west
MICHIGAN
green suppliers network
LEAN
and Clean
how real people make a difference

"It is not enough to do your best; you must know what to do, and then do your best."

W. Edwards Deming
1900-1993

LEAN and Clean

Companies of all sizes are turning to lean manufacturing techniques to reduce waste and save money.

Introduction

Measurement and accountability require more collaborative approaches to problem solving at all levels in an organization. Organizations that will survive will need to be increasingly receptive to customer expectations, environmental performance, product stewardship and the social implications of their products and processes.

Supply Chain Management and Sustainable Product Design

Many industries are already anticipating the need to address economic, social and environmental impacts by integrating product design and supply chain collaboration into the development of new products that are less toxic to human health, protect the environment, and provide economic value to their shareholders and customers. Innovating new materials and processes that reduce the negative impacts on natural resources and human health is becoming more and more prevalent in the marketplace. Standards and criteria are being developed to recognize and reward companies that take action to continuously improve their sustainable footprint.

Workforce Engagement

The Lean and Clean Program available through the Green Suppliers Network provides small and medium sized manufacturers with the technical assistance needed to identify strategies for improving processes, reducing waste, using materials more efficiently and realizing increased profitability. Systems to measure and benchmark progress in the application of lean and clean practices require continuous improvement and workforce engagement.

Adding Value

The Green Suppliers Network (GSN) in West Michigan is a non-regulatory, voluntary partnership between industry and all levels of government to leverage services supporting the transformation of economic value, environmental performance and social equity. Michigan suppliers and their customers are being recognized as national models for the next generation of sustainable manufacturing. The incorporation of environmental cost recovery through improved energy efficiency, water conservation and materials handling is reaping a strong financial benefit to participants. $13,535,292 is the aggregated value of environmental impact savings reported in the September 2008 Executive Update for the GSN. GSN Reviews employ Lean & Clean methodologies, which concentrate on the root causes of waste of one process line in a facility and provide a framework for achieving specific measurable environmental and business objectives. Through the GSN Review process, companies learn how they can:

- Decrease the use of toxic and/or non-renewable materials
- Establish systems to use energy more efficiently
- Improve use and selection of more environmentally friendly raw materials
- Institute consistent work practices and procedures to reduce labor and capital costs and
- Promote a culture of greater employee participation in improvement activities

Michigan Suppliers and Customers Aggregate Realized Annual Cost Savings		
	Water Conservation	**Energy Efficiency**
Suppliers	$30,000	$116,655
Customers	$80,000	$28,276

Laura L. Rauwerda
MDEQ Project Manager, Green Suppliers Network
September 2008

Metalworks

Ludington, Michigan

In 2008, this small, family-run company with 300+ employees and three manufacturing sites was recognized with the premier manufacturing award in North America, the Shingo Prize for Operational Excellence. This story is about the people inspired to create positive change.

The floors gleam, the shelves and bins are dust-free, labeled and organized. Operational statics, metrics graphs and accountability charts are posted for all to see. People gather to communicate ideas at an information kiosk, then quickly get back to work.

This is not the way it always was.

In the past, stock was piled on pallets, disorganized, over-crowded, dirty and potentially dangerous. Workers were frustrated as they waited or hunted for parts or tools to complete jobs.

Something had to change.

SCOTT LAKARI, METALWORKS, LUDINGTON, MI

Where to begin

In the "middle of the supply chain" Metalworks receives raw materials and parts and fabricates products for shipment to other manufacturers. When informed by their customers that Lean Manufacturing processes were expected as, Metalworks needed to learn how to operate in a whole new way. While not the only company faced with new methods, facing these changes alone would have been a daunting experience.

The enormity of the Lean Manufacturing led Metalworks to Lean and Clean Advantage program available through the Michigan Department of Environmental Quality (MDEQ). According to Scott Laraki, vice president of operations, at Metalworks, the Lean and Clean Advantage guidelines provided a framework for new processes.

Staff learned that beginning with waste elimination would reduce costs to the customer and create the capacity for new business opportunities. Metalworks adopted the Lean and Clean Advantage and implemented a "5S" approach.

5S

JAPANESE	ENGLISH
Seiri	Sort
Seiton	Set in Order
Seiso	Shine
Seiketsu	Standardize
Shitsuke	Sustain

