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# LEAN THOUGHTS

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## The Roots of Lean Manufacturing

*The genesis of Lean can be traced back to the late 1800s and early 1900s.*

The central idea of flow that everything should flow from raw material to the customer came directly from Henry Ford. Ford, a pioneer in continuous flow, authored a book published in 1926 entitled, *Today and Tomorrow* in which he outlined his vision of production and of delivering value to the customer. The following quote from page 112 exemplifies his philosophy on waste:

Ordinarily, money put into raw materials or into finished stock is thought of as live money. It is money in the business, it is true, but having stock of raw material or finished goods in excess of requirements is waste which, like every other waste, turns up in high prices and low wages.

While the evolution of Lean thinking owes much to the genius of individuals the world over, its origins are unmistakably steeped in U.S. history. As Lean continues to gain prominence in your company and others across the country, be proud Lean is as American as apple pie.

### What Is Lean?

*If it doesn't add value, it's waste. This quote, uttered nearly a century ago, was made by Henry Ford. By all accounts the first truly Lean thinker, he understood that waste presents a major barrier to a firm's ability to satisfy customers.*

Customers expect variety, reasonable price, high quality, comprehensive service and responsive delivery. A major challenge facing all modern firms is how to attain the speed and low cost of high-volume flow while retaining the flexibility and customization potential of a low-volume job shop all within a culture of continuous improvement.

Lean principles merges the best features of large-scale production (high volume at an affordable price) with the best features of craft production (customizable products with perfect quality). This amalgamation defines a way of thinking about production: the economic producer of diverse, innovative products of consistent high quality.

By abhorring waste and cherishing the strategic importance of continuous flow, Lean is an extremely efficient, systemic approach to delivering what the customer desires most: value.

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Where "Lean Thoughts" Become Reality

### The Language of Lean

*Understanding key terms forms a foundation for Lean learning.*

Value is defined in each case by the customer and is created when a specific capability is provided to him at the right time at an appropriate price. Value-added means some kind of processing (done correctly the first time) that changes (transforms) the shape or character (fit, form or function) of a product or service.

Non-Value-added activities are those tasks that have to be done given present working conditions or processes, but don't add value to the product or service. The desire is to either minimize these activities or introduce process improvements that would eliminate them entirely. Waste includes needless activities that must be eliminated immediately. Waste consumes resources without value. A value stream is the properly sequenced, irreducible number of steps a product or service must undergo during its transformation.

Flow reflects the state of continuous, progressive adding of value devoid of detours, backflows and interruptions. Flow is present if people are always working on the "product" and the product is always being worked on.

### The Essence of Lean: Managing the White Space

*In a traditional company, only about 5 percent of the total work performed actually adds value to the product or service.*

In regulation, a football game has 60 minutes of clock time during which the teams are permitted to be productive; that is, attempt to score points. Because of huddle time, penalties, time-outs and the like, it may take in excess of three hours to complete a game. In Lean terms, this nonproductive time is called white space. Likewise in a factory or office, waste and non-value-added activities invariably constitute the majority of time that "product" spend in the process.

In Lean, the concentration on eliminating the white space yields the maximum gain toward shortening the time line between the customers order and shipment.

### Value: Because Customers Have Choices

*In the often high-tech and complex arena of business, powerful counter-productive forces are constantly working in concert to impede and inhibit the smooth, regular flow of the product.*

Satisfying the customer is the most important goal of any business. In a global economy, this truism translates into the ability to provide the best value viewing the whole product through the eyes of the customer to meet his needs at a particular price at a specific time.

By design, Lean enables a superior quality focus, collapses the white space within production processes to accelerate delivery times and drive declining costs, and provides innovative service to customers.

### Lean Thinking

*Lean thinking embodies key paradigms and presents an alternate perspective of production.*

**Think horizontally.** It's not how many parts are machined or assembled (or how many purchase orders processed) by one worker or department, but how many quality "parts" are completed on time by the production line as a whole. By focusing on flow, you correctly prioritize process efficiency over operator efficiency.

**Invert time measures.** Think of production in terms of time interval, not rate. Instead of 60 mph, think of a one-minute mile. Instead of four aircraft a month, think of a five-day aircraft. In this way, you begin to understand the importance of speed.

**Problems are good.** Repeat problems are bad. Lean forces problems to be discovered by you and not your customer. Problems brought to the surface are a positive indication that the system is working. Getting value to flow faster always exposes hidden waste in the value stream. The harder you pull, the more impediments to flow are revealed so they too can be removed. Change will be gradual, even though the pain of exercising long-neglected problem-solving muscles may be felt immediately. But pain in this context is good. The more those tight, once-ignored areas are flexed, the stronger and more effective they will become.

**Don't confuse value with cost.** In this age of intense competition, companies cannot adhere to the attitude that price is equal to cost plus profit. Today, value-conscious consumers offer only one source of profit: lowering the cost as much as possible. Lean thinking forces you to constantly ask, What would the cost of this product be if it was totally waste-free?

