

Lean Enterprise Division

December 2006 Highlights

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Chair's Message

December 2006

This quarter I moved from Omaha, NB, to Lubbock, TX, to become quality manager for Tyco Fire and Building Products-Lubbock Operations. I have been busy learning new products/processes and unpacking boxes. Even with the distractions, the first quarter was good for the division. The following are some of the highlights:



1. We received approval as an official ASQ division at the November ASQ board of directors meeting.
2. We are working toward an ASQ certification in Lean and here is the status: The body of knowledge (at a macro level) was discussed on the Lean Forum Discussion Board for a few months and revised/modified based on member input. Now to get to the micro-detailed level and to take it through the ASQ certification process, we must submit our proposal for a new certification to ASQ's Certification Board. By the end of this year, we expect the Certification Board to approve the proposal and in 2007 Lean could become another approved ASQ BoK and on the way to certification.
3. We got three papers approved for presentation at the ASQ World Conference on Quality and Improvement in Orlando, FL (May 2007).
4. We will also have a Lean networking session at the ASQ World Conference, so join us to network with other Lean professionals to share and get ideas.
5. We will have a booth at the ASQ World Conference and will need people to help for just an hour or two to cover the booth and answer questions about the division.
6. We will have our business meeting on Sunday, April 29, 2007, at the ASQ World Conference. Come by and help set the direction and budget for the next year.
7. We want to provide support to ASQ sections interested in developing Lean networking groups. See Miami Rogers' article on p. 6.
8. We are working to make our Web site the portal for information about Lean. To help us, please submit white papers and case studies about your journey in implementing Lean. We have added a couple papers to the library. Check them out when you get a chance.
9. We had some lively interaction on the Lean Discussion Board. Sign in and join in the discussion.

The Lean Enterprise Division continues to grow with 4,760 members at the end of October. Membership increased at a 6 percent growth rate for the first quarter and is projected to have more than 20 percent growth for the year. Thanks for being part of this growth; we still need your help to shape the future of the division. Feel free to contact me if you can help.

Jobby Johnson
MBA, CSSBB, CQMgr, PMP
Chair, Lean Enterprise Division



Lean Enterprise
Division

The Lean Enterprise Division "Goes to Disney World" (Well, at least Orlando!)

The Lean Enterprise Division will be well-represented at the 2007 World Conference in Orlando as we had 50 percent of our presentations accepted by the Technical Program Committee and will once again have a networking session. You can begin looking forward to attending the following presentations:

Lean 101—Half-Day Tutorial

Presented by Bill Cardin
Cardin Quality Training Associates
Sunday, April 29, 12:30 - 4:30 p.m.

This introduction to basic Lean principles will be an effective primer for those exploring Lean for the first time. The session will define most of the common terms used in Lean operations like Lean tools, 5S, TAKT time, plant layout, standardized work, batch size reduction, quality at the source, line balancing, TPM, Push vs. Pull, Kanban, and Poka Yoke. It will also include a factory simulation that demonstrates the four stages of development beginning with traditional and ending with Lean.

Value Stream Mapping—Session T02

Presented by Anthony Manos, Profero Inc.
Tuesday, May 1, 9:15 - 10:00 a.m.

Learn to "See the Flow" or, more important, where there is no flow. Gain knowledge on the four-step process for creating value stream maps that will help propel your organization into the Lean revolution.

Participants will learn:

- The VSM four-step process including:
 - o Determining a product family
 - o Drawing a current state map
 - o Drawing a future state map
 - o Creating a plan to get to the future state
- The eight wastes of Lean
- The building blocks of Lean
- Eight questions for the shop floor
- Ten questions for support or office functions

cont. on p. 3

Use of Lean Techniques in the "concept to launch" phase of development

by Connie Tolman

There are many techniques developed to aid in the leaning of the process known as from "concept to launch." To name a few:

- Concurrent engineering
- Cross-functional teams located in the same area
- Quality Function Deployment (QFD)
- Design for Manufacturability/Assembly (DFM/A)
- Tollgate Design Review Process
- Design for Producibility
- Design of Experiments (DOE)
- Value Stream Mapping

These are all interesting in themselves but I want to focus on value stream mapping specifically used in a startup company for a new process.

