WHAT IS DEMAND DRIVEN LEAN AND WHY IS IT IMPORTANT TO MANUFACTURERS?

Lean manufacturing represents a cultural change at all levels of a company. Its prime objective is to eliminate waste, whatever form that takes. The most obvious examples in the production area might be excess materials in storage, work-in-process, and finished products waiting for buyers, but it might also be any process that does not “add value” to a finished item such as a setup, waiting in a queue or the unnecessary movement of materials and operators. The ultimate objective of a manufacturer is to deliver orders on-time with minimum inventory within the shortest lead time while achieving the highest possible utilization of resources that are adding value. Most Lean initiatives start with a process called Value Stream Mapping which is merely a formal way of analyzing how we produce things and identifying tasks or areas where no value-add takes place. Once identified, processes can be redesigned to remove waste.

Lean thinking also uses techniques such as Heijunka and Kanban to level load demand and provide a simple, visual method of pulling materials in response to actual demand rather than pushing materials with MRP. Although manual Heijunka and Kanban can be central to Lean initiatives, in reality, they are just one step along the road to the ultimate Lean objective which is to more efficiently service customer needs. This is what we call Demand Driven Lean.

Why is this? The ultimate test of how Lean you are is to ask the question has your Lean initiative actually improved your efficiencies and the way you service your customers. Have you improved on-time delivery performance, increased turns of finished goods inventory and reduced actual lead times?

WHAT ROLE DOES PREACTOR PLAY IN A DEMAND DRIVEN LEAN WORLD?

Preactor is the tool that enables manufacturers to transform their Lean initiatives into the world of Demand Driven Lean.

* automates Heijunka scheduling to level load production
* synchronizes the flow of materials
* synchronizes the flow of sub parts coming from upstream work cells
* minimizes changeover times and cycle times at upstream work cells
* eliminates non value added activities needed just to maintain ERP
* extends Visual Control Systems to provide company-wide visibility
* improves operational decisions by simulating the consequences of what-if alternatives

In an automotive assembly plant component parts are made available to the assembly line from small Kanban controlled WIP stores. To balance the assembly line the product mix, sequence and shift patterns is known as Heijunka (load-leveling). This is a non-trivial calculation that must be carried out every time the assembly mix, quantity or sequence varies.

The problem is further complicated by the fact that the component cell works three shifts to have enough capacity to meet their demand. They have to make larger batches, but at the same time they must keep the WIP stores between their minimum and maximum levels. They might be excess materials in storage, work-in-process, and finished products waiting for buyers, but at the same time they must keep the WIP stores between their minimum and maximum levels.

In a perfect world the component cells would simply make one tote full of each item whenever a Kanban signal arrives. The problem is that the main assembly is divided into two sections: one makes large component parts for the front of the car (such as engines), and the other makes smaller component parts for the back of the car (such as electrical systems).

In an automotive assembly plant component parts are made available to the assembly line from small Kanban controlled WIP stores. To balance the assembly line the product mix, sequence and shift patterns is known as Heijunka (load-leveling). This is a non-trivial calculation that must be carried out every time the assembly mix, quantity or sequence varies.

In an automotive assembly plant component parts are made available to the assembly line from small Kanban controlled WIP stores. To balance the assembly line the product mix, sequence and shift patterns is known as Heijunka (load-leveling). This is a non-trivial calculation that must be carried out every time the assembly mix, quantity or sequence varies.