

# ICON Solutions: Competitive Advantage for Operations Planning and Demand Fulfillment

The last decade has brought tremendous advance in customer's expectations of product choice and service, and to the sophistication and responsiveness required from the network to supply those products. In the past, customers were happy to order products off the shelf or wait weeks for customizations. Today, customers are able to choose from a variety of models or options and expect a prompt availability, or at least an accurate delivery date.

At the same time, product companies are under tremendous cost pressure to more efficiently utilize common and substitute materials, leverage outsourced manufacturing in low cost regions where possible, and achieve better coordination across internal and external operations.

## How ICON Solutions Provide Competitive Advantage

ICON provides unique Top Down Pegging planning technology for Operations Planning and Demand Fulfillment that enables substantial competitive advantage over ERP and Advanced Planning Systems (APS or SCM). ICON's top down pegging approach takes each independent demand and goes down the BOM and across sites to "peg" (i.e. reserve) rough cut capacity and materials to that demand. The planning result is that capacity and materials in the network are pegged to the same top level demand at the same time. This achieves highly efficient and tightly controlled pull-to-demand coordination across internal or external sites, inventories, capacities, and suppliers.

ICON customers realize significant benefits in:

- **Planning Efficiency** - increase fulfillment by 10 to 20% or more from the same resources
- **Planning Speed** - plan 100 times faster than ERP or APS for real-time response
- **Fulfillment Control** - strategic priorities and rules control when each demand is to be fulfilled

ICON embeds its technology in a suite of business software solutions that address key industry needs:

- Monthly Sales and Operations Planning with Rough Cut Capacity and Materials
- Weekly Master Scheduling, External Build Planning, and Customer Commitments
- On-Demand Customer Order Commitments and Fulfillment Control

ICON's software solutions were developed and proven through 15 years of collaboration with global industry leaders and innovators, including Hewlett-Packard, Sanmina-SCI, and Foxconn. ICON is typically implemented in two to three months and our customers are 100% reference-able.

## The Operations Planning and Demand Fulfillment Problem

The leading ERP and APS software solutions do not offer a top down pegging approach. Instead, they break the planning process into separate modules for demand planning, master scheduling, and materials planning. The result is that there is no single point of control over when each independent demand will be fulfilled and the utilization of resources planned across different modules is uncoordinated and inefficient.

To compensate for a lack of a comprehensive, responsive and efficient planning process, policymakers often rely on fixed lead time-based order commitments supported by excess capacity and high inventory buffers. Without a new approach to planning, the need for these policies will only increase with industry trends toward increased use of outsourced suppliers and common and substitute materials in the BOM.

## ICON Solutions:

ICON's robust top down pegging solutions provide a completely different approach. With ICON, there is a single integrated plan that controls how each line of demand efficiently utilizes specific network resources. ICON overcomes the real challenge with top down pegging of how to best balance inventory when shortages exist and/or when substitutions are available. ICON is able to maximize overall shipments, but still ensures that higher priority orders with shortages are fulfilled as soon as their shortages are resolved.

Key differentiators of ICON Solutions are capabilities to:

- Plan in 1 to 3 minutes vs. 2 to 5 hours for ERP and APS - for real-time response and simulations
- Manage one coordinated plan that most efficiently uses capacities and materials across sites
- Precisely control how each independent demand is scheduled - and align to strategic priorities
- Level load rough cut capacity over time while synchronizing across other related capacities
- Efficiently use-up substitutes and phase-in new parts
- Implement in 2 to 3 months and then maintain and expand the solutions with internal resources

## The ICON Value Proposition:

1. Realize 10% to 20% more sales at higher margins:
  - More efficiently utilize constrained supply or resources to fulfill more sales at less cost
  - More quickly and accurately respond to customers to capture more sales opportunities
  - Consistently achieve higher customer service levels to generate increased sales
2. Reduce excess and obsolete inventory cost by 10% to 20%:
  - Pull inventory across a supply network to actual shipments rather than push to forecast
  - More efficient and systematic utilization of common and substitute inventory
3. Reduce planning efforts and cycle time by 50% to 75% by:
  - Automated planning of processes to eliminate manual efforts
  - Planning simulations and management-by-exception processes for faster planning cycles

## Sample of ICON Customers

Hewlett-Packard, Sanmina-SCI, Foxconn, 3M, Honeywell, and others.

## The ICON Top Down Pegging Approach

### ICON Differentiators

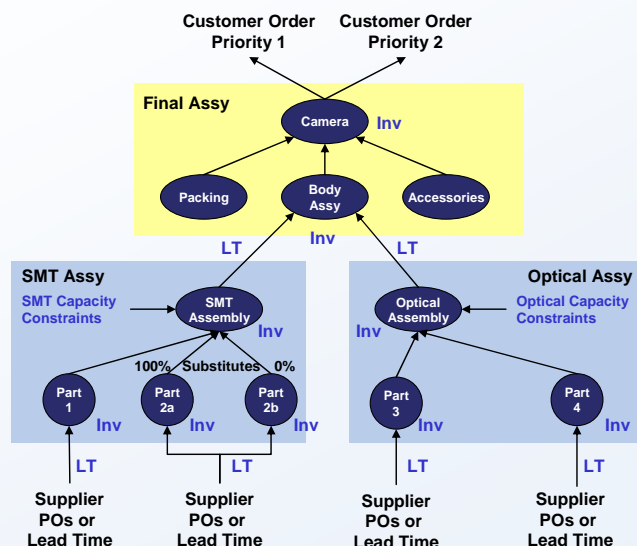
Precise priority control over demand and supply matching

