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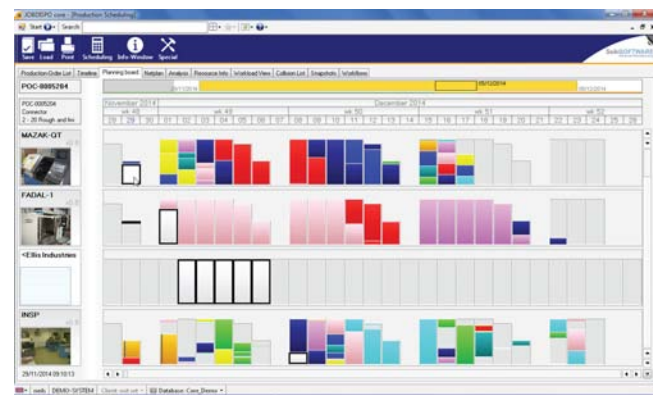
Finite Capacity Planning: The Missing Link

Neither ERP nor manufacturing execution systems give manufacturers what they want – namely schedules that they can work to. Finite capacity planning software is the missing link.

Too many manufacturers are held back by a gap in their IT systems but it's not the gap that they probably imagine. Twenty years ago people were talking about the gap between CAD and CAM systems, now it's the gap between ERP and Manufacturing Execution Systems that is of concern. Ironically, although it's a gap that causes more difficulties for manufacturers than the gap between CAD systems and CAM systems, not enough businesses are aware of it, let alone doing anything about it.

ERP Plans - They're little more than a wishlist

ERP follows the familiar logic of MRP. In short, take the order book – forecast and actual – 'net off' finished goods inventory on hand and back-schedule by the relevant applicable due dates. The result is the factory's workload, together with the due dates that it must meet, which is precisely the problem. ERP tells the factory what to do but not how to do it. Management teams are then often on their own, relying on gut feel, spreadsheets, rudimentary planning boards or manufacturing execution systems. ERP can give you the due dates but it doesn't typically take into account the capacity and scheduling limitations that the business faces. The 'plan', as ERP sees it, is little more than a wish-list rather than a reflection of what the business can actually achieve. The inevitable result is missed order delivery dates, poor machine utilisation as planners chop and change equipment setups in order to keep customers happy and excessive plant-floor overtime as harassed production managers struggle to catch up.



Finite capacity means you are working with a constraint based realistic schedule - no guesswork, just facts!

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Manual production planning and scheduling of your manufacturing resources and operations can be a time consuming, complex task. This is thanks to the sheer volume of information that needs to be taken into account to create a realistic production schedule. Manual methods can also make it difficult to quickly respond to unexpected events that may cause disruptions and potentially affect critical delivery dates. This could include machine stoppages or unplanned maintenance, rush orders, unavailability of materials, inaccurate demand forecasts and unreliable lead times. Production planning and scheduling software is helping many companies to do more than just produce workable production plans, they can deliver plans that help to increase profits and keep customer service levels high.

Finite Capacity Planning: The Missing Link

There is of course a better way - Finite capacity planning

Advanced Planning and Scheduling (APS) systems do what ERP systems don't do. They produce achievable schedules, based on real-life factory constraints such as people, machine capacities, tooling, and material availability. This provides a platform from which to deliver manufacturing performance improvements as well as on-time orders. One option is to offer customers realistic due dates based on finite capacity planning, with the schedule optimised to meet your own goals and objectives – improved utilisation through fewer setups, work-in-progress minimisation, or better schedule compliance. Alternatively, you might want to schedule based on the delivery dates that your customer needs you to meet. You'll want to know what you have to do in order to meet those dates. Through 'what if' simulations, you can see exactly what is required by way of additional overtime or extra capacity.

The starting point in both these scenarios is a link between the manufacturing execution system and the ERP system in the form of an APS system, closing the gap that presently exists between the two. It will have a link going from ERP to the manufacturing execution system providing details of the dates that customers want their orders delivered. A link going in the other direction, back to the ERP system, providing 'as planned' due dates scheduled by the APS system. For factory-floor personnel, the power of this real time, two-way link is amplified when the APS system isn't dealing with dry numbers and dates, but instead provides a planning interface containing rich visual management tools, easily mastered by shop floor management.

An engine for driving efficiency and improvement, not just a tool

APS at its best isn't simply presenting management teams with answers, it is providing a tool set to explore answers themselves – carrying out 'what if' analyses to identify the impact of making schedule changes to meet new customer requirements. By visually 'dragging and dropping' orders around in the schedule, they can see for themselves the impact – not just on which other orders might be affected, but also on measures such as due-date compliance, work-in-progress and latterly the ultimate impact on overall equipment effectiveness (OEE). It is, in short, a compelling vista. The bottom line is that on its own, ERP doesn't deliver and neither do manufacturing execution systems. You have to bridge the gap between the two.

The Seiki Core Scheduler provides a powerful and easy to use production planning and scheduling solution that generates accurate schedules based on your actual capacity, material and delivery requirements. This means that you can:

- Increase resource efficiency
- Reduce lead times
- Reduce costs by minimising stock and inventory
- Get early indications of potential problems and take corrective action to avoid late deliveries
- Respond quickly to changes with real time visibility of live production information and KPI performance analysis
- Identify untapped production capacity to respond positively to new sales opportunities
- Reduce outsourcing by maximising the utilisation of your existing resources



Gain an accurate picture of the current state of production on the shop floor on which to base key planning decisions

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