PRONTO Xi

Applications Overview

Manufacturing

Make more with less

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Introduction

Trim the fat on the factory floor and bulk up production volume for lean, scalable and cost-effective operations

Whether your goal is trimming the fat on the factory floor or bulking up production volume, Pronto Xi's Manufacturing modules cater to almost any production technique, ensuring you run a tight ship.

Efficiently plan production with Shopfloor Manufacturing's paperless reports detailing manufacturing resources and raw materials. A flexible product that easily adapts to various production environments, Shopfloor Manufacturing allows you to implement lean manufacturing practices.

Manage production data such as a bill of materials (BOMs) and item control while seamlessly operating the shopfloor with detailed work orders, production feedback and more. Customise production processes with manufacturing methods, such as make to stock, make to order, configure to order and more. Regardless of which production method you use, manufacturing costs can be posted to the General Ledger, ensuring up-to-date financials at all times.

Optimise materials and capacity planning over multiple sites with Manufacturing Planning. Tools, such as Master Production Scheduling (MPS), Material Requirements Planning (MRP), Distribution Requirements Planning (DRP), Capacity Requirements Planning (CRP) and more, give you excellent visibility for planning operations.

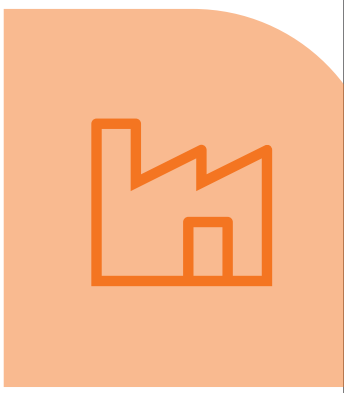
As an operations manager or team leader, Manufacturing Scheduler lets you view entire operations at a glance, maximising manufacturing resources to reduce product cycle time, foreseeing downtimes and meeting deadlines. Manufacturing Scheduler provides clear visibility of workload versus available capacity and allows you to manually or systematically manage sequences and optimise work.

With Laboratory and Quality Management, you enable continuous improvement through tighter process control and increased audibility. With the ability to accurately log test results, these two Pronto Xi modules efficiently track product quality and create official certificates to reinforce product testing and compliance processes.

Manufacturing processes vary significantly between industries — and even within the same business — with each production stage requiring different planning and control methods. Pronto Xi's Manufacturing modules are flexible and can support most manufacturing processes, including high-volume production, lean manufacturing environments and mass customisation. Each module also integrates seamlessly with other Pronto Xi modules, providing a comprehensive — yet focused — view of your business.

Shopfloor Manufacturing

Whether you want to go lean or are looking to bulk up high-volume output, Shopfloor Manufacturing keeps your manufacturing operations shipshape



Shopfloor Manufacturing is a highly flexible solution that includes a sub module called Manufacturing Planning. Together, these modules streamline your:

- **Product data management** — Manage item control, single and multiple bills of materials (BOMs), routing, work centres, product configurator and kitting
- **Shopfloor control** — Organise work orders, production feedback, alternative routings, subcontract operations, costing and General Ledger posting
- **Manufacturing processes** — Workflow make to stock, repetitive, batch, make to order, assemble to order, configure to order and engineer to order
- **Planning** — Plan materials, capacity, exception reporting, subcontracting, sales and operations planning, planning BOMs, super bills and rough-cut capacity planning
- **Quality control** — Check traceability by lot, batch and serial number
- **Costing** — Allocate costs for standard, average, actual, first-in, first-out (FIFO) and more

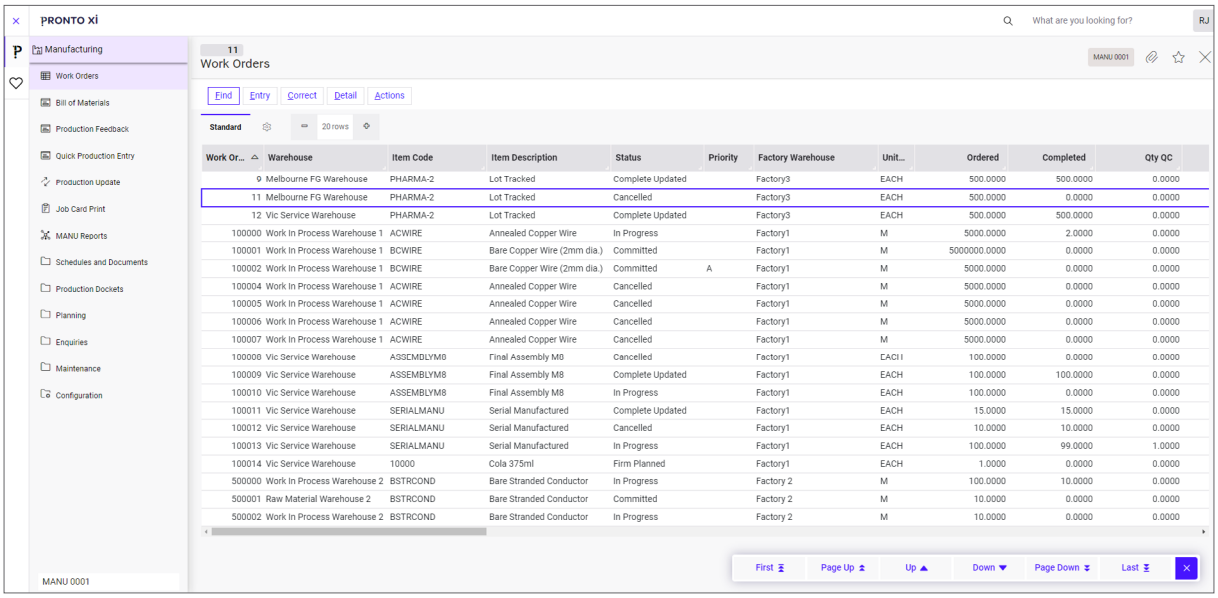
Manufacturing workflow

Shopfloor Manufacturing easily adapts to different production environments. Its Master Production Scheduling (MPS), Material Requirements Planning (MRP) and Capacity Requirements Planning (CRP) tools — as well as sales and operations planning using planning BOMs and super bills — all support make-to-stock operations.

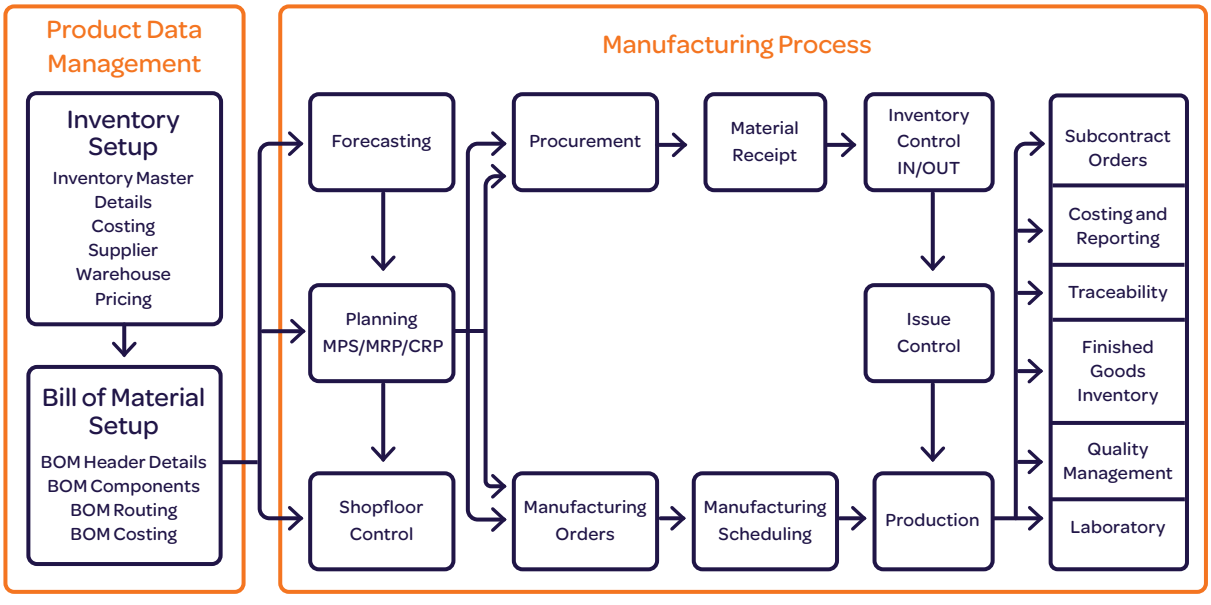
Control production with or without work orders to support lean manufacturing processes. Organise raw materials use through traditional stock-issue functions, automatic backflushing of materials, or a combination of both.

Capture real-time production results using barcode readers, radio frequency (RF) units, or desktop computers. Multi-level batch, lot and serial number tracking are fully supported throughout the entire system, and so is external time and attendance-model integration.

