The Plain English Epicor Module Guide: Production Management

By Neil Holdsworth,
Consulting Director

clear business
outcome

Introduction

Epicor is a great tool. We love it, and it helps our customers achieve great things in a straightforward way. Trying to get a succinct overview, in plain English of the various parts of it, is not so straightforward. We thought we would put our consultants through the mill and test the extent of their decades of experience by creating a guide to the various modules within Epicor: why they work, who they work for and some of the things to watch out for during an implementation project.

This edition is focused on the Production Management suite. Considering Epicor's strength in engineering, distribution and manufacturing, it is perhaps unsurprising that this one of the most exciting and feature-loaded sections of the software.

Obviously, it is all about operations: getting things built in the most efficient and cost-effective way. There are several modules within Production Management all of which have their own use cases and nuances. We are going to run through them in turn, with some commentary based on our learnings over the years.

Production Management

Job Management   Create and Manage jobs in Epicor

Job Management allows you to physically create Jobs in Epicor. It can be useful to think of a Job as a Works Order: how you go about putting together the building blocks of a particular build. This will provide the foundations to answer typical operational and scheduling questions like:

What parts am I going to use?
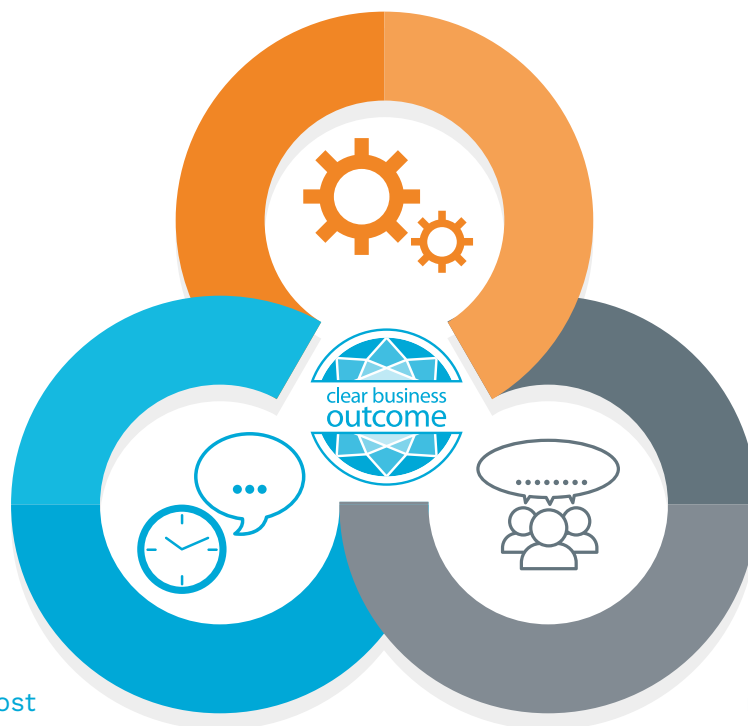
How will it be constructed in the most effective and efficient way possible?

What employees or machines do I need or have available to build it?

It is focused on the Method of Manufacture (MoM), which is the combination of the Bill of Materials (the individual components you need to use) and the Routing – operations and resources required to get it done (people, machinery, tooling etc.). The Job Traveler is a document that can be handed over to the shop floor to go and make a product.

Working the process through, Job Management is about more than creating Jobs on the system. There is also some really nifty management functionality too. Job Management uses timesheet tracking across all the jobs on the system. This measures what an individual employee has done, and how long it took, and gives insight into progress tracking against individual jobs, employee efficiency, and how long was spent on individual components of the process. Because Job Management records what actually happened, you can also measure and assess the actual costs vs. estimated costs across materials, labour, overheads and subcontract operations. If you need to change any of this detail, you can use Job Adjustment to make sure the information is right on the money.

What makes this a good fit for my business?

If your business makes products then Job Management is an essential module for you as part of your production control solution.

What to watch out for?

When you come to the end of the build, you need to get your head around two features that sound similar but mean very different things. Job Completed is a production based term - in other words - 'this job has been built'. There is still some work within Job Adjustment to tweak the resources used. Job Closed on the other hand is a financial process. Once a Job has been closed, you cannot change any of the detail in it. So it is important to make sure you implement those two parts of the process in the right order to avoid any headaches.

Not a lot of people know this, but:

You can put a Job on hold. The field is not visible as standard in Job Entry but can be added very easily via customisation. It is a handy little feature if you want to identify Jobs that have paused production due to technical issues or queries from the shop floor.

