Lean Glossary of Terms

3 Actuals Walk	To learn about the "current state" by observing the actual workers doing the actual work in the actual place where the work normally occurs. *See also: Process Walk*
5 Whys	Asking why repeatedly to discover the root cause of a problem.
5S	A system for organizing the workplace to reduce waste and make problems visible. The 5S's: sort (keep only what is essential), set in order (a place for everything and everything in its place), shine (clean and tidy), standardize (systems and procedures to maintain first 3 S's), and sustain.
A3	A standard, one-page description of the problem, hypothesis, and the improvement to be tested. It combines analysis of data and intuition, to present a compelling story in support of strategy deployment. The succinct format supports effective catchball communication and use of data to problem-solve. The name comes from the "A3" size of paper (11"x17") that is used.
Agile	Agile Modeling is a collection of values, principles, and practices that can be applied to a software development project in an effective and agile manner. Agile also applies well to project management or other administrative types of work.
Andon	Japanese term for "lantern". Historically, a light system would alert someone of a quality or process problem in the production line. Today, a light may be triggered automatically, or an employee can manually alert the team and leadership of a problem. The intent is to stop the work flow so a problem can be resolved rather than passed on.
Bottleneck	A step of a process that limits the capacity of a larger process or system. By removing or improving the bottleneck, the process is able to achieve greater results.
Catchball	An aspect of Strategy Deployment in which goals and objectives are set at a higher level in an organization, while further details are defined by those closer to the work. The higher level tosses information to those who report to them, and catches feedback to refine goals and shape implementation. The process continues until there is agreement about strategic intent and the work to achieve it.
Constraint	A point in a process that acts as a limiting factor and prevents a system from achieving goals. There are three primary types of constraints: equipment, people, and policy. Also known as a "Bottleneck"
Contingency Plan	Defined as a kind of standard work, it is the action to be taken when in-process checkpoints signal that the current process will fail to meet customer requirements unless something is done.
Continuous Improvement	Engaging employees in applying the scientific method of planned experimentation and evaluation (PDCA or PDSA) to make ongoing incremental change. *See also: PDCA*
Countermeasure	A planned action that is taken in response to an abnormal condition. The word "countermeasure" is used instead of "solution" because it is recognized that when one problem is eliminated or reduced, other problems become more visible
Cross Functional Improvement	One of three management systems that create a comprehensive Lean enterprise. Cross-functional improvements cut laterally through an organization and across functional areas in order to improve a value stream, generally requiring Kaizen events or other improvement activity.
Current State Map	Analysis of the current status of the flow of work in a value stream. Analysis starts with a high level view to identify major trouble spots, then follows a representative sample of work at a more detailed level to deeply understand the types of waste in the value stream. *See also: Value Stream Mapping*
Customer	The people who benefit from an organization's services or products. We target our processes to meet their requirements. In areas that do not provide service directly to customers, we use the expectations of stakeholders, authorizers, and regulatory compliance as proxies for the customer requirements.
Cycle Time	The amount of time required to complete a job or a step of a process, not including wait or queue time.
Daily Management System	One of the three management systems that, together, create a comprehensive Lean enterprise. The discipline of managers engaging their staff on a daily basis in creating standard work, tracking process performance, identifying and implementing contingency plans to ensure reliable processes, and completing continuous PDCA improvement cycles.

