Manufacturing in HARMONiQ

HARMONiQ™

The HARMONiQ system has a number of features that are designed specifically for manufacturing companies, helping to streamline the processes of raising, processing and completing works orders, as well as tracking stock the whole way through the process.

These features include:

- Automatic generation of works orders from sales orders
- Internal works orders for products manufactured in-house
- External works orders for products manufactured by external suppliers
- MRF works orders for products manufactured by suppliers in the metal roll forming industry
- Automated inter branch transfers where products are sold at one branch but manufactured at another
- Multi-level works orders, i.e. manufactured products where one or more of the components is manufactured, and where components of the components can also be manufactured
- Back-to-back purchasing where works order components are not in stock
- Bundle products for manufactured products like sheds that have many components and where these components need to be swapped in and out
- The ability to generate works orders from jobs where the Job Costing plugin is used
- Production breakdown plans where source products can be broken down into multiple other products and the costs apportioned over those manufactured products
- A Production Scheduler – a drag and drop colour-coded calendar that allows easy scheduling of works orders to production runs and to specific machines and operators.

AUTOMATIC GENERATION OF WORKS ORDERS

When users save a sales order for a product that needs to be manufactured, HARMONiQ checks whether the product is in stock and, if not, automatically generates a works order for the product. If there are multiple manufactured products on a sales order, it can generate a separate works order for each product, or it can produce combined works orders where the same source material is used or the same completed product is being manufactured.

The works orders can then be printed out in the Production department and the products manufactured. When they complete a works order, the goods are automatically allocated back to the relevant sales order and can also be sent automatically to picking.

While works orders are generated automatically as needed, you can also enter direct works orders to make products for stock.

INTERNAL WORKS ORDERS

Internal works orders are for products that are manufactured in-house. For example, products might be stocked as raw metal and only sprayed with a colour when a customer orders them. The colour can be selected at the time the sales order is created and the works order is then generated automatically.

Products that are manufactured using internal works orders can have a number of assembly revisions. These represent different ways of making up the product. For example, sometimes component products might be in stock; at other times they might need to be manufactured as well. So one assembly revision can be set up on the product for the stocked component and another assembly revision can be set up for when that component needs to be manufactured. When a user is processing a sales order for the product, they can select the assembly revision to use depending on whether or not the component is in stock.

Internal works orders allow you to cost components, labour and other overheads into the cost of the manufactured products.

EXTERNAL WORKS ORDERS

External works orders are used where products are sent off-site for manufacturing, e.g. for powder coating of galvanised steel products, or embroidery of logos onto clothing or other items. HARMONiQ provides visibility of the process from the time the works order is created until the time the goods are received back from the supplier and booked into stock.

When an external works order product is added to a sales order, once again the works order is automatically generated when the sales order is saved. The works order includes both the raw products and the cost of the service provided by the external supplier.

The works order generates a picking note to pick the raw products from stock. The items are then sent to the external supplier without the need to generate a purchase order. At this point, stock of the raw product is issued to the works order.

When the finished product is received from the external supplier, the works order is built in HARMONiQ. This automatically puts the finished product into stock, allocates the goods to the relevant sales order and, at the same time, creates a purchase delivery note for the cost of the external service. When the invoice for that service is received from the supplier, the purchase delivery note can be automatically converted to a purchase invoice.

MRF WORKS ORDERS

MRF works orders are similar to internal works orders but they are specifically designed for the metal roll forming industry, including suppliers of steel roofing products, purlins, fascias, guttering, fencing and bridging products.

These works orders cater for products that are made from steel coil, with users able to enter product quantities in linear lengths. HARMONiQ automatically calculates the correct quantities according to the width of the coil, as well as calculating offcuts and waste. It also allows the manufacture of new products from excess stock and offcuts.

For products like fence posts that are specific lengths, HARMONiQ calculates the amount of coil required by both length and width.

Products that can be manufactured using MRF works orders include roll formed products (e.g. roofing sheets and gutters), flashings, fencing and bridging products. Flashings can be combined onto a single works order for the most efficient use of coil.

Like internal works orders, products created via MRF works orders can have assembly revisions. This allows you to cost labour, additional components and other overheads into the cost of the manufactured products.