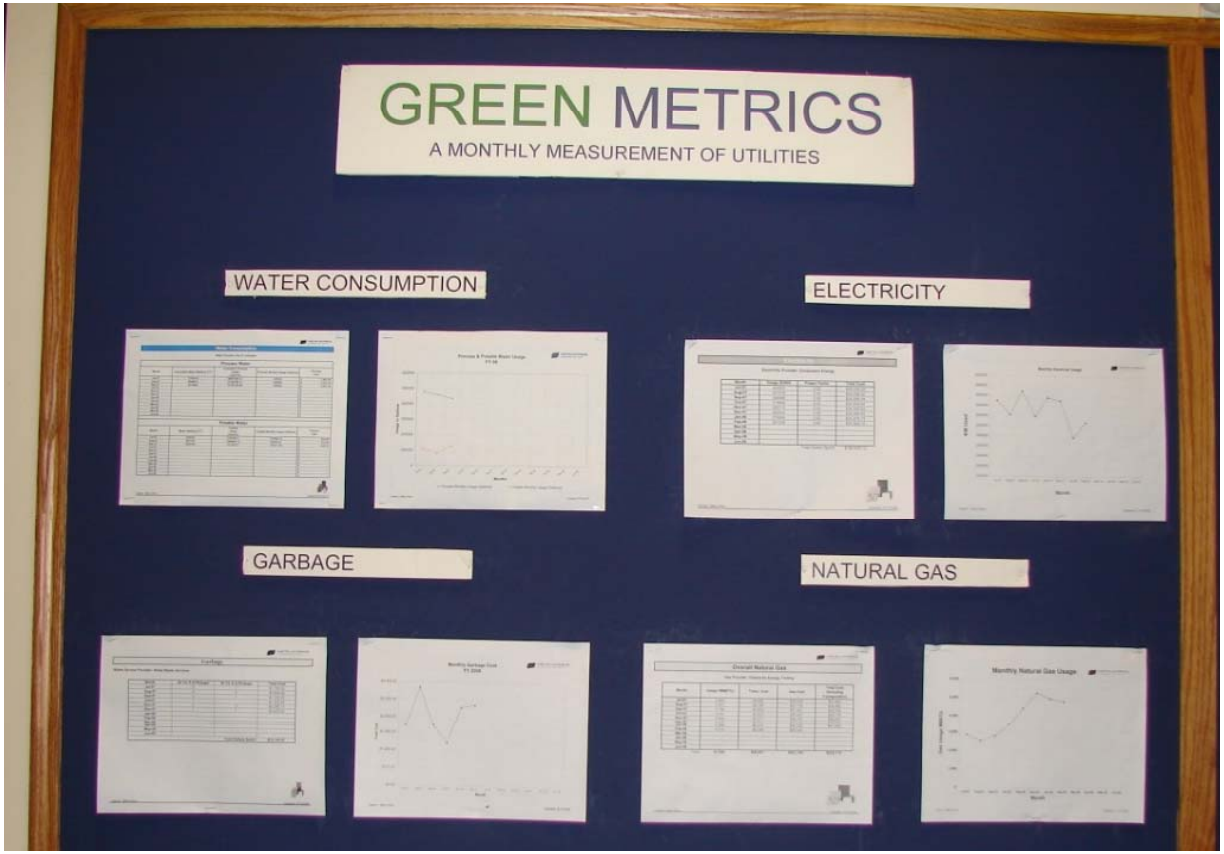
5S refers to five Japanese words, translated into English, that focus on visual order, organization, cleanliness and standardization. The expected results include improved profitability, efficiency, service and safety. Followed in order, the words become an understandable process for "cleaning house".

Kaizen
An opportunity for teams to brainstorm and implement improvements on the factory (or office) floor.

Lean Manufacturing
A way of producing goods through the removal of waste and changing flow.

"Essentially, it was time to clean house, and get things in order. We had to figure out how to eliminate wasted time, space and material. We had to standardize our work processes, both in the factory and office areas. Only then could we measure waste reduction."

Kandy Alverson
Continuous Improvement Coordinator

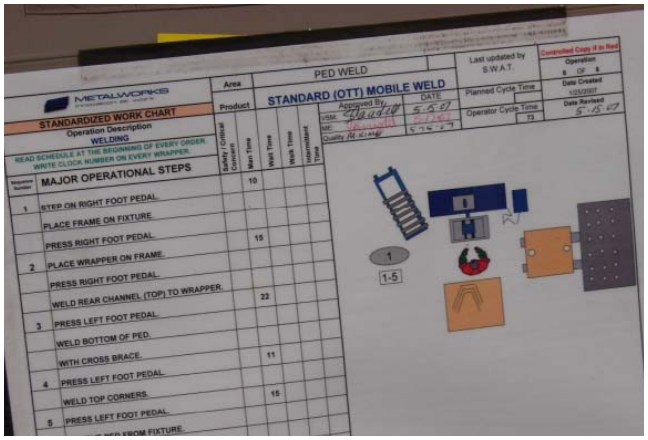


Teams were created and work areas were cleaned and organized. People developed a labeling system that worked for organization and reorders.

All parts, materials, tools were sorted and stored in bins and shelves. Old or unused materials were disposed, recycled or reused.

"We didn't know what to expect. We dealt with fears through open, honest conversation. Only then were we able to work together to identify issues and create solutions. We're proud of the results."

