



C3 AI Production Schedule Optimization

Optimize Industrial Schedules and Forecast Accurately with AI

C3 AI® Production Schedule Optimization is an enterprise AI application that generates dynamic manufacturing and distribution plans and optimal industrial schedules using a holistic view of customer demand, supply chain, manufacturing, and distribution operations.

Manufacturing and distribution operations typically follow a 2-step preparation cycle: planning and scheduling. The planning step includes customer demand forecasting and supply planning, taking into account macro operational constraints such as manufacturing capacity, fleet condition, and supplier uncertainties. The scheduling step translates the planning outputs into granular manufacturing and distribution schedules.

Traditionally, rule-based planning systems generate low-accuracy and aggregate-level demand forecasting, fail to respond to emerging market conditions and do not consider all operational constraints. Legacy scheduling systems do not account for the complex manufacturing and distribution configurations, are difficult to maintain because of the evolving processes and require manual intervention across the board, resulting in suboptimal schedules.

C3 AI Production Schedule Optimization generates accurate and granular demand forecasts and well-defined manufacturing and distribution schedules, factoring in dynamic market conditions, operational constraints and supplier, customer, and location uncertainties. C3 AI Production Schedule Optimization also provides optimal manufacturing and distribution schedules according to configurable objective functions (e.g., maximize margin, minimize cost) and operational constraints (e.g., storage policy, asset performance, and availability). The application is action-oriented, providing contextualized insights for real-time adjustments.

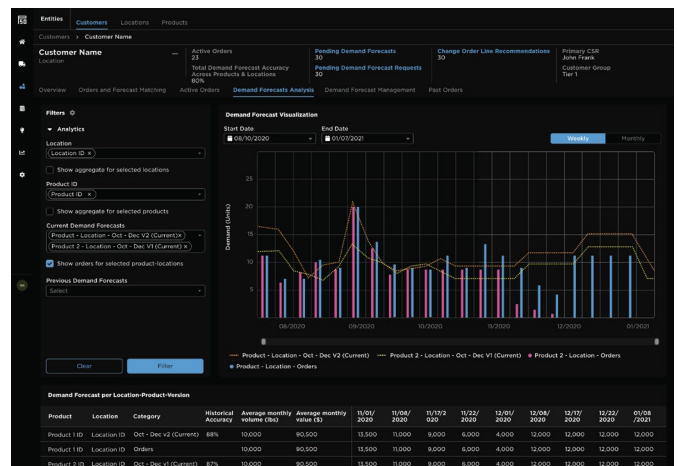
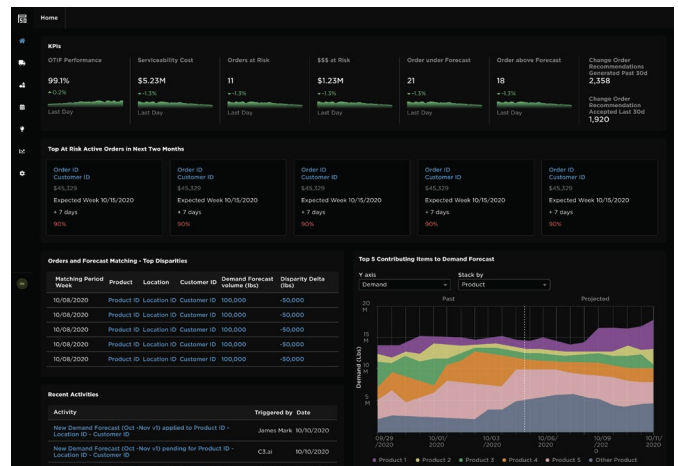
C3 AI Production Schedule Optimization enables collaboration across multiple user personas along the supply chain and manufacturing operations including sales and marketing analysts, buyers and sellers, and schedulers. The application supports discrete, batch, semi-batch, and continuous manufacturing processes in network and multi-stage environments, delivering benefits across industries such as manufacturing, midstream and downstream oil & gas, chemicals, pharmaceuticals, and food and beverage.