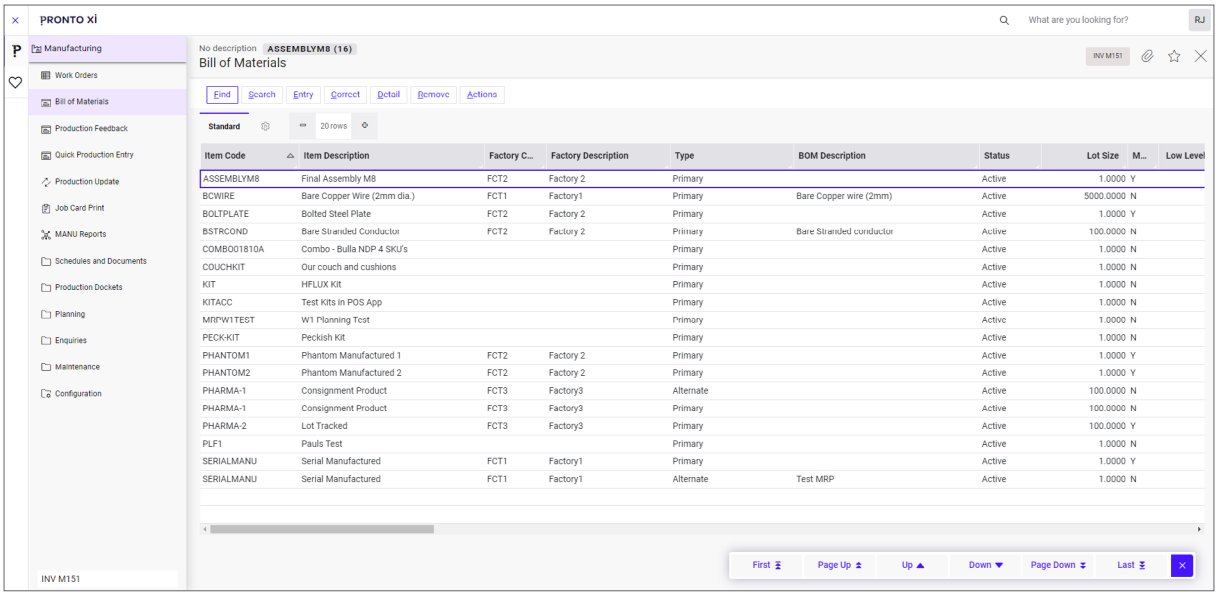
Pronto Xi supports sales order kitting and the manufacturing of kit items and offers a powerful configurator module. It supports all your make-to-stock, make-to-order, assemble-to-order and mass customisation operations. Choose kit items from a predefined list, then ship them as a kit or as an assembled product.



Manage work orders in one convenient location



A manufacturing workflow



Centrally manage your bill of materials (BOM)

Product data management

Control a manufacturing system by the characteristics of the individual item master and its associated records. Set items as “normal” saleable inventory, manufactured products, raw material (not for resale), kits, labour, special or indent.

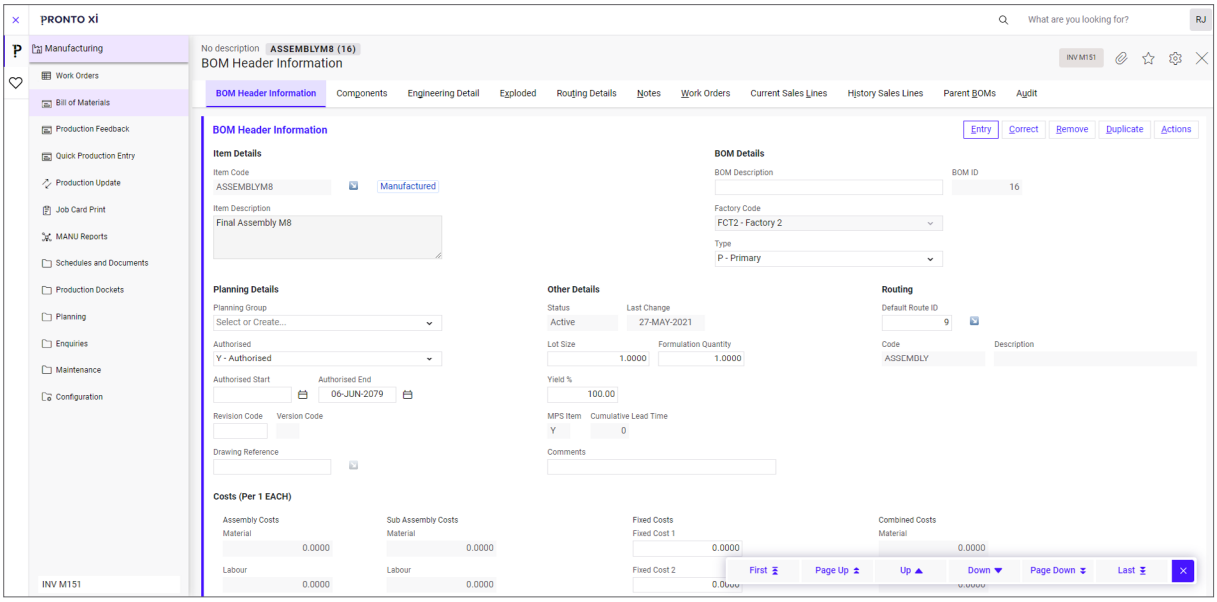
Planning parameters determine the replenishment algorithms for the MRP or reorder system, and minimum inventory settings provide separate replenishment levels by the warehouse.

Perform product life-cycle management through a number of condition flags and time periods, and control items via lot, batch and serial number tracking.

You can also capture crucial information, such as export details, chemical or hazchem classification, and production drawings (references).

Bill of Materials

Bill of Materials (BOM) supports up to 50 levels of sub-assembly bill structures required to produce the parent assembly. It also displays the quantities of each item, and manages costs, work centres and routing processes by warehouse.



Get a high-level view of BOM data and access detailed information if needed

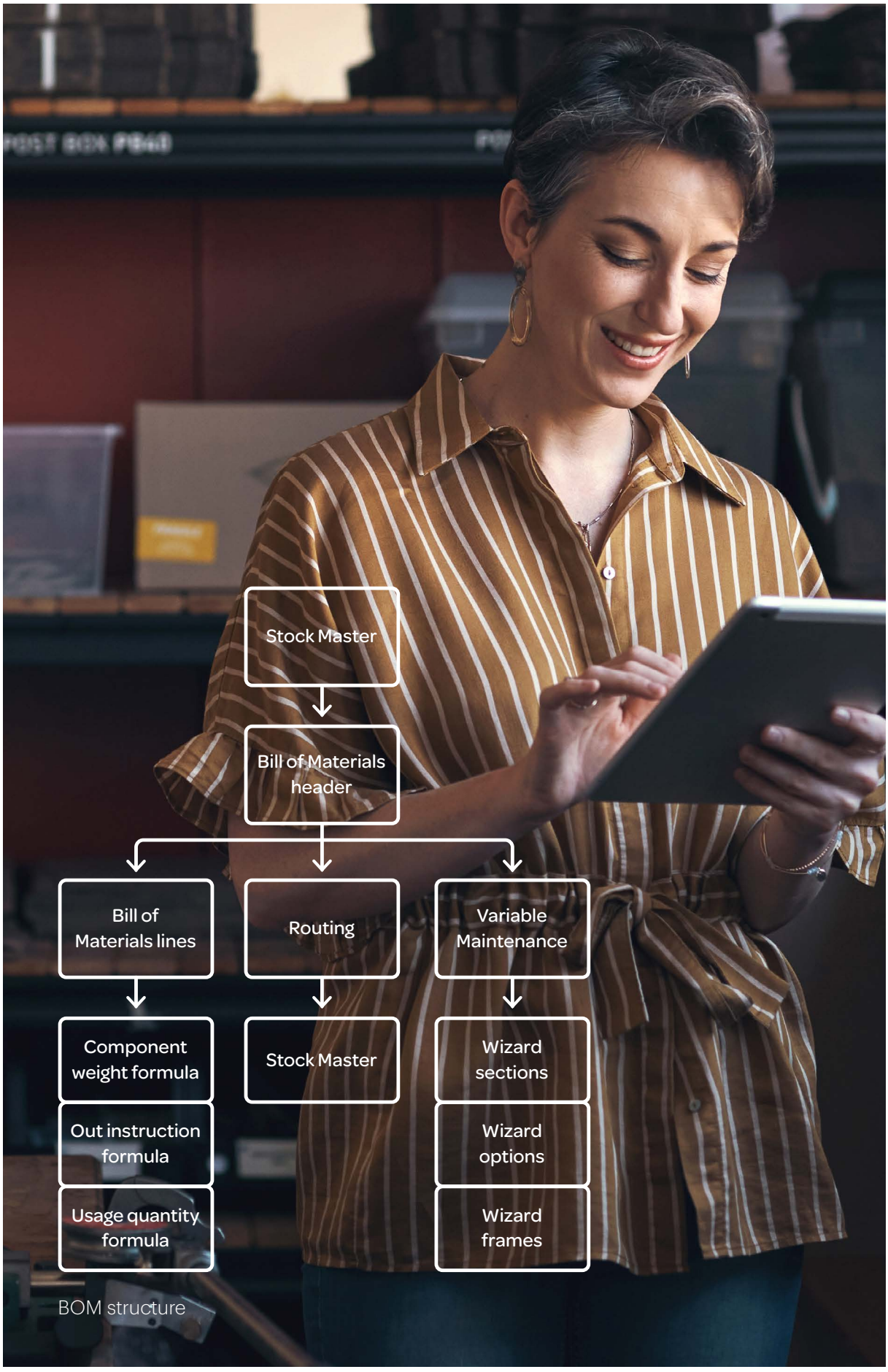
Build different types of bills to meet product life cycles — from planning and configured to super bills — and manage every variation of configurable products in make-to-order, assemble-to-order or engineer-to-order environments.

