

Lean Manufacturing Jargon Buster

Lean Term	Brief Description	Business Area Affected											
		Productivity	Lead Time	Quality	Stock Control	Floor Space	H & S	COS	Cashflow	Profit	Customer Satisfaction	On Time Delivery	Communication
5S	Not Housekeeping!! 5S is a method for getting organized, standardising work and continuous improvement. Very hands on an the foundation to the CI philosophy. Gives everyone a sense of ownership while focusing on the customer.												
5 Whys	A quick and easy tool to use when looking for the route cause of an issue. The idea is that you ask the question 'Why?' of a particular issue and before you get to the 5th Why you will have the route cause of the problem.												
Activity Based Costing	Use VSM to identify: Direct Labour, Support from Non Direct Labour, Space Requirement, Use of Capital Equipment. Apply overhead contribution based on above to each Value Stream/Product Line. Accurate Margin! Develop & Sell more high margin products.												
Andon	Visual or auditory signals to flag attention. This attention may be there is a problem, a machine has broken down, materials are low, need supervisor/manager input.												
Benchmarking	Operating performance information used to highlight your current state against your competitors or against World Class techniques. Useful to know there are opportunities for improvement but don't waste too much time in this area. Useful tool for communicating but this alone will not improve your business.												
BOM's/BOO's	Bills of Materials (BOMs) and Bills of Operations (BOOs) give a detailed understanding of your Cost of Sales (COS) for every product/service. A must have if margins on products are important in your industry. Can be difficult to manage and keep updated as all fluctuations in prices needed to be entered in real time ideally.												
Blitz Event	These types of events are for those that hate sitting around doing lots of planning and meetings. They are used to target a particular area with a lot of lean tools and to take the lost production time in one hit. Can be a little messy and hard to manage results and feedback. Approach with caution.												

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Capacity Planning	Used to highlight buckets of time available based on resources. This time should be utilised based on orders taken and production days opened/closed based on availability. Very powerful where time management is an issue and rough cut planning can be easy to adopt.												
Cause & Effect Analysis	Also referred to as Ishikawa Diagrams and are a powerful brainstorming tool when looking at problem solving. Gives you an opportunity to hear everyone's thoughts on a particular problem and map results in a way they can be easily analysed.												
Cellular Manufacturing	This type of manufacturing is adopted when you have repeatability with a product/service and operations are arranged to reduce waste. When designed correctly can lead to very high productivity gains and the introduction of one piece flow will reduce stock and WIP.												
Culture Change	For sustainability with improvements we need to adopt a culture where communication is open and accurate and people are aware of the Vision of the company. Trying to apply changes or lean tools without a culture that are bought into the idea will not be sustainable.												
Design for Manufacture	As we develop new products we need to consider the impact on the manufacturing facility. The product will ideally utilise existing machines and not create a bottleneck in manufacturing once launched. Involve cross functional teams during the design and prototyping process. This can save a lot of headaches further down the line. You may consider evaluating your existing products to check if you could redesign for manufacture.												
Expediting	Difficult to make a generic statement for expediting or subcontracting as this will be different per company. One thing that should be considered is whether someone else could carry out certain operations at a lower cost than you and still maintain the quality. There may be people that have a niche in a particular area that could reduce your Cost of Sales. You may also struggle for space with your growth or have peaks and troughs in your demand where subcontracting can help balance your work schedule.												

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First In, First Out (FIFO)	First In First Out (FIFO) can be used in production queues, paperwork queues or stock control methods to ensure products/services are carried out in order. Does not work for all management systems but will ensure stock is rotated and customer orders are dealt with in the order they are received.												
Gemba	This is a Japanese term which means 'real place' or 'actual place'. When we refer to Gemba or a Gemba Walk we are suggesting that the information we require can only be obtained from the actual place it is being processed. This can be a real 'head-in-hands' moment for some people when they realise what is actually happening at the Gemba.												
Hoshin Kanri	This is a Japanese term which means 'Hoshin' - 'compass' or 'direction', 'Kanri' - 'control' or 'management'. Therefore in English would suggest that Hoshin Kanri would be a tool for the management team to control direction. This is also referred to as 'Policy Deployment' and is key in communicating and controlling the Vision and Objectives of the business. When utilised correctly will ensure that everyone remains focused on what is most valuable the business.												
Just in Time (JIT)	JIT is an old term used by Toyota while developing the Toyota Production System. It refers to the manufacture of products and that they should flow through the facility reaching the despatch area Just In Time. The philosophy behind this is that stock and operating costs will be reduced to a minimum. This also applies to 'Lean Manufacturing' but trying to move to this type of system to quickly got the nickname Just Too Late.												
Kaizen	This is a Japanese term which when broken means 'Kai' - 'change' or 'correct', 'zen' - 'good'. Translated to English this would mean 'to change something for the better'. This should be our approach to the whole of businesses if we are to strive to become the best.												

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Kanban	This a Japanese term which means 'billboard' or 'sign'. This may sound a little strange on how it can apply to improving our businesses. When used in managing processes and materials Kanban refers to a signal or sign that is received to allow us to continue. This allows processes to flow and reduces the time wasted waiting for instructions. This also stops us from over producing and over stocking, which will in turn increase productivity and reduce the amount od cash tied up in materials.												
Lean Manufacturing	This is the term used to describe the philosophy of a company looking to achieve cutomer demand while at the same time reducing waste that inhibit flow and profitability from within the business. Also now being referred to in other sectors as Lean Healthcare, Lean Construction, etc.												
Min-Max Stock Control	Minimum and Maximum stock quantities are adopted to create a trigger to order when we reach the minimum level and a maximum to ensure we do not order more than required. Various methods of visual management can be adopted to simplify the Min-Max controls.												
Muda	This is a Japanese term which means 'an activity that is wasteful'. This is the fundemental reason for adopting lean principles, to remove waste from the organization.												
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Muri	This is a Japanese term which means 'waste due to overburden or absurdity'. This is the fundemental reason for adopting lean principles, to remove waste from the organization. Muri is also less popular in Western improvements . Muri focuses on standardising work and reducing processes to their simplest form.												

