



SEIKI SYSTEMS LTD

Manufacturing Software Solutions

EXO-VIEW

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Exo-View CASE STUDY

Simplifying the process

Seiki Systems of Brighton has developed and released Exo-View, a specialised software package that will enable component suppliers to efficiently integrate with Exostar, the e-procurement system favoured by aerospace and aero-engine manufacturers which is used to keep their global subcontract suppliers informed of delivery requirements.

Exostar based requirement schedules are normally updated and issued weekly and a new issue can, for most component suppliers, involve manual scanning through hundreds of line items on multiple spreadsheet pages to ascertain the changes from the previous issue. This task, which due to the serious implications of any error, is usually carried out by a senior manager.

Exo-View automatically compares the latest Exostar requirements with existing production schedules to highlight the changes using a very simple traffic light method of identification that has resulted in one aerospace contractor user, Kenard Engineering of Dartford, reducing the task of finding and then determining any repercussions of any changes, from a full time senior manager's job performed every week, to a simple two or three hour routine.

Each Monday morning Paul Rose, planning manager of Kenard Engineering is faced with an updated Exostar file of between 100 and 150 different parts each with its own spreadsheet. Each part contains information that includes cut-off dates, batch sizes and prices that can be up to five years ahead. Often involving between 2,000 and 3,000 lines of critical information this listing can, if changes have been made and are missed or misinterpreted, seriously cause production and delivery problems not only for Kenard, but with the customer's final customer.

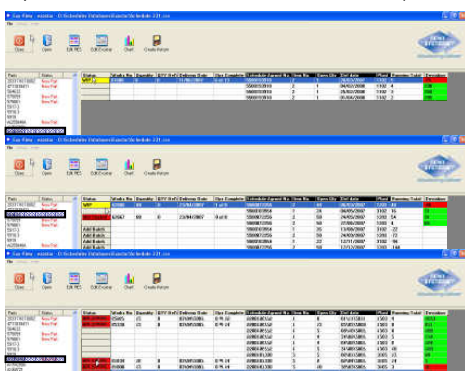
To conform to the customer requirements, Paul Rose then has until Friday to confirm to the customer that Kenard can comply to the change requests or report back any areas such as quantity, price or delivery date that the company could not meet or agree to.

Kenard Engineering is a major subcontract machinist and, for example, supplies aerospace and aero-engine manufacturers with high value, complex components in difficult to machine and often very expensive materials such as titanium that cost upwards of £1,000 each as forgings. The company has on its current production file over 100 part numbers, including assemblies for its 'blue-chip' aerospace customers, and by necessity it conforms to the Exostar web-based global procurement scheduling system.

While many would view Exostar as an ideal strategy to enable suppliers to forward plan, Kenard found that servicing the system was becoming a full time managerial task due to the need to respond to its weekly schedule update within five days. Because of a rising order book with customers and the potential roll-on effect of any mistakes or mis-information, Kenard found that this method of working was becoming increasingly problematical.

The e-procurement system demanded far greater attention than just number updating, as it was subjected to continuous variation to meet customer build and spares scheduling requirements. Worse still, due to the type of parts being produced, that can have a manufacturing cost of up to £6,500, delivery of titanium forgings for instance, were increasing from 16 weeks to 12 months, so any mistakes could cause serious embarrassment not only to Kenard, but also its customers.

Kenard was already a user of Seiki Systems' iMES graphical scheduling software and Networked Manufacturing Systems. Installed in 2005 to control production in real time for all customers, these systems handle more than 300 components in small batches with some having up to 38 operations



See a full comparison of current production schedules

involving many of the 15 CNC machine tools that are installed at Dartford. Such has been the success of this software installation with machine utilisation improved and work in progress reduced to the extent of satisfying a 40-day turnaround of orders – the target set by Kenard management.

But growing orders and frequent order changes through Exostar were becoming a concern because of the manner in which Exostar information is presented. So Kenard managing director Keith Ellis called in manufacturing software specialist Seiki Systems, to see if it could provide a solution.

Exo-View - simplifying the process, cont.

Within three months Seiki Systems was able to develop Exo-View, a bespoke software package that is directly integrated with the Real Time Scheduler making it possible to automatically analyse the customer's requirements quickly and highlight any changes. As an immediate result, from requiring the dedication of a full-time Kenard senior manager, the system can now accurately complete the scheduling monitoring task in just 15 minutes. And, within three to four hours, planning manager Paul Rose can have production requirements fully checked out with items needing attention depicted by the simple colour coded traffic light system with red drawing instant attention, yellow warning of a change and green as no change.

In addition to meeting the requirements of Exostar, because Seiki Systems integrated the solution to the current live production data held in the Seiki Systems' Real Time Scheduler, Paul Rose is now able to view live information giving the exact position and status on work-in-progress, material, CNC machining programs, machine loading and tooling. But what is more important is that he has instant information of any shortfall by being able to obtain an immediate forecast of any possibility of late delivery and see at a glance, the effects on longer term production of other components in the system. It could mean the order amendment requires a batch to be split or batches combined, whether delivery is brought forward or if it has to be delayed.

On a single screen, Paul Rose now knows precise details of material order dates or material received from the supplier, as well as information on the exact operational status such as if production has already started. He also obtains an immediate view of the overall shop loading and subcontract position ready for management decisions to be made. Says Kenard's Keith Ellis: "The problem for a supplier is that Exostar is orientated to the customer; the system has grown from being a document to transfer purchase orders to one that includes planning schedules and inventory positioning."

Exostar contains, in spreadsheet format, details of part number, purchase order number, delivery date, quantity, unit price and the contracted date required. This final point is a critical element from which the supplier is measured and rated alongside quality performance. For Kenard, the basic problem was that Exostar was just a spreadsheet listing containing masses of data and any changes were not highlighted by the customer. For instance, quantities could change, and this is critical when such high material costs and long material deliveries were involved. If this were overlooked, the result would be late delivery of the finished part or excessive stock holding of expensive forgings, and the roll-on affect to cash flow. In addition, the customer could change delivery to different locations, depicted simply by a code, and the unit price - which is often linked to minimum order quantities - could change. For example, if smaller quantities were required, the roll-on effect could seriously affect the time spent setting machines, work in progress, and other orders could be delayed. Also, specialist subcontract processes that Kenard are responsible for could make the order uneconomic.

With the Seiki Systems solution, Exostar data is loaded into a folder within Exo-View which realigns the current batches and delivery through a specially written filter. When an assembly is involved, each part is automatically broken out of Exostar's spreadsheet assembly number and built into the programme. The viewing screen is then split into two providing an easy to see display using traffic light flagging of changes showing, on one side, Exostar's requirements of order number, part number, date, delivery point, quantity and delivery date, and on the other the respective Kenard scheduling. This enables immediate confirmation of quantities on the original order and comparison of the projected Kenard delivery date against the customer requirement. By copy and paste, details such as last order date for material, tooling, subcontract and in-production information is automatically linked to total operations completed.

The system then re-aligns current batch schedules and immediately feeds back notification of any areas the management team should be aware of. Once the management team at Kenard accept the change, they can respond with any revision requirements or confirmation of acceptance which is then fed back to the customer.

- Saves hours of work involved with manual line by line comparison
- Eliminates manual line by line comparison errors
- Compares the new Exostar file with current production schedules
- Easily identifies W.I.P and production orders not yet started via scheduled work
- Add new batch prompts
- Easy creation of feedback form
- Rapidly inform the customer when a non-conformance situation exists
- Can be interfaced to existing ERP/MRP systems
- Runs in conjunction with Seiki Systems Real Time Scheduler



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