Kandy Alverson
Continuous Improvement Coordinator



Kanban
A signaling system designed to trigger action using cards or markers to signal the need for movement, production, or supply of an item in a factory.

A place for everything, everything in its place

Workers organized tool areas at each factory work station for tools needed on a daily basis and created a central tool storage location for specialty items. This simple change eliminated time wasted searching for tools and saved workers 15 to 20 minutes every day. When multiplied by 22 people in a department, a staggering 7 hours of wasted time was eliminated every day.

Next, work process was addressed. Prior to the implementation of the new methods, job process and quality was as varied as the number of workers.

It was time for work instructions, standardized processes and a shared responsibility for cleanliness and order on the floor.

Initially, standards were not well received, but with open communication and the workers' active participation, they created their own work guidelines. Following the Kanban system of visual aids, each work instruction was written, diagramed and located in plain sight at each workstation.

The new instructions ensured quality, consistency and improved productivity even with new or temporary employees.

"Work instructions ensure jobs are completed the same way, every time, no matter who is at the work station."

Gloria Hilden
Pedestal Value Stream Supervisor

Sustainability SWAT Staff

"As processes evolved, so did jobs. We were able to provide training to successfully reassign, rather than layoff staff."

"We think of Tony as a Sustainability SWAT Guy…he created a whole new job for himself."

Gloria Hilden
Pedestal Value Stream Supervisor

Not knowing what to expect or where to start, the management team recruited volunteers to create labels and tool boards. Tony Helminiak was cautiously curious. He stepped forward and took on the 5S challenge and organized workstations, built tool boards, closeout boxes and labeled… everything. Tony became a Metalworks "Sustainability SWAT Staff". His energy is boundless as he seeks, finds and resolves issues on the floor.

"My 5S job allows me to help the whole shop stay organized and continuously improve. Everyone benefits in one way or another."

Tony Helminiak

Sustainability SWAT Staff

"Tom helped double our capacity and smooth work flow by reorganizing the lateral welding area.

Steve Hunt
Lateral Value Stream Manager

"Standardized work creates a uniformed way for production lines to run smoothly."

Tom Harmon

Value Stream
A technique used to analyze the flow of materials and information currently required to bring a product or service to a consumer.

"We have to help one another be more successful, and we hope to assist others in their lean improvements."

Kandy Alverson
Continuous Improvement Coordinator

Making connections

Metalworks staff met with each of their own suppliers to provide the new processes and to request their compliance. Miller Metal, the steel source for Metalworks had to completely revamp their delivery systems. Before the changes, Miller made daily steel deliveries, but Metalworks needed smaller more frequent shipments. To resolve the need, Miller established a warehouse in Shelby, Michigan, allowing two small deliveries twice a day. Miller staff scan the specially designed storage bin labels and electronically downloads the order requirements to the warehouse. The same labels are used for month end inventories.

The idea caught on and is the model for a similar system used in the office supplies area.

As the staff analyzed work process, they incorporated equipment inspections. To assess the washer system, which is used to clean raw steel post fabrication, they turned to DuBois Chemicals, a division of Johnson-Diversey. DuBois, headquartered in Ohio, with a Western Michigan connection, sent in a team to evaluate the effectiveness of equipment and examined the work process involved. The DuBois Chemicals experts were able to help standardize processes across three different washing systems, reduce heat usage across the board and eliminate a stage in the process. They suggested a reverse osmosis system to ensure water sent to all three washers was consistently purified. The collaboration included training and coaching staff as they worked through the new processes.

Realizing benefits

Within their local community, Metalworks is leading the way as they support the process improvements being made by other manufacturers in Mason County, Michigan by sharing their new understanding of the powerful connection between people, profit and planet.

Admittedly, the task is arduous and it never really ends, but the success at Metalworks exemplifies the power and value of every worker's individual contributions. Each person knows their importance to the company, community and planet. People are more productive, feel better about working, and enjoy the bonuses that are a direct reflection of their efforts.

"Prior to the Lean and Clean initiative, we were using all our "tools" but not looking at the "whole system. By changing our work environment, habits, processes and reporting methods, we are using fewer "tools", gaining more efficiencies and realizing the benefits."

Scott Lakari

LEAN *and Clean*

The value add included: the assessment, access to the technical assessment process, environmental technical assistance, access to internship program (associated with RETAP) MI Business Pollution Prevention Partnership (MBP3), Michigan Manufacturing Technology Center (MMTC)-West, Shingo award and national recognition.

$10,193 electricity cost savings per year related to improving compressed air use.

Light Corporation

Grand Haven, Michigan

Light Corporation became one of the first companies in the office furniture industry to undergo an assessment by efficiency and environmental experts working with the Green Suppliers Network program.

Founded in 1986, Light Corporation designs and manufactures energy-saving fluorescent task lights , ambient light fixtures (including motion and daylight harvesting sensors) for the office furniture industry and high bay fluorescent fixtures for industry, gymnasiums and retail customers.