Create and store versions of the same bill for multiple factories, and different types of store versions. Manage bills through BOM-effective date, version control, engineering change order (ECO) or user-controlled flags. Pronto Xi also handles designators, split fills, calculated component quantities and other industry-specific solutions.

A BOM can be costed in different ways, including standard cost, average cost, FIFO and at warehouse level. For added flexibility, you can vary the costing methods for different items; for example, set a standard cost for a stock item or set FIFO or average cost for a warehouse item.

In addition, you can add fixed or average costs (such as overhead operating costs) per unit, improving the accuracy of the true BOM cost.

In multi-factory manufacturing operations, Pronto Xi delivers BOM cost rollup by the production factory. Where the same BOM exists across multiple factories, a cost-simulation feature uses source warehouse mapping to ensure the information for each factory is as accurate as possible.



BOM structure

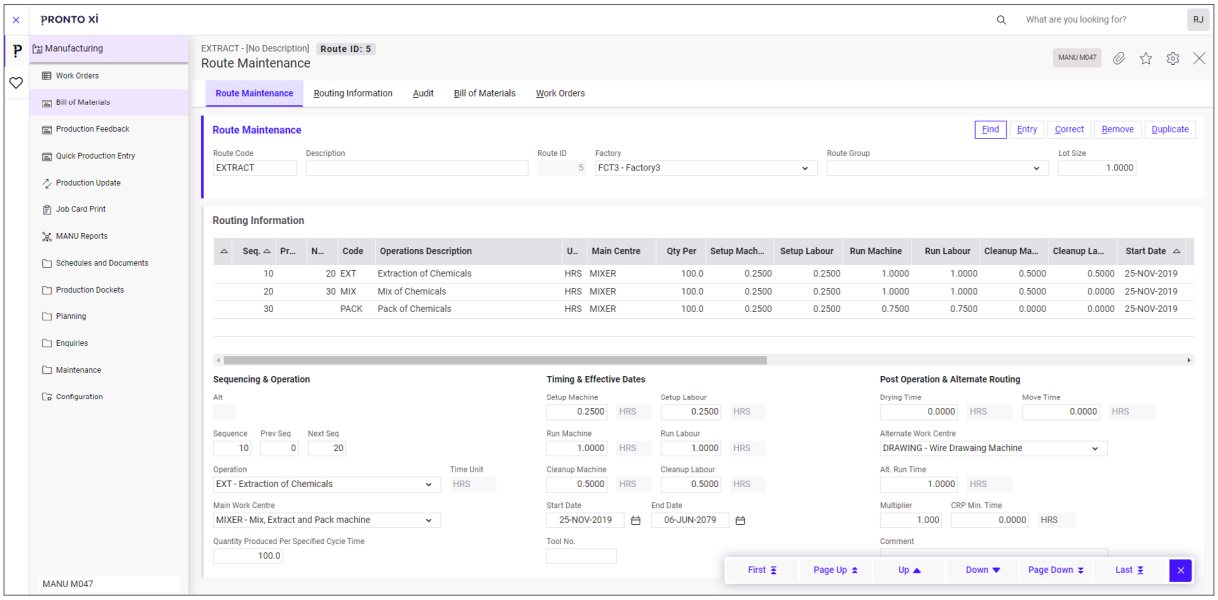
Routing, operations and work centres

These are the sequential steps, operations, equipment, setup and run times required to make a particular product. Together with the associated labour and overhead costs, this information is used to support:

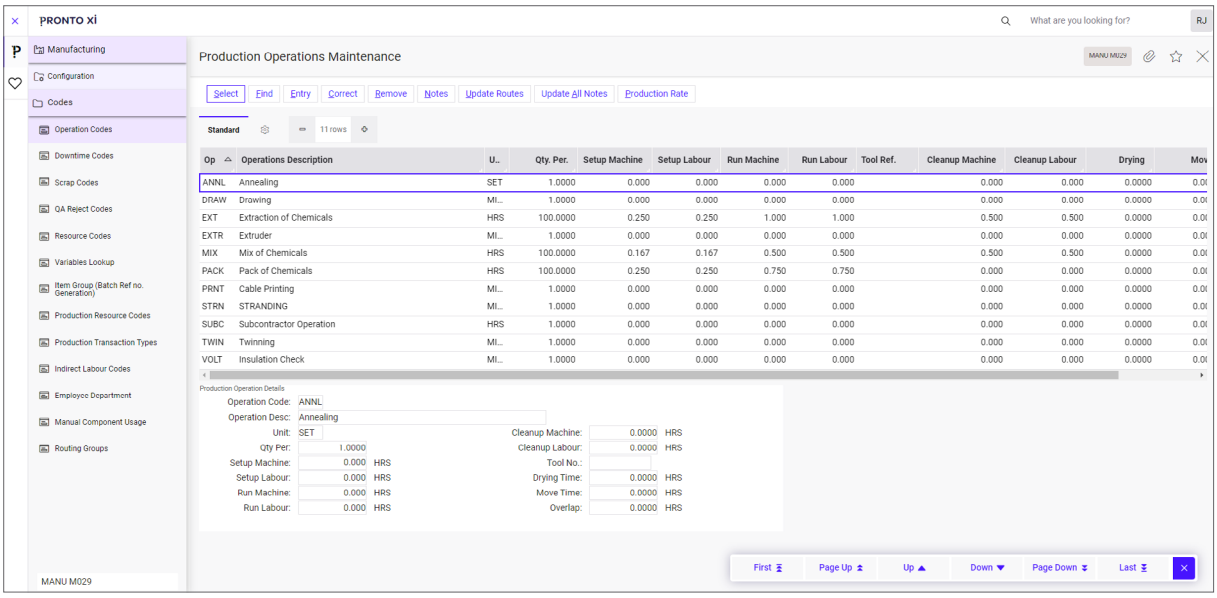
- discrete manufacturing
- rate-based production
- parallel routing
- multiple cavity tooling
- alternative routing streams
- subcontracting operations

If production capacity reporting is not required, record labour and overhead costs using Labour and Special Items rather than Pronto Xi routing.

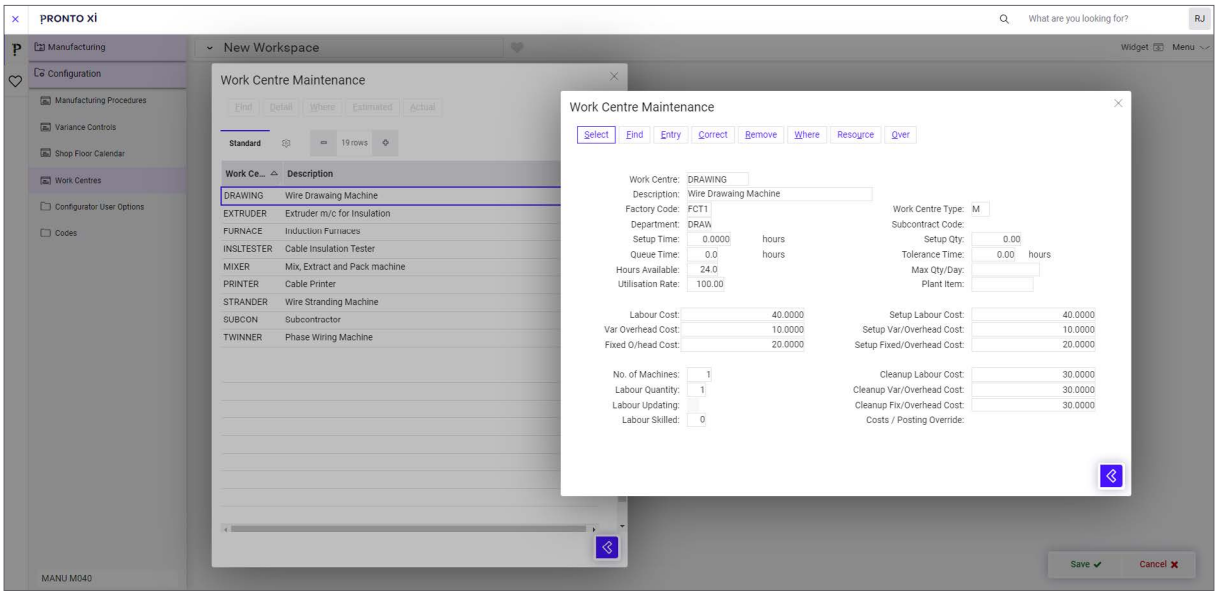
You can maintain BOMs and routings separately and easily define or change component information for bills or operation details. Create a new BOM or routing, or modify an existing version. Revisions are time-stamped, so you can determine the latest version if multiple revisions occur on the same date.