Pegs Down the BOM and Across Sites/Operations

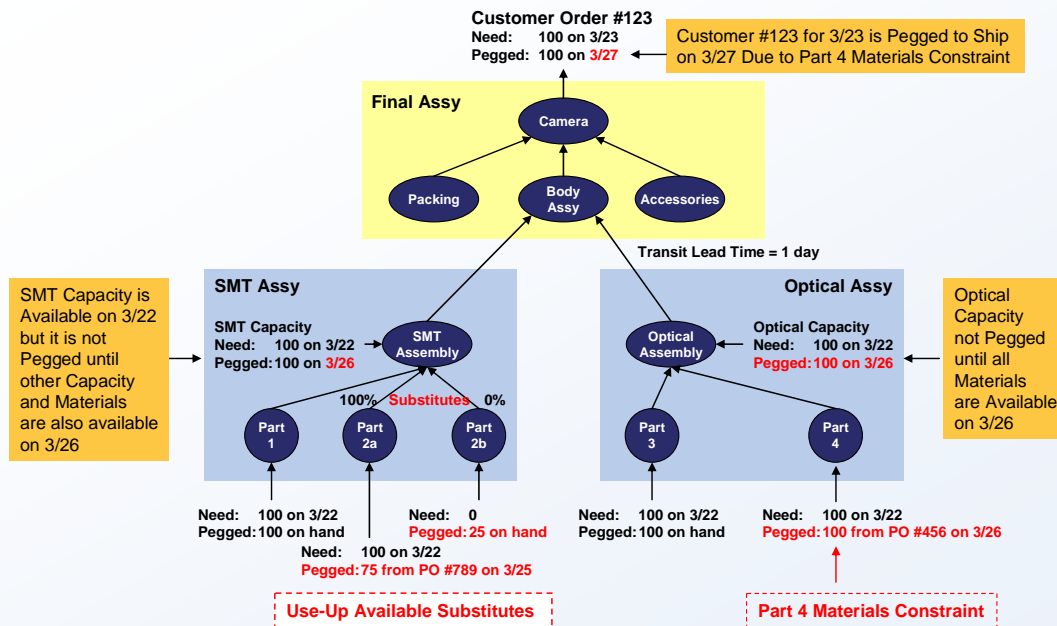
Simultaneous pegging of all capacity and materials for one balanced plan across all sites and operations

Highly efficient utilization of materials and substitutes

### Pegging Each Order to Network Capacity and Supply



## An Example of Top Down Pegging



## ICON Suite of Business Process Solutions for Operations Planning and Fulfillment:

### Sales and Operations Planning (S&OP) with Rough Cut Capacity and Critical Materials

A fully integrated S&OP that considers rough cut capacity and critical materials constraints across multiple sites/operations. Modules may be implemented individually or combined into a complete solution.

- S&OP Workflow:
  - Integrates sales, operations, and corporate planning into a common S&OP process
  - S&OP tasks come to the users via email notification and alerts
  - A routine and well-structured process that significantly improves data consistency
- Advanced Demand Planning:
  - Collaborative process to gather sales plans from across the extended sales network
  - Advanced statistical forecasting techniques

- Operations Planning with Rough Cut Capacity and Materials:
  - Rough cut capacity modeling across multiple sites with level loading over time
  - Critical materials constraints at any level of the BOM or at any site
  - Top down pegging controlled by demand priorities and business rules
  - Extremely fast and responsive multi-site planning and simulations
  - Operations plan maximizes demand fulfillment by efficiently utilizing available constraints
- Performance Reporting:
  - Measure key performance metrics
  - Report metrics on various hierarchical levels such as per SKU or per product line
  - Flexibly design metrics that matter for your particular business

## Weekly Master Scheduling / Build Planning and Customer Commitments

Allows demand planners to manage high level rough cut constraints and create a level loaded build plan that maximizes demand fulfillment based on priorities. Also provides commitments to each demand.

- Optimized Master Scheduling / Build Request Planning:
  - Rough cut capacity modeling across multiple sites
  - Critical materials constraints at any level of the BOM or at any site
  - Top down pegging controlled by independent demand priorities and business rules
  - Extremely fast and responsive multi-site planning and simulations
- Customer and Channel Commitments
  - Accurate customer commitments for each independent demand based on top down pegging to in-bound module or component supply
  - Flexible prioritization for each independent demand to control fulfillment
  - Commit to customer forecasts and ensure previously committed forecast is always met first
  - Enable partial shipments and squared sets across related order lines
  - Immediate shortage-by-order visibility for faster shortage resolution
  - What if simulations

## Real-Time Customer Order Commitments and Fulfillment Control

Provides on-demand customer order commitments and clear-to-build control over actual order fulfillment. Also, may control purchase and material transfer orders.

- Customer Order Commitments
  - On demand, real-time customer commitments against customer orders
  - Each commit planned via top down pegging to the most up-to-date materials supply
  - Highly efficient utilization of common and substitute materials to increase fulfillment
  - Compare orders to a weekly commit plan, and filter for exceptions where commit is exceeded
  - Enables partial shipments and shipments in squared sets across related order lines

- Immediate shortage-by-order visibility to faster shortage resolution
- What if simulations
- Order Fulfillment Control
  - Customer order release function to directly control order fulfillment, may be integrated to ERP
  - Materials transfer order release function to control inventory movements, may be integrated with ERP or warehouse system

## ICON Supply Chain Management

Since 1992, ICON Supply Chain Management has provided advanced supply chain planning, collaboration, and fulfillment software solutions for leading global companies. ICON customers include Hewlett-Packard, Sanmina-SCI, Foxconn, 3M, Honeywell, Soitec, BMW, Volkswagen, and others. ICON is based in Karlsruhe, Germany, with regional locations in Santa Clara, CA, USA, and Hong Kong.

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