Lean Glossary of Terms

	See also: [Three Management Systems](#)
Demand	The need for a specific product in a specific quantity.
First In First Out (FIFO)	A system for providing products or services in the order that they were requested. By completing work in a FIFO order, inventory is decreased, potential delays are removed, and process problems are made visible.
First Time Quality (FTQ)	The opportunity for errors is detected and removed from a process, rather than building in audits to check for defects. *See also: [Mistake Proofing](#)*
Fishbone Diagram	A quality improvement tool used to identify potential factors causes of a problem and enabling countermeasures to be developed. Causes are usually grouped into six major categories, including: Machine, Method, Material , Man Power, Measurement, and Mother Nature.
Fresh Eyes	A term used to describe workshop participants that don't have content knowledge regarding a specific process improvement. These people may feel more freedom to challenge the status quo and ask provocative questions that drive further improvement.
Future State Map	A symbolic representation of a future vision for the value stream, created by leaders who apply Lean concepts to define a process that responds in a steady flow to the pull of the customer, thereby eliminating non-value-added activities. *See also: [Value Stream Mapping](#), [Value Stream](#)*
Gemba	Japanese term for "actual place." "Going to Gemba" refers to the process of going where the work happens in order to discover the true nature of the work.
Gemba Walk	Leaders walk the gemba, or the "the actual place where work happens", in order to learn about the work, to audit execution of improvement activities, and to teach staff how to think and act differently within the Daily Management System.
Heijunka	Japanese term for "to make flat and level." A heijunka is a tool that allows level loading of work assignments for smooth steady flow. *See also: [Leveling](#)*
Inventory	Material and information that accumulate between process steps.
Just-do-it	Straightforward actions that can be taken to realize improvement without need for kaizen events or other elaborate work. Typical "just-do-its" include low-risk policy changes or low-cost decisions regarding capital investments (facilities changes, IT purchases).
Just-In-Time (JIT)	A system of production that provides what is needed only when it is needed.
Kaizen	Japanese term for "improvement." Literally translated as "to change for the better." *See also: Kaizen Event*
Kaizen Board	A display located in a work area to show actual versus planned performance. A kaizen board should be used by the team to drive action, aiding in problem solving to meet goals. Also known as a Production Control Board.
Kaizen Event	A focused event (usually five days long) targeted at a cross-functional process, with the goal of significant process and/or outcome improvements. Includes representatives of all staff and leaders involved in the process.
Kaizen Newspaper	A visual management tool displayed in the gemba that helps a team identify problems and implement countermeasures within their workplace. A kaizen newspaper clearly describes the problem, who will take action, and an expected timeframe.
Kamishibai	A storyboard, part of a visual display that "tells the story" of the process and helps the team focus on their goals.
Kanban	Japanese term for "visual card," a kanban is a signal that triggers action. It supports the steady flow of work by signaling that an item is needed and in what quantity whereby preventing the build up of inventory (work in process) between steps of a process. *See also: [Pull](#)*

Lean Glossary of Terms

Kick Off	The first portion of a Kaizen event. This is when the event sponsor greets the team and provides direction by presenting the charter and expectations, and answering questions from team members
Lean	Lean is not an acronym. It is a term coined by James Womack to describe the philosophy and approach demonstrated in the Toyota Production System. It is a systematic, customer-centric approach to identifying and eliminating waste through continuous improvement.
Leveling	Creating a steady flow of work through the value stream when the work process is uneven. Examples of leveling approaches include rings of defense and heijunka.
Linked Checking	Linked checking is a structured process that describes who will do the check, where and when, how often, what will be checked, and whether standard work is being adhered to. It makes visible who is accountable for which pieces of work, and whether that work has been completed. When in place, this accountability can link clearly from the front line to the very top of an organization.
Manager Standard Work	The predictable daily activities and behaviors that leaders engage in to identify abnormal conditions. Part of a Daily Management System. Creates an environment of continuous improvement that supports a team's daily activities to ensure processes are predictable and continuously improved by reducing variation, using facts and data and implementing reliable methods.
Method Owner	A team member who is responsible for ensuring standard work is documented and revised using the PDCA process. The method owner is available as a consultant, receiving questions and suggestions from team members and also coaching them on the standard work that was defined. In a mature Lean department, each team member may be a method owner of different processes.
Mistake-proofing	Design, device, or procedure that prevents defects from moving forward in a process. *See also: Poka Yoke*
Model Line	In a Lean transformation, an organization frequently chooses one part of the business to be the Model Line or "laboratory" for implementing change.
Muda	Japanese term for "waste." Muda occurs when resources are consumed without creating value for the customer. *See also: Waste*
Mura	Japanese term for "unevenness." Mura occurs when there is large variation in demand, potentially ranging from very high demand at times to very low demand at other times.
Muri	Japanese term for "overburdening people or equipment." Muri occurs when a person or piece of equipment is pushed beyond its natural capability, possibly resulting in safety and quality problems.
Nemawashi	Japanese term for "preparing the soil for planting a tree." Making decisions slowly to ensure all options are considered, input is widely obtained and consensus is gained; then implemented rapidly.
Pareto	A bar graph for ranking opportunities for improvement in descending order.
PDCA (PDSA)	Plan, Do, Check, Adjust (or Plan, Do, Study, Adjust) cycles of incremental improvement, each building on the last cycle, customer-focused, and data-driven.
Poka Yoke	Japanese term for "mistake-proofing." Pronounced "poke-a-yokay": *See also: Mistake Proofing*
Point of Use	A system in which the supplier delivers directly to the user the exact quantity needed, when it is needed, in the manner needed. A kanban signals the supplier to provide items; a staff member arranges smooth flow of materials from the kanban. This is part of a pull system: the customer signals the need, the organization and supplier responds leading to a smooth flow with minimal waste.
Process Map	A visual representation of a process, including descriptions of process steps and roles involved in the process. The process map is useful in identifying waste and making improvement opportunities visible, including attributes like handoffs or checking steps.
Process Owner	A person responsible for the entire process and ensuring that action plans are followed to implement improvements designed in a Kaizen event. Tracks measures to identify whether the process is meeting desired outcomes.
Process Walk	Go see a process from start to finish in order to learning about the current state and results of a