Light Corporation is organized into three mini-companies, rather than by plant and office. Each mini-factory has a mini-office staff all based around product mix. This model works due to the cross-functional team that monitors 5S needs within the supply chain, financial tracking and up-to-the-minute reporting accuracy.

Light-years ahead

Light Corporation ensures the success of its strategic plan through teamwork and creative problem solving. Each year a "theme team" develops a measurement tool for the quarterly "rocks" or issues, established through company strategic planning. The team picks a theme that engages employees, provides a creative outlet and a little competitive spirit.

The theme this year? Star Wars. Light's "sabers" pulverized the "rocks" and moved the company closer to their goals.

Light is also raising the awareness of sustainable practices throughout the organization. Everyone is going through 5S training and learning the importance of organization, reduction in wasted parts, time or motion and the focus on standardized work processes.

Significant strides have been made in organizing stations, assembly lines, inspections and storage procedures.

Even the supply chain itself has been addressed. As with Metalworks, Miller Steel and Light Corporation staff meet on a weekly basis to review lean manufacturing practices.

The team at Light Corporation created a value-stream map for the entire factory floor. Together with a work-load assessment, the staff at Light Corporation is able to consistently manage its raw materials needs and production through-put.

CINDY MOE, LIGHT CORPORATION, GRAND HAVEN, MI

Bright ideas

Light Corporation is conscious of its products and the energy needed to use them. By “staying in front” of technology, they continuously evolve their products and guide their customers to the next generation of lighting methods.

By changing the practice of “flooding” rooms with light, customers can “sprinkle” light throughout their space with new LED lights.

Certified to ISO 14001 and recognized by the State of Michigan as a Clean Corporate Citizen, the company ensures that all employees are trained on expectations, and that includes all things “green”.

They don’t stop at green…

Light Corporation demonstrates its knowledge of the sustainability “spectrum “ including the financial and social legs of the Triple Bottom Line.

“We manufacture lighting, but we know the best light is natural…so we let it in.”

Cindy Moe
Human Resources Manager

Happy, healthy people here

Cindy refers to a number of programs that support the health and well-being of employees and the community in which the company resides. Open spaces, bright sunlight, fresh air; and this is inside the factory. Large windows and an environmental system that supports the health and wellbeing of employees creates a pleasant atmosphere in which to work, and work out. Light Corporation demonstrates its value for good health and wellbeing by providing an on-sight fitness center. People start their day together by exercising and stretching to prevent work-incurred injuries. This time allows announcements, hellos and a bit of socializing to ensure that strong inter-personal relationships are built.

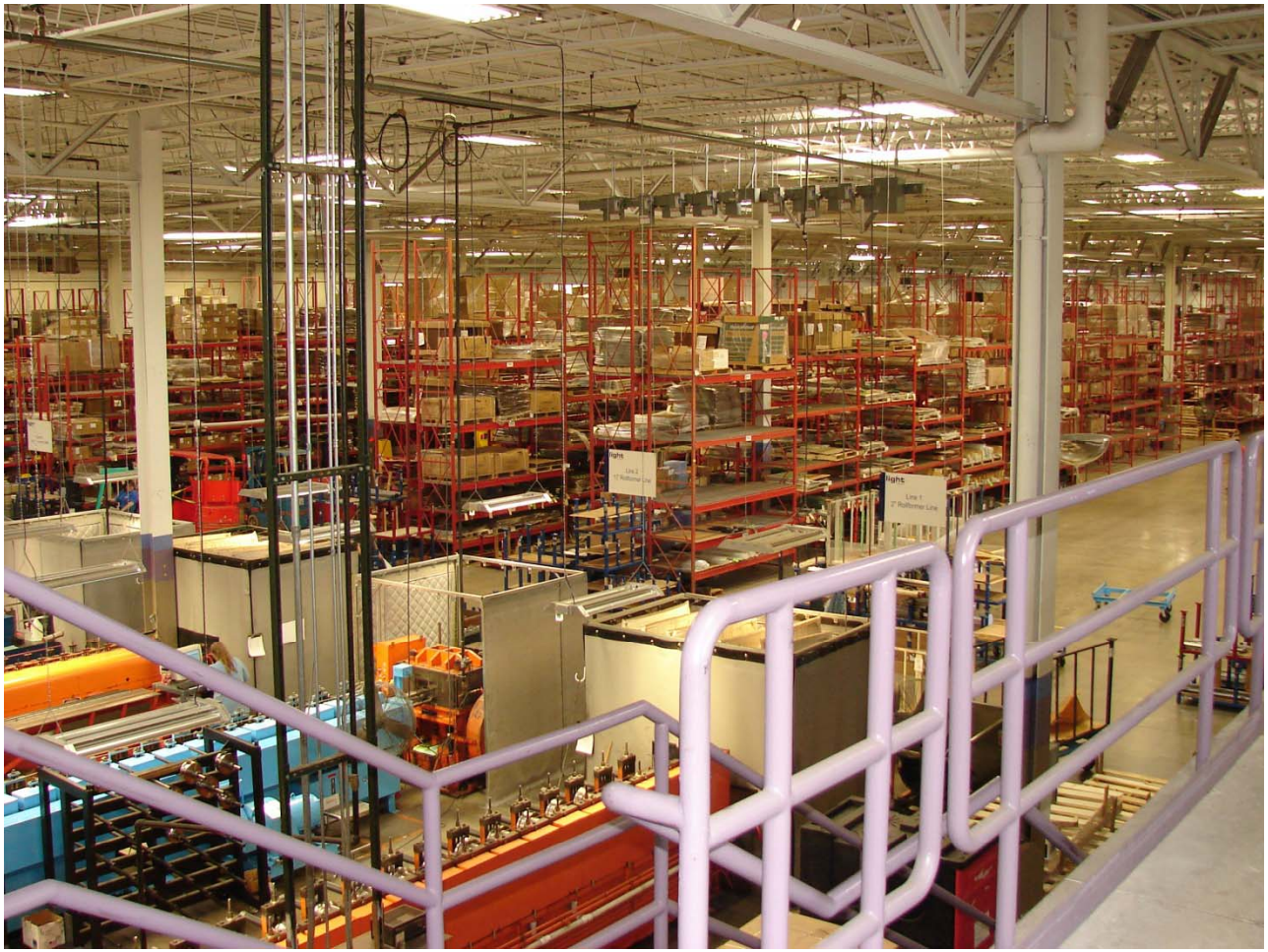
Their health insurance program offers incentives for healthy life styles with reduced premiums for non-smokers and preventive care programs. Light Corporation also offers one hundred percent college education tuition assistance. It is available based on grades and work relevance.