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Pareto Law	Also referred to as the 80/20 rule. Suggesting that 20% of product types will account for 80% of the sales volume, 20% of listed issues will be causing 80% of the problems, 20% of part numbers in stock will account for 80% of the stock value, as so on. Not always an exact science but a Pareto Chart is always a good starter when analyzing data.												
Poka Yoke	This a Japanese term meaning 'Poka' - 'error', 'Yoke' - 'avoid'. Also referred to in english as 'Error Proofing' or 'Fail Safing' as we are adopting a method to reduce or eliminate errors and mistakes. An example of this would be the use of cats eyes, road markings and rumble strips on motorways. We have a visual and auditory fail safe to keep up on the motorway and within the lanes, therefore reducing errors or even deaths.												
Pull System	This system is a philosophy that we only make something when we receive a trigger from the next process upstream. Kanban methods are usually adopted to achieve these results.												
Push System	The push system is opposite to the pull system, as it allows processes to continue no matter what is happening up and down stream. This can lead to excessive WIP and cluttered floor space.												
Shadow Boards	Used as part of the 5S implementation a shadow boards is a place where tools are stored at lineside to reduce time spent looking for equipment and the visual management of always knowing they are available. If tools are missing or have been stolen a shadow board will highlight this immediately.												
Six Sigma	This is not a methodology that can be applied a a business transformation tool. Six Sigma focuses on improving the quality of process outputs by removing errors and reducing variability. Six Sigma is very analytical and can be time consuming, so this shoul only be used where you will get a return on your time spent.												

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SMED	Single Minute Exchange of Die (SMED) is a term used when referring to the need for a quick changover or reduced set up time when moving from product to product. The reduction in changeover/set up times gives businesses the opportunity to reduce batch sizes and create flow. Very useful around single processes that are proceeded by lots of queueing.												
SOP	Standard Operating Procedures (SOPs) are part of the 5S implementation and are a set of standards that are considered best practise for a particular operation. If you have regular defect on particular operations or personalities are controlling standards SOP's are a must. Usually kept to one sheet of A4 and will be heavily based around photographs to show what is required.												
SPC	Statistical Process Control is part of the Six Sigma methodology and involves the frequent measurement of a process to highlight whether it is remaining within tolerance. For processes where tolerance is important SPC should be considered.												
Supermarket	As this term suggest we are referring to the control of materials as you would expect to see in a supermarket aisle. This allows lineside storage of parts in smaller quantities thus creating more production space. As with a supermarket you would have a warehouse containing the majority of your stock and replenishment would be controlled via kanban.												

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TAKT Time	This a German phrase from the word 'Taktzeit' meaning 'cycle time' and refers to the drum beat of the customer demand that must be followed if we are to achieve On Time Delivery. For example, if you have 8 production hours available per day or 480 minutes and you need to manufacture 240 widgets, TAKT would be 2 minutes. Meaning if we produced a widget every 2 minutes we would hit our target for the day. This is very useful when you have multiple processes in a production line and you need to work out the capacity at each process. If you had a machine that produced widgets at a rate of 1 per minute then it would only need to be used for half of its available time to meet demand.												
TOC	Theory of Constraints (TOC) is used where you have highlighted your weakest link in the chain or bottleneck. This may be a piece of equipment, a person or people, or particular policy or work method. TOC focuses on the constraint and looks to maximise capacity, freeing up the bottleneck in the process. The methodology is also known as Drum-Buffer-Rope and is a reference to managing the constraint at its maximum production rate (Drum) via the introduction of Buffers before processes to ensure they are never starved and the use of release mechanism or trigger (Rope) to release work in time upstream.												
TQM	Total Quality Management (TQM) is a terminology that has been around since the 1980's and has been adopted as part on the Lean Manufacturing methodology to ensure customers receive all aspects of quality. This is not just the physical quality of a product but the philosophy that the customer receives exactly what they ordered, at the time that they requested it for, in the correct quantity. TQM is referred to less in recent years due to the introduction of Six Sigma.												

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TPM	Total Preventative Maintenance (TPM) often goes hand-in-hand with 5S where operations are based around machinery. The focus of TPM is to ensure downtime and defects are reduced to a minimum by the introduction of a maintenance schedule that manages each and every piece of machinery. Visual management will be adopted to ensure engineering are fully aware of when and what intervention is required and by whom.												
VSI	Value Stream Identification (VSI) is an important part of the VSM process as this identifies our Value Streams before we spend time mapping them out. VSI will usually identify whether your demand is driven by product types or customer types. Mapping the wrong value stream can obviously lead to complications if you are unsure.												
VSM	Value Stream Mapping (VSM) is a powerful tool used to visually represent (Map) all functions from raw materials through to delivery identifying which are Value Added activities and which are Non Value Added activities. This would be carried out in a staged approach where the current state is mapped first (the where we are now) and all data is gathered with a suitable cross functional team. The next stage would be to map the future state (the where we want to be) with the removal of as much Non Value Added activity as possible. Once the future state has been agreed an Action List will be compiled to visualise the project and how we can achieve it.												