

CASE IN POINT

A Publication of Technical Change Associates, Inc.

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Dave Dixon is CEO of TCA. He has over 39 years experience with process improvements and Extreme Lean.™

BUILDING A LEAN, WORLD CLASS ENTERPRISE A QUESTION OF LEADERSHIP BY DAVE DIXON

In our last issue we advanced the notion that lean techniques offer the same benefits to a small shop owner that they do to a larger OEM company with more repetitive product lines.

Now let's look at the key requirements for mounting a successful lean implementation.

As companies contemplate the lean journey, they usually have to come to grips with the following questions:

- What is a World Class company?
- What is considered World Class performance?
- What are the most important factors in achieving World Class performance?
- Why do World Class Manufacturing programs fail?

This article outlines answers, based on observations and

experience over the past two decades.

The World Class Company—a definition

World Class companies are elite competitors in their respective industries—manufacturers judged to be the best of the best by their customers, employees, suppliers and communities.

And they are globally competitive, capable of defending their markets against foreign competitors while successfully penetrating foreign markets.

John Boyer, a colleague and a keen student of lean manufacturing, has reduced this general definition to four fundamental criteria. World Class Manufacturers are:

- 1) The preferred suppliers in world markets
- 2) Capital magnets, able to attract either equity or debt financing with ease

- 3) Sought-after places of employment
- 4) The business of choice by the community

Closely related to these criteria is a set of measurements that shape the perceptions of customers and stakeholders. (Figure 1)

Performance Metrics

Elite competitors deliver extraordinary value, as perceived by their customers. Value is a function of service and quality received at a given price. That price can be relatively high as long as customer expectations are exceeded more consistently than by competitors offering a lower price. However, the best companies rarely run the risk of being the high-priced competitor.

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Visit our website at www.TechnicalChange.com and order your free copy of "The Top Ten Secrets of Lean Success." See page 8 for details.

WHAT IS WORLD CLASS?			
World's Preferred Supplier	Financial Capital Magnet	Sought After Employer	Community Business of Choice
Quality Delivery Innovation Value Priced Hassle Free	Management ROI EBITDA Simplification Cost/value	Safety Education Compensation Involvement Accountability	Environment Stability Suppliers Investment Partnership
Values, Performance and Feedback			

Figure 1. Measurements that shape the perception of customers and stakeholders.

To give the greatest value at equal or even lower prices, the manufacturing function must achieve very high levels of effectiveness and productivity. This means that processes, facilities, systems and the organization are configured to deliver:

- 95% on-time delivery to promised date
- Total order throughput time 50% or more, below industry average
- Superb quality at a cost 50% below industry average
- Productivity in dollars per employee per year 30-50% above industry average
- Inventory turnover 20-50 times a year
- Operating profits 50-100% above industry average

- Employee turnover rates less than 10%
- An accident-free workplace
- Engaging every employee in cost-improvement activities every day

Other metrics drive the improvement necessary to achieve these levels, such as setup time, lot size, shop lead time, distance traveled, number of hand-offs, housekeeping scores, yield rates and production linearity. The lean, world class company focuses on measuring and improving these indicators through proven techniques. Success is reflected in the top-level results above.

After describing the characteristics and performance capabilities of an elite competitor, the question becomes: "How do

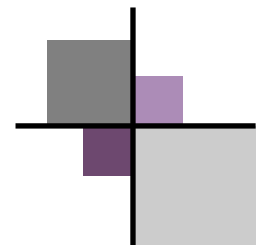
we get there?" The answer is straightforward.

Making It Happen

In every successful world class manufacturing implementation we know of, the person positioned to make decisions and allocate resources is determined to have a world class operation. This determination is, without exception, backed by a clear understanding of the technical and cultural aspects of world class manufacturing. These leaders catch a vision of what their companies can become and constantly share that vision with their people—formally and informally. Detailed implementation activities are delegated to staff members. Sequencing of events and timing are negotiable, but whether or not the implementation will go forward is not up for debate! In other words, becoming a world class competitor is not optional.

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Leaders catch a vision of what their companies can become and constantly share that vision with their people—formally and informally.



In a real sense, the physical environment, the culture, and the company's performance become an expression of the leader's personality. In the same way a painter, a musician or a writer is invested in their work, those who lead a world-class manufacturing implementation seek to create a lasting legacy. We often see this in the unique characteristics of each successful implementation; they are never quite the same.

When the program becomes the leader's passion, nothing stands in the way.

Connected with this mindset is an acceptance of the long view. Like timber company executives who spend millions to reforest logged-out areas with trees they will never see grow to maturity, these leaders invest their company's resources in improvement programs that are never really finished. The journey to excellence often extends beyond their tenure.