Get route planning and set-up information at your fingertips



Review detailed operations information for planning



Setup unique work centre costings and parameters

Exploded BOM view

A data grid view of exploded BOMs is available from the Product Data Management menu.

This view shows details across all levels of sub-assembly components, making it easier to filter and sort your BOMs.

Product configuration

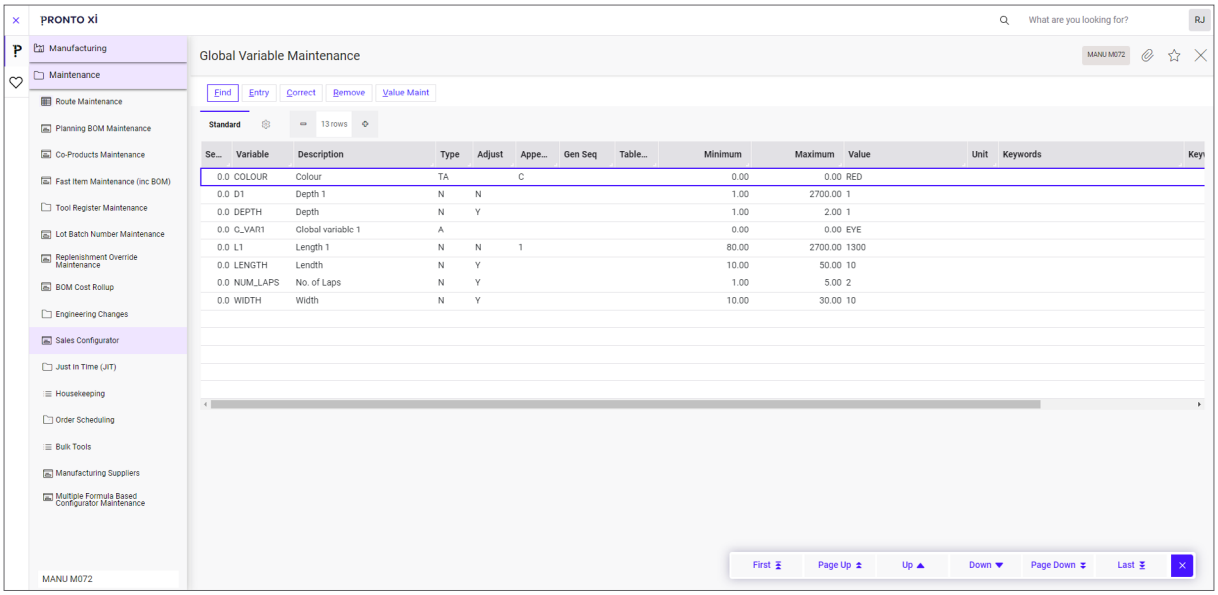
Shopfloor Manufacturing provides powerful configuration and kitting features to support make-to-order, assemble-to-order and engineer-to-order industries. Quickly implement straightforward features and option scenarios through a kit BOM.

The Sales Configurator equips sales personnel with an easy-to-use, wizard-based interface to step the user through item configuration, BOM creation and quoting.

The Sales Configurator acts as a virtual salesperson, enabling users to build a tailored solution based on the components and characteristics defined within the configurable BOM. The outcome of this process is the generation of a sales order or quotation order. The Sales Configurator also allows you to create unlimited BOM variations based on a generic BOM, which is a master bill (or master recipe). It's designed for every possible permutation of an item, with built-in constraints for product and manufacturing processes.

When issuing a quotation for a configured item, you can build the item up-front or upon customer acceptance of the quotation. This reduces the need to manage the life cycle of many discrete inventory items if the quotation is rejected.

The Sales Configurator includes tools to calculate materials usage and production times, including setup, costs and prices. Because relationships between various parameters are typically linear and arithmetic, use lookup tables to provide links for any unique parameter relationships, taking away the complexity found in more traditional item configuration processes. Reduce the likelihood of error by navigating through a series of radio buttons designed to prompt users for a single response to predefined variables. Easily visualise each configuration component by using the free space in the wizard screens to display images throughout the stages of configuration.

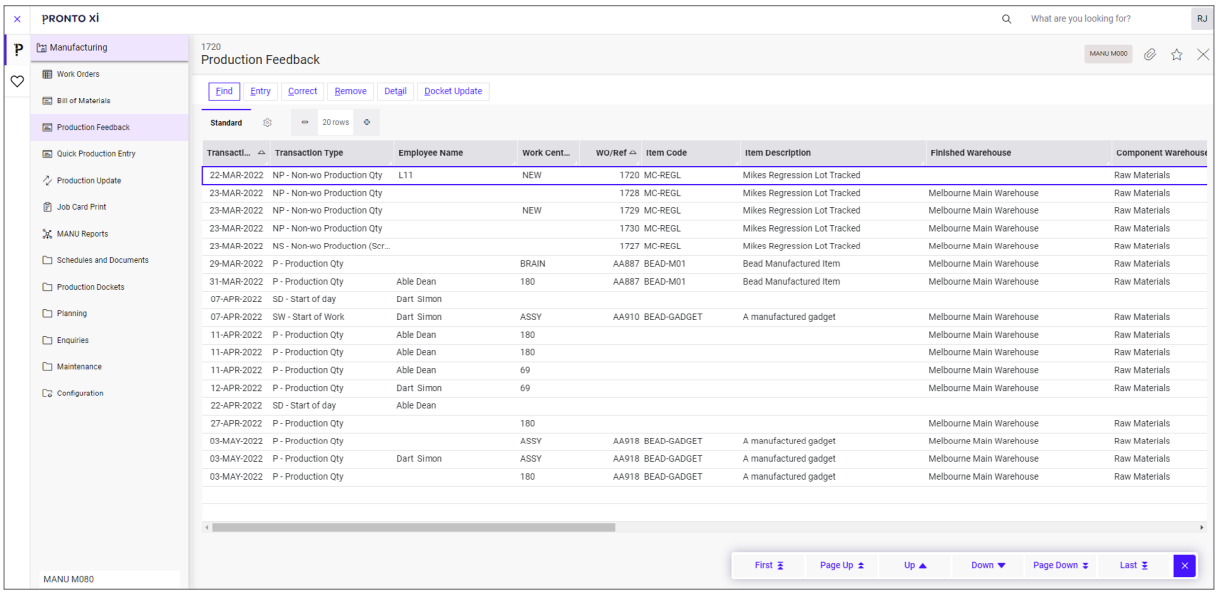


Create BOMS on the fly with the Sales Configurator

The Sales Configurator seamlessly links to the Project module, allowing users to create projects and attach configured BOMs.

Offering in-built flexibility and oversight of process stages, Project achieves best practice within the industry. Create orders from Manufacturing, Sales Configurator or general bill of materials, or simply raise general material requisitions or purchase orders.

Engineer to Order (ETO) applies individual engineering design or significant customisation to satisfy a customer's unique specification. As an integrated solution, Project can take on most ETO requirements, including the costing and tracking all transactions necessary to complete ETO work.



Easy-to-use data grids for production feedback

Shopfloor processes

Work orders

Work orders are typically used to manage the planning, execution, consumption of raw materials and feedback on production results.

In a lean manufacturing environment, Pronto Xi offers orderless and paperless production recording, using back-flush methods for raw materials consumption and progressive crediting of labour and overhead "hours earned".

Special work order types and processes are available for disassembly-type industries and other special operations such as rework and repack.

Production feedback

Shopfloor Manufacturing allows you to enter production feedback results on desktop or mobile.

The web-based application's responsive interface means shopfloor managers can enter product results on the go using a mobile device.

Back-office users can also enter production results in several ways, including bulk entering of production feedback.

Quick production entry screens allow users to copy and paste from external applications.

Alternative routing

Shopfloor Manufacturing allows you to select a specific route from a predefined range on the day of actual production.

You can change the route ID against an open work order, whether it's at "firm planned" or "committed" status. This provides greater flexibility if you need to quickly change individual work orders before production commences.

