



Green Suppliers Network (GSN)

An Innovative Industry-Government
Collaboration

Achieving Lean & Clean Performance
Improvement

Judy Wlodarczyk



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GSN in a Nutshell

- GSN provides Lean and Clean technical assistance to small and mid-sized manufacturers
- Lean and Clean approach expands the traditional Lean definition of waste from eliminating non-value added time, labor, money to include environmental wastes (energy, emissions)
- This dual approach aligns OEM, supplier and Government interests



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GSN Key Players

- US Environmental Protection Agency (EPA)
- Manufacturing Extension Partnership (MEP)
- OEMs
- Suppliers

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OEMs

- Healthcare/Pharmaceutical
 - Baxter Healthcare, Pfizer, Johnson and Johnson, Bristol-Myers Squibb, Abbott, Wyeth and Roche
- Automotive
 - General Motors, Daimler/Chrysler
- Aerospace
 - UTC, Northrop Grumman, Raytheon, Pratt & Whitney, Lockheed-Martin, Boeing, GE Aircraft Engines
- Office Furniture
 - Herman Miller, Steelcase, Hon AllSteel, Haworth, Kimball, Light Corp.
- Farm/Construction
 - John Deere
- AMTRAK
- Others
 - Appliances and Truck & Buses

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The Clean & Lean Approach

Clean Strives For...

- Nature-friendly Substitutes
- Optimized Material And Energy Efficiency
- Waste Elimination
- Air/Water Emission Reductions
- Solid/ Hazardous Waste Reduction
- Toxic Material Reduction Or Substitution
- Efficient Packaging

Lean Eliminates...

- Defects
- Overproduction
- Waiting
- Non-utilized People
- Transportation
- Inventory
- Motion
- Extra processing



National Results to Date

Project Activity Update	
Impact of Opportunities – Results Identified by 12 Completed Projects	
Cost Savings from Environmental Impact Opportunities	\$1,259,571/yr
Energy Conservation (MM BTUs)	53,561
Water Conservation (Gallons)	3,329,459
Cost Savings from Lean Opportunities	\$5,850,405/yr
Cost Savings from One-Time Lean Opportunities	\$2,855,295
Cost Savings from Other Opportunities	\$48,331
Total Potential Cost Savings	\$10,013,602





Program Approach

- Top-level operational benchmarking assessment
- Value stream and process maps to identify sources of waste
- Facilitated opportunities sessions
- Full facility energy assessment (CT)
- Final report of opportunities with cost benefit analysis



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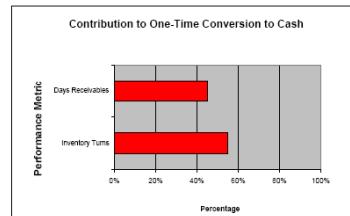
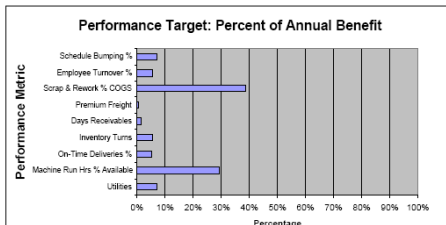
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TRANSFORMATION PLANNER

MMTC Enterprises

Figure B - Opportunities and Cost Benefits

Performance Metric	Current:		Model Proposed Target:		Final Target:		Annual \$ Benefit	One-Time Conversion to Cash	% of Total Annual Benefit	% of One-Time Conversion to Cash
	Percentile	Value	Percentile	Value	Percentile	Value				
Utilities	30	\$ 287,500	55	\$ 199,329	55	\$ 199,329	\$88,171		0.9%	
Machine Run Hrs % Available	81	68.01%	80	60.14%	80	80.00%	\$371,744		29.2%	
On-Time Deliveries %	19	88.00%	43	93.70%	43	94.00%	\$66,147		6.2%	
Inventory Turns	51	8.3	76	13.8	77	14.0	\$70,231	\$488,207	5.5%	54.8%
Days Receivables	9	65	34	53	33	53	\$10,315	\$386,302	1.5%	46.2%
Premium Freight	46	\$ 6,500	70	\$ 993	70	\$ 993	\$5,507		0.4%	
Scrap & Rework % COGS	7	0.15%	32	1.22%	40	1.00%	\$462,049		38.7%	
Employee Turnover %	40	35.00%	65	18.82%	65	17.00%	\$70,149		5.5%	
Schedule Bumping %	21	15.00%	46	5.80%	39	8.00%	\$89,251		7.0%	
Total							\$1,272,564	\$854,500		



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HAR-CONN Chrome Company

- Metal finishing company, specializing in aerospace
- 55 employees
- Annual sales \$6,000,000
- NADCAP approved
- FAA repair station facility