Value stream mapping is typically used in a mature product for the purpose of removing all of the non-value added waste. It can be used to set up pull systems, continuous flow manufacturing, re-layout manufacturing areas, and many more.

Company Background

We have already established the cross-functional co-located team. Our team consists of the following people, separated from the rest of the company in our own building. Our team consists of three groups: R&D: director of R&D, a senior scientist and an associate; Animal Studies group: project manager and two people who work for her; Operations: operations director (me), an electrical engineering manufacturing engineer, a manufacturing supervisor, and two people working for her.

Our charter is simple. Develop an implantable medical device. The definition of success is as follows:

- Two back-to-back identical configurations built, which are implanted in animals. Each configuration must have a minimum of one month's data received from the implant.
- Clinical trial out of USA with successful results.
- Clinical trial inside USA with successful results.
- Commercialization.

Success is defined to mean that 80 percent of the items work, 80 percent of the time.

The work is divided up so that the R&D group develops the process until it is ready to hand over to the Operations group, once the process is repeatable, documented, and standardized. The Operations group participates in the development as much as possible so that ideas can be shared.

The product is complex and is very well documented regarding the process instructions. Also, some of the processes use materials in unique and innovative ways and processes will have to be created to manufacture them.

How can the processes be designed so that they have a good continuous flow with few bottlenecks? How can we identify design issues early and keep track of them until they are solved?

Lean Value Stream Mapping

Most of the people reading this article will be very familiar with value stream mapping, so I won't discuss the standard methods but only the additions or modifications made for this application and what we learned by going through the process.

In this example, only one of the subprocesses will be explained and the benefits that were received by using this tool.

Use of Lean Techniques . . . cont. from p. 2

What did we want to get out of the mapping process?

During the manufacturing of the first product that was used for the back-to-back animal studies and the first clinical trial, a couple of things happened that highlighted the need to map the process.

With only two weeks left in the schedule before the product had to be shipped out of the country, we could not get a satisfactory product out of the sieving process. This led to many late nights doing the menial tasks required to screen material, which was finally obtained.

Then in the last test before the product was approved, it was discovered that the scientist forgot to perform the critical operation of poking holes into the material. This led to two rework cycles and of course many more late nights and weekends to finally finish the product.

From an Operations perspective, rework is the devil. As soon as rework starts, one can be sure that errors will come along with it. And of course, they did. The yields that had been achieved in the back-to-back studies of 86 percent for the first test and 83 percent for the second, had dropped to 71 percent and 32 percent, respectively. And we didn't even know what was causing the problems.

Luckily we were able to make the required quantity for the test and get them off to their destination in the required time.

What did we want to get out of the lean value stream mapping process?

Number One: The first thing that we wanted to get out of the value stream map was to see an accurate picture of how long the process took, taking into account the expected yields.

Number Two: Put into place checks and balances so that if one part of the process was not performed correctly, it would be caught at the next step.

Drafts of the Value Stream Map

The format of the map would determine what information was collected and therefore what answers were obtained. The purpose of the value stream map at this point was to take a picture of one lot of material as it went through the process. So the stages between each process would calculate the output from the previous process, not track the amount of inventory that had collected at that location.

The following categories were added to each information box:

Categories added to the Process box:

- Location of the process:
- Design issues:
- Performed by:

Categories added to the Tracking box:

- Cycle time:
- Expected yield:
- Actual yield:
- Critical process: Yes or No
- Shelf life:

Critical Process is defined as a process where a test or inspection is performed that would indicate there is a problem causing the operations to be stopped or delayed.

There is space at the bottom to add any suggested process improvements and the decisions that were made for the future state map. Also, notes can be added that provide extra details regarding how process time is broken down, etc.

See Figure 1 (p. 4) for an example of format for the map.

Lean Enterprise World Conference Events, cont.

Kaizen Events for Office, Service, and Knowledge Processes—Session T22

Presented by Mike Osterling, Osterling Consulting and Karen Martin, Karen Martin & Associates
Tuesday, May 1, 11:30 a.m.-12:15 p.m.

Kaizen events are a proven method to realize rapid and dramatic improvements, but executing events to improve office, knowledge worker, service, and transactional processes present many new challenges. Attend and learn how to prepare, execute, and succeed in your white collar kaizen strategy.