"This is a great place to work. When people feel valued, they want to give back."

Cindy Moe
Human Resources Manager

Running lean

Running lean means a changing workforce and the potential for redeploying people. Light Corporation works hard to create opportunities and help people prepare for new roles. The company continuously improves processes, ensuring increased capacity without building more facilities or increasing its footprint. Employees receive training on lean practices and financial concepts to help them understand how it impacts the business. As a result, workers understand the company's direction and how lean activities can benefit all. They have changed how they work and are actively helping achieve company goals.



Years ago, everyone did their job differently, now they have adopted standardized work practices.

One worker, Steve Greeno, is particularly enthusiastic about the Lean and Clean advantages.

Steve has helped people to see the value of every tool, part or material, no matter how small.

"Steve will not only pick up that 10 cent part, but he'll tell people were it goes."

Mary Steinman
Quality Systems Technician

Waste not

"We consider our products' components and how they can be recycled or reused".

Cindy Moe
Human Resources Manager

All product design is carefully considered. New lighting technology is incorporated as quickly as possible. According to Cindy, Light Corporation utilizes a device called a "bulb eater" through Valley City Environmental Services in Grand Rapids. A truck backs into a receiving bay with the equipment in the back. The bulb eater receives fluorescent bulbs, pulls out the mercury and recycles usable components. Employees are welcome to recycle their own spent fluorescent tubes from home as well.

On an annual basis, employees engage in "dumpster diving" to determine what should be disposed and what may need recycling. Creative recycling solutions are handled by Louis A. Padnos, which handles "just about any of our recycling needs" according to Cindy. Cindy indicates they either reuse or recycle as much as they can. Light Corporation has a massive recycling program including policies and operates to 14001 standards. To help engage employees, Light Corporation holds an annual "yard clean up" and "garbage clean up" throughout their campus and adjoining streets.

The company even chose to incorporate a behavioral study related to individual's recycling habits. They found that the more the company encouraged recycling and waste reduction in the plant and office, the more people followed through at home and in their communities. To help employees "do the right thing", Light Corporation has an on-site recycling collection for cell phones, computers and lights for employees. They are particularly pleased with their new composting center, which allows them to compost their landscaping waste. The compost will eventually support their landscaping efforts.

Waste reduction has also been accomplished by moving to document imaging, rather than using a paper-based system and a special rain gauge roof system that monitors precipitation and prevents excess sprinkling.

Community involvement

Involved in the community, Light Corporation has partnered with the Grand Haven High School. The company wanted assistance with the design of a new bracket and the students were invited to work on the project. The students attended a kick-off meeting, during which time engineers and CAD designers discussed the project, instructed them on lighting, the product development process and gave them a factory tour. Staff at Light Corporation were amazed at the knowledge level demonstrated by the Grand Haven High School students and they actually changed the scope of the project. Two teams were created and charged with designing a "light of the future". One design for the office environment, the other for stadiums. Both teams researched, designed, developed and presented to executive management while local media filmed the event.