You can import the individual product lines into a sales order from another software application or from a spreadsheet.

NOTE: It is possible for all three works order types – internal, external and MRF – to be generated from a single sales order.

INTER BRANCH TRANSFERS

Where products are sold at one branch but manufactured at another, users can select the manufacturing branch on the sales order and the works order is automatically generated at that branch. The finished goods can either be shipped back to the sales order branch for delivery to the customer, or shipped directly from the manufacturing branch. The delivery note and invoice are automatically generated at the correct branches.

MULTI-LEVEL WORKS ORDERS

If you are using internal works orders, you can have products that are manufactured using multi-level works orders. This is where the top-level product is made up of component products that are also built using works orders. There can be multiple levels of works orders in this process.

An example is where a tile is cut from a sheet which is in turn cut from a roll. The tile is at the top level of the tree while the roll is at the bottom. If a sales order is created for tiles but there is no stock of the tile, a works order will be created to cut tiles from a sheet. If there is no stock of the sheet, a works order will be created to cut sheets from a roll. When the sheets have been cut from the roll, the stock can be automatically issued to the works order at the next level up, and when the tiles have been cut from the sheets, the stock can be automatically issued to the top level works order. The finished product is then automatically allocated to the sales order line that generated the works order in the first instance.

As part of this process, HARMONiQ automatically manages batch numbering so products can be tracked and recalled if there are any issues. Batch numbers flow through from the bottom level product (in this example, the roll) to each works order product in the tree. The batch number of the bottom level product is used at each level with extra characters appended at each level, e.g. roll = batch number 1234, sheet = batch number 1234-1, tile = batch number 1234-1-1.

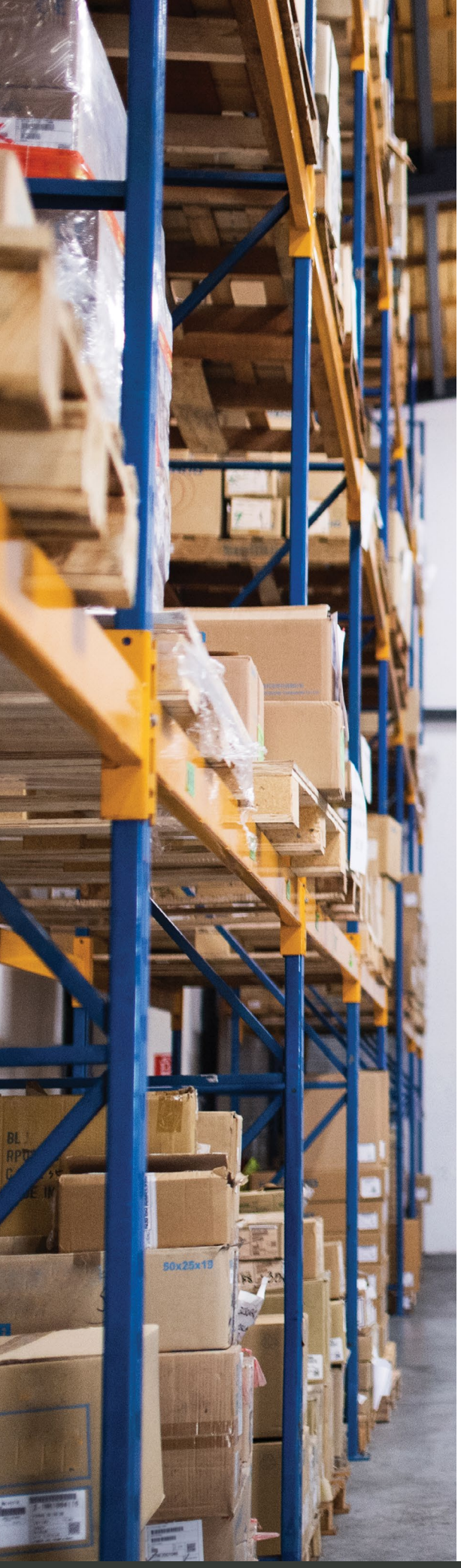
When stock from a single batch can be held in more than one bin, HARMONiQ can also use batch groups to ensure that all stock for a works order is issued from the same batch. In this case, the batch group is entered when the product is booked into stock.

