



## **A Case Study...**

**Variable Data**

**Print, Verification & Interface System**

# Business Problem

## ■ Overview

- Major Pharmaceutical company has multiple Production Lines under performing...
- Inadequate performance and reliability with current Printing Solution

## ■ Business Impact

- Production Performance - Unstable and Inefficient
- Drain on limited Maintenance Staff
- Costly, too frequent Replacement of Printer Parts
- Crucial product line has Sr. Management visibility



# Business Problem

- Past Attempts at Resolving...
  - Internal Engineering Staff
  - External Component Part Suppliers
  - Lack of personnel continuity - spotted expertise
  - Short of an in-depth, Comprehensive Analysis
  - Inadequate decisions, in part due to suppliers not identifying critical issues
  - On-going frustration and dissatisfaction...



# Problem Review & Analysis

- Contract code-in-motion for an Impartial Review... encompassing Process, Products, People, and Technology Used
  - On-site, continuous Production observations and information gathering across a week
  - Staff Interviews: Operators, Business Unit Management, Maintenance and Engineering Staff
  - Compiled and reviewed observations and interviews
  - Identified various solution types from incremental to full-scale changes
  - Submitted Report with Recommended and Optional Solutions

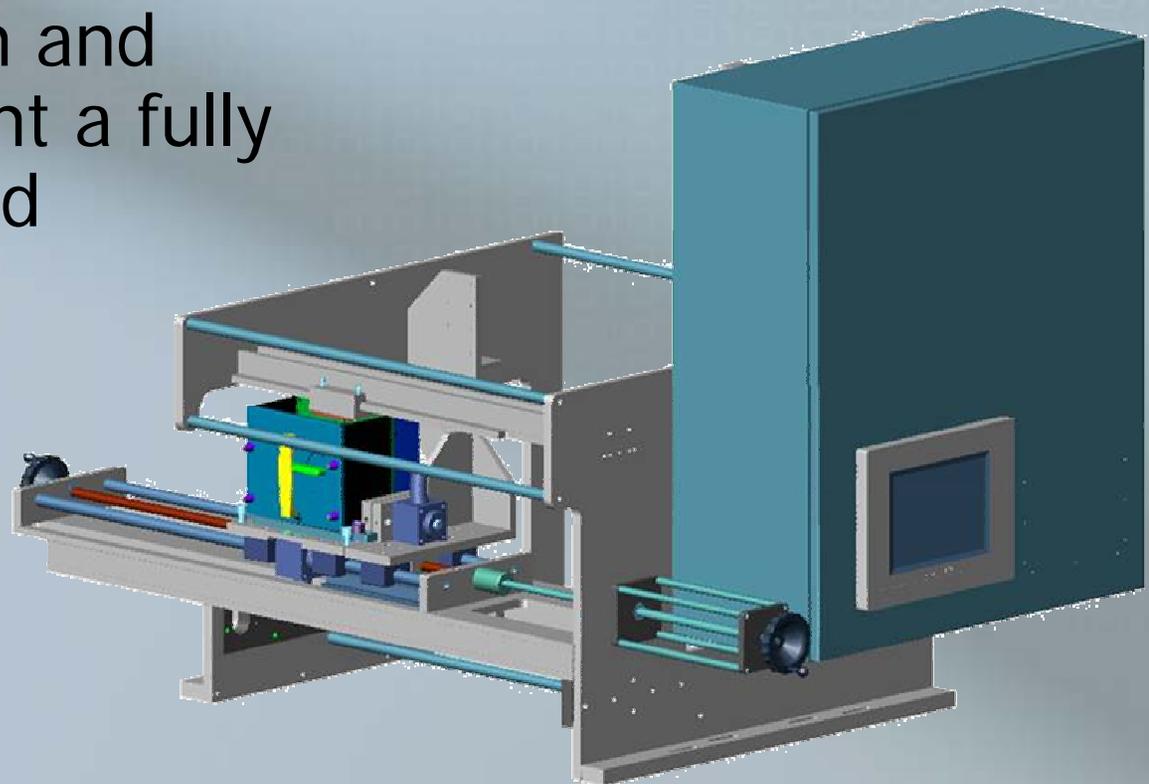


# Solution

Contract ...