Lot, batch and serial number tracking are supported for finished goods, as well as for components or raw materials.

Subcontracting

With Shopfloor Manufacturing's subcontracting functionality, you can raise purchase orders at various times throughout the work order's life cycle.

Control the completion of a subcontractor process using standard purchasing goods receipt or work order production entry.

Shopfloor Manufacturing fully preserves the integrity of stock control of goods produced and payment for subcontracting services, without double-handling or creating dummy items.

Manufacturing processes

Shopfloor Manufacturing supports a range of processes that make it easy to manage your make-to-stock, repetitive and batch-production functions, which together form a vital hub of supply chain management.

These processes include:

- materials planning via forecasting
- sales orders and stock replenishment policies
- automatic creation of work orders and purchase orders
- initiation of subcontract operations
- creation of vendor schedules
- capacity planning of actual production
- release of shopfloor documentation
- reporting of production results

The module supports discrete manufacturing, rate-based production, parallel routing, multiple cavity tooling, alternative routing streams and subcontract operations.

Other standard features include make-to-order, assemble-to-order, configure-to-order and engineer-to-order manufacturing.

Quality control

Traceability

Shopfloor Manufacturing includes an extensive range of traceability tools.

Track manufactured goods and purchased raw materials by manufacturing batch or lot.

Or, lot-track raw materials and components by purchase order number if required.

You can also record and track serial-numbered items at various user-controlled transaction points.

Quality assurance

Nominate purchased or manufactured items for quality assurance (QA) inspection before they are formally accepted as saleable items. Following QA inspection, items can be fully or partially accepted, rejected or returned.

Use-by-date

In many process industries, shelf-life is important. Pronto Xi automatically generates use-by dates for product labels and other documentation.

Costing and General Ledger posting

You can control cost calculations and postings to the General Ledger in a number of ways. Generate costs from standard costs, single and multiple BOMs, and routings. Alternatively, costs can be generated from actual labour and machine time reports, actual cash costs posted to the work order, or timesheet records.

Set up your General Ledger account structure to attribute costs and variances to a factory, department, item group or work centre. Users can handle any updates to product costs and inventory according to the system cost they select.

In addition, link manufacturing modules to Payroll by recording the times from the work order against the employee code.

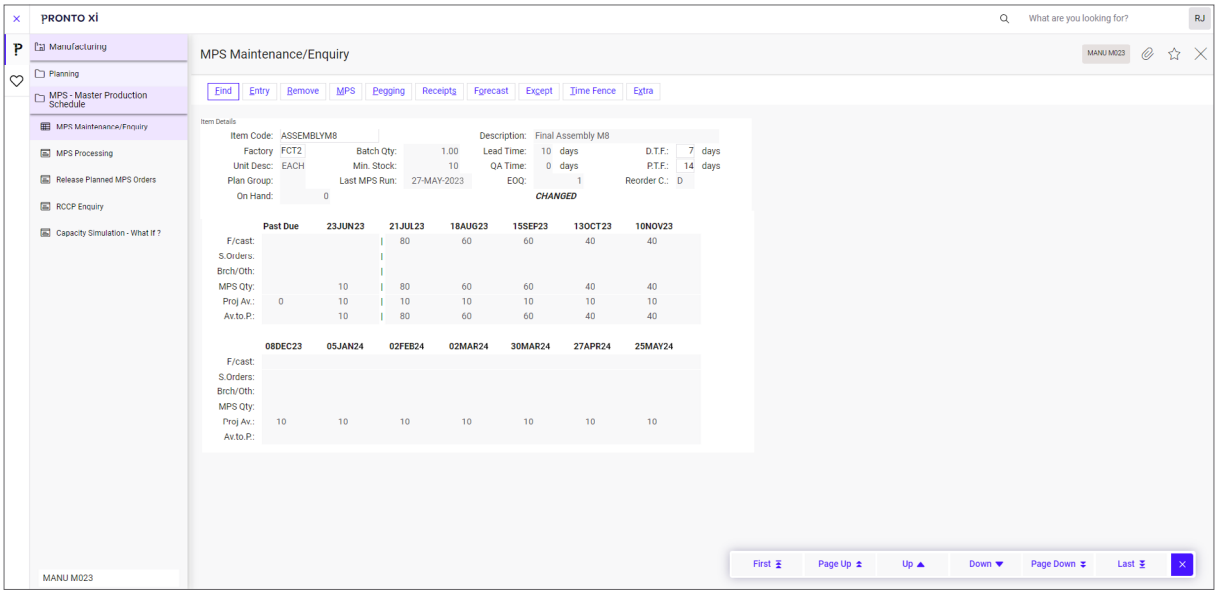
Manufacturing Planning

Optimise your materials and capacity planning over single or multiple sites with Manufacturing Planning

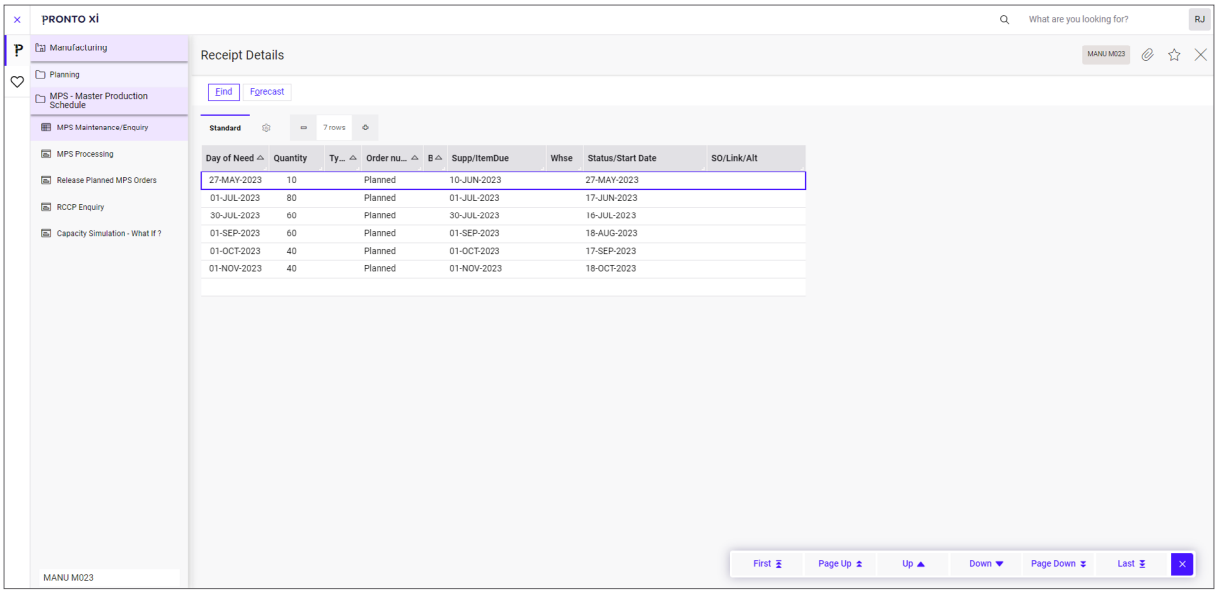
Pronto Xi's Manufacturing Planning module makes it easy to aggregate demand from a network of distribution centres by combining actual orders, forecasts, Distribution Requirements Planning (DRP), days cover, and minimum/maximum replenishment logic.

Use Production Planning, Master Production Scheduling (MPS), Material Requirements Planning (MRP), DRP, super bills, planning BOMs and supply/demand data from the inventory and distribution system to create a list of planned work orders.

Once verified, planned work orders automatically convert to a work or purchase order in bulk, grouped by product or other operational requirements. The system generates MRP exception messages while factory-loading capacity and materials information is displayed graphically in the Manufacturing Scheduler.



Display when production will be released, completed and available



Manage planning requirements in real time

Production Planning

Production Planning (PP), super BOMs and planning BOMs facilitate the sales and operations planning process. The Production Plan sets the overall level of manufacturing output and other activities to most effectively satisfy the current and projected levels of sales and forecasts.

Enter production plans by quantity or dollars at the planning group level and explode via a super BOM and bill of resources to establish and develop production rates and support plans for material procurements and workforce requirements.

Master Production Scheduling

Master Production Scheduling (MPS) is the anticipated build plan for critical manufactured items that drive the overall manufacturing plan. It includes the projected on-hand inventory and the available-to-promise quantity represented by demand, forecast and backlog.

The MPS sets out the quantity of each manufactured item that you plan to manufacture each month. Set planned quantities up to 12 months in advance.

A data grid in the MPS Maintenance/Enquiry screen lets you sort and filter MPS data. Filter using inventory fields, such as planning group, reorder policy, warehouse and condition code, then save views and drill through to MPS results, including pegging details, receipts and exception details.

