



Make it Better

A simple guide to sharper manufacturing



SQLWorks

Welcome!

The **'Make it Better'** guide to manufacturing is a no-nonsense guide to some simple, but powerful, manufacturing principles.

Although it can feel difficult at times, every company can gain something from making processes more efficient – often in the simplest of ways.

New technology is one way to unlock a wealth of possibilities - but often it's the underlying process itself that needs attention.

Even well-established manufacturing companies should occasionally ask themselves: what could we be doing better?

1. Get the Basics Right
2. Know the Route
3. Think Two Steps Ahead
4. Make it all Easier

Get the Basics Right.



1. Use Bills of Material

Standardising saved **Bills of Material (BOMs)** for your manufactured goods should be your first step.

Doing this in a manufacturing software helps formalise the 'default' way of making these items, establishes a known 'component cost', and will help you improve efficiency later.

If you're *processing*, rather than assembling component kits, your BOM might only contain a single part or material – but this is still useful: it avoids having to re-define costs and quantities each time you make that item.

A good software will also **auto-update part costs** through multi-layered BOMs: so that when a component or sub-assembly changes cost, so do the parts costs of the BOMs that use it.



2. Introduce Works Orders

Once you know your BOMs, you can begin issuing organized **Works Orders** to the shop floor.

These don't need to be complicated – but they do need to detail some key information for the shop floor, including:

- Quantity to be made
- Which components are needed
- Component quantity available in stock
- Component quantity picked already
- Instructions
- Key dates & more

Because you've already defined your BOMs, much of this data should already be known.

In some industries, it's also very helpful if your manufacturing software supports picking components **from specific batches**.

Available Processes

Code	Name	Type
CUT	Cutting	
POL	Polishing	
WEL	Welding	

Available Employees

Code	Name
006	Employee 006
004	Employee 004
005	Employee 005
003	Employee 003
007	Employee 007
008	Employee 008
009	Employee 009

Work Flow Summary



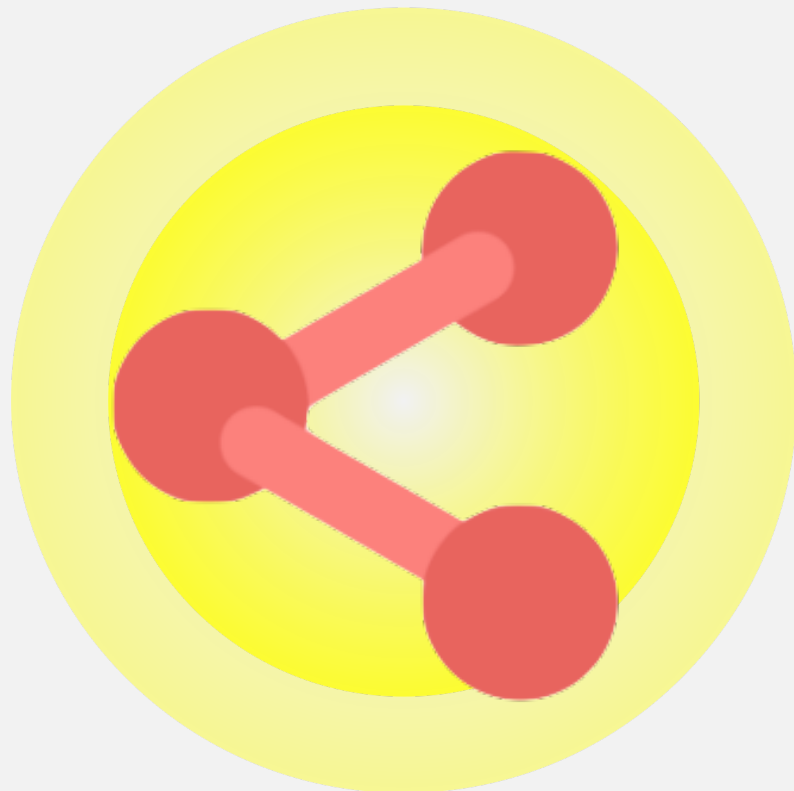
Work Flow Summary

1 - CUT-A	2 - POL-B	3 - WEL-C
CUT Cutting	POL Polishing	WEL We
No Employee	005 Employee 005	003 Em
A Machine A	B Machine B	C Ma
Instructions Cut frame and attach handlebar	Instructions Polish frame	

	Overhead	Labour
Setup (Per Batch)		
Fixed Cost	0.00	0.00
Rate Per Hour	0.00	0.00
Runtime (Per Item)		
Fixed Cost	0.00	0.00
Rate Per Hour	0.00	0.00

	Predicted Times	Build Qty
Setup		Predic
Minutes Per Batch	0	
Runtime		Time (Min
Minutes Per Item	0.000	Overhead
Lagtime (Uncosted)		Labour
Minutes Per Batch		Total

Know the Route.