Light Corporation further supports education through their summer internship program, ensuring students receive training directly applicable to the workplace. A wonderful training ground for potential employees, students become familiar with work processes and products, reducing the learning curve and creating a more productive experience. Partnering with the school has been a way to tap into bright, young minds in order to supplement Light Corporation's product development.

"We view this as an opportunity to have an impact on shaping our future workforce, as well as giving something back to our community… and who knows, one of their designs, or a portion of their design, may end up in an actual future product!"

Cindy Moe
Human Resources Manager

LEAN and Clean

The value add included: the assessment, access to the technical assessment process, environmental technical assistance, recognized as a Clean Corporate Citizen (C3) and received national Green Suppliers recognition.

$6,000 electricity cost saving per year related to reducing compressed air pounds/square inch (psi) from 110 psi to 90 psi.

Steelcase Inc.

Grand Rapids, Michigan

Steelcase is widely known for its approach and success with sustainability. Formal, corporate efforts are of enormous proportions.

But how do you inspire people to make small, frequent changes that can actually impact their personal lives, their company and their planet?

It started with an informal survey. With clipboards in hand, the environmental team checked in with everyone from the yard crews to manufacturing to executives. They wanted to know.

- Do you care about the environment?
- Why do you care?
- What are you doing to demonstrate your commitment?

About 450 positive responses later, the team emerged with two clear themes. People were outdoorsy or they were worried about their grandchildren's future in an overcrowded and resource-depleted world.

Small Green Steps

"Ten people trying to force behavior is less valuable than 1,000 people who get it, make a commitment and do it."

David Rinard, Director
Global Environmental Performance
Steelcase Inc.

LEAN *and Clean*

The value add included participation as an original Green Suppliers Network Original Equipment Manufacturer (OEM), member of the EPA Climate Leaders, member of the MI Business Pollution Prevention Partnership (MBP3) and retired Steelcase engineers are members of the Retired Engineer Technical Assistance Program (RETAP).

In a 5 month period in 2007 demonstrated 60% reduction in BTUs and 80% less water used on the parts washing system.

The environmental team was looking at some pretty big issues such as VOCs (volatile organic compounds), emission reduction, green buildings, waste and energy reduction. The survey respondents cared, but mostly about recycling. The gap between what people knew and did, versus where the company wanted to go, was huge. The team had to create the means to inspire and engage employees to act on the bigger picture to support the organizational environmental commitment.

Started as a grassroots approach, Small Green Steps became a means for employees to support the environment in their daily work lives. The first Small Green Steps project was simple, involved recycling and didn't feel like a corporate-driven initiative…which was crucial to its success.

The team became aware of an opportunity available through St. Jude's Children's Ranch for Children, a non-profit corporation affiliated with the Research Hospital that rescues abused, abandoned and neglected children of all races ad faiths. The Ranch recycles greeting cards received from people all over the world. The children cut the card fronts and glue them to pre-printed card stock. The children receive fifteen cents for each acceptable card made, which is then divided between their savings, a college fund, outings funds and to provide them with extra pocket money. The team created their own "chain letter" email, sending it out to ten people…who sent it to ten people. Steelcase retirees got involved, collecting, packaging and shipping an amazing 45,000 cards to St. Jude's Ranch.

Small Green Steps marches on, strengthened by individuals who continue to make a difference at work and at home.

Cascade Engineering

Grand Rapids, Michigan

Recycle Warriors

Knowledge changed thinking. The hum of equipment equaled the buzz of excited employees as they challenged one another to create the ultimate recycling program.

The vision started with CEO Fred Keller. The company has been implementing an Environmental Management System to conform to ISO 14001 standards. The system has been guided by specific objectives and relies on the involvement of employees at relevant levels in the process.

In order to raise awareness and help educate employees on sustainability, Fred led his senior management team through a class on sustainability. This course evolved into an 8 hour program for employees.

The result? The *Recycle Warriors* emerged as a self-directed work team. The first step was to do a waste analysis…a.k.a. "dumpster dive".

"The team's recycling efforts have benefited community and company by reducing the amount of waste going into landfills."

Kelley Losey, Business Unit Manager
Cascade Engineering
Quest Sustainable Solutions

Sustainability

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Cascade's color coding

Having taken an inventory of all recycled items being generated in the plant from various work cells, maintenance, shipping, materials and office areas including the break room. Employees "scavenged " to locate containers to fit their needs and for less than $100 created waste recycling carts out of scrap supplies, a recycling area and a 'master' recycling center used at the end of shifts.

People created recycling boards with illustrations describing the types of waste items that could be recycled.

Ultimately, they increased their recycling by 40% and reduced their landfill dumping charges. The team also encouraged the entire organization to continue to drive out the need for landfill dumping.

