



Code-in-motion
LLC



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

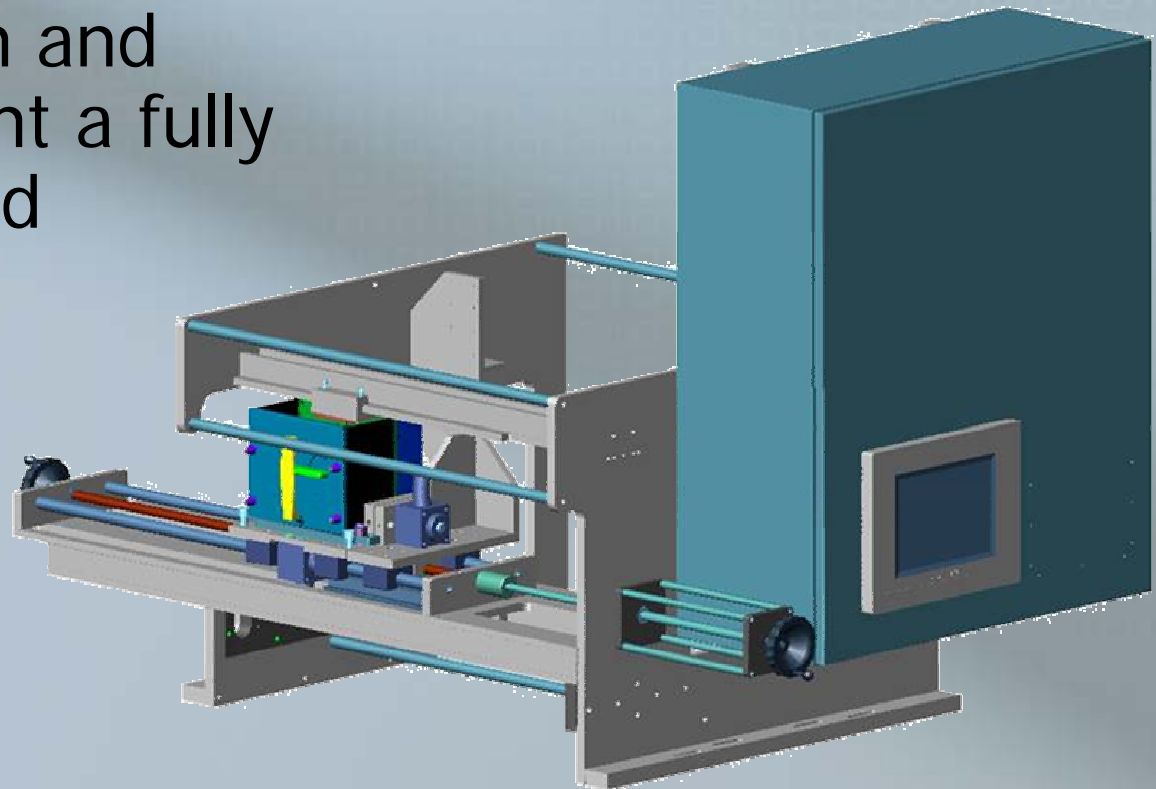
- Contract code-in-motion for an Impartial Review... encompassing Process, Products, People, and Technology Used
 - On-site, continuous Production observations and information gathering across a week
 - Staff Interviews: Operators, Business Unit Management, Maintenance and Engineering Staff
 - Compiled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

Solution

Contract ...