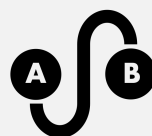
3. Establish Official Work Centres, Processes & Staff

Establishing a set list of '**Work Centres**' where work happens isn't just about location – it's a foundational building block of manufacturing.

These could be machines or simply zones on the factory floor – but once they exist as distinct places 'where work happens' your business can benefit from **basic process routing**.

Try to save associated costs (eg: setup time) and daily availability against these work centres, to get best results.

It's also worth defining the *kinds* of work that take place (processes), and the workers available to do this work (staff) – because these can then be used as a filter for reporting: helping to establish workloads and bottlenecks.



4. Onwards!

From these, you can build your **Process Routes**. Each Process Route is the set of steps your Bills of Material go through when being made. Although you want each BOM to have a known process route, it's helpful if production managers have the flexibility to vary these for specific Works Orders where needed.

Routes helps you track the **assembly cost** of your BOMs – not just the component materials that went into them, but the cost of 'making' the finished goods.

The best manufacturing software will scan through all your Works Orders and produce **Production Schedule** reports on demand – filtered from either the point of view of your Work Centres, or Processes, or Staff, depending on how you need to understand the workload.

Let's think about this...

#	Where?	Process	Employee	Quantity	Due Date
112659	Machine A	Welding	Bob	10	15.09.21
186458	Machine B	Cutting	Sarah	30	14.09.21
175435	Machine C	Polishing	Jane	50	03.09.21
777454	Machine B	Cutting	Sarah	20	30.09.21
346789	Machine A	Welding	David	10	22.09.21
982528	Machine A	Repair Weld	Bob	5	30.10.21

Machine Use

Machine A

112659	Welding	Bob	10	15.09.21
346789	Welding	David	10	22.09.21
982528	Repair Weld	Bob	5	30.10.21

Machine B

186458	Cutting	Sarah	30	14.09.21
777454	Cutting	Sarah	20	30.09.21

Machine C

175435	Polishing	Jane	50	03.09.21
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Demand Type

Welding

112659	Machine A	Bob	10	15.09.21
346789	Machine A	David	10	22.0.21
982528	Machine A	Bob	5	30.10.21

Cutting

186458	Machine B	Sarah	30	14.09.21
777454	Machine B	Sarah	20	30.09.21

Polishing

175435	Machine C	Jane	50	03.09.21
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Repair Weld

982528	Machine A	Bob	5	30.10.21
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Staff Workloads

Bob

112659	Machine A	Welding	10	15.09.21
982528	Machine A	Repair Weld	5	30.10.21

Sarah

186458	Machine B	Cutting	30	14.09.21
777454	Machine B	Cutting	20	30.09.21

Jane

175435	Machine C	Polishing	50	03.09.21
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David

346789	Machine A	Welding	10	22.0.21
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Time to re-organize all this production data by hand = 52 minutes (!)

Time for software to do it = 8 seconds

Think two steps ahead.



5. Or even three.

As your manufacturing scales, it becomes more important to develop Material Resource Planning (MRP).

Doing an MRP 'run' is a process where software looks through all the sales order/works order demand for your business over a time period, and makes recommendations about purchase ordering/works ordering needed to fulfill that demand.

This is a big time-saver once your business is active enough that it becomes difficult to keep track of all the demands for parts and materials.

Luckily, you've already established key building blocks for this – you've already been recording your sales demand for finished goods, what materials go into their BOMs, and how they're produced.

Good MRP systems will run 'multi-level'-looking through the sub-components of each BOM and checking if these also have parts in stock – and recommending you obtain more when needed.

This helps make sure you're always looking 'into the future' and don't run out of important stock.

To keep your purchase and production managers happy it's helpful to be able to update part costs automatically when you buy components at a new price. This helps keep stock valuations and BOMs accurate.

Most importantly: MRP helps greatly simplify hours of administrative work – replacing the tricky human task of calculating orders manually, with reviewing intelligent system recommendations, and issuing purchase approval.

How it

Compares:

Efficiency = Output / Input
(Multiply by 100 for percentage)

Time to make a Purchase/Works order manually:

~~5 mins~~ 10 mins Each?

$$(n/10) * 100 = \%$$

How Long to run MRP once?