BACK-TO-BACK PURCHASING

When users enter manufactured products on sales orders, HARMONiQ alerts the user if there is no stock of a component. The Back-to-Back Document Builder is automatically displayed, showing any components and quantities that need to be purchased to complete the works order. The user can adjust the suppliers, products and quantities if required and automatically generate a purchase requisition or purchase order for those goods.

If you are using multi-level works orders, HARMONiQ considers the quantities of all components including those further down the tree.

When the goods are received from the supplier, a user can allocate quantities from the purchase delivery note to the appropriate works orders automatically.



BUNDLE PRODUCTS ON WORKS ORDERS

HARMONiQ provides a great deal of flexibility in how you set up your products. For a product like a shed that is made up of a large number of components, you could set up the product as a kit, an assembly or as a bundle.

Setting up these products as bundles provides more flexibility than the other options. When users add a bundle product to a sales order, HARMONiQ automatically adds each component as a separate line on the sales order. Bundle products also allow you to enter quantities in linear units.

When users add a bundle product to a sales quotation, it can be set to use generic components, e.g. components that don't have a colour. If the customer then decides to go ahead with the quote, it can be converted to a sales order and the user can easily swap out the generic components for components in specific colours.

Bundle products also offer more flexibility in regard to pricing. They can be priced as a whole, as the sum of the components, or in a number of other variations.

If any bundle components are manufactured, the works orders are generated automatically when the sales order is saved.

JOB COSTING AND WORKS ORDERS

Manufacturing processes can be set up as jobs in HARMONiQ if you have the Job Costing plugin installed.

When users can create a sales order for a product that is either a production kit or has an assembly revision (i.e. a product that needs to be built or assembled), they can then create a job from that order. The components of the production kit or assembly revision are automatically added to the job as material requirements. If any of the material requirement lines contains a product that needs to be manufactured, an MRF, internal or external works order can be generated automatically from that line. If any components need to be purchased, you can raise purchase orders against jobs.

Usage of materials is entered on the job. You can also enter employee labour, employee expenses and subcontractor costs against a job. You can create jobs in stages, and set budgets per stage.

When a job is completed, the costs can be sent back to the sales order for invoicing or you can invoice directly from the job. Job Costing also allows you to do progress claims, and adjust Work In Progress (WIP) every time you invoice or as required.

You can schedule jobs using the Job Scheduler – a colour-coded calendar that allows you to drag and drop jobs onto specific employees and dates depending on how the calendar is configured.

NOTE: A separate plugin called Build Choice Quoting also allows the creation of jobs from sales orders where production kits are set up. Once again, labour and expenses can be entered against these jobs.

PRODUCTION BREAKDOWN PLANS

Production breakdown plans can be set up for use with either works orders or jobs. They are used where a company receives whole products from suppliers and then breaks them down into components for sale to customers. For example, a company might purchase whole chickens and then break them down into breasts, thighs, wings, necks and bones for sale to customers. Costs are then apportioned across the components as either fixed costs or percentages.

When a production breakdown plan is entered on a works order or a job, HARMONiQ automatically adds the source and manufactured products, and the user can adjust the details as required.

When the works order or job is completed, the costs for materials and labour are automatically apportioned to the manufactured products as per the breakdown plan.

PRODUCTION SCHEDULER

HARMONiQ provides an optional Production Scheduler – a drag and drop colour-coded calendar that allows easy scheduling of works orders to production runs and to specific machines and operators.

The Production Scheduler includes machine integration where, when users create a sales order that generates a works order, the works order can be sent to a specific machine as a CSV file. (Currently this only works with roll forming machines.) The files sent from HARMONiQ can include instructions such as where to place markings and cuts, and whether the completed products need to be strapped together.

Currently information can be sent from HARMONiQ to a machine. We are also working on getting information back from the machine to HARMONiQ.

REPLENISHMENT

When using HARMONiQ's automatic stock replenishment calculator, you are able to generate works orders and production breakdown plan works orders from the results.

Suite 8, Level 2, 2-4 Merton St Sutherland NSW 2232

+61 2 9542 2000

drew@micronet.com.au

+61 2 9542 2100