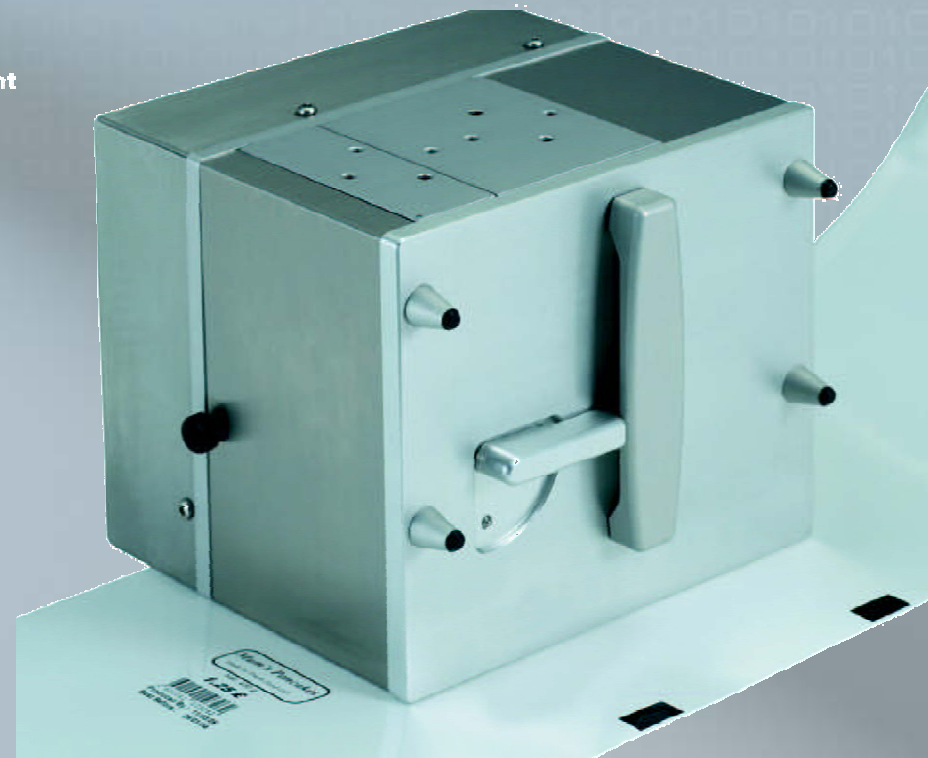
... to design and
implement a fully
integrated
system...



Solution - epd

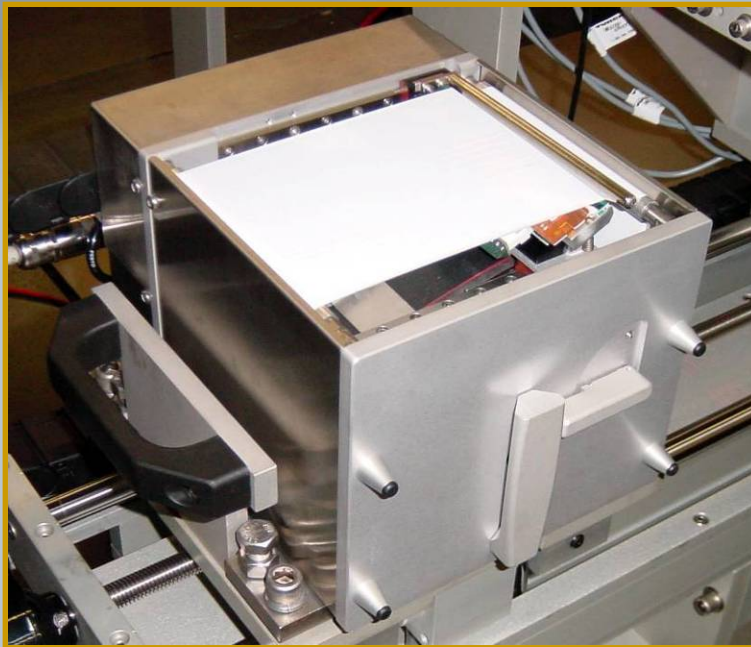
- At the "core" - an epd-based Printer System
 - Another Thermal Transfer Overprinter
 - Internally proven – another CIM implementation