MES (Manufacturing Execution System) AKA Data Shop Floor Capture

Detailed Job Costing and Planning
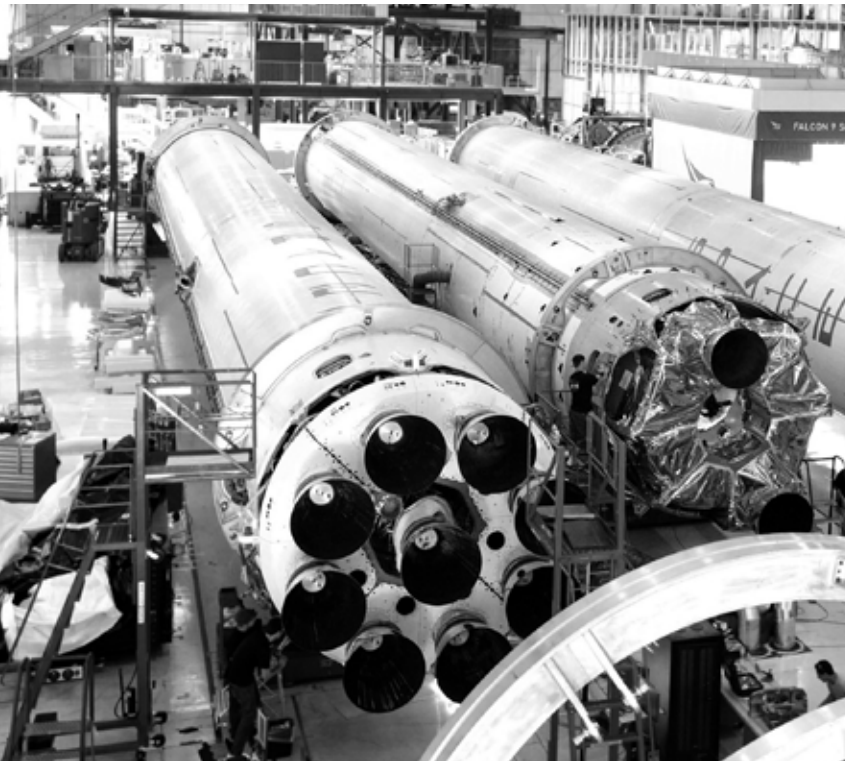
MES is another window into the world of Job Management and associated processes and tasks, designed specifically for fast, easy use in high pressure areas – such as the manufacturing shopfloor, stores and warehouses. MES operates on multiple mobile devices and touchscreens as well as normal PCs which makes it invaluable in those areas with little space and for users less familiar with having a computer form part of their working life.

MES can work over WiFi so is completely portable; the screens are uncluttered and easy to see/use. MES can also contribute to greater accuracy in real-time data collection because the devices can be in the tightest places and accessible to multiple users in the midst of the shopfloor.

What makes this a good fit for my business?

If you have got lots of transactions going on, it is much better to have MES so people are adequately accounted for and you have real-time visibility. With loads of jobs flying around, managing that solely with Job Management is going to mean a fair chunk more administration which clearly needs to be factored into the mix.

What to watch out for?

MES is a module that is not really a module. It sits within a standalone application, accessed with separate user credentials, so you will not see it in the main Epicor ERP dashboard. Something you need to be aware of from a user experience and service desk perspective.

Not a lot of people know this, but:

MES is licensed per device – not per user. Each individual logs into the MES system, swiping or scanning a badge, at a shared workstation.

If you have product engineers, they will probably be wanting to get into the Engineering module. It allows you to control multiple revisions of parts within the Epicor system.

The language of the Engineering module is all about Methods of Manufacture (MoM). The MoM comprises the Bill of Materials (BoM), the operations and the resources required to make a product.

The Engineering Workbench also allows you to use workflows. This means you can build an end-to-end process flow to advise on a new product introduction, implement a change request or make other technical changes in a controlled manner.

Workbench can calculate the cost of any number of new or existing parts. It also supports cost rollups, great if you want to update your standard costs with the current last or average costs for each part.

What makes this a good fit for my business?

If you have customers that require high traceability, or have intricate products or production processes, Engineering is an absolutely essential part of Epicor that makes sure you have full visibility of product revisions and changes.

What to watch out for?

Workflow groups and stages. If you are going to rely on some level of automated process going through the system, you need to spend some time up front figuring out who should be notified, when they should be notified and how to make sure the workflow stages get completed. You can always have more than one Workflow group to support these processes!

Not a lot of people know this, but:

MoMs that are created in a Quote or Job can be used to update or create new revisions for a part in the Engineering Workbench. Just mark the Quote or Job as a template and it will be available to select when you complete the 'Get Details' process.

Scheduling based on Capacity vs. Demand

Basic scheduling is essentially looking at total capacity vs. total demand to get a better picture of your operations. It is simple mathematics. It analyses forecasts against resources to figure out when things can be made.

Working that through using an assembly example, if your assembly line has 8 people, and they work 10 hours a day, you know your daily capacity is 80 hours. As we outlined in the Engineering module overview, Engineering is all about how long a build should take. So if a build takes half an hour, then Basic Scheduling would automatically calculate that you could build 160 a day.

Neat scheduling boards give a representation of schedules filterable by jobs, resource groups and resource. These boards can be updated in real time, which means you do not have to go crawling into other parts of the system to make changes to your operational efficiency.