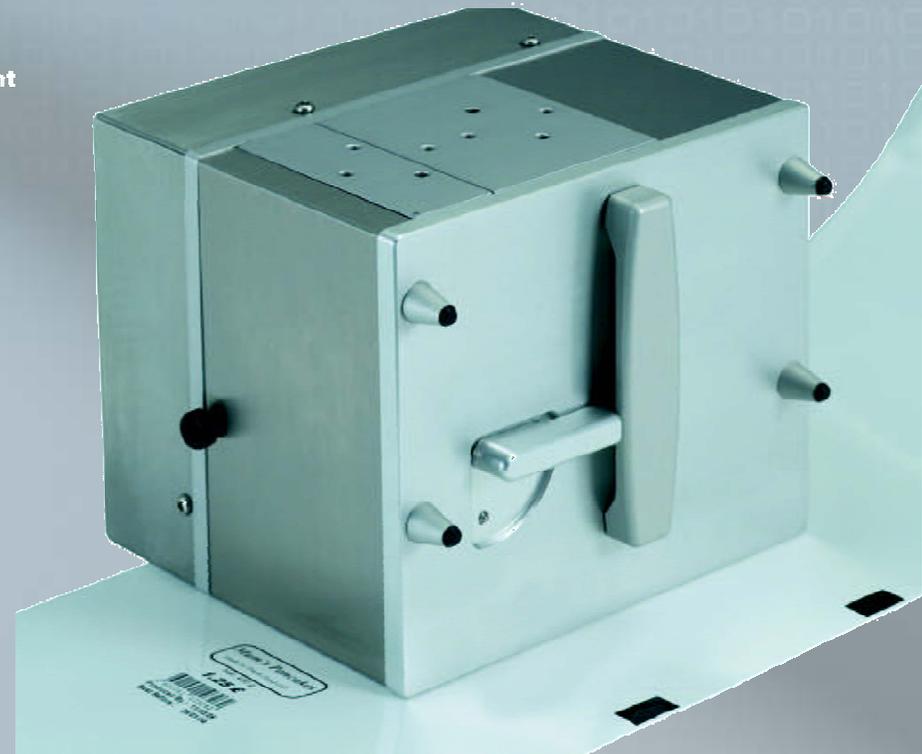
... to design and implement a fully integrated system...



# Solution - epd

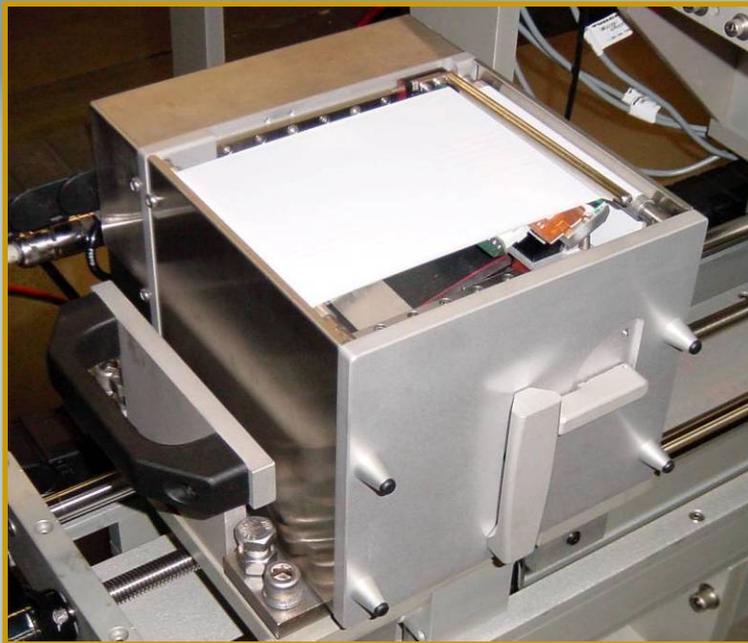
- At the "core" - an epd-based Printer System
  - Another Thermal Transfer Overprinter
  - Internally proven – another CIM implementation