 **epd** electronic
printing
development



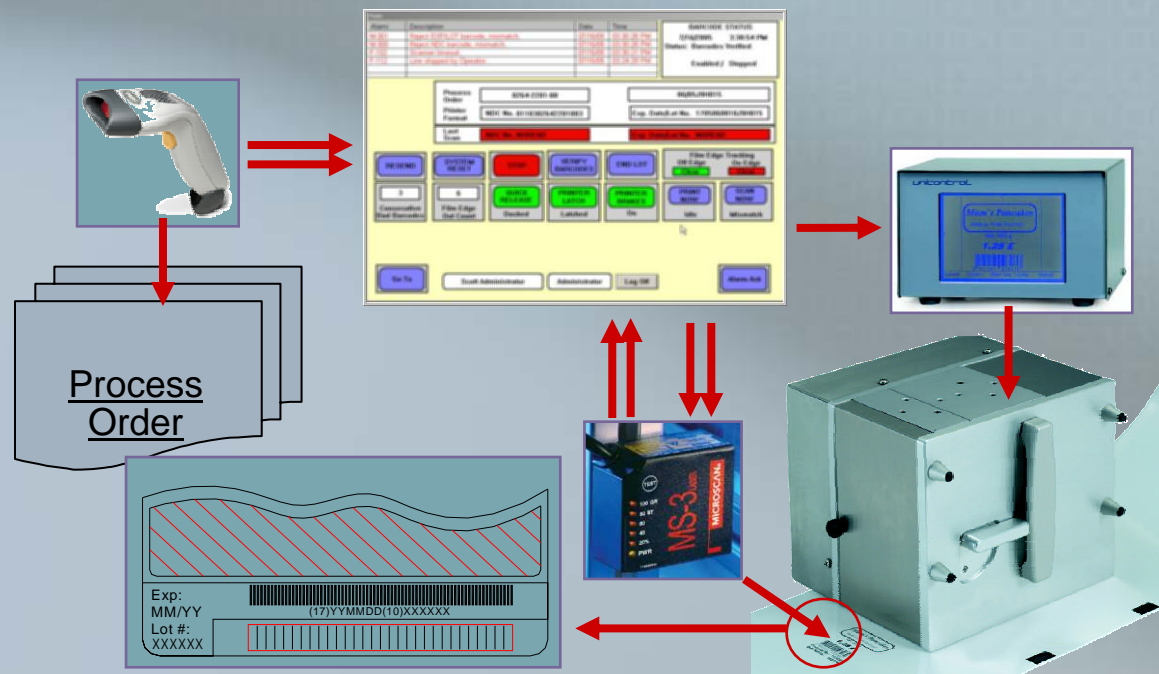
Solution - Mechanical

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

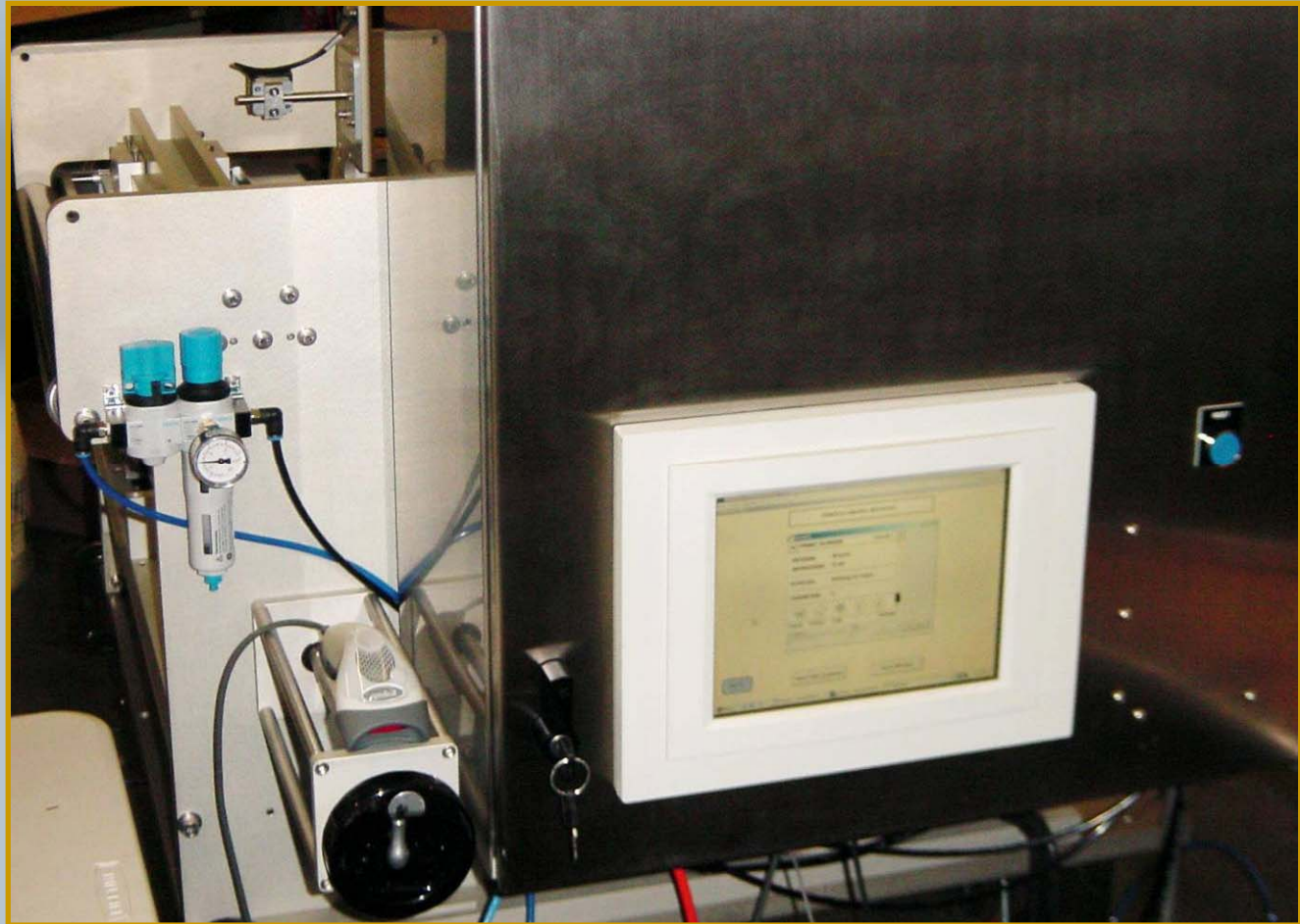


Solution - Controls

- 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

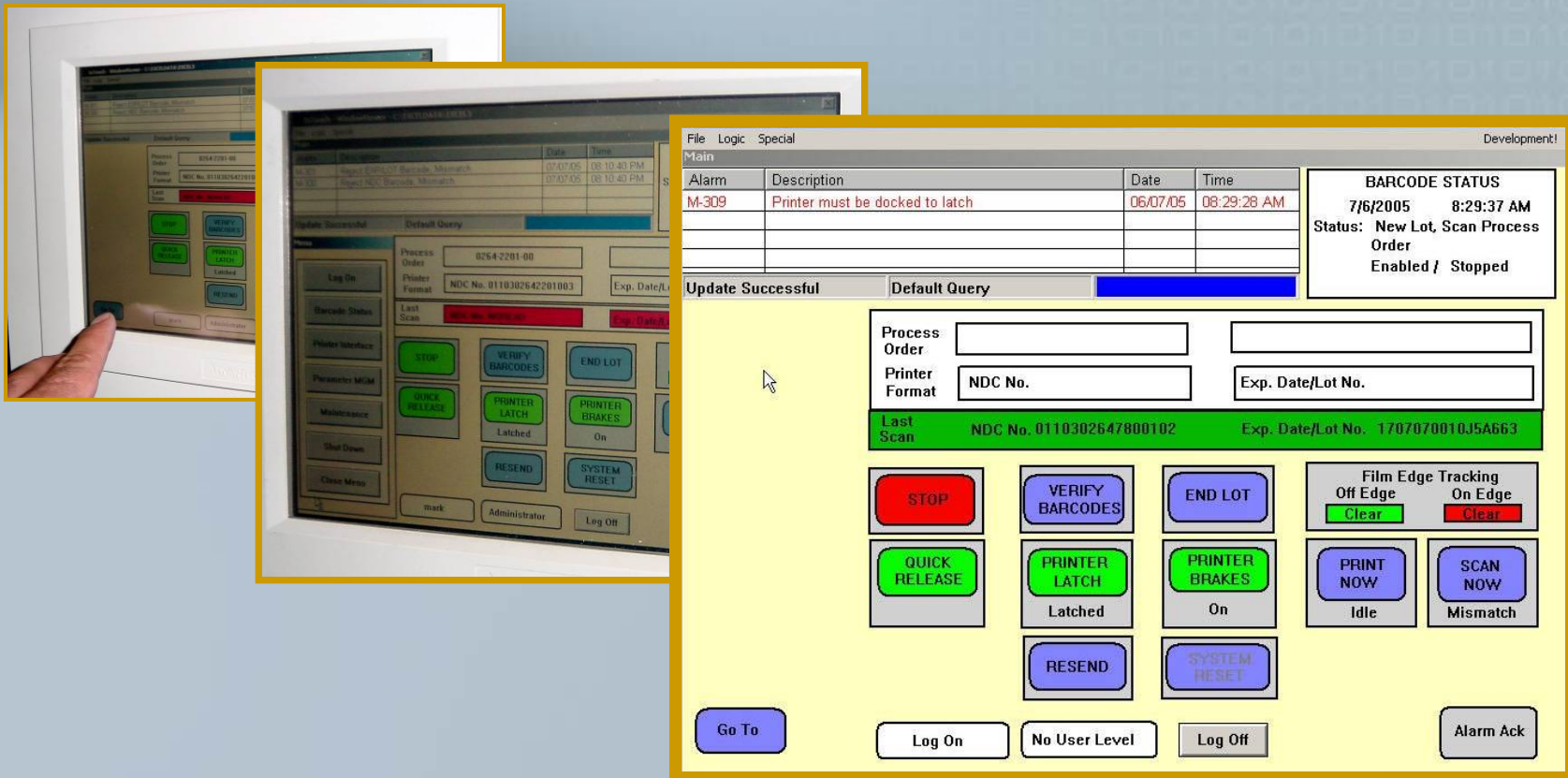


Solution - Touchscreen



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



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. 0110302642201003	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 Clear 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



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

0264-2201-00

Printer Format

