLC is available

PLC-controlled Print & Apply Labeling

Simplifying Processes ... Standardizing Excellence. ®

SPEDE *Technologies*

5. Collect Machine Data for OEE Analysis

View real-time OEE Data (Overall Equipment Effectiveness) at lineside

As a by-product of PLC controlled labeling, you can:

- View real-time Production data at line-side via TouchScreen

- Collect / Export Machine Run data for your OEE system:
  - Cycle Times, Part Counts, Scrap Counts, Downtime, etc.

- View, Sort and Analyze Machine Data in the SPEDE SQL database

- Build a real-time audit trail of activity per Machine

- Collect real-time Part / Serial traceability data by Machine

Use data mining to create your own Machine Performance Reports

Sample Company
Cleveland Division

SPEDE
TECHNOLOGIES
INNOVATIVE SOLUTIONS FOR
PLANT FLOOR EXCELLENCE

Report From: 11/04/2012

Report To: 11/10/2012

Sort Order: Part Nbr Descending

Printed By: Paul Jacobson
Report Date: 01/05/2013
Report Time: 14:35:00
Page: 1 of 1

Part Nbr	Description	Run Nbr	Start	Stop	Elapsed	Scrap	Good	Containers
C729-103-0000	ACCORD M/T RADIATOR	000012001	08:03:22	12:01:10	03:57:48	11	200	40
C729-103-0000	ACCORD M/T RADIATOR	000012004	13:01:06	17:38:57	04:37:51	19	240	48
C729-103-0000	ACCORD M/T RADIATOR	000012007	18:20:07	23:30:45	05:10:38	9	260	52
					13:46:17	39	700	140
C729-101-0000	CIVIC M/T RADIATOR	000012012	07:58:26	12:10:00	04:11:34	13	180	36
C729-101-0000	CIVIC M/T RADIATOR	000012016	13:12:35	17:28:20	04:15:45	8	160	32
C729-101-0000	CIVIC M/T RADIATOR	000012017	19:00:05	23:40:10	04:40:05	11	205	41
					13:07:24	32	545	109

6. Create Lot / Serial Traceability

Easy Access to Trace-back and Trace-forward Data

SPEDE PLC Labeling links a Part Number to:

- Individual Part Serial Numbers or 2D Parts Marks

- Production Machine, Run Date, Shift, Operator, Lot Number, Location, etc.

- Container Serial Number(s) that the Part was packed in

- All other Serialized Parts in a generalized Container

> Limit the scope of Recalls by using Data Mining to look up specific Part details

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

Container Trace: 0319804-05088465

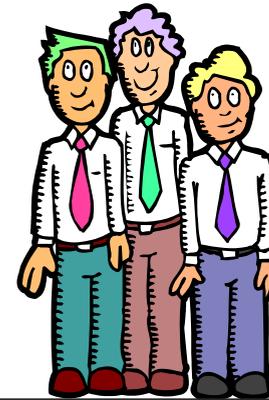| Part Nbr	Description	Run Nbr	Line Nbr	Create Date	Create By	Qty	Item S/N
C729-101-0000	CIVIC M/T RADIATOR	000012001	CLINCH2	11/05/2012	JSMITH	5	AB879762351
							AB879762352
							AB879762353
							AB879762354
							AB879762355

7. Meet Customer QC Objectives

Improve Your Operations too -

- Error-proofing software reduces costs and inefficiencies, to increase your profitability and improve customer satisfaction

- Every container has the Correct Part

- Every container has the Correct Quantity

- Every container has the Correct Label

- Every label has the Correct Data

- Meets Honda MPRs for an Accurate Labeling and Traceability Process

Bottom Line: Your OEMs are happy!

Complete PLC Labeling Solutions

Our Solutions include Software, Hardware & Services:

1. SPEDE Software Platform and Labeling App - PC server-based
2. Connectivity of PLCs and printers to the SPEDE WiFi network
3. Interfaces to your ERP, EDI, Release Accounting, OEE Systems
4. Total System Support, 365 days/yr
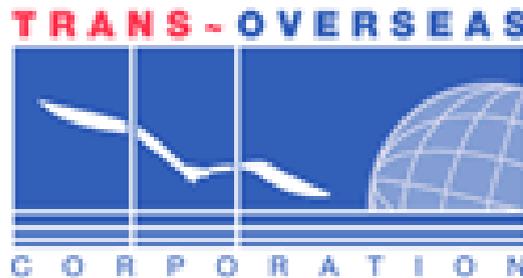5. Quick Installation with no impact on your Production or IT resources

Additional Options:

1. SPEDE–built PLCs for your production lines that need one
2. Interfaces to scales, vision, cameras, conveyors, OCR devices
3. WiFi TouchScreen PCs for line-sides
4. WiFi Label Printers

Meet a Few SPEDE Customers ...

To Discuss Your Line-side Project...

Call or Email:

Bob Bunsey

info@spede.com

440-808-8888   x22

www.spede.com

About Us:

SPEDE Technologies is a software and systems integration company with 40+ years of experience in the automotive and manufacturing industries. We specialize in implementing Automated Line-side Solutions that control and standardize production area processes to prevent errors, increase efficiency and provide 20/20 visibility into line-side operations.

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, 24/7.

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