

Case Study – Bharat Fritz Werner Limited (BFW)

The Industry

Bharat Fritz Werner Limited (BFW) is the largest private sector machine tool manufacturer in India. This is an Indian manufacturer of machine tool with over 20000 machines worldwide. They have excellent manufacturing facilities at Bangalore. They also have facilities for manufacturing castings.

The Client's Need

Currently at BFW, there exists in-house developed ERP software in Oracle for catering the needs of day-to-day activities, transactions recording and MIS over all functional areas such as Finance, Purchase, Stores, Production, Sales and Dispatch etc. BFW was looking out for production Scheduling software for scheduling jobs on the shop floor for its manufacturing setup at Bangalore.

Following were the problem areas and requirements of BFW:

- Pressure for meeting schedules
- Daily Resource Load chart for better control
- Scheduler Software should provide option to schedule the shop orders with or without material availability.
- A special scheduling rule should be provided to schedule the orders by allocating the orders over the pre-defined division percentages.
- An adapter program/utility to be developed to transfer all necessary entities required by ExSched such as Items, Machine Resources, Shop Calendar, Item Processes, Shop Orders, Shop/Operation completion/feedback etc from their host ERP Oracle database.
- An adapter program/utility to be developed to export 'Shop Floor Schedule' information from ExSched database to their ERP-Oracle database for their analysis purpose.

The Solution

After a thorough evaluation of competing products, BFW chose Walchand Infotech's ExSched. ExSched is a software package designed specially for Production Resource Scheduling on the Shop Floor. It simulates the shop floor environment and provides the most effective and efficient scheduling for the jobs.

The scheduling program uses the technique of Discrete Event Simulation. The scheduling rule uses combination of parameters such as 'Due Date', 'Priority', 'SPT', 'Minimum WIP' and 'Backward Scheduling'. Schedules are arrived at after considering practical constraints such as resource availability, holidays, resource breakdowns, outside operations etc.

Key requirements addressed

- Facility to schedule orders on defined division wise resource allocations.
- Facility to schedule based on material availability.
- Delayed jobs reports and analysis.
- Scheduling summary, detailed reports can be generated based on the selected scheduling rule/scenario.
- Facility to manually override the schedule by modifying resources, timings, priorities, due dates etc as per practical loading.
- A special rule was devised that would select the orders and schedule on resources based on allocation by their manufacturing product divisions. The allocation schedule was done weekly. If the allocation exceeded the defined allocation percentage for a particular division, the pending shop orders / operations were scheduled in the next week slot. This helped them in getting work completed based on division priorities.

- Adapter program utility was developed to transfer ExSched related data such as Items, Processes, and Machine Resources etc from Oracle to local database and the scheduled information was exported back to the host system.

Business Benefits

- The time spent by planning persons is considerably reduced from days to couple of hours for preparing the schedule.
- The Planning department can predict the delivery time of jobs well in advance considering the current load in the shop floor.
- Effective utilization of resources with minimum idleness of machine resources.
- Subcontracting schedule is available in advance.
- Gantt charts and reports give an overall view of the shop floor in a single screen.