Production Scheduling - Lotus Doors

Background

Lotus Doors is a leading supplier of adaptable space solutions to the commercial built environment delivering complete turn-key solutions to its customers, including design, manufacturing, installation and servicing. Products, such as foldable doors, are predominately made to order for the building and construction industry.

The Challenge

Demand for doors and similar products from the building and construction industry is seasonal and unpredictable. In addition, the products require many stages of fabrication depending on the complexity of the design and materials used. For example, the fabrication of a metal door requires completely different processes and machines than a wooden door.

The two key challenges that needed to be addressed were:

- Determine whether a potential new order could be satisfied before the order is accepted, and the impact of taking that order on plant capacity
- Create detailed production plans that maximise capacity and efficiency

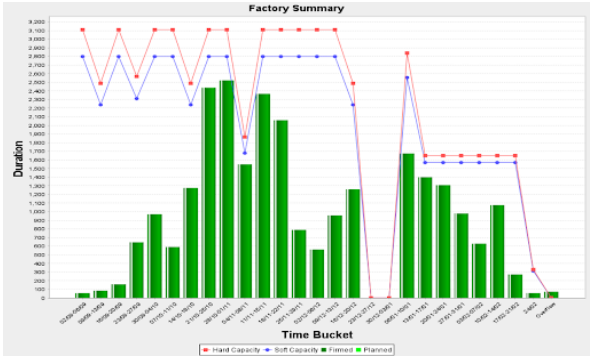
Solution

Opturion configured its optimisation platform to support two applications to address these challenges:

Resource-Constrained (or Rough Cut) Capacity Planning

RCCP uses a simplified production process model to rapidly determine the impact of an additional order in the factory. The model can change the schedule of all the existing orders provided it respects the agreed delivery dates. For the additional order, it does its best to meet the desired delivery date. If this is achievable then the order can be accepted. If not, the salesperson can negotiate with the potential customer, or the factory's capacity can be increased by permitting overtime.

RCCP can predict over several months, enabling decisions to be made about future capacity. The expected order book can also be incorporated so that any shortfall of orders can be identified early.



OPTURION
Intelligent Decision Support

Production Scheduling System

This application creates a production schedule that most cost-effectively meets the agreed delivery dates. Furthermore, it ensures that all the resources – people, machines and workstations- work up to 100% utilisation in regular hours or up to a maximum amount of overtime. Each product is unique in size and finish, and the production process for that product must be inferred from the design and engineering requirements. The production process includes:

- The workstations in a specific order
- Materials required
- Any off-site processing
- Timing and resourcing of all internal and external operations

Result

RCCP and PSS are very useful at the two levels of planning:

- Deciding whether to accept and order and/or whether to increase factory capacity
- Scheduling the production of existing orders to maximise efficiency and achieve due dates

Further Information

Please contact Opturion for a demonstration, or give us some data that we can use to identify potential benefits.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