Rough-cut Capacity Planning

Rough-Cut Capacity Planning (RCCP) enables you to convert the MPS into requirements for key resources such as labour, machines, warehouse space and suppliers' capabilities.

Material Requirements Planning

Material Requirements Planning (MRP) organises the release of recommended replenishment orders at the appropriate date in the current working time bucket to satisfy the demand for items when they become due.

With MRP, you can:

- create planned work order requirements for components and sub-assemblies
- produce a list of suggested purchases to satisfy the known demand
- plan the completion dates for work orders using lead time
- print released planned orders and exception reports

Planned work orders are a result of the time phasing of demand management. The net requirement for items is exploded through all levels of their BOM to determine the gross requirements at each level. Applying lead time and adjusting for on-hand and on-order quantities at each level determines the timing and quantity of purchasing and manufacturing.

Pronto Xi's planning engine enables sourcing and production visibility across multiple factories. It facilitates alternate factory planning, resulting in more efficient manufacturing operations.

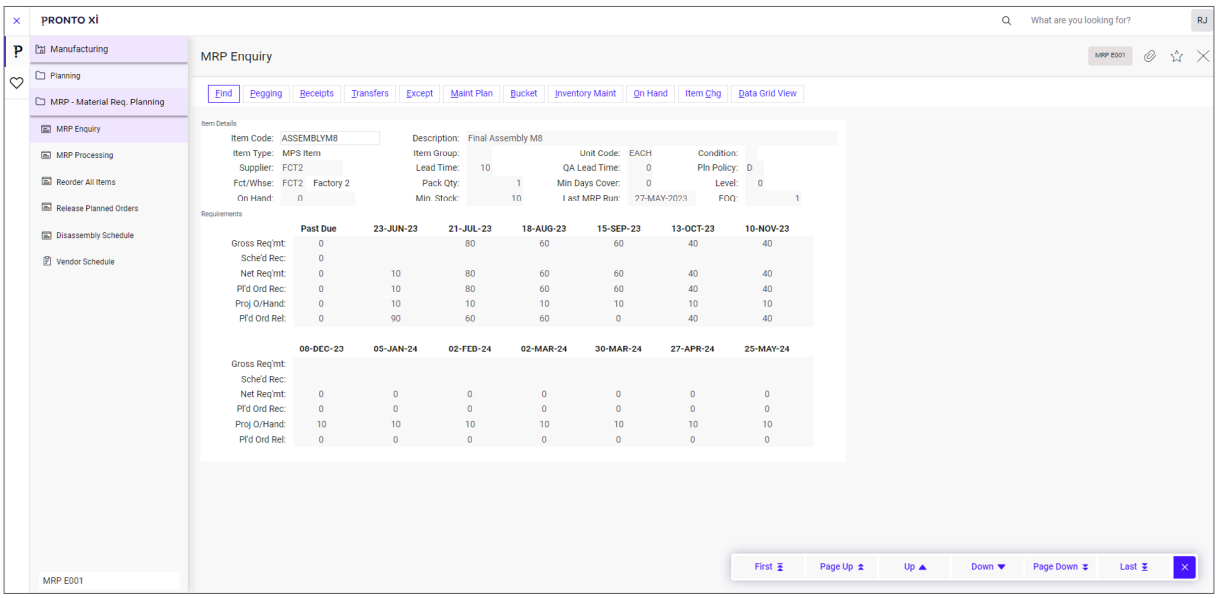
In addition, MRP, DRP and MPS run sequentially in a single routine, ensuring up-to-date demand quantities.

A vertical MRP view, in addition to a horizontal view, helps you visualise results easily.

Capacity Requirements Planning (CRP)

Capacity Requirements Planning (CRP) creates a detailed plan by department or work centre based on the constraints defined by the calendar of resource availability.

The CRP process uses finite scheduling and infinite scheduling to produce a detailed plan of all open work orders and planned requirements from the MRP.



See material requirements for products at a glance

Manufacturing Scheduler

Have the right hands in the right places with Manufacturing Scheduler

Using a Windows-based drag-and-drop application, Manufacturing Scheduler simplifies scheduling and planning for work centres that process many jobs simultaneously.

Manage variations in the current schedule, see when priorities have changed or a work centre is unavailable, and view available options to resolve an issue.

Manufacturing Scheduler also displays visual warnings when work orders are late or scheduling conflicts occur within a work centre.

Schedule planning

Use Manufacturing Scheduler, an electronic whiteboard scheduler, in conjunction with Capacity Requirements Planning (CRP). CRP information used by Manufacturing Scheduler includes a calendar of resource availability, and work-centre and work-order data.

For each work centre, move operations to a new production slot with a simple drag and drop. Sort operations based on multiple criteria; once the job order is set, Manufacturing Scheduler automatically sequences each operation.

Lock operations or entire work centres once you have completed scheduling. If you re-run CRP, locked operations are based on your settings.

Schedule optimisation

As a visual management tool, Manufacturing Scheduler allows you to seamlessly manage your workload to factory capacity constraints using CRP.

Refine the timing of product batches during weekly production cycles and, for added flexibility, sequence and optimise work based on user-definable parameters.

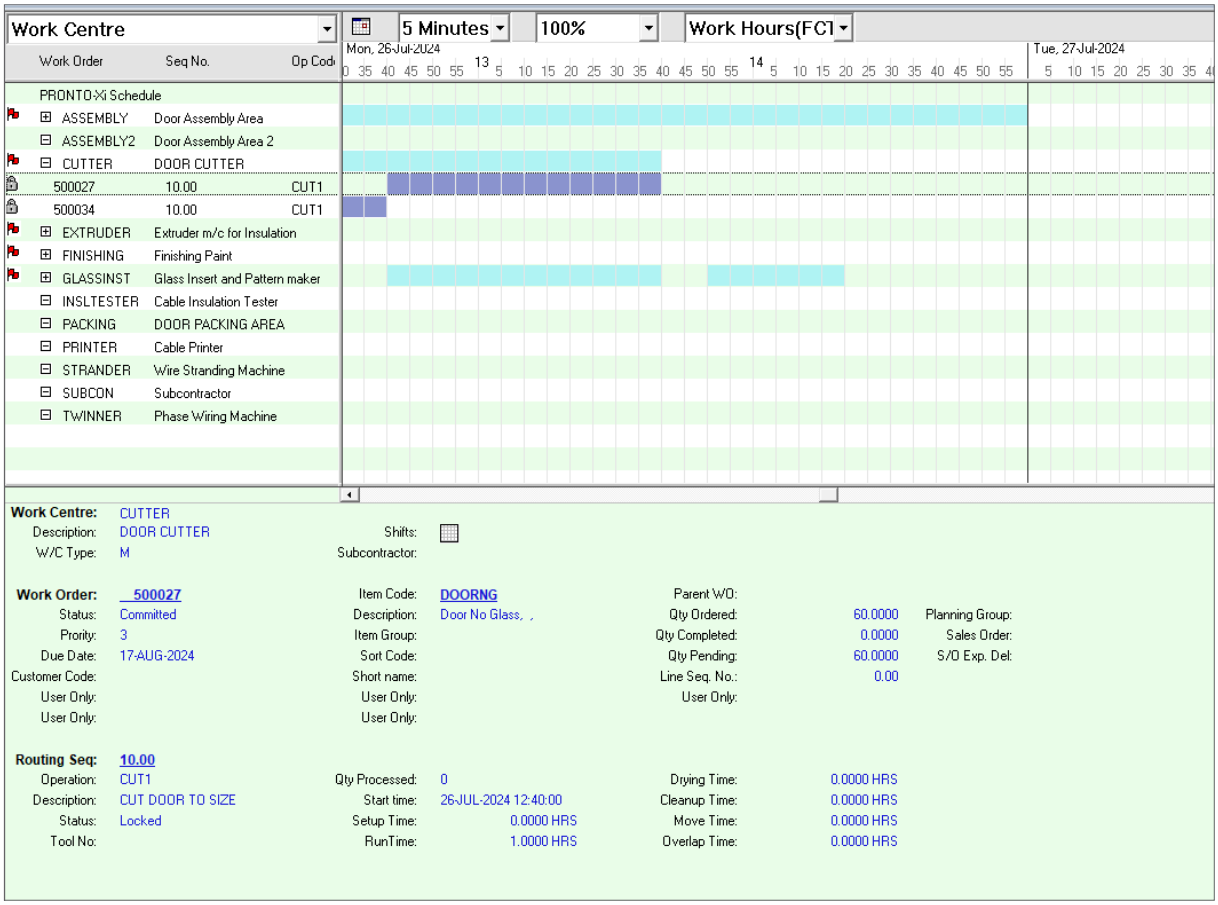
You can also develop alternative schedules and save these as "what-if" scenarios before the data is submitted to Pronto Xi, where all relevant elements are updated.

