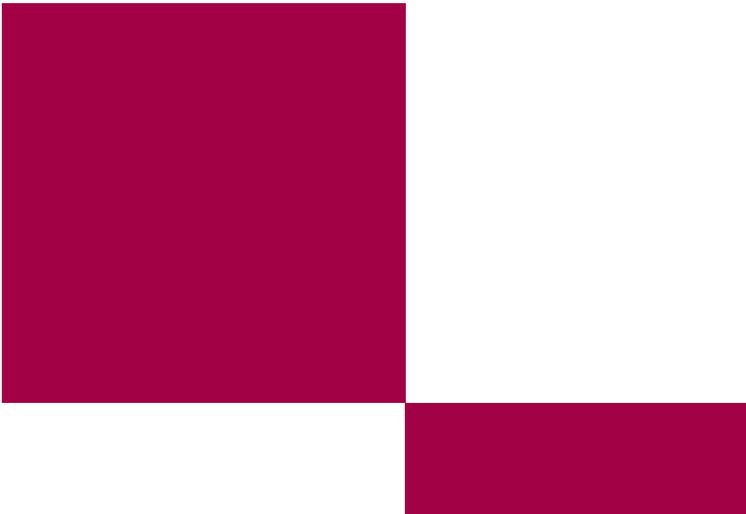


Cincom and complex manufacturing: meeting the goals of a Demand-Driven environment



Cincom has long been providing solutions to companies that manufacture products within the complex manufacturing sector. Many complex manufacturers today seek the benefits that can be gained from adopting what can be termed a “Demand-Driven” manufacturing strategy. Other similar operating philosophies that are used to underpin such a strategy include Demand Flow Technology (DFT), Lean Manufacturing, and Flow Manufacturing. The Toyota Production System (TPS) is acknowledged by many to be the forerunner for virtually all of these operating philosophies in use today.

While some application providers have developed software solutions to support demand-driven manufacturing, the solutions they provide have been developed for less-complex and more-repetitive environments.

Cincom however, has been working closely with some of its customers, many of whom are acknowledged leaders of DFT and Lean Manufacturing. Together, Cincom and its customers have developed solutions that address the specific needs of the complex manufacturer in a demand-driven environment.





Becoming Demand-Driven

Key areas to consider:

- **Knowledge-based quoting and selling** – In a world of mass-customized products, the task of understanding customers' needs and determining the right product is often complex and very time-consuming. Cincom Quote-to-Order solutions guide the customer through a streamlined selection process, dramatically reducing the response time, and ensuring that the product offered is viable in its ability to meet the customers' needs.
- **Constraint-based demand planning** – Once the sales order has been received the system determines the optimal build date that fits planned capacity and meets customer expectations. Cincom Demand-Driven Management solutions utilize a process constraint rules engine that assures adequate production capacity exists to meet the customer promise.
- **Synchronized execution** – Cincom Demand-Driven Replenishment Solutions support the replenishment of materials purely by signals or events occurring downstream in response to real demand. Using electronic or visual communication methods, replenishment requests are relayed to points of supply both internal or external. Cincom Demand-Driven Replenishment Solutions supports the complete definition, demand analysis, sizing, and execution requirements of the demand-driven environment.
- **Product and process management** – The demand-driven, "lean" complex manufacturing environment demands that both products and processes are designed to support a dynamic and unpredictable demand environment. While lean techniques are used to drive out waste and variation, traditional approaches like part-centric Bill of Material and Route Management systems will not meet the needs of demand-driven complex manufacturers. Cincom Enterprise Management Solutions provide flexibility and agility through use of modular bills, routings and document management.
- **Business process optimization** – A critical factor for the successful demand-driven company is to react in real-time. Building a Real-Time Enterprise is a crucial component in the drive to effectively communicate and collaborate with other people, processes, or systems. In this environment, events need to spawn actions, processes need to be automated, systems need to communicate with other systems, and organizations need to collaborate with other organizations. The Cincom Environ Solution is the catalyst for the event-enabled environment and is an essential element in helping you achieve your demand-driven goals.

