



QAD LEAN MANUFACTURING

QAD Lean [Manufacturing ERP](#) extends QAD's proven manufacturing planning and execution functionality to support continuous flow and pull techniques developed based on the methodologies of the Toyota Production System, where actual customer demand drives manufacturing. These proven techniques decrease operating costs, reduce lead times and improve inventory movement efficiency.

With Lean Manufacturing, you will be able to tightly manage inventory throughout the value stream and implement effective pull systems both inside your plant and with suppliers. Using data from your ERP system, you can streamline even the most complex value stream, creating a model of your suppliers, manufacturing processes and flows, intermediate storage locations and customers. Lean Manufacturing uses ERP data to calculate Average Daily Demand, Every Product Every Interval (EPEI), Takt time and Kanban loop sizes.

Electronic Kanban functionality helps you manage the amount of inventory within the value stream; using pull-replenishment and buffer management principles, with sizing tools that let you quickly and effectively respond to changes in demand or product mix.

Lean Manufacturing reduces lead time by communicating pull signals via email, fax, or electronically via QAD EDI eCommerce or by displaying them interactively using a color-coded Electronic Kanban Board, accessible on-demand by accessing QAD Supply Chain Portal from any internet browser.

Leveraging workbench simulations, Lean Manufacturing helps you implement continuous improvement programs. Convenient workbenches let you simulate changes to EPEI, processes or buffer inventory and immediately see the impact on average inventory, days of supply and inventory value. You can simultaneously change any number of parameters, without affecting production until you find a model that meets your business objectives.

Mix analysis and load leveling help you manage your pacemaker processes, calculating the volume of parts for production and suggesting a daily level schedule by shift for each item based on established process volume, mix, pitch, EPEI and the product wheel. Use this to update the master schedule and to evaluate schedule and buffer performance.

Flow scheduling provides the ability to generate time-phased sequence statements of production requirements for each production line, helping you reduce lot sizes and cumulative product lead times.

VALUE AND BENEFITS

The primary value you will receive from Lean Manufacturing will be inventory movement efficiency in an environment of continuous improvement. You will be better able to achieve your performance targets for key customer service and fulfillment metrics. You will get a greater return on the assets deployed in your manufacturing processes.

Reduces operating costs and decrease lead time. Lean Manufacturing enables the application of continuous flow and pull techniques developed based on the methodologies of the Toyota Production System. These techniques reduce operating costs and decrease lead time.

Maximizes inventory movement efficiency. Model the value stream to manage inventory and use visual Kanban signals for replenishment.

Eliminates waste. By using techniques such as value stream mapping, buffer management and level loading, you reduce inventory and eliminate non-value added process.

Increases agility. Substitute the use of off-line spreadsheets with a central workbench that gathers all information into one place and lets you quickly simulate changes and analyze the impact before affecting production.

Reduces inventory. Closer relationships with suppliers, improved communication, integrated performance reporting and pull signaling help improve the dependability of material flow and allow you to reduce the amount of inventory you need to hold as a buffer against demand fluctuations.

Decreases average order cycle time. Use production load leveling to smooth out work and flow scheduling to reduce lot sizes and cumulative product lead times.

Increases throughput. “Drum-Buffer-Rope” techniques address loading on capacity constrained work centers, allowing that work into the system that can pass through constraints. It focuses attention on relieving constraints by utilizing alternate work centers or outsourcing.

Improves communication. Communicate seamlessly with suppliers (internal or external) by providing secure access to Kanban information from any internet browser, color-coded to focus attention on potential issues with integrated messaging. Suppliers can create containers, print labels and communicate Advance Ship Notices (ASNs) right from this internet portal.

Creates an environment of continuous improvement. Simulations let you review the impact of alternative process parameters, EPEI, loop sizes, and to identify how they affect business objectives.

KEY FEATURES

- Uses existing data to help you map the extended value stream, including suppliers, customers, manufacturing processes and intermediate storage locations (supermarkets) and to analyze the flow of materials. Value stream mapping draws

- attention to non-value added processes.
- Leverages an interactive sizing workbench with visibility into all process and planning parameters to quickly simulate and effectively respond to changes in demand or product mix. Simultaneously change any number of parameters and review the effect. Save in-process simulations for later review.
 - The Kanban Workbench displays complete analytical information including Average Inventory Units, Average Days Supply and Average Inventory Value by Item, Total Inventory Value, and Safety Stock. Change any parameter and immediately see the impact.
 - Automates Kanban card management, assigning each Kanban card a unique identifier (ID) and tracking detailed transaction history by Kanban ID. Status and reconciliation reports help you quickly identify missing or unneeded cards.
 - Kanban card analysis and the ability to quickly remove or deactivate cards supports inventory reduction.
 - Lean Manufacturing uses data directly from ERP, eliminating re-keying and data entry errors.
 - Explodes end item demand directly from Material Requirements Planning to create demand for dependent items.
 - Pull systems support movement within the plant and external suppliers, visually signaling that items need replenishment.
 - Communicates pull signals regularly based on relationship and the way you accumulate that demand. For example, a material handler may go through the plant every three hours to pick up parts, or you may communicate schedules to your suppliers periodically.
 - Accumulator logic accumulates empty Kanbans until you reach a predefined order quantity, then releases each for replenishment (purchased or manufactured).
 - Integration with QAD Supply Chain Portal provides real time demand visibility from any Internet browser.
 - The Electronic Kanban Board provides a colorcoded visualization of loop and card status.
 - Integrated messaging speeds up communication and helps averts potential delays.
 - Suppliers can create containers, print labels and manage Advance Ship Notices (ASNs).
 - Receive by scanning or entering a Kanban ID optionally updating inventory and creating financial transactions. For manufactured items, it optionally posts labor and issues components.
 - Built-in controls ensure you never process the same Kanban twice by mistake. You can prevent two fill transactions in a row and control required transactions.
 - Minimum cycle time indicates early card transactions and maximum cycle time identifies lost cards.
 - The level mix workbench helps manage buffers ahead of pacing operations. This provides “DrumBuffer-Rope” capability for short cycle processes relying on Kanban for signaling material movements through manufacturing. It eliminates work orders and the associated overhead.
 - Lean Manufacturing reduces lot size using flow scheduling to generate time-phased sequence statements of production requirements for each production line.