Learning outcomes:

- Learn why kaizen events in administrative environments need to be managed differently from those in manufacturing environments.
- Through a case study see what key activities are required to prepare for an administrative kaizen event.
- Get pointers on how to improve your team's ability to assure gains are sustained.

We will once again have our Lean Networking Session—W02

Wednesday, May 2, 8:00 - 9:00 a.m.

The Lean Enterprise Networking Session has been a great success at past conferences. The session is held "cafe" style and is open for anyone from the new-to-Lean folks to the experts.

Additional ASQ World Conference Activities

All Lean Enterprise Division members who register for the conference, or who live in the Orlando area, will receive an invitation to attend our annual business meeting on Sunday, April 29, from 1:00 – 3:30 p.m. Be sure to keep this in mind when making your travel plans to attend the ASQ World Conference.

To keep up-to-date on the ASQ World Conference program and events, please visit the World Conference on Quality and Improvement Web site: <http://wcqi.asq.org/>

From the Lean Enterprise Discussion Board

Would you like to learn the opinions of other Lean Enterprise members on the pros and cons of Lean and Six Sigma methodologies and how they work (or don't work) toward overall quality improvement? If you would, we have a discussion to engage you.

Would you like to share a great story or article? The Lean Enterprise Discussion Board is the place.

Do you have a problem that might be resolved with some input from your fellow Lean Enterprise members? Post your question on the Lean Enterprise Discussion Board.

The following are some topics posted on the discussion board during the last few months:

- Lean Strategy
- Operator Verification/Inspection
- Lean Manufacturing Tools
- Alternative to Value Stream Mapping?
- Quantifying Cost Savings of Lean
- MRB (Material Review Board) Lean
- Corporate Value Stream Mapping

To contribute to the discussions above, or to start your own discussion, go to www.asq.org. Enter logon using your ASQ membership number. If you don't know your password, there is a help link or call ASQ at 800-248-1946. Scroll down to "My Discussion Boards." Click on Lean Enterprise.

Have Fun!

Use of Lean Techniques . . . cont. from p. 3

Review of Current State Map

The penciled current value stream map was laid out on the table when the production supervisor, senior scientist, and manufacturing engineer entered the room for the review. The scientist said, "Wow, this is great! We are using tools for looking at production instead of [relying on] gut feel."

There was a lively discussion about each process step. We checked the numbers that were used for yield and output and what the output was at the end. Then we discussed what would be required in order to make 80 units (our current largest production run was 10). We calculated that it would take 20 days to make 80 units.

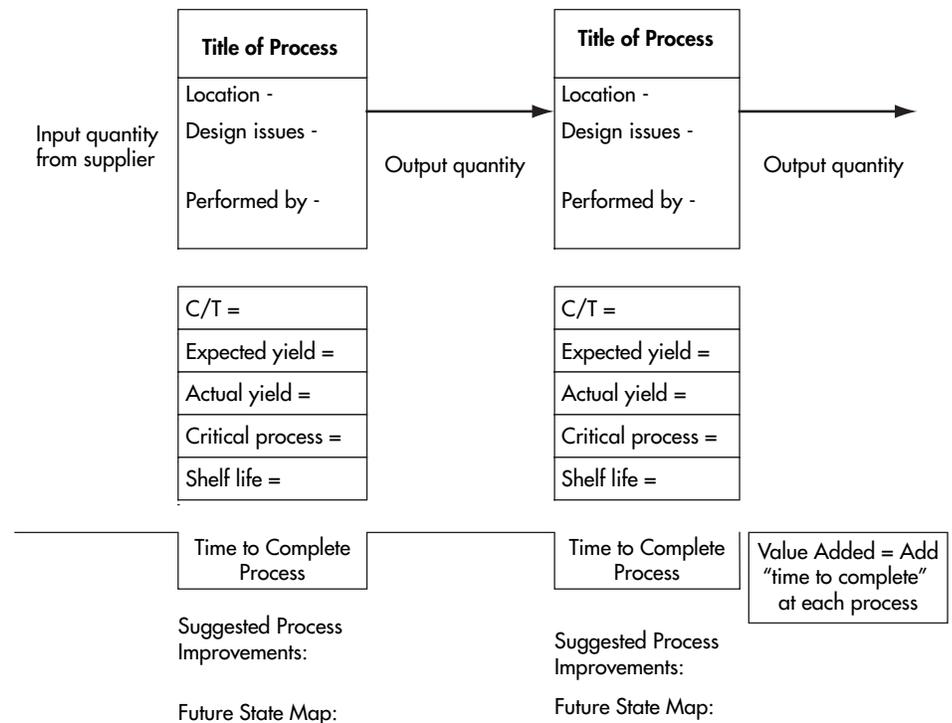
Conclusion

It was a very satisfying experience for all. The team was so excited by the fact that Operations was getting deeply involved with the process while the product was still in development, that they expressed fear that they might lose the resources for this process to the other departments in the company. Everyone expressed an interest in continuing with the rest of the processes that exist in the product.