Short-term thinkers and opportunists are not likely to make the commitment to such an effort, which is why some companies (too many, perhaps) will never become world class

performers. And even the most determined leader and management team will be challenged as they attempt to drive fundamental change in the manufacturing process.

Causes of Failure

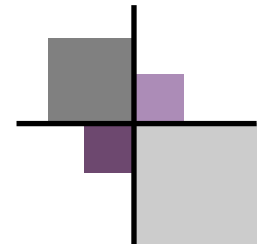
It has been said there can be no failure if you never quit. This is certainly true of a lean implementation. The most common cause of failure is lack of persistence, or unwillingness to work through the inevitable stumbling blocks. A period of work and investment precedes the promised benefits, and some can't abide the waiting or associated problem solving. They simply quit too soon.

Another cause of failure, though not as common, is the absence of a reasonably stable, educable work force. If turnover is too high, and the caliber of employees is too low, it's very difficult to develop the knowledge and skill necessary to be a world class performer. Some remedial steps may be required to upgrade the work force before going forward. This problem can apply to administrative personnel as well as hourly people.

A third threat to successful implementation is the phenomenon we call resistance to change. People often have difficulty adapting to the concepts, principles and practices of lean manufacturing. Although lean is fundamentally different, most people will embrace the new techniques when they know what is expected and have the required new skill sets. Where someone cannot—or will not—accept the change, management has to make tough decisions. You can't afford to sacrifice the program to placate the naysayers. "It is better that one man perish than to have a whole nation dwindle in unbelief."

Finally, we see some lean programs fall victim to an endless array of distractions.

Business is up, or business is down ... someone quits ... new software is being installed ... there's a quality problem, or a new product. Years slip away, and virtually no real improvements materialize. Avoiding this trap requires true commitment. It ultimately comes back to the leader's determination to keep moving forward.



World Class companies are elite competitors in their respective industries—manufacturers judged to be the best of the best by their customers, employees, suppliers and communities.

VISTA CASE STUDY: THE FORMULA TO LEAN SUCCESS BY DAVE SCOTT

Every person in a company that has embarked on a World Class journey knows that there are no shortcuts. The formula is simple:

- Have superb leadership
- Educate and train at all levels
- Plan the transformation (vision)
- Execute and manage change (strategy)
- Monitor and measure results
- Repeat

The challenge in 2005 at Vista, a division of LMI Aerospace, was that only the first ingredient existed. When Ed Campbell became General Manager, he saw immediately that their current state had to be fixed. He also recognized that Vista couldn't do this unassisted and didn't have a huge amount of time.

As he analyzed Vista's performance, it became a choice between turning the division around or recommending the transfer of most work to other divisions:

- On-time delivery had reached an all-time low of 13%. Over 800 orders were past due

- Monthly inventory adjustments were \$200,000 + a month
- Late orders exceeded 800
- Employee turnover had risen to over 37%
- The plant was not building the right products, and had too many small customers
- Most customers were unhappy, most of the time
- Scrap losses were at an all-time high
- The plant was losing money
- Overall employee morale was poor, at best

From Ed's experience, he knew they had to create a common vision, increase focus and find a new way of doing business. He looked for help and eventually was directed to Technical Change Associates (TCA). Collectively, we developed a plan to attack the issues at hand.

In May 2005, the transformation began; 15 managers, supervisors, and other key personnel gathered in Carlsbad, CA to participate in the TCA Lean boot camp. That workshop,

built around our Competition Quad (Figure 1), revealed the need for 3 primary initiatives:

Figure 1. The Competition Quad.



- 1) Value Stream Mapping of main product types
- 2) Training for all employees
- 3) A first event that was successful, sustainable, and beneficial to the people making parts

To begin, we selected a set-up reduction Kaizen on one of the 5-axis routers. These machines represented a key capacity bottleneck with set-up times over 2.5 hours, forcing long runs and considerable amounts of down time.

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Dave Scott is TCA's Regional Vice President. He has over 40 Years experience in Lean Implementation and Strategic direction.

Figure 2. Transformation Map.



The initial assessment suggested that a 20 - minute setup was possible (we later achieved this goal). While the first project was underway, Value Stream Mapping identified many other opportunities for improvement. These were captured on a Transformation Map or T-Map (figure 2). All of the activities on the T-Map were closely monitored through a Status Report (Figure 3). These tools have guided and directed a very successful turnaround at Vista.

