

Business Process Integration:

What it means to the UK Steel Fabricator?

How often is it the case that the production manager or quantity surveyor end up waiting for the drawing office to produce revised parts lists or drawings? Would it not be better to give everyone equal access to the latest information in a format that is relevant to their specific function? Invariably the answer would be yes.

The problem is in delivering such a solution, multiple processes, software programs, departments and possibly companies are involved in turning a building design into the finished product; therefore bringing all this together is the real challenge.

In today's IT driven world, integration is as important as security and reliability for a present day fabricator. There is an ever increasing demand for more accurate, timely and job specific information as companies seek to optimise process performance to gain competitive advantage; to achieve this requires ever more technically diverse systems. This naturally leads to increased demands on technology and suppliers who must ensure that their solutions are capable of successfully working in a mixed IT environment, otherwise known as interoperability.

Interoperability - "The capability to communicate, execute programs, or transfer data among various functional units in a manner that requires the user to have little or no knowledge of the unique characteristics of those units".

This definition focuses on the technical side of interoperability, it must also be pointed out that it is often more of an organisational issue. In other words, there should be just as much an emphasis on process ownership, education and awareness of the impact their function has on the bigger picture.

The inherent delays and inaccuracies, symptomatic of having legacy systems working in isolation, can prove to be the 'major bottleneck'; this is made increasingly problematical when considering having to deal with multiple IT suppliers and users having to understand multiple systems. Ultimately the

challenge facing modern fabricators is to provide all employees with complete, transparent and real-time access to information, removing information silos across departmental lines within the company.

There are two alternatives to remedy this, one is to try and identify a single solution that is all encompassing; however generic 'enterprise' solutions tend to be 'jack of all and master of none'. Alternatively, and most probable, organisations partner with multiple IT suppliers who at the same time specialise in their particular discipline, and also have a proven track record of partnering with other niche IT suppliers who supply into the steel fabrication industry.

THE STEEL FABRICATOR'S CHOICE – FabTrol MRP

Over the last 25 years FabTrol MRP has been the market leader in the supply of specialist management information systems software to the steel fabrication industry, with this comes an extensive knowledge and experience of working with fellow IT providers to the industry.

FabTrol MRP has been developed over the years to focus on material management that is a truly integrated solution incorporating Estimating, Drawing Management, Nesting, Stock Control, Purchasing, Production and Shipping Management. However the information flow does not start or end there, from the initial design model through to site erection there are a number of occasions where information must be shared with complementary software - whether it is 3D model, accounting, NC driven machine tool or document management system.

Listed below are some of the areas where FabTrol MRP's interoperability is proven to eliminate inefficiency eg - data entry duplication:-

1. **Pre Detail/Prelims** – whether from design model (Fastrak, 3D+) or part detailed model (Tekla Structures, AutoCAD, StruCAD), FabTrol MRP can import the bill of material (BOM), which in turn can then be used as an advanced bill for ordering long lead items and specials in order to reduce delivery times.
2. **Detailed Drawing Office Issue** – once detailed and ready to release for fabrication, FabTrol MRP imports and validates the material BOM, NC data and drawing image files from the likes

of Tekla Structures. This is then used as the control point for any future releases, ensuring the impact of any changes are identified and dealt with immediately, the result being errors, inefficiency and waste are considerably reduced.

3. **EDI Material Requisition** – once validated and ready for production FabTrol MRP routes and rates the material based on machine and workshop capabilities, batching lots together for optimum efficiencies. Then checking against any preliminary orders, batches are nested, ordered and received into stock ready for release to the shop. This again can be automated by utilising integrated EDI links with stockholders and Corus mills.
4. **Production** – the next step is the prioritisation of batches based on delivery requirements by setting the correct sequence for fabrication. Once confirmed then the nested CNC data (DSTV+) files are sent to the NC control post processor for the relevant machine type e.g. FICEP/Voortman/ Kaltenback/Vernier/Peddinghaus. At the same time pull lists are issued to marshal material to the correct area in the correct sequence.
5. **Estimate v Actual** – once material has been received then fabricators can compare this against what was taken off in the estimate, therefore giving QS the information required to negotiate with the client on any variations. Furthermore once production times have been captured then these also can be compared against the estimate for job costing purposes.
6. Other integration capabilities:-
 - a) FabTrol MRP is an open database – other software applications such as Accounting or Document Management Systems can integrate with FabTrol MRP. Being an open database means that any system capable of reading an SQL database can access the information held within FabTrol MRP directly, thus saving on duplication of data entry and avoiding the inherent mistakes that entails.
 - b) XML export providing structured and consolidated data for 3rd party applications to allow import and/or data access.
 - c) Automated Data Capture – this has the added benefit of automating the collection of production progress and time.
 - d) *For more information on automated data capture available with FabTrol MRP please read our White Paper "Using Barcodes: The Lessons Learned" <http://www.fabtrol.com/>*

- e) Two-way data link with Tekla – this enables FabTrol MRP to export data back into Tekla, giving fabricators the ability to visualise production progress in the model.