 **epd** electronic  
printing  
development



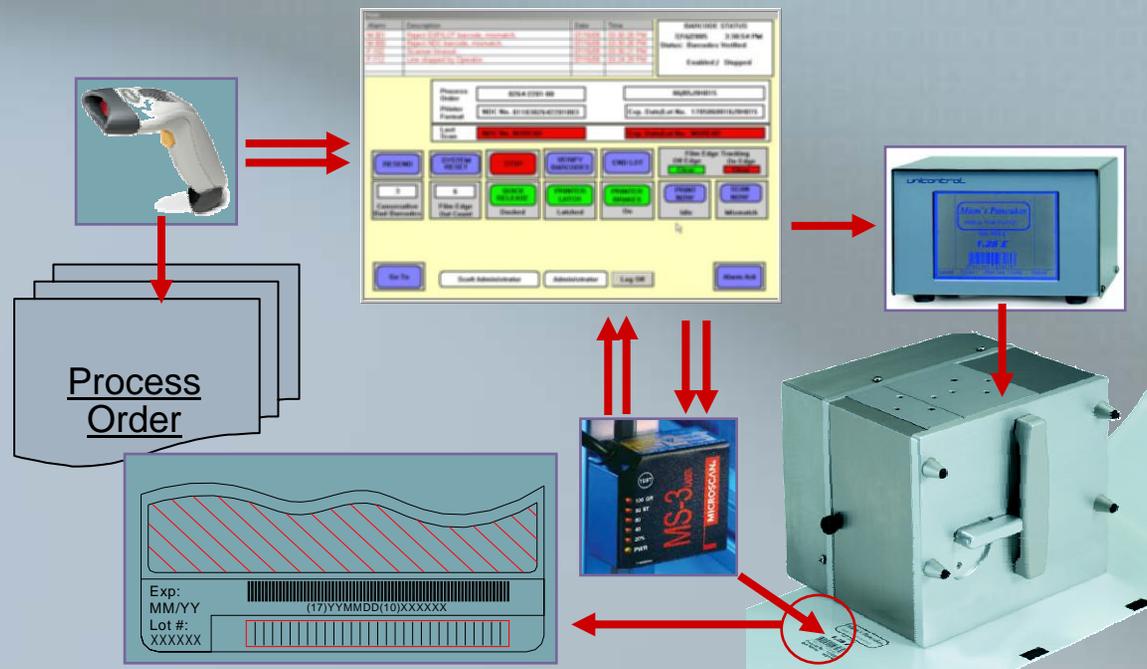
# Solution - Mechanical

- Complete Redesign of Mechanical Structures for Printer and Foil Web
  - Resolves Wide-spread Process Vibrations
  - Easier, Safer Access to Printer & Ribbon Cassette