Note

A longer version of this article can be found on the Lean Enterprise Web site, in the Forum Library. Look under the heading Product Development.

Figure 1



About the Author

Connie Tolman received her bachelor of art's degree from the University of California Berkeley and is certified as a Six Sigma Black Belt by ASQ. In addition she holds a Project Management Professional certification from the Program Management Institute.

Face of Lean Profile

Name: David Behling

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Education:

Bachelor and master of science degrees, Metallurgical Engineering
MBA, Finance and Investment Banking
All from the University of Wisconsin–Madison

Current job:

Senior quality engineer at Brady Worldwide, Milwaukee, WI

Most recent experience with Lean:

I have spent the past year implementing Lean and quality improvement principles at my plant, which has reduced its PPM by more than 60 percent.

Favorite Lean experience(s):

Helping lead (as manager of Continuous Improvement) the transformation of a company from nonexistent continuous improvement to a self-sustaining, growing, and vibrant continuous improvement culture. This incredible journey was accomplished through educating everyone, beginning with senior management, in the principles and tools of Lean enterprise and their subsequent participation in numerous continuous improvement events. I had the opportunity and joy to lead the majority of the training, coaching, and initial events for the company during this time.

What is your advice to practitioners who have just begun to try to implement Lean?

Persistence, communication, and action are the cornerstones for implementation, in my opinion . . . *Persistence* is needed because one must continually strive to improve and do what can be accomplished. *Communication* makes everything work more fluidly as one needs to tell people what is happening, why it is happening, what will be happening, and how they can participate. *Action* is what makes everything work, because one needs to be moving and helping others move forward, even if it is only two steps forward and one step back.

Other interests/hobbies:

Cooking, cross-country skiing, reading, raising my family, and “University of Wisconsin anything.”

Favorite quote:

I have three of them:

“Paid to listen, not talk.”

“You stand for what you tolerate.”

“Indecision is nearly always the worst mistake.”



From the ASQ Web Site

More information about each of the topics listed below can be found on www.asq.org. Click on Basic Concepts, along the left column—right under Learn About Quality.

A Short History of Quality

An overview of how the concepts and processes of quality have evolved from the craft guilds of medieval Europe to the workplaces of today.

Continuous Improvement

How to take your products, services, and processes to the next level through an ongoing cycle of activities that capitalize on improvement opportunities.

Cost of Quality

Quality doesn't cost money. It's poor-quality products and services that pile up extra costs for your organization. Here's how to get started eliminating these expensive shortcomings.

Customer Satisfaction

Tips and resources for helping you identify your customers and what it will take to satisfy them.

Glossary

A handy guide to the unique terminology of quality.

Problem Solving

Using four basic steps to implement solutions by accurately defining problems and identifying alternatives.

Process View of Work

Analyze how work gets done so that you can increase efficiency, effectiveness, and adaptability.

Quality Assurance and Quality Control

What's the difference? In the world of quality, these terms have very different meanings.

Supplier Quality

The quality of what goes into a product or service determines the quality of what comes out. Here's how to keep costs low and quality high.

Variation

Variation represents the difference between an ideal and an actual situation.

From ASQ's Quality Press

A Lean Guide to Transforming Healthcare: How to Implement Lean Principles in Hospitals, Medical Offices, Clinics, and Other Healthcare Organizations

Thomas G. Zidel

This book is an implementation manual for lean tools and principles in a healthcare environment. Lean is a growth strategy, a survival strategy, and an improvement strategy. The goal of lean is, first and foremost, to provide value to the patient/customer, and in doing so eliminate the delays, overcrowding, and frustration associated with the existing care delivery system. Lean creates a better working environment where what is supposed to happen *does* happen. On time, every time. It allows clinicians to spend more of their time caring for patients and improves the quality of care these patients receive. A lean organization values its employees and encourages their involvement in organizational initiatives which, in turn, sustains hospitalwide quality improvements. The opportunities for lean in healthcare are limitless.