Gantt view

Manufacturing Scheduler sorts the operations of a selected product by the routing sequence in a Gantt chart. In this view, you can analyse operations in line with the work-order routing sequence by displaying links between operations. This simplifies the maintenance and optimisation of production schedules.

Printing and reporting

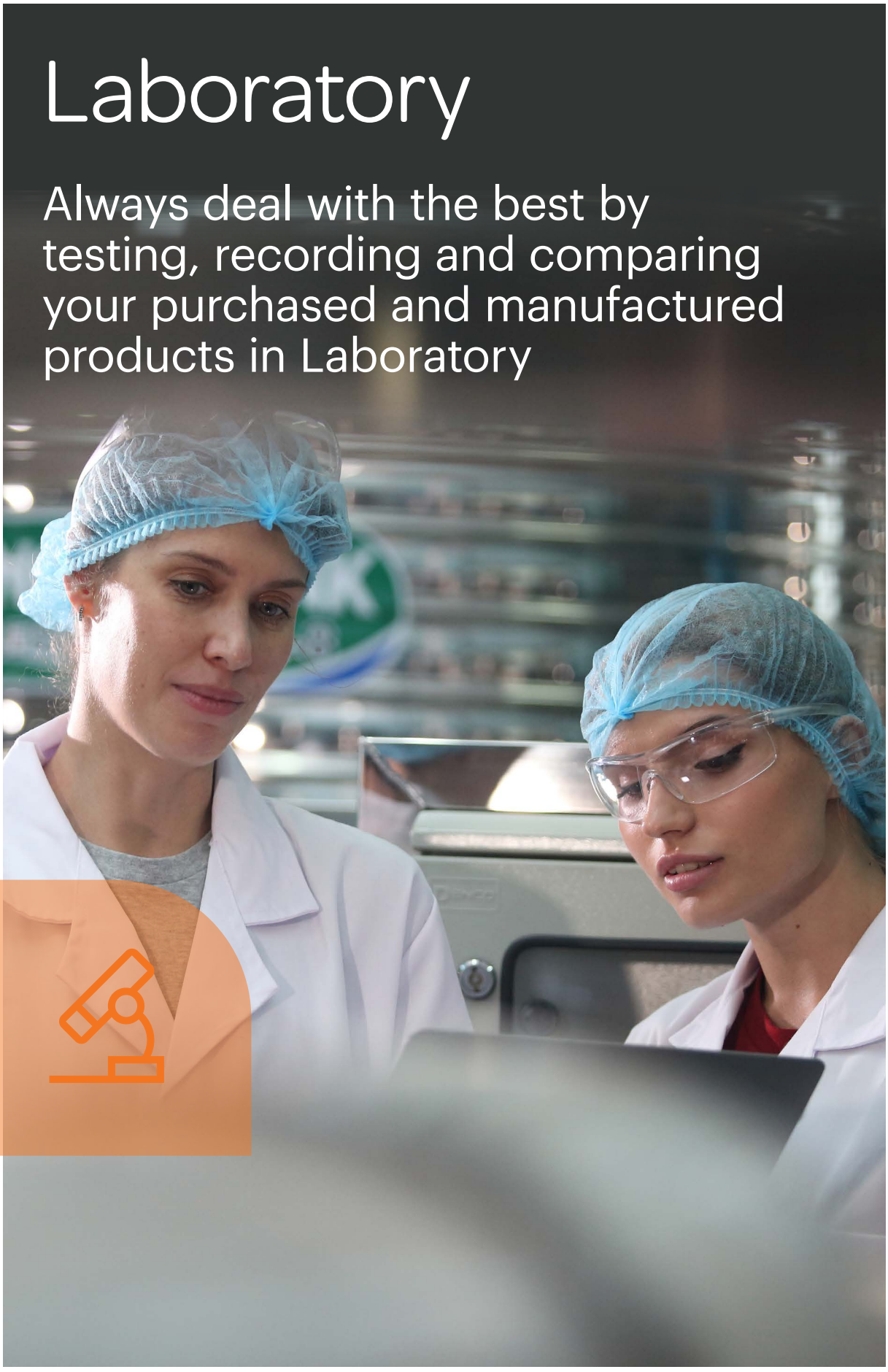
Export Manufacturing Scheduler data (including routing sequence, work-centre and work-order data) to a Microsoft Excel spreadsheet template, allowing you to report and print the production plan.



Better manage production schedules with engaging visuals

Laboratory

Always deal with the best by testing, recording and comparing your purchased and manufactured products in Laboratory



Laboratory gives you the power to quickly and confidently make reprocessing decisions.

Record and track quality or test criteria for purchased and manufactured products, and lower your operating costs by identifying the lowest complying set of products for any given requirement. Grade-test product batches, then classify graded products depending on the desired use, release or future development.

Test results

Laboratory effortlessly handles, grades and classifies all types of test results.

If you are manufacturing the product, the test results are actual results.

For purchased products, enter results based on a sample or the certificate of analysis provided by the supplier. Enter actual results separately and compare them against the supplier's sample or certificate of analysis.

As each batch passes through its test procedures, enter the results obtained, along with related notes.

Once test results are entered, the batch can be reclassified. Laboratory automatically classifies the batch as the highest possible grade if all classification criteria are met.

If the new classification is flagged as usable, add reclassified batches to stock and make them available for sale.

Auditing

Laboratory allows you to audit classification and test result changes fully.

Batches requiring testing

Laboratory provides a screen that displays all non-classified lots and batches you have recently manufactured or received from your supplier. Use this screen to edit test results and classify batches.

Selection and dispatch

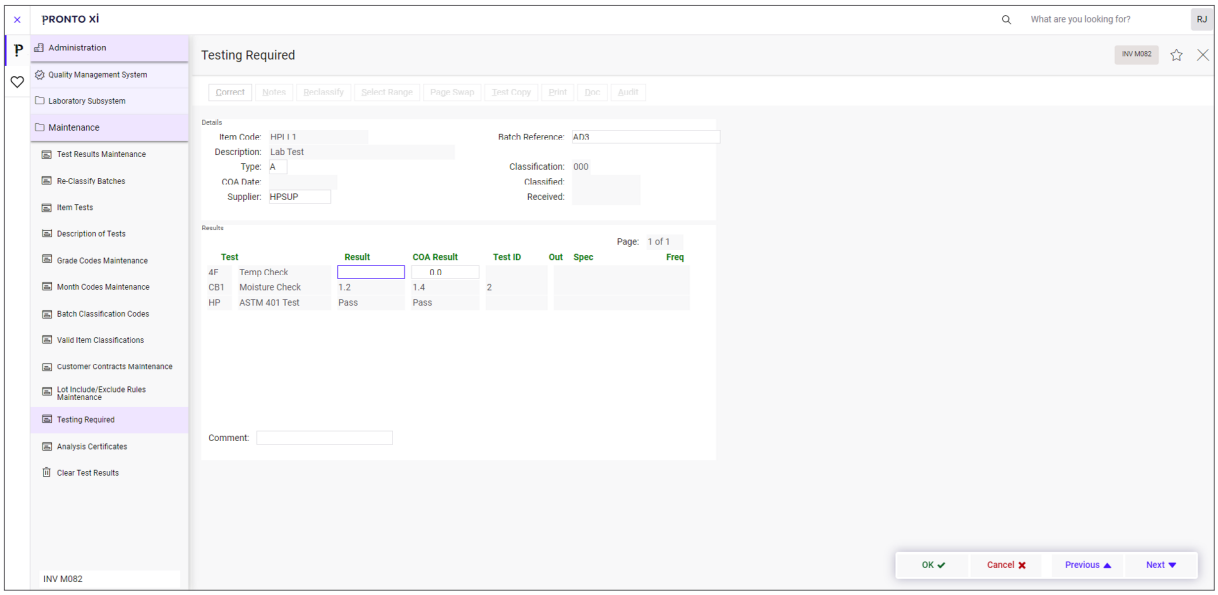
If a sales order requires a specific product grade, Pronto Xi only allows you to select lots that meet the specifications for that grade or a higher grade.

Laboratory highlights the lowest possible complying batch that meets requirements so that higher-grade lots are not unnecessarily selected or dispatched.

Regardless of customer requirements, only saleable grades can be selected for dispatch.

Analysis certificates

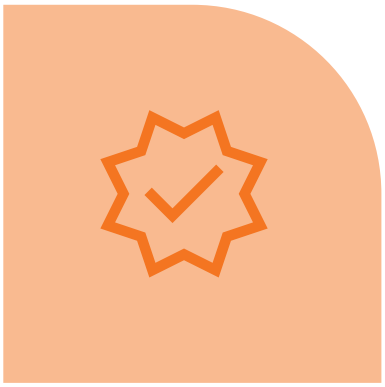
Products that have passed your quality tests are automatically issued an official certificate of analysis, which can be provided to your customers or to government agencies. Tailor the layout and test results printed on the certification document to your needs.