The staff participants received personal recognition with the Office of the President award and the landfill reduction savings supports the employee bonus program.

LEAN and Clean

The value add included: a Clean Corporate Citizen (C3) member of MI Business Pollution Prevention Partnership (MBP3) and a partner in the Green Suppliers training.

Herman Miller, Inc.

Zeeland, Michigan

In 1989 three people founded the Environmental Quality Action Team (EQAT) to develop goals and direction for environmental performance. In 1991, EQAT created their first formal environmental policy statement with zero landfill use as the first goal.

The response was tremendous. Laughter.

However, the joking and laughter created buzz, which led to the right people talking. Janitors worked with engineers, forming the ELIP, Environmental Low Impact Processing (ELIP) operational excellence team. A cross-functional team of designers, manufacturing, facilities and packaging experts initiated Design for the Environment (DfE) practices to create the Aeron chair.

Laughter has become results. ELIP and energy reduction efforts have resulted in savings approximating $500,000 per year with a 30% ROI. Volunteer-led waste reduction activities have saved in excess of two million dollars per year.

A third team got together around green buildings and helped to found and fund the U.S. Green Building Council. Green building is another area where the savings outweigh the cost of the program.

A Perfect Vision, sustainability targets for 2020, including:

- Zero landfill
- Zero hazardous waste generation
- Zero air emissions (VOC)
- Zero process water use
- 100 percent green electrical energy use
- Company buildings constructed to a minimum LEED Silver certification
- 100 percent of sales from DfE-approved products

"Without the benchmark of where you started, you will never know how far you have gone."

Paul Murray, Director of Environmental Affairs and Safety

Building on the past

The company continues to expand its sustainability goals, tracking and reporting monthly on eight strategies that monitor progress…and almost 400 volunteers contribute their expertise and energy to environmental initiatives.

Paul Murray, Director of Environmental Affairs and Safety, indicates the experience of creating something from scratch energized staff and created collaboration and camaraderie. His advice? Plan, prepare, and:

- Secure management alignment
- Make a financial commitment
- Enlist someone to tell the story in an accurate and understandable way
- Develop data tracking and reporting
- Create teams and sub-teams, each with clear goals and measures
- Create the road map of goals, indicators, accountabilities
- Work with suppliers, ensure their management is supportive

LEAN *and Clean*

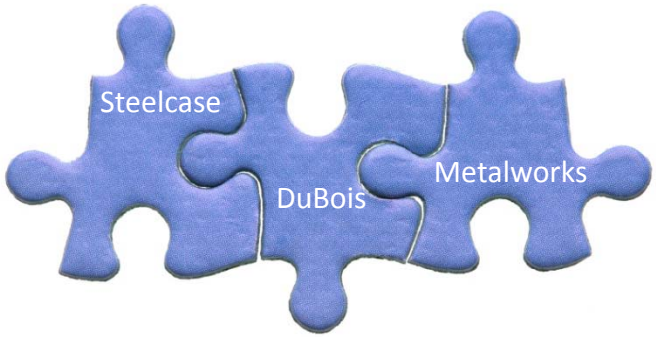
The value add included: a Clean Corporate Citizen (C3) member of MI Business Pollution Prevention Partnership (MBP3), RETAP provider, and a partner in the Green Suppliers training, EPA Waste Wise Partner, GSN OEM Partner.

Waste reduction efforts in 2007 resulted in cost savings of $50,000.

DuBois Chemical

Cincinnati, Ohio based company with a Western Michigan connection

DuBois Chemical, the industrial division of Johnson-Diversy, has made a commitment to help customers move towards sustainable business practices.

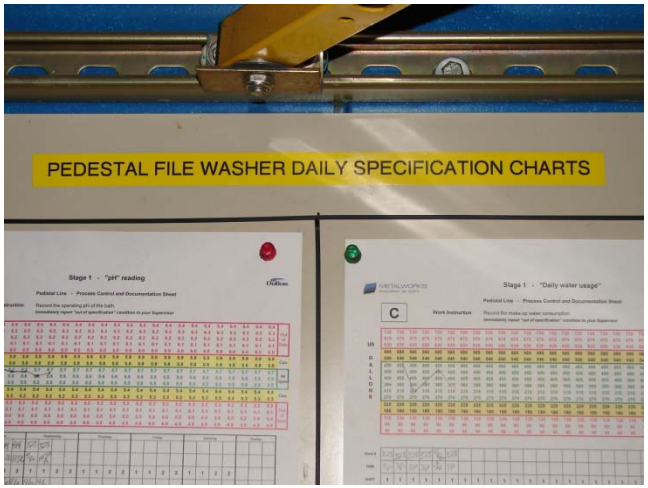


They maintain a loyal customer base because they truly value collaborative relationships.