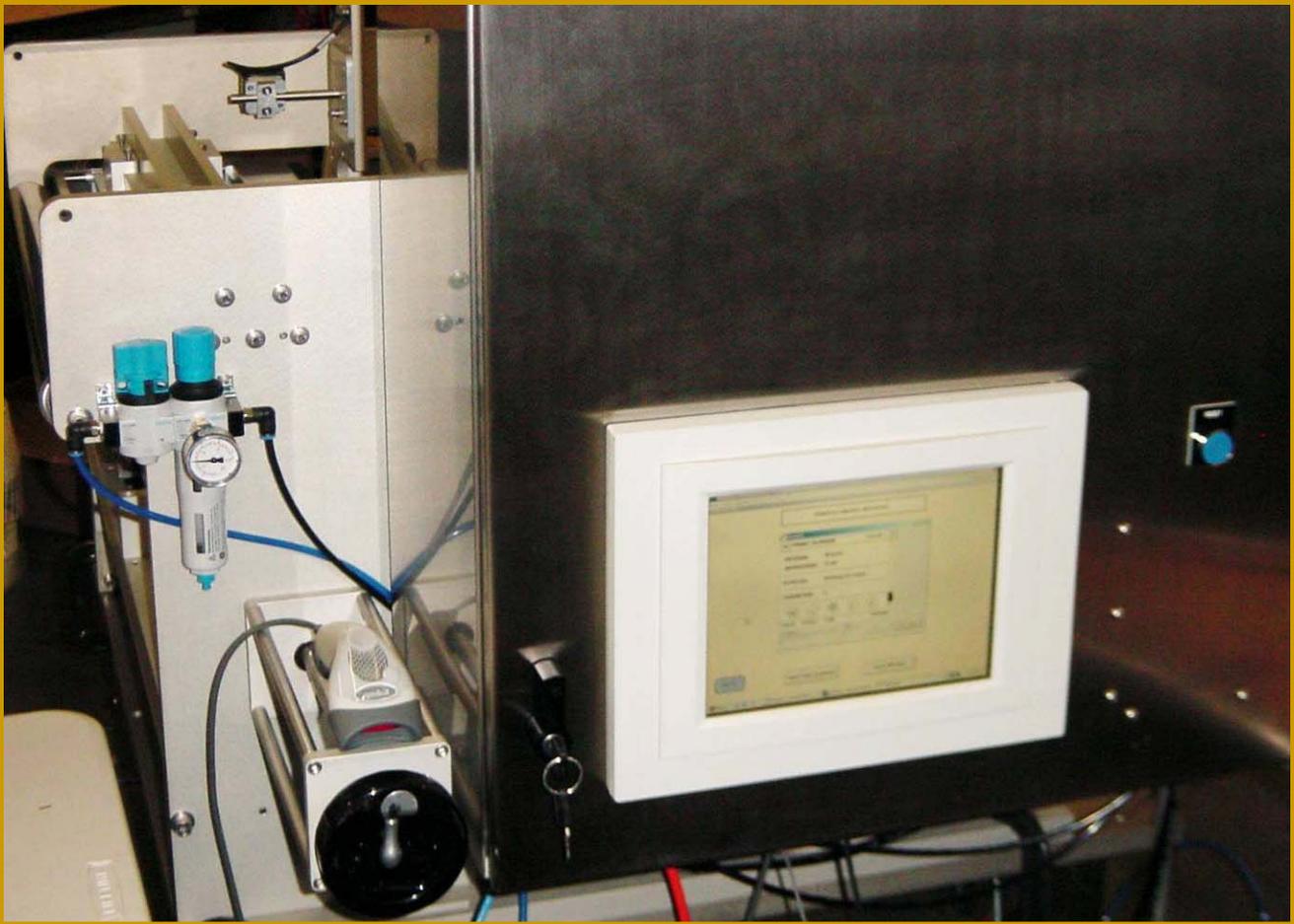


# Solution - Controls

- Integrate Robust, Advanced Control System
  - Touchscreen Operator Interface Terminal
  - Brand Name "Top-of-the-line" PLC
  - Industry proven, fast, accurate barcode scanners
  - Integrated with "Master" Process Control System