Cincom streamlined Quote-to-Order solutions

The answer to knowledge-based quoting and selling

For the demand-driven manufacturer, the process of becoming “lean” begins with quoting and selling processes. Cincom delivers intelligent quote-to-order solutions that not only significantly reduce the time it takes to process a customer request from inquiry through to order, but enhances the accuracy of the resulting configuration. This reduces the re-configuration, re-work, and re-plan activities that are normally prevalent within the complex manufacturer’s environment. Whether it is selling through direct or indirect channels, through distribution agents, or over the web, Cincom can provide solutions that will make your complex quoting and selling processes simple ones in areas such as:

- **Guided selling**

Help your customers by guiding them through what is often a complex process of selection, inclusion, exclusion, options, and alternatives by matching their needs to the right products and services and getting it right the first time, every time.

- **Product configuration**

By developing a knowledge base about products, processes, selection rules and constraints, then coupling the information you gather during the selling process, you are able to develop accurate and viable product configurations while eliminating the need to “chase the expert” for each and every sales opportunity.

- **Pricing**

Along with complex products usually come complex pricing requirements. Now you can quickly and accurately develop the right price, taking into account any pricing or discounting rules that might apply.

- **Quotation generation**

Generate the quotation, on demand, in real-time and in a format that suits both you and your customer.

- **Proposal generation**

Need a more comprehensive proposal? No problem, you can easily configure a proposal from a “document set” quickly allowing you to generate a personalized proposal that might include collateral, detailed product specifications, return on investment justifications, and even drawings or pictures.

Cincom Demand-Driven management solutions

The answer to constraint-based demand planning

The fundamental aim of this solution is to create a viable production plan to support the manufacture of products in time to meet the customer-requested ship date. Developing a plan that is based on the true ability to produce, taking into account all known constraints of the process, is essential to making promises you can keep. Cincom Demand-Driven Management Solutions provide:

- **Product line profiling – Increased flexibility, greater throughput**

Define production lines, product families and products. Line constraints are loaded based on the criteria from the line design. Flex parameters are loaded to accommodate expected forecast error between product families.

- **Business plan commitment – Implementation of the Sales and Operations Plan**

Convert the monthly SO&P to a daily product family level production plan. This establishes the available capacity and mix by day.

- **Constraint-based production sequencing – Allocation of orders against the business plan**

Acknowledge customer orders within available capacity, flex parameters and constraint rules. It provides to the customer the best date possible within the current capacity and material constraints. This date is communicated back to the enterprise order management system.

- **Material plan generation – Real-time requirements updated free from MRP**

Maintain high-level material plans based on the daily production plan loaded from the SO&P. Changes to this plan are reflected in real-time.

- **Shop sequencing – Smooth your daily plans**

Once orders are committed to production they are smoothed based on production efficiencies and resource availability. This includes re-assignment of production lines or altering the sequence within a day.

Cincom Demand-Driven Replenishment solutions

The answer to synchronized execution

Cincom Demand-Driven Replenishment solutions provide the tools that will plan and execute the production and material pull processes required in a demand-driven manufacturing environment. Kanban Management techniques are used to “pull” material to its point-of-use purely by signals or events occurring upstream in response to real demand. Management of the flow and replenishment of materials uses modern electronic communication methods that completely integrate suppliers, both internal and external, into the supply chain.

Cincom Demand-Driven Replenishment solutions provide:

Kanban definition – *Materials where and when you need them*

Kanban Definition allows the user to identify those parts that will be managed by Kanban, identify points of supply, and define other elements essential for the effective utilization of Kanban techniques.

Daily rate demand analysis – *Compute daily item usage*

Daily Rate and Analysis determines points of use for Kanban-controlled items and, based on the rate-per-day required, will determine the quantities of components needed at each point-of-use.

Kanban sizing – *Flexibility to size your Kanbans to desired levels*

Utilizing daily rate information, the system will then suggest a Kanban size using the standard formula for sizing based on parameters supplied. It is also within this process that Kanbans that are defined as part of a pull chain are calculated.