Detail testing requirements for products

Quality Management

With flexible and comprehensive quality management procedures, Quality Management is your key to ongoing optimisation



Quality Management supports continuous improvement and quality management through tighter process control, increased auditing capabilities and dedicated certification requirements.

Management overview

Quality Management gives managers a clear overview of the status of audits, corrective actions, suggestions and complaints.

Document register

Record and maintain your organisation's documents with the Document Register.

Although suitable for all document types, the register is typically used for internal documents. Details recorded in the register include the document's location in the network, who authorised it, and which department is responsible for it.

Drawings and blueprints

Catalogue technical drawings, blueprints, files or construction details with the Drawing Index, and enter and maintain the locations of drawings and blueprints, whether physical artefacts or files. You can access drawings over the network and open them with an appropriate viewer.

Technical publications

Record and maintain a complete library register of standard reference works, technical bulletins, magazines and periodicals, and any other technical publication used by your organisation, with the Technical Library.

Complaints

Complaints allows you to log complaints or requests for action from a customer or employee.

Record a brief description of the complaint, along with the name of the department or employee affected by the complaint.

If the complaint regards an inventory item, enter the item code to ensure complaint records are specific to the item. You can also enter detailed notes about the complaint for further action.

Complaints link to corrective action logs and can be reviewed by customers or by inventory items for Accounts Receivable and Inventory. You can also flag a customer invoice as "in dispute" and raise a debtor complaint.

Action logs

The Action List allows you to review and maintain log, list and corrective-action details, and assign logged problems to specific staff for action. When the complaint is resolved, it's recorded for future reference.

Using the action list, you can also implement an electronic "suggestion box" and use it as a Corrective Action Request (CAR). Quality Management also provides comprehensive reporting functionality.

Technical bulletins

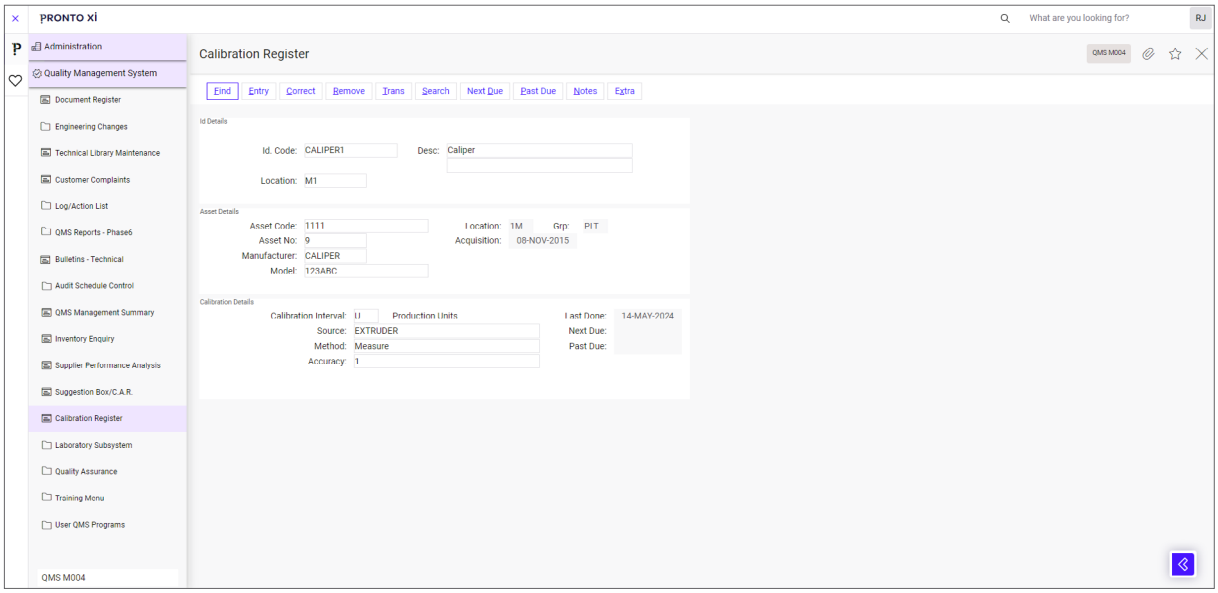
Technical bulletins can be viewed, maintained and searched by your organisation. Quality Management maintains a separate record of the bulletins issued, showing the date of issue, the date it became effective and the author.

Audit scheduling

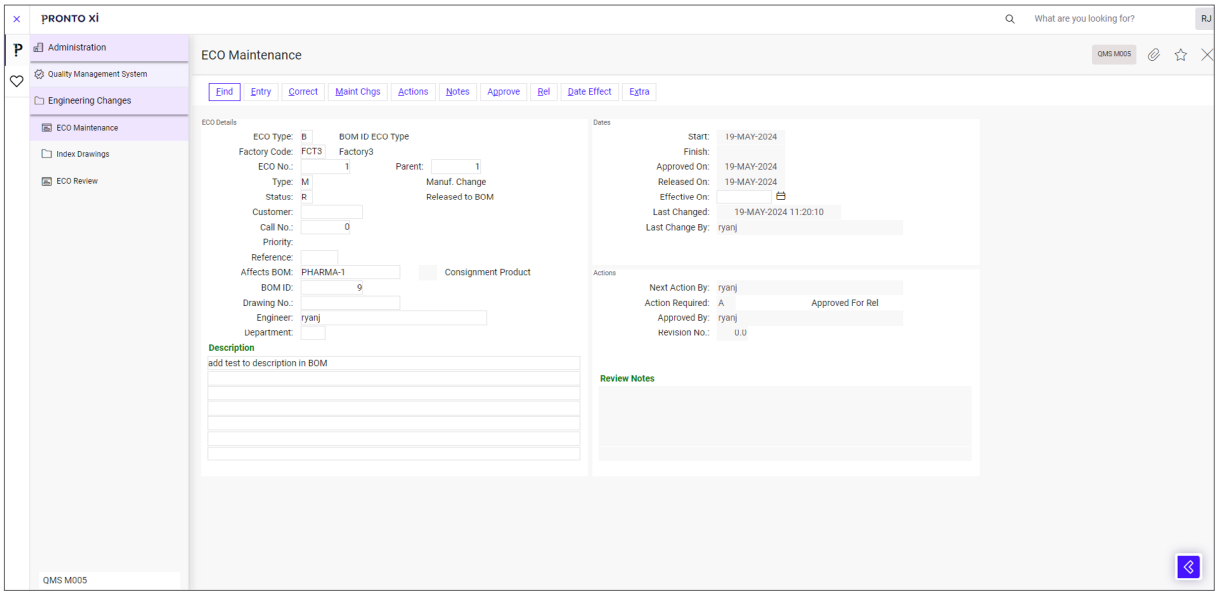
As part of your organisation's quality standard certification, conducting regular audits of your procedures may be necessary. With Quality Management, you can schedule the audits as appropriate, maintain details of necessary corrective actions, and ensure each action is performed.

Equipment calibration

With automated warnings if a calibration is overdue, the Calibration Register makes it easy to maintain your equipment calibration records. Specify how frequently calibrations are needed on each piece of equipment, the method to be used, and the level of accuracy required.



Manage your equipment calibration requirements



Track system settings changes with Engineering Change Orders

Other functionality

Quality Management integrates with other Pronto Xi modules, giving you access to a range of features that support quality improvement.

Product batch/lot search

Pronto Xi allows you to search for and trace product batches/lots, and to view and edit quality information for specific products. This includes information about products that have failed quality procedures or were scrapped.

Engineering change orders

The Engineering Change Order (ECO) Register controls updating a bill of materials (BOM) or product specification through a formal process.

Instigated by service, manufacturing or research and development staff, or a customer call, you can monitor specification changes and release them for action via an approval process. Pronto Xi maintains a complete historical record of all ECOs.

Vendor performance analysis

Pronto Xi monitors the performance of vendors to check they meet your standards or contractual obligations.

Laboratory

Access the Laboratory module within Quality Management to monitor test results and ensure product consistency.

About us

PRONTO SOFTWARE

We are an Australian developer of award winning business management and analytics solutions. Pronto Xi, our Enterprise Resource Planning (ERP) software, integrates accounting, operational and mobile features in a single system – optimising business processes and unlocking actionable insights. That's why for more than 45 years, over 1,500 Australian and global organisations, across a wide range of industries, have trusted Pronto Xi to simplify their most complex challenges.

With headquarters and our Development Centre located in Melbourne, we have support offices and consultants based across Australia, as well as a global network of Resellers and Solution Partners. Specialised business units within Pronto Software have the expertise to assist you with pivotal technology – Digital Transformation with Pronto Woven, Cloud and Hosting services with Pronto Cloud and Business Intelligence solutions with Pronto iQ.

When you choose Pronto Software, you gain a team with deep industry experience, giving us the ability to understand your specific needs and build innovative solutions that drive business growth and revenue.

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