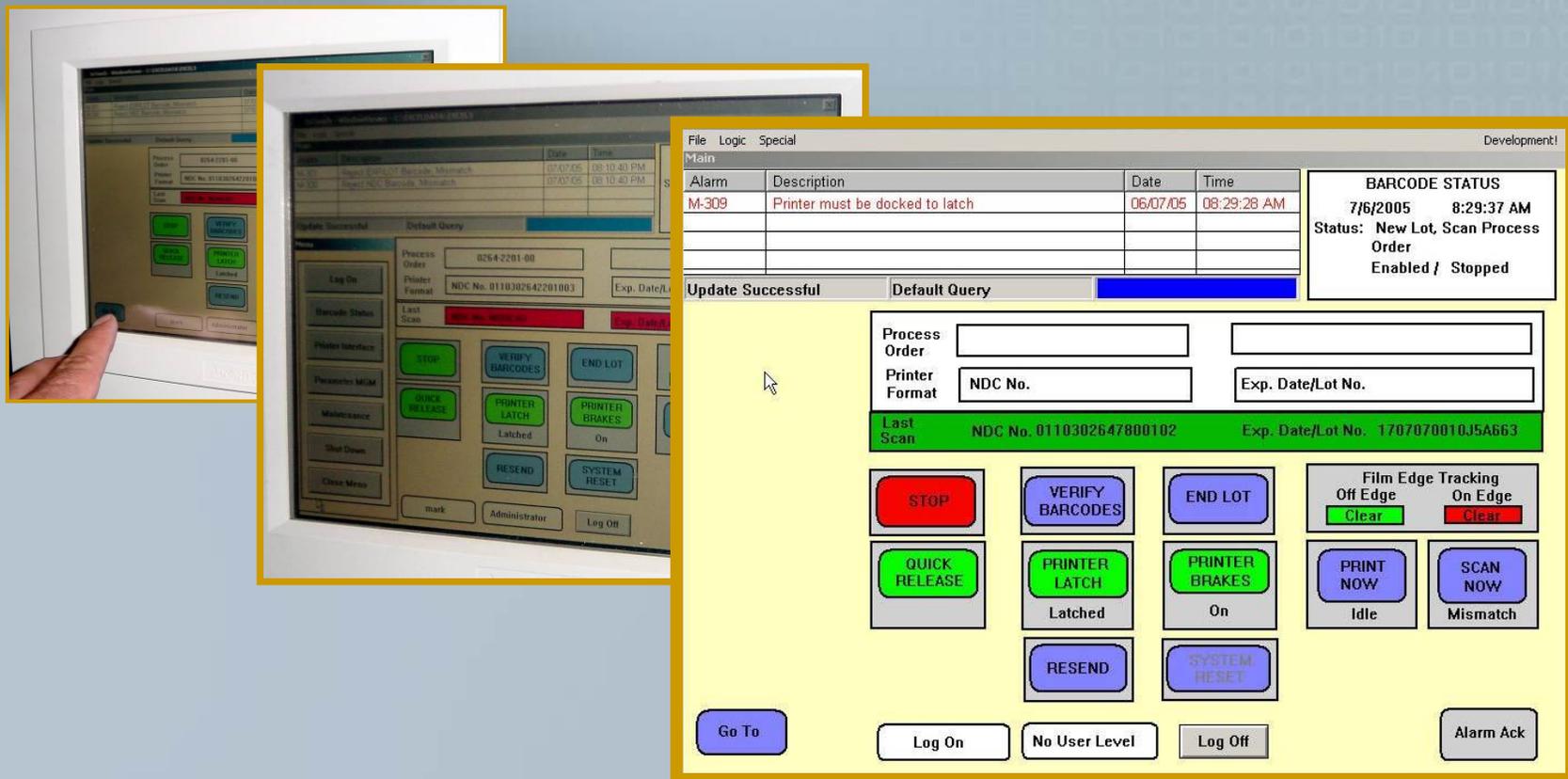


# Solution - Touchscreen



# Solution – Operator Interface

- Intuitive, graphical Operator Interface
  - Developed Custom Application for Setup and Stop Lots, Monitor Production, and Maintenance Activities



# Solution – Operator Interface

- Easy Production Setup; no data entry errors
  - Operators scan Process Order barcodes; Exp/Lot & NDC
  - Translated and downloaded into Printer and Scanner
  - Special access QA Verification before and after



Item	Date	Time				
There are no items to show in this view						
BARCODE STATUS 7/16/2005 2:53:29 PM Status: New Lot Verify Barcodes Enabled / Stopped						
Process Order	0264-2201-00	06/05J9H015				
Printer Format	NDC No. 01110302642201003	Exp. Date/Lot No. 1705060010J9H015				
Last Scan	NDC No.	Exp. Date/Lot No.				
SYSTEM RESET	STOP	VERIFY BARCODES	END LOT	Film Edge Tracking Off Edge On Edge		
0	0	QUICK RELEASE	PRINTER LATCH	PRINTER BRAKES	PRINT NOW	SCAN NOW
Consecutive Bad Barcodes	Film Edge Out Count	Docked	Latched	On	Idle	Mismatch
Go To	Carla QC	Quality	Log Off	Alarm Ack		



# Solution – Operator Interface

Main

Alarm	Description	Date	Time
There are no items to show in this view			

**Barcode Status**  
7/16/2005 2:53:29 PM  
Status: New Lot  
Verify Barcodes  
Enabled / Stopped

Process Order	<input type="text" value="0264-2201-00"/>	<input type="text" value="06/05J9H015"/>
Printer Format	<input type="text" value="NDC No. 0110302642201003"/>	<input type="text" value="Exp. Date/Lot No. 1705060010J9H015"/>
Last Scan	<input type="text" value="NDC No."/>	<input type="text" value="Exp. Date/Lot No."/>

RESEND

SYSTEM RESET

STOP

VERIFY BARCODES

END LOT

Film Edge Tracking  
Off Edge  Clear  
On Edge  Clear

0  
Consecutive Bad Barcodes

0  
Film Edge Out Count

QUICK RELEASE  
Docked

PRINTER LATCH  
Latched

PRINTER BRAKES  
On

PRINT NOW  
Idle

SCAN NOW  
Mismatch

Go To

Carla QC

Quality

Log Off

Alarm Ack





# Results

- Increased Profitability...
- Increased Safety, Reliability and Production Uptime
- Print Parameters successfully qualified
  - Barcode grading improved to above "C", mostly are high "B"
- Sets new Company Controls Architecture
  - Conforms to wider company plans
  - Future implementations to use (e.g. next CIM system to be delivered - for Print-Apply)
- Positive Feedback from Business Unit Management, Engineering and Maintenance Staffs





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