



Manufacturing Management

In a global environment marked by fluctuating demand profiles, distributed supply sources, customers' expectations of rapid response, and an expanding product footprint, there is an ever-growing need to improve factory performance, which is the primary source of creating value for customers. Many challenges impede the achievement of enhanced factory operations however, including managing short product life cycles, evaluating alternatives to manage supply chain risks, minimizing liabilities, and handling multi-mode production—all while trying to achieve lean operations.

i2 Manufacturing Management synchronizes material between the factory floor and multi-tiered supplier operations and optimizes capacity and labor while reducing inventory and order-to-delivery lead times. i2 Manufacturing Management is a comprehensive methodology incorporating i2's deep domain expertise in planning, scheduling, execution, and collaboration processes. The solution provides intelligent material, capacity, and constraint management, along with the quick detection of problems, proactive exception-based management, and rapid "what-if" analysis, to streamline factory and supplier operations. Companies can consolidate planning and execution workflows, eliminating mismatches that create chaos and non-value added activities on the shop floor.

Features and Benefits

i2 Manufacturing Management provides best-practice factory processes and solutions, which support popular operating methodologies including lean manufacturing and the Theory of Constraints. Designed with industry best practices in mind, i2 Manufacturing Management provides a framework to transition a traditional factory into a lean and agile operation. It is supported by an infrastructure that facilitates fast and effective decision-making while leveraging existing investments in systems and processes. i2 Manufacturing Management strives to eliminate non-value-added activities resulting from using disparate and ad hoc systems. The solution is a one-stop shop to streamline mission-critical material flow processes.

i2 Manufacturing Management solves material flow challenges across the factory floor and extended supply chain by focusing on the following key elements:

- **Factory Planning and Material Coordination**—Provides synchronized material and capacity planning while enabling quick what-if scenario management and decision support as well as the coordination of purchasing, planning, and production with customer orders.
- **Lean Life Cycle Management**—Institutionalizes pull-based manufacturing by providing level planning, Heijunka scheduling, kanban management, and real-time kaizen discipline, facilitated through scenario and exception management, for any make-to-stock, build-to-order, assemble-to-order, or hybrid manufacturing environment.

"One of our primary reasons for choosing i2 solutions was the long-term viability that i2 offered. Building a long-term relationship made sense. Using i2's services, we believed that we could achieve a total return on investment. Our project goals were to shorten the planning cycle, to increase responsiveness, and to utilize 'what-if' analyses. We have achieved those primary goals."

—Mike Dager
 Production Planning Administrator,
 North American Tire Division
 Cooper Tire & Rubber Company

- **Schedule and Sequence Management**—Realizes executable schedules across any manufacturing environment using a flexible attribute-based framework to handle business-level and shop-floor constraints. It provides real-time problem detection and corrective action and closes the loop between planning and execution.
- **Supply Schedule Management and Visibility**—Manages all supplier interactions across the life cycle of a purchase order, provides multiple replenishment modes using just one system, enables real-time visibility and tracking of inventory and shipments across multi-tiered supply and production operations.

i2 Manufacturing Management works in conjunction with a third-party manufacturing execution system at the factory-floor level to support production execution as well as the tracking of production status, quality issues, and work-in-progress lots. This provides complete end-to-end visibility into order execution, non-conforming material, disposition, and returns.

i2 Manufacturing Management enables companies to boost customer service levels by improving manufacturing efficiency and lead times. Synchronized planning and execution leads to a significant reduction in cash-to-cash cycle times, procurement costs, and operating expenses. Better decision-making and execution with i2 Manufacturing Management ensures significant reduction in non-value-added activities and material, which supports corporate objectives of realizing both lean and green factory and supply operations.

Value-Driven Solution Engagement Model

An i2 Manufacturing Management engagement begins with a factory assessment that focuses on understanding pain points, establishing key objectives and strategies, and recommending solution best practices and a material flow process to achieve the desired financial and operational performance. From there, i2's results-focused engagement model, built on a stepwise deployment approach and a lean and Six-Sigma methodology, fosters rapid results and continuous factory improvement.

i2 supports both a traditional license model with an on-site solution deployment process, and a solution subscription model to realize total manufacturing management for any factory with varying levels of process, infrastructure, and skill-set maturity. Some of the key services include:

- Supply chain management and lean manufacturing process training
- On-site diagnostic and process assessment
- Solution training
- Solution deployment and roll-out
- Solution subscription
- Solution hosting
- Solution operation

i2 has 20 years of experience in helping customers from a wide spectrum of industry sectors—including automotive, industrial, high-tech, semiconductor, consumer electronics, aerospace and defense, and others—to solve challenging problems related to factory planning, job scheduling, production execution, and supplier material coordination and tracking. i2 Manufacturing Management provides the most comprehensive solution footprint to deliver rapid results and support a lean and agile factory.



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