During the fall of 2006, LMI Aerospace's corporate management advised Vista that they were going to receive additional work, and to prepare for significant growth during 2007. The Lean Steering Team, which continues to meet every 2 weeks, elected to create a

Growth Plan and include it on the T-Map and Status Report, giving it the same visibility as all other Kaizens and projects.

As new employees were added, both hourly and salaried personnel went through a 1-day Lean boot camp. Sessions in Spanish were frequently scheduled to accommodate the needs of Vista's diverse work force. Finally, a full-time training coordinator was hired to implement additional skills' training at all levels.

To date, we've implemented over 15 major Lean initiatives, and activities are already planned for the next 6-12 months.

Has it worked? You decide:

- On-time delivery hovers around 95%. Several

major customers have no late deliveries

- Inventory adjustments are now about \$30,000 a year
- Late orders are at 15 (mostly due to short lead time orders from customers)
- Employee turnover has fallen to about 3%
- Vista is building the right products for fewer customers and the customers are happy
- Monthly sales are up 60%; 2008 should grow another 20%-30%

Create a common vision, increase focus, and find a new way of doing business.

Figure 3. Status Report.

T-Map Project Ref.	Vista Project Owner	T-Map Project Description	Project Objectives
Operations - Jose Carruitero			
Layouts and Implementations			
A1	Jim	Plant Layout Implementation	Implement layout changes determined in H1 Kaizen
Setup Reduction			
A2	Jose	Set up Reduction Kaizen (Routers)	Reduce setup time to absolute minimum, separating out external from internal, to maximize uptime on routers
One Piece Flow Process			
A3	Jose	Develop and Implement Flow	Incorporate flow processes across all product lines and value streams
A4	Spencer/Jim	Level Load to Meet Takt time	Develop and implement process that reduces imbalances and creates systems that will allow all operations to meet Takt times (standard run times)
Plant - wide 6S Implementation			
A5	Sam/Luis	6S Implementation Kaizens	Embed the 6S process into all aspects of the LMI Vista operation, Plant and Office, through the use of mini-Kaizen events
Manufacturing Technology and Facilities - Spencer French			
Check and Straighten			
B1	Spencer	Check and Straighten Elimination Kaizen	Kaizen the Check & Straighten process with the intent to eliminate most or all of the current operation; document results/create standard work
B2	Spencer	Implementation Kaizen to Eliminate Check and Straighten (standard work)	Implement standard work that will no longer require check and straighten operations

- Despite the increased demand, employment has risen by only 11%. Productivity is up by 43%

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- Monthly losses have turned into significant monthly gains
- Employee morale is good

The Vista plant is now preparing for 2008. It will be another challenge, but one they've proven they can meet. They are in the midst of their second major plant layout, and are already realizing additional gains. Inventory control will improve even more and productivity will continue to rise.

Recent Value Stream Mapping of all non-manufacturing processes is uncovering opportunities for driving out further waste. Several major initiatives are planned for the administrative areas. Kanban pulls, set-up reduction, value stream mapping and Kaizens are a way of life.

The Vista plant has become a leader for LMI Aerospace. They have begun to pioneer in many areas, and other LMI plants are now leveraging

Vista's successes. Hard work, determination, planning, and leadership are the keys.

Tour the Vista facility at TCA's Annual Conference and learn first hand about the improvements. See page 8 for details.



The San Diego facility of LMI Aerospace provides 85,000 square feet and employs nearly 100 people. Processes at the facility include: stretch forming of skins/doublers, extrusions and leading edges, dual forming, draw forming, hydro forming, 5-axis routing and trimming, 2-axis water jet, subassemblies, welding, brake and roll forming and thermal processing.

**“THE COMPLETE IDIOT'S GUIDE TO LEAN SIX SIGMA”
BOOK REVIEW BY JEFF HOFSTETTER**

After being heavily involved in Lean Manufacturing for the past 20 years, then immersed in Six Sigma (as a Black Belt) for the past 7 years, I was fascinated by the term Lean Six Sigma.

Of the many books available, I selected this guide, by the Breakthrough Management Group, to learn more.

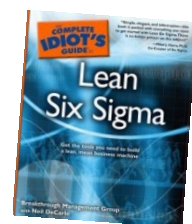
In addition to the basics and implementation tips, the authors offered a few suggestions:

- Caution against isolated definitions. Six Sigma does reduce variation and defects/errors to improve processes, yet also streamlines and removes waste. The same with Lean- while used primarily to decrease waste, it often lessens defects/errors as well.
- Emphasize the importance of blending these methods into a single approach for optimizing quality, speed and cost.
- Explain how both tools focus on creating value.
- Lead you through the steps of applying Lean Six Sigma.

The book is well written and formatted for easy reading; a great introduction to transforming your company using these combined principles.