Feature Summary

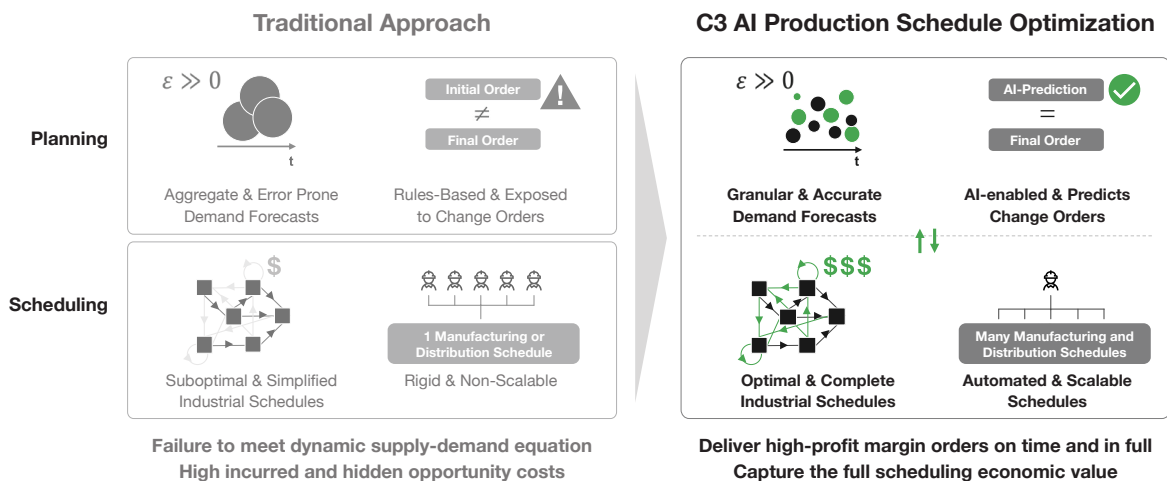
- **Use AI to forecast demand accurately and granularly** by customer, geography, product line, and manufacturing or distribution asset to accurately inform planning decisions
- **Plan and schedule any complex manufacturing or distribution system** using an elastic solver that plans and schedules tasks and activities for hundreds of thousands of products
- **Respond to AI-generated insights using** an interpretability framework that provides visibility into major cost drivers, and production and distribution bottlenecks
- **Capture all planning and scheduling constraints** that change over time, including cost, availability, asset performance, and process requirements for equipment, staffing, and transportation
- **Predict and plan for change orders** using AI techniques that predict change likelihood based on order characteristics and historical customer behavior
- **Run, save, benchmark, and analyze what-if scenarios** to assess the impact of planning and production modifications on plant and distribution throughput and cost
- **Optimize end-to-end production, up- and downstream inventories** by integrating with other C3 AI applications for end-to-end production and supply chain management

Powerful Analytics Streamline Production and Distribution Decisions

- **Meet customer demand** – Accurately forecast orders and reduce gap between planning and scheduling. Optimize the end-to-end process to ensure each manufacturing and distribution asset is optimally utilized and that customers get orders on time and in full.
- **Maximize high-margin products throughput** – Precisely track and prioritize high-margin products across the manufacturing and distribution chain by deploying resources at the right time, in the right order, at the right capacity with optimal scheduling.
- **Minimize manufacturing and distribution scheduling costs** – Cut down on transition, inventory, transportation, staffing and other costs by deploying optimally allocating tasks to resources at the right time, in the right order and at the right capacity.
- **Minimize last-minute planning and scheduling changes** – Predict orders likely to be modified using AI and update planning and scheduling accordingly.
- **Increase departmental efficiency** – Align Sales, Marketing, Purchasing, Planning, Production, and Distribution activities behind one planning and scheduling suite.



C3 AI Production Schedule Optimization uses AI and optimization techniques to generate granular, accurate, and optimal industrial schedules.



C3 AI Production Schedule Optimization provides accurate demand and supply forecasts and generates optimal schedules

Proven Results in 8-12 Weeks

Visit c3.ai/get-started