As a service provider with expertise in industrial chemicals and parts washing, the DuBois team of Keith Lane, Kip Legg and Jerry Harrington work with a number of companies in the West Michigan area.

After successfully trying some new process improvements at Steelcase, they brought their concepts to Metalworks, already a client of DuBois and a supplier for Steelcase. The success of the idea and the technical process guidance provided by Keith Lane led to DuBois participating in the Metalworks 5S process. Additionally, a combined effort including The Right Place, MMTC-West, DuBois and Metalworks resulted in a visual management system to help employees follow the new methods.

The result? Tangible reductions in wasted effort, time and energy costs.



METALWORKS, LUDINGTON, MI

Supply chain…working in reverse

A collaborative organization, DuBois has earned the right to work within the supply chain of a number of manufacturers in West Michigan. Having worked with the Steelcase wood manufacturing plant, Keith Lane was an obvious contact for support for a lean and clean assessment at a Steelcase manufacturing site in Grand Rapids. DuBois provided process improvements for the paint line that would conserve chemicals, energy and water, reducing costs and environmental impacts. After five months, savings were realized in a number of areas. The new process led to energy reductions of approximately 60 percent of the BTUs required. Water usage was reduced by 80 percent and new chemistry was reduced by 20 to 30 percent in volume. The waste stream was cut by 85 to 95 percent and reduced equipment maintenance labor costs by 50 percent.

Rather than limiting assessments to chemistry-related issues, DuBois evaluates all of the inputs (volumes and financials) into a manufacturing budget including water, energy, labor and chemistry and assigns "hard numbers" to each. After determining the current state, they begin to model future state improvements and collaborate with the customer on priorities to reduce costs and environmental impacts. These Lean and Green concepts, coupled with the DuBois Total Cost of Ownership (TCO) approach have generated significant cost reductions while simultaneously reducing the environmental footprint. "Truly a win-win outcome for DuBois customers, the environment, and our company", reports Jerry Harrington.

For Keith, Kip and Jerry, working with high-caliber, forward thinking companies has led to new ideas, process improvement concepts and measurable, positive impact within each organization and for the environment. They think of themselves as part of the customers' team and practice their craft knowing they are making a difference. Keith, Kip and Jerry are people that take their commitment and their ability to make a difference very seriously. Keith summarizes his involvement this way, "Working with a broader perspective and higher goals provides a mechanism to really move beyond traditional relationships into genuine partnering. This promotes achievement of significant quantifiable and reportable improvements which has kept us moving forward and is rewarding. But what is most satisfying is being part of making improvements that have positive effect on the world we live in, today and for the future."

LEAN *and Clean*

The value add included: a service provider, innovative parts cleaning process, provider of measureable resource conservation

Summary

Strong networks provide organizations the opportunity to collaborate, mentor amongst themselves, leverage funding and resources and continuously improve their market advantage. As a participant in the Green Suppliers Network in West Michigan, your company will be able to take advantage of the following services and resources:

- Lean and Clean Assessment – The Michigan Manufacturing Technology Center (MMTC)-West and the Right Place, Inc. provide low cost, process-level assessments to identify both lean and environmental wastes in your manufacturing system. Value-stream mapping is provided to demonstrate current and future state conditions with recommended changes and associated potential cost savings.

- Retired Engineer Technical Assistance Program (RETAP) Interns – The Michigan Department of Environmental Quality will provide companies a no or low cost opportunity to employ an intern from a Michigan-based university program in engineering to assist in the implementation of environmental waste reduction recommendations from the Lean and Clean Assessment.

- The opportunity for company to company discussion and connection regarding challenges and successes is promoted to participants through Local User Groups, the Michigan Business Pollution Prevention Partnership (MBP3) and the Society of Manufacturing Engineers (SME) Lean to Green webinars.

- With company permission, Best Practice Case Studies are developed and shared via the MMTC, the DEQ-Great Lakes Sustainable Suppliers Environmental Network(GLSSEN) and the EPA- Green Suppliers Network.

- Technical resources are provided to participants to assist them in the implementation and continuous improvement practice of Lean and Clean.

- Training opportunities are offered to participants to provide current information relating to sustainable business practices, worker competency and green technologies.

- Value-added conditions include increased visibility for marketing and branding; benchmarking opportunities; and increased competitive advantage in the marketplace.

- Incentive and recognition in Michigan programs like Clean Corporate Citizen (C3) and Neighborhood Environmental Partners (NEP).

http://www.michigan.gov/deq

"The Michigan Department of Environmental Quality supports and recognizes the contributions of these companies to the conservation and wise use of natural resources in State of Michigan, however, the Department is not endorsing the use or purchase of any particular product associated herein."

Great Lakes Sustainable Suppliers Environmental Network

http://www.michigan.gov/deq/0,1607,7-135-3585_4129_40313---,00.html

Green Suppliers Network

https://www.greensuppliers.gov/gsn/home.gsn

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