### Becoming Lean: Embarking on a Journey

*In the often high-tech and complex arena of business, powerful counter-productive forces are constantly working in concert to impede and inhibit the smooth, regular flow of the product.*

For a company to consider it Lean, waste must be sought, arrested and eradicated. This is the basic condition. But whether it's the unpredictable dynamics of human interaction or simply Murphy's Law, the fact remains that the natural order of things in a business environment is never Lean.

The first order of business in becoming Lean is to know thy enemy. With thousands of workers and production orders and millions of parts and square feet, the factory floor and office area is by nature a veritable minefield of delays and disruptions. Because of these natural barriers and obstacles, flow is unsurprisingly jumbled if not often completely stagnant.

***A Lean journey begins with an ability to recognize waste and a full comprehension of its causes.***

### What is Yokoten?

***Yokoten encompasses the methods documenting and distributing knowledge about what works and what doesn't. Yokoten is a form of knowledge management. At its most basic level, it can be a notebook that a team keeps of as a history of the group and problems encountered. Yokoten is the library of A3 problem reports that a team or work group maintains for all to access. As a knowledge management device, Yokoten maintains knowledge organizational, not individual.***





Tour Workshop Conference  
 Consortium Event Schedule

January	February	March	April	May	June
<p><b>T</b></p> <p>Wednesday 25  <a href="#">Eaton Electrical</a>,                      contact Joe Fisher,  <a href="mailto:JoeRFisher@eaton.com">JoeRFisher@eaton.com</a></p>	<p><b>T</b></p> <p>Wednesday 15,  <a href="#">CFN Precision</a>,                      contact Barry Wood,  <a href="mailto:bwood@cfn-inc.com">bwood@cfn-inc.com</a></p> <p><b>W</b></p> <p>Date &amp; location TBA                      Your own                      "STEP Diagnostic" to create Vision, Mission and Direction                      Contact Richard Kunst  <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p>	<p><b>T</b></p> <p>Wednesday 22,  <a href="#">Nestle Waters</a>,                      contact Mariela Castano  <a href="mailto:mcastano@perriergroup.com">mcastano@perriergroup.com</a></p>	<p><b>T</b></p> <p>Wednesday 19,  <a href="#">CTS Corp.</a>,                      contact Bob Garces,  <a href="mailto:Bob.Garces@ac.ctscorp.com">Bob.Garces@ac.ctscorp.com</a></p> <p><b>Consortium Shakeshowcase</b>                      Saturday 22  <a href="#">CTS Corp.</a>                      Contact Cindy Grolleman  <a href="mailto:cindy.grolleman@stackpole.com">cindy.grolleman@stackpole.com</a></p>	<p><b>T</b></p> <p>Wednesday 17,  <a href="#">Stackpole CSD</a>,                      contact Don Barber  <a href="mailto:Don.Barber@stackpole.ca">Don.Barber@stackpole.ca</a></p> <p><b>W</b></p> <p>Date &amp; location TBA                      "Compartmentalize the Noise"                      * Daily Report-outs                      * Standard work for Leaders                      Contact Richard Kunst  <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p>	<p><b>T</b></p> <p>Wednesday 21,  <a href="#">Morrison LaMothe</a>,                      contact Tony Vita  <a href="mailto:tvita@morrisonlamthe.com">tvita@morrisonlamthe.com</a></p> <p><b>C</b></p> <p><b>AME Regional Conference</b>                      Mon 12 to Thurs 15                      K-W Ontario                      Contact <a href="http://www.ame.org">www.ame.org</a></p>
July	August	September	October	November	December
	<p><b>W</b></p> <p>Date &amp; location TBA                      "Establish Anchors"                      * VSWI ... Visual Work Instructions                      * TPM ... Total Productive Maintenance                      Contact Richard Kunst  <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p>	<p><b>T</b></p> <p>Wednesday 20,  <a href="#">Kraft Foods</a>,                      contact Hanif Jivraj  <a href="mailto:hjivraj@Kraft.com">hjivraj@Kraft.com</a></p>	<p><b>T</b></p> <p>Wednesday 11,  <a href="#">Stackpole PMC</a>,                      contact Cindy Grolleman  <a href="mailto:cindy.grolleman@stackpole.com">cindy.grolleman@stackpole.com</a></p> <p><b>C</b></p> <p><b>AME National Conference</b>                      Mon 16 to Friday 20                      Dallas, Texas                      Contact <a href="http://www.ame.org">www.ame.org</a></p>	<p><b>T</b></p> <p>Wednesday 15,  <a href="#">Messier-Dowty</a>,                      contact Richard Evans  <a href="mailto:Richard.Evans@Messier-dowty.on.ca">Richard.Evans@Messier-dowty.on.ca</a></p> <p><b>W</b></p> <p>Date &amp; location TBA                      Your own                      "Get Organized"                      * 5S+1                      Contact Richard Kunst  <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p>	