Job scheduling software - what it will do for your business and what to be aware of

by Sean O'Sullivan

Job scheduling software will easily, quickly and accurately schedule and plan your current and forward production. Accurate job scheduling will assist your business in the following areas:

1. Optimisation of CNC machinery.

2. Optimisation of all factory staff.

3. Optimisation of all administration staff (to minimise pre production time and cost and to ensure all is complete and ready for factory production to commence smoothly. Both pre production and factory production staff must work to schedule and entirely in sinc).

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4. Optimisation of contractors

5. Optimisation of materials and component stock and orders received.

6. Optimisation of communications with clients (to ensure specifications are fully understood and current, they are aware of revised delivery dates from the factory and they themselves and their contractors are ready for delivery).

7. Optimisation of "everyone in your business - working together as a team" (all factory staff, administration, management and contractors). This is possible as everyone in your business can refer to the current and "Live" production calendar and schedule on their PCs.

The result of the company wide optimisation outlined above is that job scheduling software will positively impact your business in the following ways:

1. Optimisation of your factory and administration processes will lead to substantially lower actual labour times and labour costs per process, per product and per job. Thus providing you significantly higher profit per job.

2. Smoother more controlled work flow on the factory floor – with a lot less delays and stoppages on the floor.

3. Quicker turn around of orders - your competitors maybe able to supply in four weeks where you can supply in two weeks.

4. Orderly looking work flow (not jobs banking up "half finished" and spread across the factory floor).

What to be aware of when considering a job scheduling tool:

1. Is the job scheduling software designed and developed solely for manufacturing? (Or is the software designed for large projects ie. where jobs do not change a lot – for example large civil and engineering projects).

2. Is the job scheduling software designed and developed for small to medium sized manufacturers of similar size to your operation? (Or is it developed for larger US manufacturers).

3. Is the job scheduling software designed and developed for handling manufacturing one-off "custom products" (ie such as kitchens, windows and doors or custom furniture where each product is different and which are individually quoted before manufacture) – and is it also able to handle considerable client variations, which evolve after jobs has been costed and quoted?

4. How many years has job scheduling tool been used commercially and successfully in manufacturing in a similar industry to date?

5. Is the software quick and simple to learn and use?

6. How is your work in progress status of jobs on the factory floor regularly updated in the job schedule? (Different job scheduling software tools have quite different requirements to update work in progress status of jobs on the factory floor into the job schedule.)

Manual scheduling software, which is the older way job scheduling tools worked, requires your production manager to physically visit the factory floor to view all jobs and manually record the work in progress status of all jobs and

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then return to their office to enter all that data into the job schedule (this might take an estimated one or more hours a day in a small factory and three or more hours a day in a larger factory).

This manual system will likely be carried out once a day, which will mean that your job schedule is not current and therefore not accurate most of the time.

Automatic scheduling software uses second hand PCs on the factory floor where factory staff register job start and job finished. This information reports to the management system and job schedule "Live".

This saves production management daily assessment of jobs and manually recording work in progress and then data entry (of some one to three hours a day).

Automatic job scheduling also ensures that your job schedule is current and accurate all of the time. Should you wish to consider a manual scheduling software one option is MS Project (be conscious MS Project suits scheduling of larger projects. → 28

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7. Can current and future jobs be represented in the form of a graphical calendar presenting jobs planned for today, this week and this month? (This graphical calendar will ideally present the schedule in a similar way to Microsoft Project or any Ghant Chart).

8. On the graphical calendar will the software present both 1) all jobs that are currently "on track" to be completed on time and 2) all jobs which will "run late" (ie. unless action is taken?) Late jobs need to highlighted in red.

9. Is the graphical calendar well formatted and easily understood? (This will ensure that all factory staff, management and administration staff will instantly and fully understand the production plan and required start and completion dates of all jobs).

10. Can the user "zero in on" the production time frame required to be analysed- be it this morning, today, this week, next week, this month or the next six months?

> **" Can the user change jobs and staff around directly on the graphical calendar. Is this as quick and simple as "dragging and dropping" jobs around the PC screen?"**

11. In addition to the graphical calendar can all current and future jobs also be listed in a Word or Excel document? (This listing should also itemise - 1) all jobs that are currently "on track" to be completed on time and 2) all jobs which will run late (ie. unless action is taken).

> **" Does the graphical schedule display the 'scheduled time' when factory staff will be standing around not working whilst waiting for the next job?... Awareness of such downtime in advance enables the scheduling and production manager to take action and redeploy staff to keep staff and machines working."**

12. Can the user change jobs and staff around directly on the graphical calendar. Is this as quick and simple as "dragging and dropping" jobs around the PC screen?

13. Once the user has effected a "job priority change" or "work assignment change" directly on the graphical schedule will this change automatically and immediately advise factory staff on the factory floor of their new job assignment? (this requires PCs on the factory floor for factory staff to access).

14. Can jobs be placed in the job schedule in three ways; 1) schedule to start and complete as soon as possible 2) schedule 'forward' from a given start date, and

3) schedule 'backwards' from a given completion date?

15. Can a link be developed from say your kitchen or joinery design/cost software to your job scheduling software? This link will automatically transfer across your 1) order information and 2) your listed processes and respective budgeted times for each job (such a link will eliminate double data entry and transposition errors).

16. Can you schedule jobs months in advance?

17. In the software "Set Up" can you set up the software to account specifically for YOUR factory floor. That is, set up for YOUR: machines, set processes, sequencing of processes, staff numbers, and hours worked?

18. Will the software automatically drive your materials ordering? (For just in time ordering of materials, components and contractors work assignment).

19. Can the graphical calendar be viewed by all management and administration staff on their PCs at any time?

20. Is the scheduling tool simple to use? (So it is quick for the job scheduling manager to use daily and also able to be used by other management or administration staff who fill in when the job scheduling manager is not at work or off site).

21. Does the graphical schedule display the 'scheduled time' when factory staff will be standing around not working whilst waiting for the next job? (Ideally such downtime is presented as for example white spaces on the graphical job schedule. Awareness of such downtime in advance enables the scheduling and production

manager to take action and redeploy staff to keep staff and machines working).

22. Are you able to schedule your planned factory overhead jobs - for example 'machine maintenance', 'cleaning', 'meetings'…?

> **" Unless you are using a job scheduling tool it is likely that you are substantially limiting your potential production, productivity and therefore annual profit."**

23. Are the marketers of the job scheduling software also the owners and developers of the software and local.

It is invaluable to speak directly to the owners and developers and the support and development you receive can be substantially higher. Owners and developers know their software "inside out" and will positively commit to new developments you require.

In summary, you likely own hundreds of thousands of dollars of CNC and other machinery and also incur hundreds of thousands of dollars in wages costs each and every year.

Unless you are using a job scheduling tool it is likely that you are substantially limiting your potential production, productivity and therefore annual profit.

Conversely, looking at it positively "significant" gains in production, productivity and profitability can be achieved from investing in a good job scheduling tool. -S-