This is not a book to be read and forgotten, nor is it meant to sit on a bookshelf as another addition to an impressive but underutilized collection of how-to books. As the name implies, it is a guide; a companion to be referenced again and again as the organization moves forward with its lean transformation.

"This is a well-researched, well-written work by an individual who understands the current healthcare environment. It provides a practical and sound understanding of the concepts and application for Lean and Six Sigma."

– James R. Benté

Vice President,
Quality & Organizational
Development
Memorial Health System

Start a Lean Special Interest Group

by Miami Rogers

Hello Lean Enterprise Division members,

My name is Miami Rogers and I am the special interest group (SIG) chair for the Lean Enterprise Division. As SIG chair, I am here to help you create and develop your Lean SIG in your section. This includes being an advocate for needed resources and ensuring that the programs and work of the SIGs are focused on supporting the vision and mission of the division. In addition, I serve to ensure the lessons learned and best practices of the Lean SIGs across the sections are communicated and represented in the division.

One successful startup story I would like to share with you is the Dallas Section 1402 Lean Six Sigma SIG. This summer, Dallas Section Lean Six Sigma SIG celebrated its two-year anniversary. As part of the startup team and former program chair, I can tell you that the key to the success of this SIG is the passion and dedication of its attendees and supporters.

How did the Dallas SIG get started? After much solicitation and gathering of support through e-mail, the founders of the Lean-Six Sigma (LSS) SIG met in June 2004. There was a larger than expected attendance of 17 people from a variety of industries and experiences. Quickly, this team planned the foundation of the SIG, including the identification and duties of officers, establishment of bylaws, development of a mission statement, and a program venue.

After much discussion about commitment level and resource availability, the founders elected the first team of officers: chair, vice chair, communications, and program chairs. Within a few months, the team finalized the SIG's bylaws. Next, we documented the LSS SIG's mission and strategy for success.

The mission statement developed was:

To provide a forum to promote the business values of Lean Six Sigma concepts through professional development, sharing business experiences, and providing problem-resolution resources.

The strategy to achieve the mission included hosting monthly meetings and supporting external meeting communication. To attract a larger audience, the scope of the communication included topics on Lean and Six Sigma. Tools used included monthly meetings and surveys, periodic body of knowledge surveys, external communications, networking spreadsheet, internship, and case studies.

Obviously, the commitment, support, and motivation of the chairs, committees, presenters, and attendees were key to the success of the SIG. In addition, the SIG success is based on low cost of operations, the availability of a meeting facility, Web site support, and e-mail communications. Fortunately, one of the founding members donated his office building conference room to host our meetings.

A straw-man agenda for the monthly meetings included an ice-breaker, attendee introductions, old and new business, an hour presentation from a Lean or Six Sigma expert or case study progress report, and ended with time to fill out the meeting survey. The recommended format of the presentations included the communication of business experiences, with real-world examples of best practices, and lessons learned. In addition to the presentations, the SIG program included supporting an internship and case study. Those who participated would give regular status reports on the progress of completing their project. This SIG continuously asked for feedback on the value of the program and evaluated post-meeting surveys.

To have successful monthly meetings, the SIG focused on increasing the knowledge of the attendees and ensuring the content of the meeting was applicable to careers. To measure and monitor this, a body of knowledge (BOK) survey was developed to rank the knowledge and importance level of specific Lean tools and methods. The BOK survey was distributed to the attendees yearly. The results of the BOK survey were used to identify specific topics for future monthly meeting presentations.

Along with communication within the monthly meetings, the SIG agreed to support communication outside of the monthly meeting. Primarily through e-mail, external meeting communication enabled the building of relationships through sharing information and providing problem resolution resources. In an effort to support informal mentoring and problem coaching, the SIG developed and maintained a networking spreadsheet. With the visibility of the experiences and credentials of SIG attendees, soon partnerships and teams were developed to work on specific focus areas resulting in internships and case studies. Periodically, the intern and the case study team would report the progress of their projects. Overall, the knowledge, interest, and participation of the SIG increased with greater exposure to real-world examples and application. Often, the results of the internship and case study would lead to a related presentation.