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Project Focus

- Hard chrome plating line
- 15% of company's business
- Significant contributor to environmental aspects
- Generates large amount of rework and rejects



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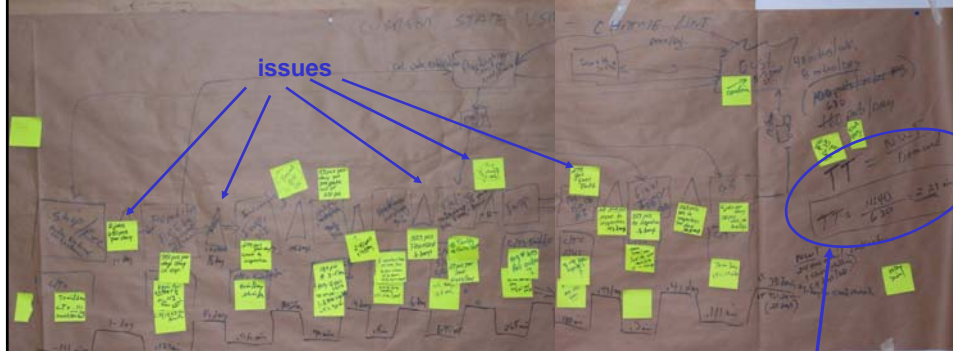
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Current state VSM – Chrome line



Takt time

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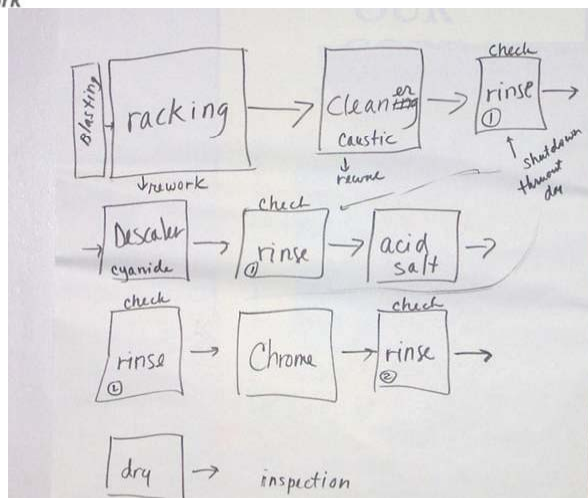
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Detail of Chrome process block



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Project Results

- Identified \$425,000 in annual savings in Lean and Clean opportunities
- Identified \$77,750 in energy savings opportunities; 16% reduction in energy bills
- Follow-on project to reduce rework and reject



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"After working with CONNSTEP, we began using Clean and Lean manufacturing techniques to reduce waste and decrease rework costs – saving us hundreds of thousands of dollars."

*Tim Backus,
President,
Har-Conn Chrome Company*

Connecticut manufacturers are **more competitive** thanks to innovative programs from CONNSTEP, Connecticut's Manufacturing Resource.

CONNSTEP helped Har-Conn Chrome Company, one of the world's largest independently-owned aerospace processing firms, reduce costs by 7.5% using Lean techniques and introducing them to the Green Suppliers Network, a program designed to benefit manufacturers environmentally and economically.

For more information on the Green Suppliers Network and other valuable programs, call 1-800-266-6672 or visit www.CONNSTEP.org.



CONNSTEP is sponsored by the Department of Economic and Community Development and the National Institute of Standards and Technology Manufacturing Extension Partnership.



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Summit Corporation of America

- Metal finishing company, specializing in aerospace
- 121 employees
- Annual sales \$18,000,000



Project Focus

- Nickel barrel plating line
- Runs 24 hours/day, 5 days/week
- Represents 3% of business
- High volume line
- High reject line
- Significant environmental impact contributor





Project Results

- Identified \$980,000 in annual savings in Lean and Clean opportunities
- Identified \$95,000 in energy savings opportunities; 8% reduction in energy bills
- Follow-on project to assist with Automotive Quality Standard



Review Specifics

- Cost
 - \$7,000 Cost Of Review
 - \$2,500 EPA Program Discount*
 - \$4,500 Total Cost To Supplier For GSN Review

 - \$2,500 CONNSTEP contributes if a defense supplier
 - \$2,000 Total Cost To Supplier For GSN/DoD Review
- On-site Reviews Take 2-3 Days
- \$1,000 Credit Toward Implementation Assistance**

*Suppliers Must Qualify Under SBA Definitions

** Work must be coordinated within 3 months of facility review through 360vu provider





Why Successful?

- CEO/top management involved starting with Operational Assessment
- Facilitated team based activity
- Looks holistically at waste – not just lean measurements or P2 efforts
- Builds upon the operational improvements identified in the Review



Questions?

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