Lean Glossary of Terms

	process before proposing improvements. *See: 3 Actuals Walk.*
Pull	A customer-driven system that produces and moves products only when the customer needs it. Downstream activities signal their needs to upstream activities. Pull systems strive to eliminate overproduction and are one of the three major components of a just-in-time production system, along with takt time and steady flow.
Push	Push systems produce and move products without regard for the actual pace of customer demand. As a result, the amount of work-in-process build and effort may be wasted on unnecessary products or services.
Queue Time (Wait Time)	Any period of time when a product or service isn't actively being worked. By adding queue time (wait time) with cycle time (work time) you are able to calculate total lead time.
Report Out	A portion of a Kaizen event reserved for sharing results and accomplishments among the team and with an invited audience. There is typically a report-out for management at the end of the second workshop day, and for a wider audience on the last workshop day.
Rings of Defense	A flexible workforce that can respond to variation in customer demand. This is a type of contingency plan.
Root Cause Analysis (RCA)	A structured approach to identifying specific factors or actions that result in undesired outcomes. Multiple tools can be used to do the analysis including Five Whys, Failure Modes Effects Analysis, or Pareto Analysis.
Standard Work	A method of doing critical tasks in a process that is documented, consistently followed, and currently believed to be the best way to do the work. Defines the tasks, sequence, and pace to ensure that demand is met on time, quality is consistent, workers are safe, and fewer costs are incurred.
Steady Flow	A process designed to move work in a steady process without batching.
Strategy Deployment (Hoshin Kanri)	One of three management systems that, together, create a comprehensive Lean enterprise. Strategy Deployment starts with setting a vision and associated hard business and broad-brush goals. Leaders engage the organization in cascading communication (catchball) to gather data, refine focus, and learn how to best achieve the goals. The leaders participate in the conversations to clarify the priorities and act as teachers in problem-solving thinking. Staff at all levels are involved in continuous improvement and learning from the data.
Takt Time	The pace of production required by the customer. Calculated by the available working hours in the day divided by the rate of customer demand.
Three Management Systems	Strategy Deployment, Cross Functional Improvement and Daily Management are the three levels at which Lean is implemented in a Lean enterprise. Strategy Deployment sets the critical few priorities. Cross Functional Improvement drives breakthrough improvement, and Daily Management supports incremental improved by staff involved in processes.
Total Lead Time	The amount of time that elapses between when a process starts and a process ends, including both cycle time and queue/wait time between each step. Also called "throughput time." There are also other types of lead time, representing various queue times during a process.
Try Storm	Rapid cycles of real-time experimentation, used to test and adjust improvement ideas before establishing standard work or implementing processes broadly.
Value Added	Description of a process step that transforms a product or service in order to meet customer requirements. Value-added steps are those that change "form, fit, or function" while all other steps are defined as waste. *See also: Contrasting concept: Waste*
Value Stream	A series of steps to bring a product or service to the customer, from order to delivery.
Value Stream Map	A visual representation of a value stream that includes every step involved in bringing a product or service to the customer from demand to delivery. *See also: Current State Map, Future State Map, Value Stream*
Visual Display	An arrangement of tools, parts, and indicators of system performance so that everyone involved can understand the status of the system at a glance.

Lean Glossary of Terms

Visual Management	A strategy for creating and sustaining process stability through the use of visual cues. Ideally, visual management includes standard contingency plans triggered when a visual display indicates that current performance is different that target performance.
Visual Workplace (Visual Controls)	A workplace with standard work established to ensure that the flow of work and process metrics give team members the information they need at a glance, so they know if there are problems and respond with contingency plans as needed.
Waste (Non-Value Added)	No value is added from the customer's perspective. There are seven categories of waste: overproduction, waiting, transportation, overprocessing, inventory, motion, defects. Also known by the Japanese term "muda." *See also: Contrasting concept: Value Added*
Work Cell	Designed to support continuous steady flow by arranging processing steps sequentially and adjacent to each other.
Work In Process (WIP)	Products in various stages of completion within a process.