Helpful overload informersadvise if demand is higher than capacity - they will either let you go above capacity, or flatten the load to stop any overload, depending on your preferences.

What makes this a good fit for my business?

One of the main benefits of Basic Scheduling is its scalability. The system tells your production team exactly what needs to be done. That means it ends up being a good fit for the vast majority of Epicor customers - as that visibility across all Jobs is a key driver behind why so many manufacturing, engineering and distribution organisations look to improve their IT system.

What to watch out for?

How Basic Scheduling actually works depends whether your business is working on a finite or infinite capacity model. This is something that gets set up in the initial configuration of Epicor by your trusted delivery partner.

Infinite resource allows you to view any overloads and manage these by bringing in additional labour, subcontracting out, or giving staff overtime. Finite resource is a case of 'computer says no' when demand exceeds capacity on the date required. Epicor will then find the next date where there is available capacity but this will impact the delivery of the job It allows for zero flexibility in support of the peaks and troughs that are so commonly found in many businesses.

Basic Scheduling, much like other modules of Epicor, needs to be set up to support the way you work. It must reflect the operations and agility of the business. The product should not guide you, you should guide the product.

Not a lot of people know this, but:

Any changes you make to resources or production calendars will not affect the capacity unless you run the 'Generate Shop Capacity Process' tucked away in System Management. It is probably best to schedule this process to run automatically every night just before MRP runs, just to be sure the capacity details are correct.

Scheduling against more than two resources

If you have a requirement to schedule jobs based on more than two resources at a time, you will need Advanced Scheduling.

So if your business uses tooling on jobs, along with the person and machine, it would make three resource requirements in total. It would obviously be no good knowing that a person and machine is available to build if it turns out the required tooling is engaged on a separate build. This kind of scheduling is not possible on the Basic Scheduling module explored in the previous section.

One of the other main benefits of using Advanced Scheduling is it enables you to schedule people or machines based on their capabilities. Let us use an oversimplified example to illustrate. If you have 5 engineers who work 8 hours a day, you have 40 hours a day capacity of engineering time. However, what if some of the engineers have mechanical skills and others electrical skills, and some both? Having an electrical engineer available for a job is of no use whatsoever if actually what is needed is a mechanical engineer. Using capabilities, it is possible to reflect capacity more accurately. If 3 of the engineers have electrical capability then the capacity is 24 hours, not 40.

What makes this a good fit for my business?

If you a want to manage the workforce/machinery in a greater level of granularity. It is something that is used often if you have a highly specialised manufacturing or engineering process, and if you have a decent amount of diversity in your product range.

What to watch out for?

If you are using Advanced Scheduling for capability planning, then you need to invest time up front on your resource groups. This formally establishes the different people or equipment you have, their capabilities and how they fit together in broader 'resource' categories.

Not a lot of people know this, but:

The Resource Schedule Load Graph only pulls back data for the next 60 days. If you want more than this then the standard dashboard and supporting Business Activity Queries (BAQs) will need to be copied and updated.

Material Requirements Planning (MRP)

Balancing supply and demand

MRP has a sole and simple purpose: to balance the supply and demand within Epicor. The module does this by looking at the demand placed on the system in the form of sales orders, forecasts, master production schedules and EDI schedules. It assesses this demand against the supply by looking at stock levels, active jobs and purchase orders.

There are two main modes:

- **Net change** - this audits changes since last time MRP ran.
- **Regenerative** - this evaluates against all demand and supply elements.

Each of these methods will give you both job suggestions and purchase order suggestions.

Multi-level pegging within MRP enables you to take a snapshot of all the demand and supply and cross reference it at this moment in time. It is needed in the Make to Stock environment where inventory sits between supply and demand requirements. This empowers you to make important business decisions about priorities: how can I ensure this sales order is delivered on time to this VIP customer? What stock do I need to take and from where to support this? Which of my superstar engineers do I need to pull in from other Jobs?

What makes this a good fit for my business?

MRP is vital functionality for most manufacturing and engineering businesses. Managing supply and demand is a core part of any operations team, and MRP is a well-liked tool that offers a practical way of managing changes in demand in an efficient way.

What to watch out for?

MRP uses quite a complex calculation that weaves all the supply and demand information together. This is a moment-in-time calculation. One big sales order placed on the system 30 seconds after you last ran the tool can cause things to change quite radically. This is something to bear in mind and make sure you accommodate dealing with this using workflows or out-of-system processes.

Not a lot of people know this, but:

If MRP cannot process a manufactured part, then the demand will be visible in the Planning Workbench to be manually processed. This could be due to unapproved part revisions within the BoM and various other issues. It is a good place for Planners to check first thing every morning just to be sure nothing is missed!

If you want help with production management in Epicor, or are looking for someone to manage the whole process for you, then **get in touch**.

Call us today on

📞 **01947 841232** or email

✉ **info@clearbusinessoutcome.com**

clear business
outcome