Jeff Hofstetter is a Senior Consultant with TCA. He has 25 years experience and adds a strong quality emphasis to his Lean implementation skills.



TOP TEN HIRING MISTAKES BY TRINA GREEN

We've seen the hundreds of *Interview Mistakes to Avoid* articles for employees. Well, we believe it's an employee market now—with the jobless rate at an all-time low, qualified and competent candidates are becoming rare. Here is our top 10 list of areas where employers make mistakes. It's time to say employers beware!

10. Setting the Stage. Be sure you have no interruptions during the interview. Create an atmosphere where candidates can feel comfortable talking and you can focus on them, while leaving a positive impression.

9. Relocating. Don't let relocation costs hamper your process. There is always a risk that new employees might use you to get to a certain location, so let them share the risk. Spread the reimbursement over time—90 days, 180 days, and 360 days. Be creative to minimize your risk if that is what holds you back from getting the talent you need.

8. Listening. Avoid taking too much time describing the position and not enough time listening to the candidate. Instead ask your questions and let them talk; you will

learn what you need to know if you can be quiet.

7. Knowing Competitive wages. View wages as an investment in getting the people you need. It can cost you more to continue long searches while being without the expertise. Management will get over paying someone more when they see you have hired intelligently and increased productivity is the result.

6. Selling. Remember this employee market calls for promoting your company. Prepare a list of advantages and points for discussing the importance of the position and how it affects overall goals. People want to know they will make a difference.

5. Asking. Focus on behavior-based questioning. These answers will give you more insight into your candidate than the data. Try: "Tell me about a time when...."

4. Considering Talents. Never exclude talented people who could easily adapt to a new environment and be one of your best hires. For example, you wouldn't want to pass over a 25-year veteran with manufacturing talents in leadership, financials, training, mentoring, and Lean

implementation for someone with specific industry skills.

3. Profiling. Understand the personality, talent, expertise, experience and education the position requires. Have a clear, current job description and know the deal breaker criteria.

2. Timing. Don't let time lag between initial interviews, assessments, on-site interviews, etc. Candidates may view that as lack of interest and move on. No more than 24 to 48 hours between steps, with your candidate interviewed and assessed within 3 weeks, are good goals. If your process takes longer, chances are you'll lose them.

1. Having a competitive Edge. Use a recruiter to improve results. Supplementing your efforts lets you concentrate on business, training, and long-term relationships. A professional recruiter can give you and your candidates a superior hiring experience.

When you need a unique approach to fill critical positions, call us. Let us help you find the talent required to make your organization successful. The Right Candidate -- Right Now!

Talents are innate and are not acquired with practice. Other expertise and skills can be learned.



Trina A. Green has been with TCA over 17 years. She manages TCA's recruiting programs, celebrating over 3 years of tremendous success.

The best employees are the hardest to find (and hardest to keep).

MARK YOUR CALENDARS NOW!

**TCA's 14th Annual
Conference on Lean/Six
Sigma**

April 2-4, 2008

San Diego, California

The highlight of this year's conference is a Tour of LMI-Vista, TCA's 2008 host company. Learn how LMI-Vista turned their fledgling facility into a Strategic Success. See how the company has organized their improvement opportunities through value stream mapping. Hear first-hand how the

General Manager developed his Leadership Team to drive an unbelievable transformation of this company. Starting out with 1 Kaizen Event a month and using the most fundamental Lean tools, this company has transitioned from losing money to making money to a World Class site – and plans to double their business in the next 3 years. Learn how they meet customer commitments and now are

the preferred supplier in their industry.

This tour and three great days filled with informative presentations and motivating Keynote speakers is guaranteed to help jump start your new program, revive an existing program, or enhance your current efforts.

Contact Amy Strebel at TCA (801) 621-8980, for a copy of our brochure or more information. Reserve your spot now! (Limited to 40 participants)




WEBSITE UPDATES

Visit us now at www.TechnicalChange.com

TCA is proud to announce our website make-over. We've added a new look and feel, while improving the ease in finding credible, practical information. Be sure to browse through our articles/case studies and use the online assessment tool for a quick analysis of your current Lean condition. We also are pleased to offer a new booklet called The Top 10 Secrets of Lean Success written by Dave Dixon; you can request your free copy

by visiting the website. (Gary Conner and Dave Dixon discuss the book in an audio interview on the home page.) We've added a resource list, plus a glossary of manufacturing and Lean terms. Visit the "Our Clients" section to see client testimonials, then learn what's new in the Lean world under "Upcoming Events." It's a great place to keep pace with Lean culture.