See Figure 1: FabTrol MRP data linked to Tekla

- f) All FabTrol MRP reports can be exported into various formats eg - Excel (.xls), Text (.txt), Kiss (.kss), fixed length text file (.sdf), plus others; so that further interrogation and analysis can be done if required.

All the way through FabTrol MRP gives an accurate account of progress, from top level management down to piece part operational level. Ultimately FabTrol MRP acts as the hub for information control, ensuring the data between all the business processes is accurate and timely.

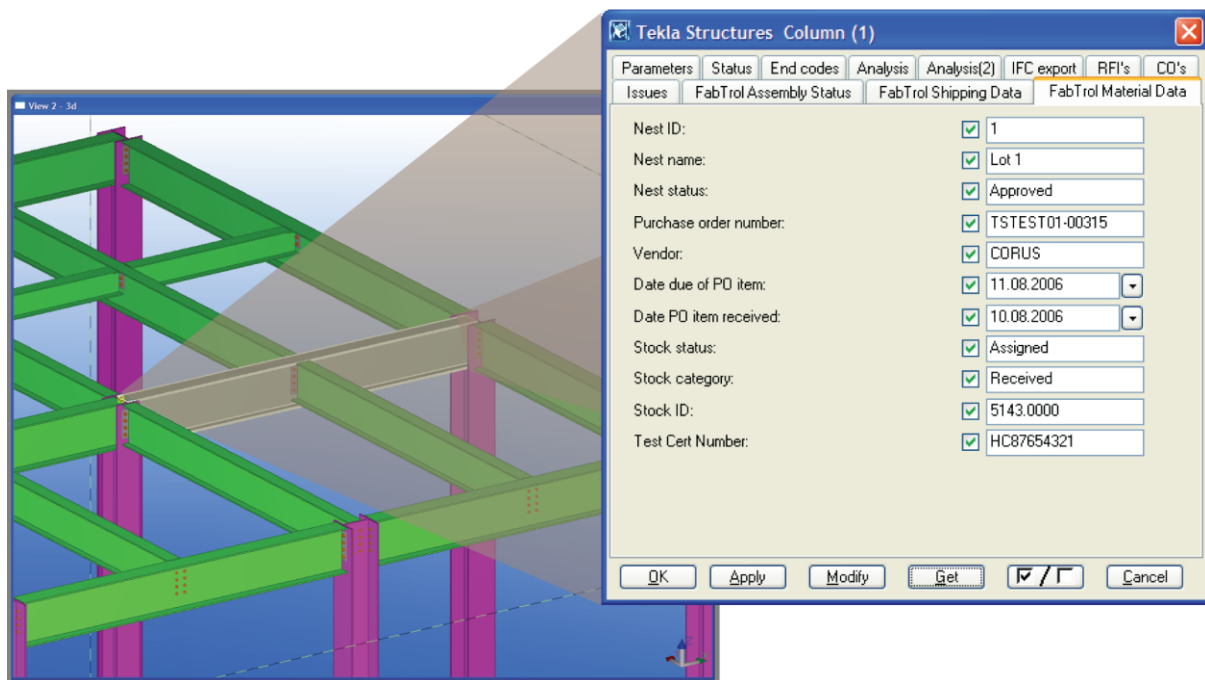


Figure 1: FabTrol MRP data linked to Tekla

THE BENEFIT

When different systems, departments, and companies cannot share their data effectively, they create information bottlenecks that require human intervention in the form of either decision making or data entry. With a properly deployed integrated information system, companies are able to focus their efforts on value- added competencies instead of focusing on workflow and data management.

The implementation of a truly integrated information system across all business functions will ensure companies are better positioned to meet business goals (increase profit/efficiencies), serve its customers (as a competitive advantage or to improve responsiveness), and protect themselves (against non-compliance).

- Data (information) integration: ensuring that information in multiple systems is kept consistent
- Process integration: linking business processes across applications
- Reduction of paper handling, storage and error-prone manual processes
- Reduction of lost documents
- Faster access to information
- Online access to information that was formerly available only on paper or in people's heads
- Reduce the lead time taken from drawing release to delivery of job to site
- Improved control over documents and document-oriented processes
- Streamlining of time-consuming business processes
- Security over document access and modification
- Provide reliable and accurate audit trail
- Improved tracking and monitoring, with the ability to identify bottlenecks and modify the system to improve efficiency

A decision to invest in FabTrol MRP is a decision to harness knowledge, to gain competitive advantage through maximisation of resources and to optimise the potential of both operational and management information, ultimately saving you money by reducing time and materials. FabTrol MRP addresses interoperability holistically in order to better connect people, data, processes and diverse systems.

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