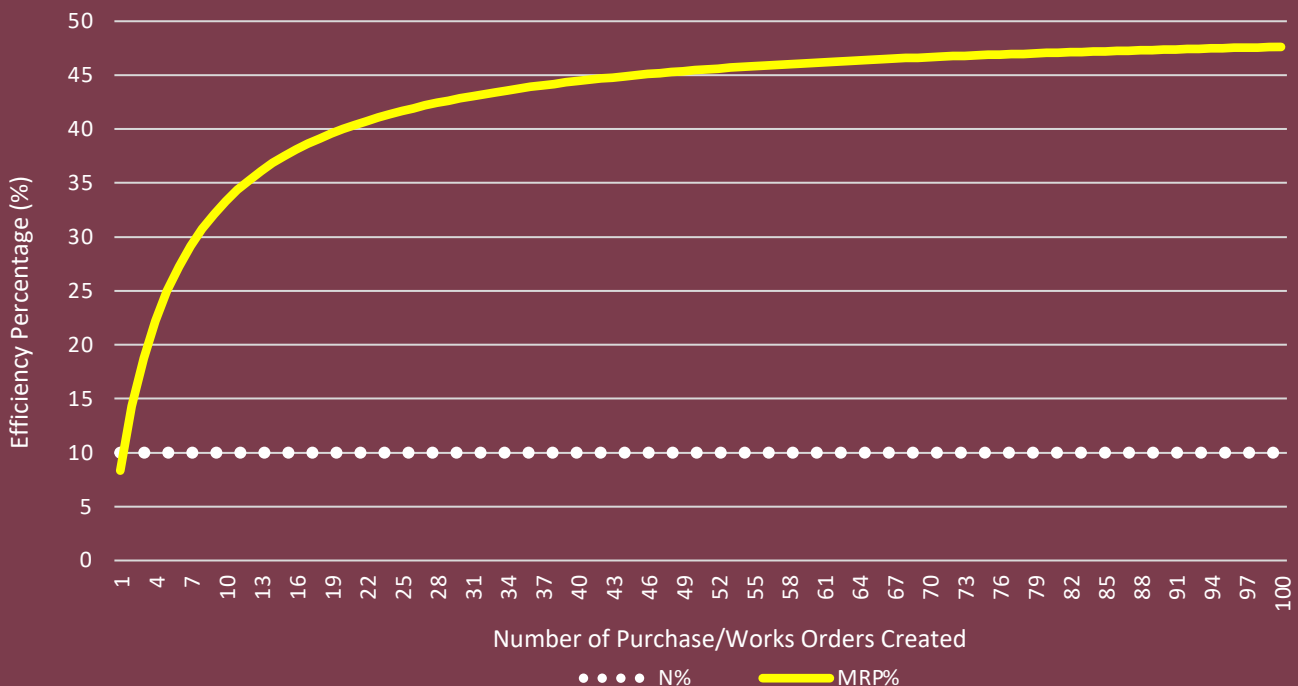
10 mins total?

Time to approve each Draft Purchase/Works Order:

2 mins?

Efficiency Comparison (%)

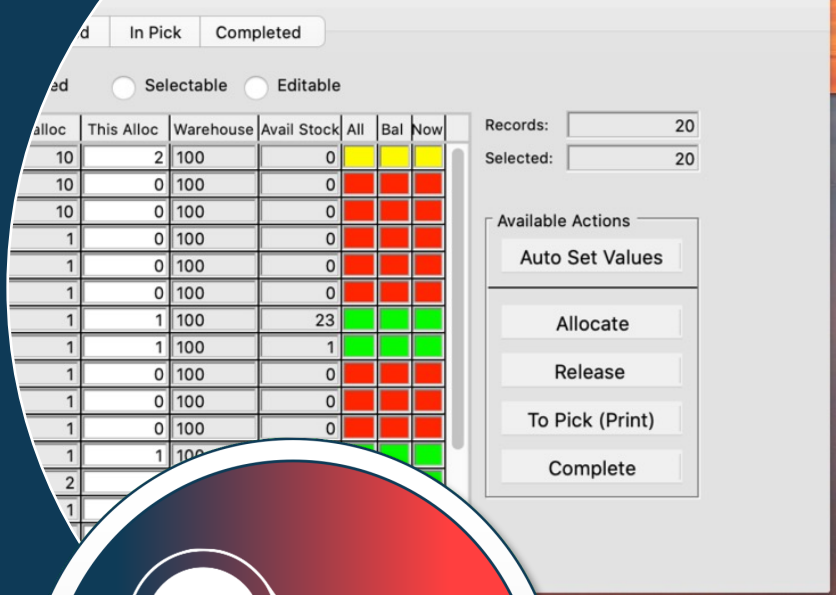
Normal Manual Entry vs MRP



Make it all Easier.

Everything listed here is included as standard in SQLWorks Version 10, available for PC & Mac from Lineal Software Solutions Ltd.

With fully-integrated Manufacturing & MRP, accounting, stock control, CRM and much more, our software is the perfect platform for driving manufacturing excellence.



Learn more via: www.sqlworks.co.uk/manufacturing-software

"Lineal have created and implemented system solutions that will meet our future needs, and within a challenging timetable and a sharp budget..."

"Your support is superb! Although it felt like a big move, we're much happier now: we know this system is capable of so much more."

"SQLWorks has made our business more efficient and streamlined. Impressed by the adaptations to the system to suit our needs..."

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