Kanban maintenance – *Keep your Kanban data valid as plans change*

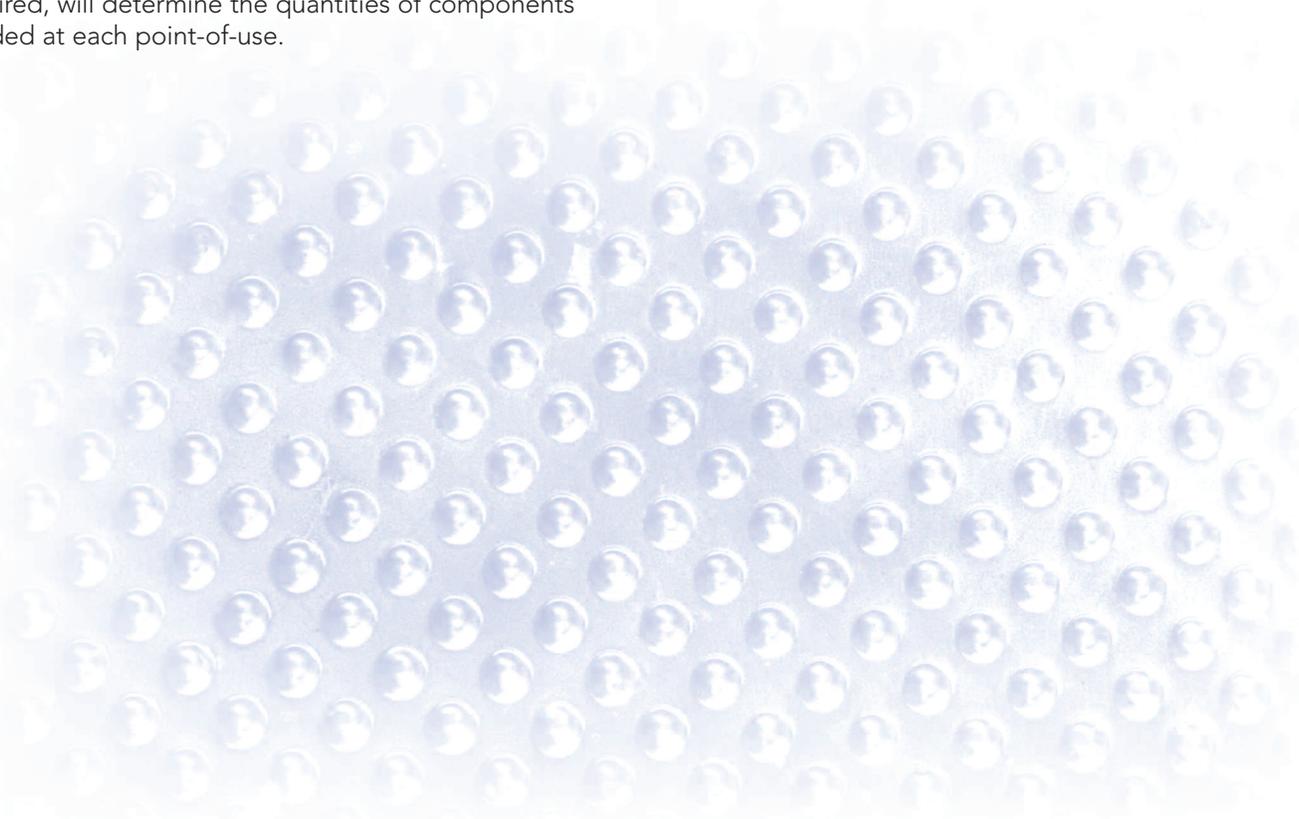
The user can determine if and when the suggested Kanbans will be introduced into production. The user can override the recommendations and perhaps increase or decrease the size, or add or remove suggested instances.

Kanban execution – *Communication inside and outside your four walls*

The Kanban system supports both visual and electronic Kanban execution. Electronic Kanban provides the ability to expand the supply chain well beyond the four walls and communicating your needs efficiently with members of your supply chain.

