



# Error Proofing Case Studies

# Case Study #1 - Objectives

- Ensure that sunroofs are sequenced properly in racks
- Ensure that the assembled sunshades match the color of the sunroofs
- Print shipping labels even if the network and/or ERP / labeling system is unavailable

# Case Study #1 - Solution

- Download shipping labels to Smart Printer
- Scan part labels on sunroof directly into printer via Bluetooth scanner
  - Sunshade label
  - Sunroof label
- Ensure that shade matches sunroof color
- Ensure that sunroof loaded into rack in correct sequence as determined by sequence broadcast
- Ensure that quantity of sunroofs in rack matches quantity required by sequence broadcast
- If everything OK, print shipping label

# Case Study #1 - Solution



Host PC with  
Label Software



ToolWorx PC  
with PTServer™



Intermec  
Wireless PM4i  
Label Printer  
with PTClient™



Microscan  
Bluetooth  
Scanner

# Case Study #2 - Objectives

- Ensure that the correct shipping label is placed on the container
- Ensure that the correct quantity of parts is loaded into the container

# Case Study #2 - Solution

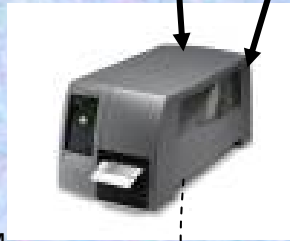
- PLC sends a digital signal to the Smart Printer which signifies which part is running on that machine
- The Smart Printer looks up the standard pack quantity associated with that part number
- The totes are placed on a scale that is communicating with the Smart Printer
- After each part is placed into the tote, the scale sends the current piece count to the Smart Printer
- When the tote quantity reaches standard pack, a shipping label is printed
- If the operator continues to load parts into the tote, the Smart Printer will send an error signal back to the PLC

# Case Study #2 - Solution



PLC

Intermec  
PM4i  
Printer  
with  
PTClient™



Fairbanks  
Scale



# Case Study #3 - Objectives

- Ensure that every part is labeled correctly
- Eliminate the need for any human intervention to set up the label
- Minimize PLC programming by eliminating the need to program label formats, label data, printer commands, and serial / ASCII handling from the PLC ladder logic

# Case Study #3 - Solution

- PLC sends a digital signal to the Smart Printer via the digital I/O port inside the printer
- The printer accesses an internal table of signals that associates to a part number and any other related part information that gets printed on a label
- The Smart Printer also can serialize the labels and communicate label data to external data bases (when combined with PTServer)
- If a printer error occurs, the Smart Printer can drive an attached light tree and/or send error signals back to the PLC

# Case Study #3 - Solution



PLC

Light tree



Intermec  
PM4i  
Printer  
with  
PTClient™



# Case Study #4 - Objectives

- Ensure that if a seat requires a seat bracket, the bracket gets assembled to the seat
- Ensure that the container label matches the part number in the container
- Ensure that all parts in the container match
- Ensure that the quantity of seats in the container match the standard pack

# Case Study #4 - Solution

- The Bill of Materials for the seat to be assembled is loaded into the Smart Printer
- The printer looks in the BOM to determine if a bracket is required
- The operator scans the seat bracket part number stamped into the bracket (or 'No Bracket' bar code)
- The system verifies the scan and prints a serialized seat label if correct
- The operator scans the seat label and loads it into the container
- When standard pack quantity is reached, a container label is printed
- The operator then scans the container label and one of the seat labels
- If the part numbers match, the system creates a Finished Goods Reporting transaction and uploads to the ERP system

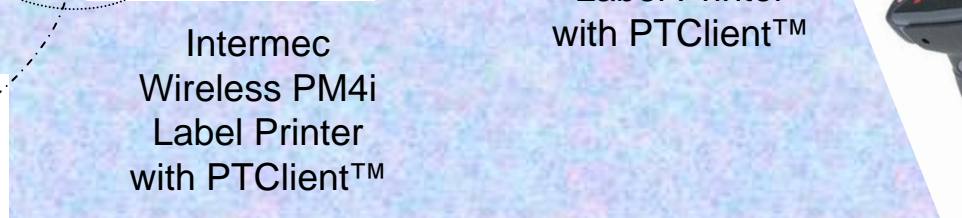
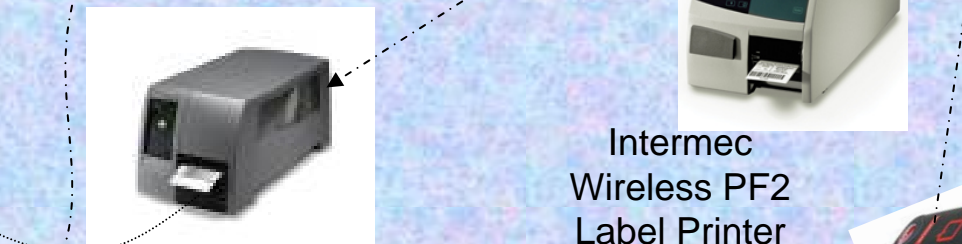
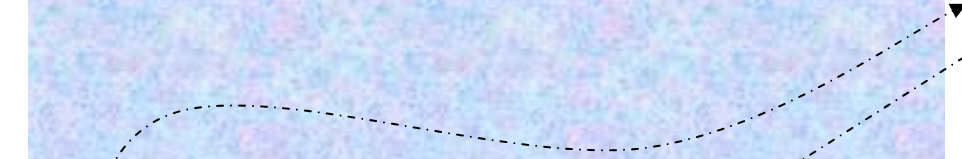
# Case Study #4 - Solution



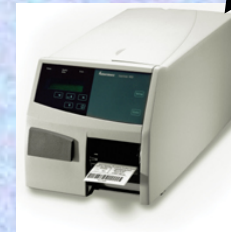
Host PC with  
ERP Software



ToolWorx PC with  
TWServer™ &  
PTServer™



Intermec  
Wireless PM4i  
Label Printer  
with PTClient™



Intermec  
Wireless PF2  
Label Printer  
with PTClient™



Intermec  
CK30



Microscan Bluetooth  
Scanner



# Case Study #5 - Objectives

- Allow each production line to label products without batch labeling or control from a central location
- Allow each production line to enter variable information (e.g. date code, lot number, label quantity) at the line

# Case Study #5 - Solution

- Label formats are created from a central PC and loaded up to all printers on the floor via PTServer
- Each production line has their own Smart Printer with an attached keyboard
- The operator uses the keyboard to select a customer / label format
- The operator then keys in the variable information onto the terminal
- The printer then prints a single product label and waits for it to be peeled off
- This process is repeated until a new label run is selected

# Case Study #5 - Solution



Host PC with  
Label Software



ToolWorx PC  
with PTServer™



Intermec  
Wireless PM4i  
Label Printer  
with PTClient™



Keyboard

