



## Get Lean • Become Reliable Reduce Costs • Optimize the Supply Chain

- *Are you looking for improvements that can make a real impact on your operation's bottom line?*
- *Need help initiating or supporting your lean continuous improvement program?*

Daniel Penn Associates, LLC (DPA) offers practical hands-on solutions to manufacturers, helping them achieve productivity gains and reduce the cost of the supply chain.

Our three decades of earned knowledge and collaborative approaches help clients streamline operations, boost performance, and enhance customer service. We guide teams to own their process and their success, and we follow through with support activities to sustain progress.



## CORE SERVICES

- ✓ *Lean Six Sigma Transformation, On-Site, and Online Training*
- ✓ *Business Process Improvement*
- ✓ *Maintenance & Asset Management*
- ✓ *Supply Chain Management*
- ✓ *Staffing & Capacity Planning*
- ✓ *Productivity Improvement*
- ✓ *Warehousing Network Optimization*

## OUR APPROACH

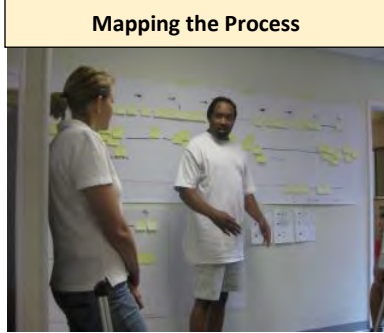


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Documenting/Observation

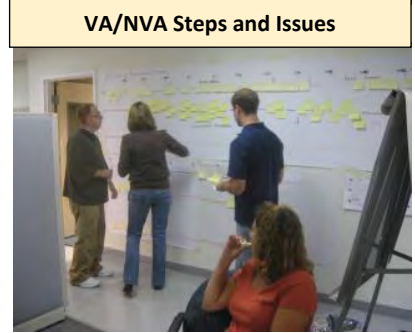


Mapping the Process

*Our Collaborative Approach working with client personnel – we want folks at the plant level to own the improvement.*



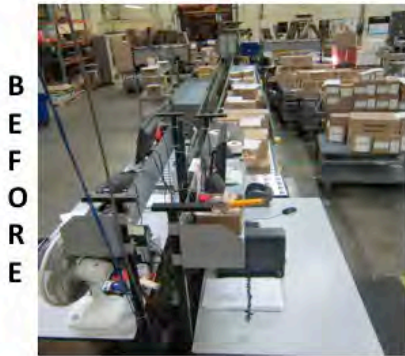
Mapping the Process



VA/NVA Steps and Issues

## CASE STUDIES

**DPA helped a leading manufacturer of door-opening solutions make significant efficiency improvements to their packing and shipping line.**



Space (Square Feet)  
WIP inventory (orders)  
Walking Distance  
Waste Assessment  
Sum of Cycle Time (Sec)  
Leadtime (pack to pallet)  
Volume/Through Put  
Productivity  
Quality Defects

Goal	Before Kaizen	After Kaizen	Total Change	
30%	1080	700	35%	↓
	33	0	100%	↓
	3914	940	76%	↓
	16	8	50%	↓
	147	127	14%	↓
	95 min	2.1 min	98%	↓
	650	768	15%	↑
30%	16	64	300%	↑
50%	42	1	98%	↓

- ✓ DPA helped a producer of laminates for consumer and defense electronics reduce order-to-ship, WIP and inspection backlogs



	Current state	Future state
TOTAL LEAD TIME	19 DAYS	10 DAYS
LEAD TIME FROM EXTRUSION THROUGH PACK	16.4 DAYS	6 DAYS
CYCLE TIME (1 SHEET EQUIVALENT) from inspect through pack	5 MINUTES	5 MINUTES

### Inspect, Panelize & Pack Results

	Current State	Future State	% Improvement
Cycle Time (min/sheet)	5	3	40%
Leadtime (Days)	13.6	5	172%
Walking Distance (ft)	100	30	70%

- ✓ We helped an aerospace components manufacturer improve its Single Minute Exchange of Dies (SMED) operation to save time, boost production and increase revenue.



- ✓ Improvement Achieved = 61%
- ✓ Time Savings per Set Up = 10.48 Hours
- ✓ Additional production per year = 1,560 parts
- ✓ Additional Revenues per year = \$2.5 million+

✓ **Improved Process Yield for a Major Manufacturer**



- ✓ Current Production = 12,500 sheets/ week
- ✓ Potential Production after = 20,311 sheets
- ✓ Actual Production to date = 19,700 sheets
- ✓ Additional Revenues per year = Over 3.25 million
- ✓ Yield at 96%

✓ **DPA helped a major pharmaceutical address a maintenance related problem that caused an FDA warning**

**Situation**

A global pharmaceutical company was issued a **Warning Letter by the FDA** after foreign materials were discovered in the product during the packaging process at a plant in Puerto Rico. DPA was brought in to help the manufacturer meet its commitment to the FDA to implement a reliability centered maintenance program to improve equipment reliability and to specifically address the packaging area issue.