Kanban alerts – *Keep you in touch with production exception*

All Kanban activity is monitored and the users are alerted when certain events occur outside defined tolerance.



Cincom Enterprise Management

The answer to product and process management

Today, superior time-to-market performance is undoubtedly a significant competitive advantage. Cincom provides what complex manufacturers need – capabilities that can make a real difference in both bringing products to market faster and maintaining the existing environment more effectively and efficiently.

While your “re-engineering” efforts seek to eliminate, simplify, or streamline the complexities found in both products and processes, the unique needs of the complex manufacturer cannot be ignored. New product introduction and the frequent maintenance of existing configurations are a fact of life and are often very complex in nature.

Cincom Enterprise Management solutions, include the following capabilities that have been specifically designed to meet the needs of the complex manufacturer, yet are also designed to moderate the impact this apparent complexity has on the overall organization.

- **Document management**

Cincom’s Document Control capabilities provide the flexibility you require to manage product configurations as you see fit. A document can define the bill of material and process requirements of a complete item or perhaps a “module” of an item. You can develop a library of such documents that, based on specific customer needs, can easily be assembled together to provide the complete configuration profile of a product.

- **Revision control**

As “form, fit, and function” changes are introduced, the necessity to “uplift” revisions can often represent effort disproportionate to the value you receive. The Revision Control capability of CONTROL™ is second to none. Not only is it easy to introduce and manage revisions, you can get real value from the results. See inventory, orders, and cost by revision then use substitution and use-up capabilities to minimize obsolescence and maximize profit.

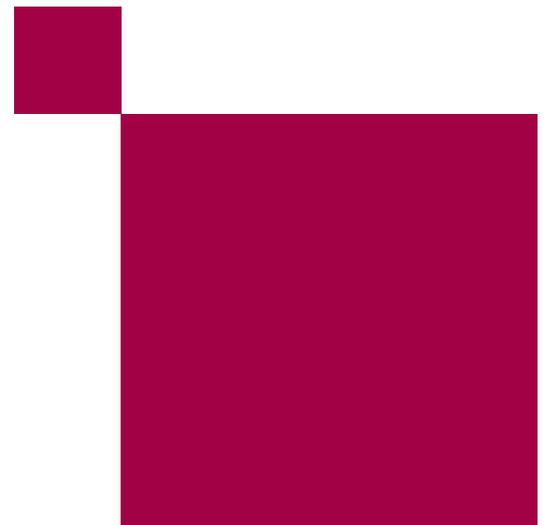
- **Engineering change control**

For the complex manufacturer where seemingly almost infinite variations of a single product are possible, the usual proliferation of Bills of Material and process routes for “like” products results in a maintenance nightmare. The “master” bill of material and process route concept in CONTROL makes engineering change management a simple and easy-to-execute process. The productivity gains are enormous where a change that would normally require multiple “line by line” changes across BOMs and Routes can now be executed by a single interaction with the system.

- **Product life cycle control**

Taking a product from concept through prototype, to production, to service and to ultimate retirement is a life cycle that can span decades for the complex manufacturer. With CONTROL, you can combine the discipline you want with the flexibility and responsiveness you need to manage that process more efficiently and more effectively than ever before.