Our “kickoff” presentation was an introduction to “What is Lean Six Sigma?” in August 2004, with 15 attendees. The following January, we had a record attendance of 28 people. The attendance remained strong through the end of the ASQ fiscal year, with an average of 20 participants. The following January, the SIG set an all-time high attendance of 34 people.

Your section can be successful, too, educating others about Lean tools and methodologies! Please let me know if your section is interested in starting a Lean SIG. If you have started a Lean SIG, then please share your story, best practices, and lessons learned.

Kiami Rogers

Special Interest Group Chair of the Lean Enterprise Division
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ASQ Launches New Innovation Network

In December 2004, the U.S. Council on Competitiveness reported that, “Innovation will be the single most important factor in determining America’s success through the 21st century. For the past 25 years, we have optimized our organizations for efficiency and quality. Over the next quarter century, we must optimize our entire society for innovation.”

ASQ’s fourth Futures Study, conducted in 2005, found “innovation, creativity, and change” to be the second strongest “force of change” (globalization was first) to affect the “future of quality.” Although globalization has appeared in each of the past three futures studies (1996, 1999, and 2002), this is the first time that innovation made the list of the top six “key forces of change.”

So, how do you innovate? Innovation is more than just asking people for ideas. There are tools that can help. Genrich Altshuller, founder of TRIZ, a Russian methodology for systemic innovation, believed that innovation is a process, “accessible to anyone, important to learn, and very exciting to work through. We can teach everybody to invent.”

Join us as we learn from the experts and each other how to use these tools. Each month a topic important for innovation will be made available on the network for review. We invite your participation in the Innovation Network as together we will grow a community that will make a difference through the integration and implementation of quality and innovation.

You can register on www.asq.org. Click on Networking and Events along the left column—in blue type. Scroll down and click on Networks (Open to the Public) in the blue box. Scroll down and click on Innovation Network.

Lean Training:

Lean Applications in Product Development

The pressure facing companies to be profitable has never been greater than it is today. With the intense competition that exists in today’s business environment, the key discriminator for the most successful companies is the ability to provide products to the marketplace quickly and cheaply. Consequently, the “lifeblood” of many companies rests in the product-development processes that enable a company to provide a continual stream of new products that are better, cheaper, and reach the customer faster than the competition’s. In conjunction with this objective, in recent years there has been an emergence of a “lean” philosophy to further generate a competitive advantage. While nearly the entire focus of lean has been on applying these concepts within manufacturing and production arenas, virtually no effort has been spent to exploit the benefits of applying these concepts in nonmanufacturing disciplines, or more specifically, the area of product development.

This webinar provides you with an overview of some of the basic lean concepts, insight into the application of this philosophy in the area of product development, and guiding ideas for implementing a lean product development program within your own business. Companies that have implemented a program applying lean concepts in product development have achieved dramatic results. In some cases, cycle-time reduction of as much as 70 percent has been achieved!

Web-based

#174953

Length: 60 minutes. You have 30 days of access to this webinar.

ASQ RUs: 0.15

Webinar fee: \$59.00

Presenter: Clifford Fiore



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Note From the Editor

Greetings all!

The theme for this issue is: “What Lean Has Done for Me.” We have a great article from Connie Tolman that takes us through one of her Lean journeys. Funny enough, I’m trying

to apply Lean concepts to my holiday shopping this year. If all my calculations are correct, I should be able to get everything done in one day and one location. It’s interesting how I find myself applying Lean to different things. That’s what makes Lean so exciting! The applications of it are spreading so far beyond its original starting point that I can’t wait to see where it goes next. As we wrap up this year (no pun intended), and move on to the next, I’d like to take a moment and thank all the Lean members. Thank you for your ideas, suggestions, contributions, support, and all the value that you bring to this division. Here’s looking forward to a “Lean” 2007!

Happy Holidays,
Wendy Gomez



To Submit an Article:

Lean Enterprise Division News, a publication of ASQ’s Lean Enterprise Division, is distributed three times each year. Readers are encouraged to submit articles for consideration to Wendy Gomez at wendy.gomez@danmer.com. The next deadline is March 1 for the April issue.

Information regarding change of address should be sent to ASQ at: asq@asq.org.