

Scheduling -Technology 1 – Infinite Scheduling

Infinite scheduling is a dynamic approach to planning production without the constraints of plant throughput, available resources and plant reliability. This allows for schedules to continuously change to accommodate an ongoing and potentially limitless set of activities. In the DMC use case, Infinite Scheduling is being used to determine the correct order of production, cleaning and maintenance to meet key business objectives with minimal scheduling effort and cost.

Pros	Cons
<ul style="list-style-type: none"> Gain insight into current use of available resources. Process is mapped for further analysis and improvement. Schedules are easy to understand and manage. 	<ul style="list-style-type: none"> Does not take into account existing constraints. Could result in missed order deliveries. Schedule needs to be reviewed against resources and constraints to determine achievable throughput.

Technology Cost range: \$20,000 - \$30,000, depending on the complexity of the use case, number of processes being scheduled and available process knowledge.

DMC Technology Cost: \$25,000

DMC Cost Assumptions:

- Limited to 1 Filling line.
- Simple and well-known manufacturing process.
- Internal costs for end user staff involvement have not been included.
- Single design and build iteration.

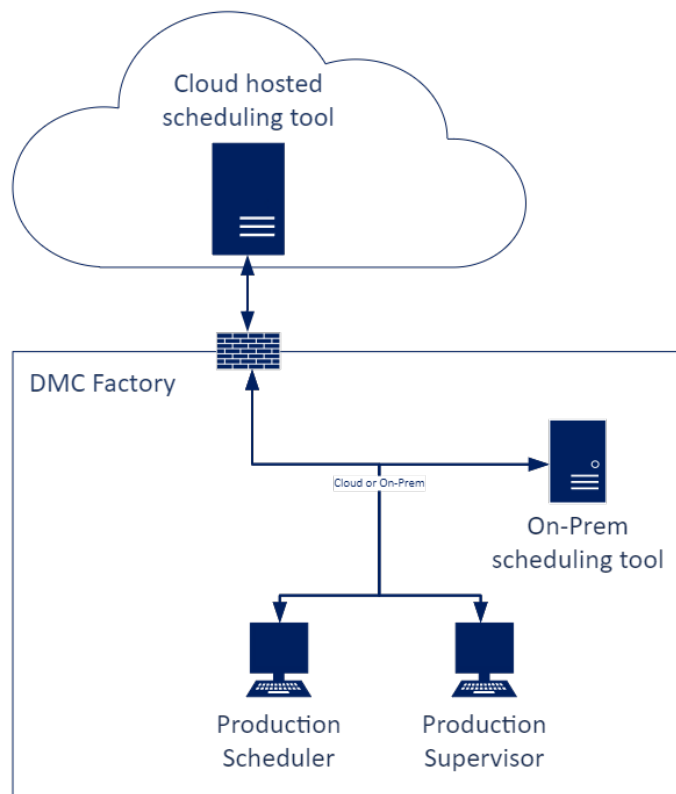
What situation would this technology usually be adopted in? Infinite Scheduling is typically adopted in manufacturing environments where production scheduling needs to be optimized without considering resource constraints. It's particularly useful in industries where capacity is not a limiting factor, such as make-to-order or assemble-to-order manufacturing, where the focus is on meeting customer demands as quickly as possible.

RoI Considerations: Implementing Infinite Scheduling can lead to significant returns on investment by improving customer satisfaction through shorter lead times, reducing inventory levels and associated carrying costs, optimizing production throughput, and enhancing overall operational agility. The ability to quickly adjust schedules based on customer orders and market demand helps manufacturers capitalize on business opportunities and maintain a competitive edge.

What skills are required to implement & run this tech? Implementing and running Infinite Scheduling in manufacturing requires expertise in production planning, scheduling algorithms, operations management, and software implementation. Additionally, proficiency in data analysis, understanding of manufacturing processes, and knowledge of lean principles are valuable for successful implementation and utilization of Infinite Scheduling systems.

Pre-requisites for successful adoption: Successful adoption of Infinite Scheduling in manufacturing requires a clear understanding of customer demand patterns, alignment of scheduling objectives with business goals, integration with existing enterprise systems, training for personnel on system operation and utilization of scheduling tools, and continuous monitoring of scheduling performance to ensure responsiveness to changing market conditions. Additionally, collaboration between sales, production, and logistics teams is crucial for effective utilization of Infinite Scheduling systems.

Typical Tech Stack



Who can help with this technology? Various entities can assist with the implementation and optimization of Infinite Scheduling in manufacturing, including scheduling software vendors, supply chain consultants,

operations management experts, system integrators specializing in production planning, and lean manufacturing consultants.

What to google when researching this technology? When researching Infinite Scheduling for manufacturing, key terms to search for include "infinite capacity scheduling," "dynamic scheduling software," "demand-driven scheduling," "flow-based production planning," "lean manufacturing scheduling," and "just-in-time scheduling."