... and much more



Cincom Environ™

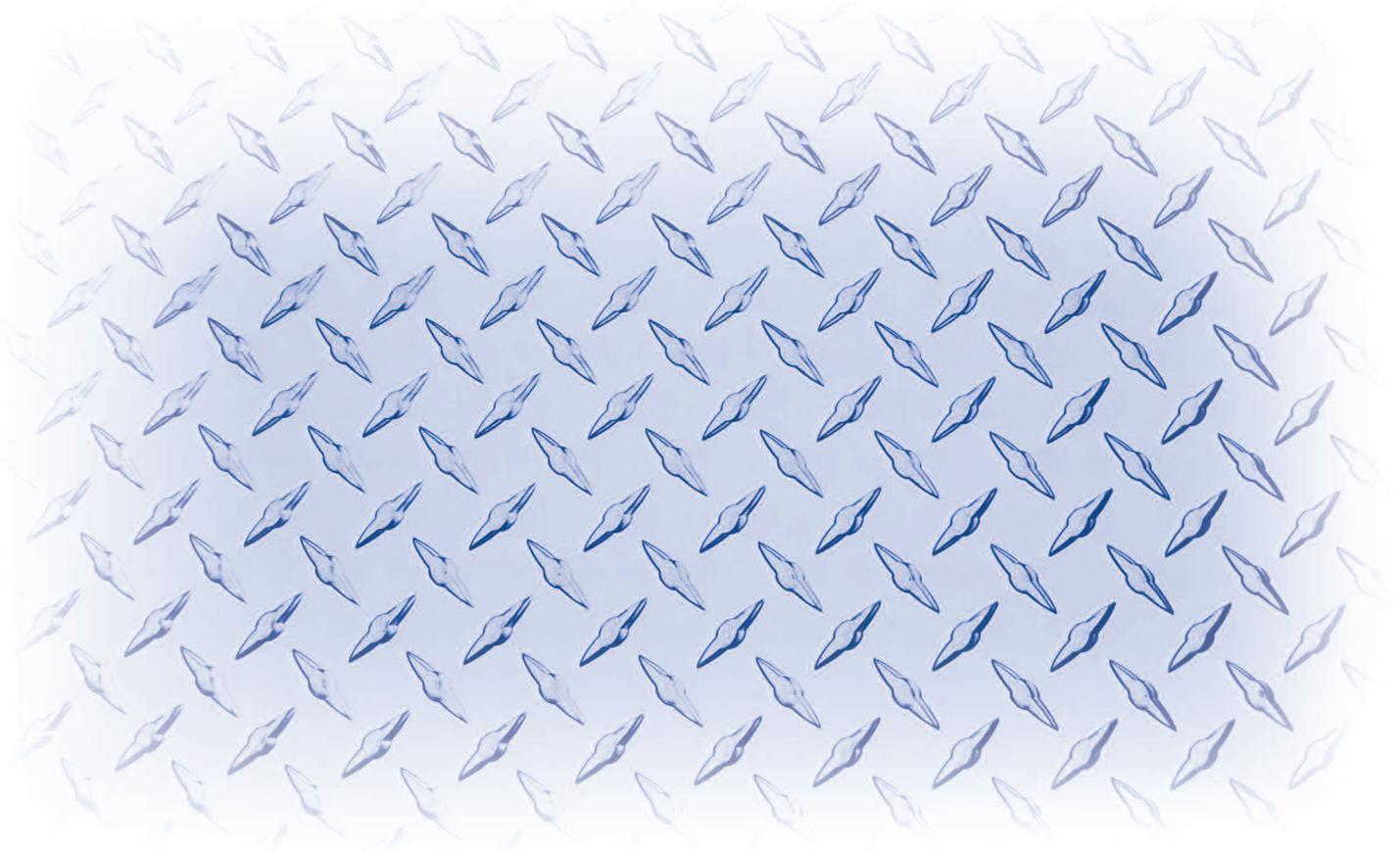
The answer to business process optimization and application integration

While the total elimination of all forms of waste for any non-value-added activities is the ultimate goal of the modern manufacturer, the quest to become “lean and mean” can be endless. Whatever remains, value added or not, requires an environment that is driven to respond as quickly and efficiently as possible to events and activities that occur throughout the whole collaborative community.

The Cincom Environ solution coupled with Microsoft Biz Talk server technologies are the enablers for the Event-Enabled Environment. All Cincom applications are event-enabled which means that as selected events occur within an application, people, processes, or systems can be easily integrated into the business process at hand; enabling faster responses, quicker decisions, and support for the automation of tasks throughout the total community of applications, employees, suppliers, customers, and other partner participants.

Cincom Environ helps complex manufacturers improve performance by:

- Automating complex business processes
- Integrating multiple systems of record
- Proactively responding to real-time event processing
- Reducing non-value-added activities
- Providing secure access across the total community
- Effectively managing constantly changing business processes



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