**The Top Ten Secrets
of Lean Success**

**How to Make Your
Implementation Work**

By David R. Dixon
President
Technical Change Associates, Inc.



GLORIA M. DIXON - A TRIBUTE BY TRINA GREEN

She is the woman beside Dave Dixon in beginning the legacy of Technical Change Associates, the company they built and loved. Gloria truly has been the wind beneath our wings!

While her hard work and dedication to the business are evident to those who work for TCA, our clients and business partners may not know, so today we want to honor Gloria Dixon.

For over 23 years, she has been the foundation of our company. Gloria did it all in the beginning: receptionist, travel agent, bookkeeper, marketing specialist, accountant, editor, secretary. She also interpreted Dave's writing and completed his time and expense (T&E) sheets—that in itself is truly amazing.

When I first came to work for TCA over 17 years ago, Gloria welcomed me as a family member. I remember her training me with a very methodical, step-by-step process. It was evident that this business was her baby and she wouldn't accept anything but perfection for

her child. But as time heals all wounds, time tempers the passion for perfection when dealing with people—she was patient, forgiving of my mistakes, and encouraged my willingness to learn.

Together we were Dave's cheering section, getting excited over every new client and watching the company grow.

Gloria wore her heart on her sleeve—you always knew where you stood, with no pretense. For me, it made working at TCA comfortable. I knew if I did something wrong she would set me straight, just as I knew if I did something right, she would show appreciation. She was sensitive to being fair as well as thoughtful. Gloria became friends with all our vendors. (I think the mailman had a secret crush on her. The printer, too. Even Larry, who sold us some marketing pens, loved working with Gloria. They knew she cared about them personally, not just professionally.)

She kept us honest and helped us avoid extravagant, unnecessary

spending; she was the eagle eye for our articles, proposals, and workshop materials (her editing talents are amazing), and she developed the error-proof invoicing system we still use today. Those are only a few of the many talents Gloria brought to TCA.

As we grew, she gradually let go of tasks to others. I knew that was hard for her just as it's hard for her now to reduce her hours, though it will give Gloria more time for family and fun. We know her heart is still here, and we're happy that it's only a reduction, not a parting. Gloria continues to be my associate, my confidant, and my best friend.

Gloria, you will go down in TCA history as the lifeblood of our company. We love you, we respect you, and we honor you.

Buona Fortuna!



Gloria M. Dixon



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Technical Change Associates, Inc. (TCA) is the leader in Lean manufacturing consulting, offering a holistic suite of education and consulting services for Lean and Six Sigma initiatives. We help build truly great companies through a wide range of education, training and engineering services that support formal Lean/continuous improvement programs. At TCA, we work with a variety of "tool-kits," including Lean Business Practices, Recruiting, Leadership Training, ERP/Lean Integration and Six Sigma Quality. We are among the best in the world at integrating these tools and managing the complex change processes that can provide your organization with superior results.

ANNOUNCEMENT

We are pleased to announce that effective September 1, 2007, Rick Smith is the new President of TCA. Dave Dixon has assumed the role of CEO.

Rick has over 35 years of experience which includes over 15 years of consulting assignments involving Lean Manufacturing and formal Continuous Improvement

programs in the metal fabrication, printing, aerospace, processing, and metal finishing industries as well as 15 years of management in an aerospace firm. He has been with TCA for over 7 years as the General Manager and Vice President. Rick studied Mechanical Engineering at

BYU and is a Certified Plant Engineer (CPE) and Registered Environmental Assessor (REA).

He has been married to his wife, Rosie for 34 years and together they have 4 children and 4 grandchildren. Congratulations to Rick and the best of luck in your new role.



Rick L. Smith

NEWSWORTHY NOTE FOR CALIFORNIA MANUFACTURERS:

The Employment Training Panel (ETP) is a business and labor supported state agency that assists employers in strengthening their competitive edge by providing funds to partially off-set the costs of job skills training that is necessary to maintain high-performance workplaces. California's ETP is a performance-based program, providing funds for trainees who successfully complete approved training programs.

The program is funded by the Employment Training Tax paid by California employers, and targets firms threatened by out-of-state and international competition. Since its inception in 1983, the ETP program has provided over \$1 billion to train more than 665,000 workers in over 65,000 California companies. Employers match training funds awarded through ETP contracts, making these projects true public-private partnerships.

Technical Change Associates (TCA) can provide training in Lean and Six Sigma implementation and your company can be assisted with state funds. There will be between \$70 and \$80 million dollars available for this training each year. TCA has resources standing by who can help you access this funding. For more information call Rick Smith 801-621-8980 (office) 760-963-1798 (direct).