NDC No. 0110302642201003

Last Scan

NDC No.

06/05J9H015

Exp. Date/Lot No. 1705060010J9H015

Exp. Date/Lot No.

RESEND

SYSTEM RESET

STOP

VERIFY BARCODES

END LOT

Film Edge Tracking

Off Edge

On Edge

Clear

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


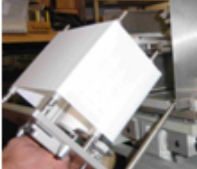


Log Off

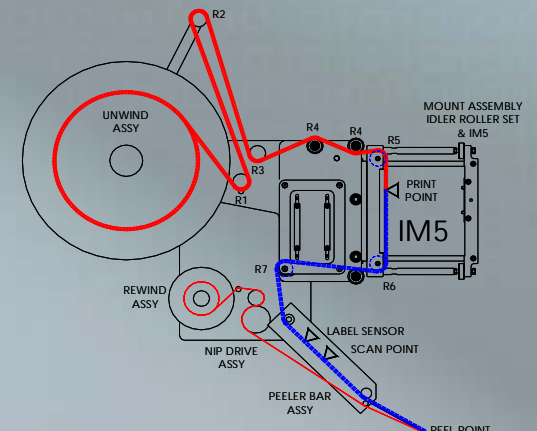
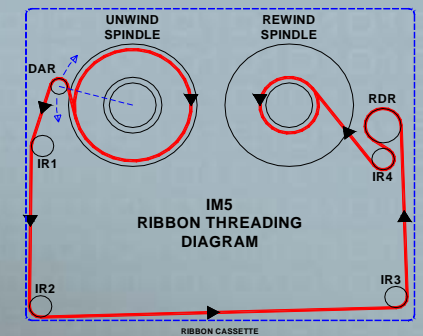
Alarm Ack

Solution - Documentation

- **Quality, Comprehensive System Documentation**
 - System Operations, Procedures, Preventative Maint.
 - Well written: descriptive, easy-to-read
 - Multimedia – process flows, photographs, drawings
 - Supports Testing & Training Needs



<p>Log into the OIT.</p> <p>This screen shows that the Maintenance representative has logged in.</p>	
<p>Push the Printer Carriage completely up against and into the Docking Station. The mechanism should automatically lock the Printer in-place after a sensor detects that the printer is in the correct position.</p>	
<p>Select "Go To" and then select "Printer Controller".</p>	
<p>Press the CONNECT button to activate communications between the OIT and the Printer Controller.</p> <p>This will allow remote access (via the OIT) to all of the Printer Controller functions/screens.</p>	



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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