**Action**

DPA developed a **Reliability Centered Maintenance** program to incorporate reliability risk analysis into the existing maintenance environment as part of the corrective action plan.

**Benefits**

- After a critical line's annual shutdown extended from the planned 1 month to 3, the client was able to **recover the 2 month's lost production** and get ahead of plan by the 12th month through application of the Risk Analysis findings.
- They determined that they had only added approximately 15% additional maintenance activity on this line and realized a **25-30% reduction in corrective maintenance (e.g., unplanned downtime)**.
- As a result of DPA's project, the client was able to meet its commitment to the FDA and correct the foreign materials problem.

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✓ **Improving efficiencies for a medical device manufacturer**

- ▲ **Throughput** increased by **36%**  
(from 2200 to 3000 assemblies per day)
- ▼ **Material travel** decreased by **90%**
  - From 4200 to 390 feet
  - Eliminated WIP trucking
- ▼ **WIP-at-risk lead time** decreased by **43%**  
↓Quality risk ↑Flexibility ↑Capacity
- ▼ **Handling "touches"** decreased  
↓Quality risk ↓Effort



**A Maintenance Improvement Project**

### Guiding Principles

**Planning and Scheduling**

- Supervisors are responsible for the execution of the current schedule. Planners are responsible for the creation of the future schedule
- No Work Orders will be released without a 'ready' status code from Dispatch or Planning (no 'black hole' for work to get lost in)
- Every mechanic/craft should start each day with ready work
- All Planned work should have estimated hours, status code and priority
- "Priority" yields to agreed upon order of importance
- All Work must be on a Work Order
- Work Orders must be closed the same day they are completed

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### Major Benefits

- Established a proactive work order management behavior
- Created Command Centers for work management
- Developed metrics & dashboards
- CMMS System Improvement & Integration
- Improved customer service & satisfaction
- More efficient utilization of workforce

### Schedule Compliance

Weekly Schedule Compliance for last 90 days

**FACILITY 1**

100% Compliance

Count = 50 WOs

**FACILITY 2**

100% Compliance

Count = 50 WOs

**FACILITY 3**

100% Compliance

Count = 50 WOs

### Backlog Non-Scheduled Work (Prompt Response / Non-scheduled)

Backlog as of every Friday for the last quarter

**FACILITY 1**

2,000 WOs

30 days

**FACILITY 2**

2,000 WOs

30 days

**FACILITY 3**

2,000 WOs

30 days

**FACILITY 4**

2,000 WOs

30 days

Legend: All WOs (incl. > 1 month), Less than 1 month, Less than 1 week, Less than 2 days, Less than 1 day, Average Age

### Turnaround Time Prompt Response

Completed prompt response requests within one week for last 90 days

**FACILITY 1**

1,000 WOs

34 hrs

**FACILITY 2**

1,000 WOs

34 hrs

**FACILITY 3**

1,000 WOs

34 hrs

**FACILITY 4**

1,000 WOs

34 hrs

Legend: All WOs (incl. > 1 month), Less than 1 month, Less than 1 week, Less than 2 days, Less than 1 day, Less than 12 hrs, Avg Turnaround (incl. outliers > 1 month)

**DPA Maintenance Programs Results**

- 25% Reduction in emergency breakdowns
- 20% Reduction in equipment downtime
- 10% Reduction in labor costs
- 10% - 15% Reduction in MRO inventory costs
- 5% - 10% Overall reduction in maintenance costs



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## Work with DPA to Reach Your Goals, Mitigate Risk, and Sustain the Gains

### **Certifications**

SDB, DBE, S/MBE, MBE

### **Affiliations**

APICS, ASQ, ATD, AME,  
CSCMP, IEE, IMC, IAF,  
SME, ISL

### **Company Data**

DUNS Number:  
039435953  
CAGE Code: 1LUL8  
EIN: 061534463



**NAICS Codes:** 541611,  
541614, 541618,  
541620, 541690, 541990,  
611430

**SAM Registration:** Active  
Established: 1998 in  
Hartford, CT

**D&B Overall Rating  
Summary: 1.33**  
(1-Outstanding to 5-  
Unsatisfactory)

## **CONTACT**

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