AI FOR MANUFACTURERS

A Practical Guide

Relieving bottlenecks.
Increasing efficiency.
Differentiating in a
commoditised market.

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The best way forward.

Contents:

WHY DOES THIS GUIDE EXIST?

AI, and digitalisation more broadly, is one of the most talked about, but least clearly explained topics in manufacturing today.

The conversation is dominated by:

- "AI or die" pressure
- Shiny tools chosen before problems are defined
- Enterprise case studies that don't translate to SMEs

The result:
95% of AI initiatives still struggle to demonstrate ROI.

And there is an even bigger problem that is not being spoken about which is *AI is not always the answer...*

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AI is great for lots of things, but not all things. The limitations of AI in replacing manual business processes is under-reported.

This guide exists as an explanation to the opportunities available to:

1 Improve customer experience

2 Increase conversions

3 Reduce cost to serve

4 Future-proof your business

5 Protect investments in further digitasation

WHO IS THIS GUIDE FOR?

This guide is for non-technical Manufacturing leaders looking to make informed decisions when it comes to leveraging the benefits of digitalisation.

It is for those who are looking to:

One — Unlock additional efficiencies

Two — Remove operational bottlenecks

Three — Make better use of the team's time

AI adoption is being actively encouraged at both a national and regional level:

- The UK Government's AI mission prioritises removing barriers to AI adoption
- The West Midlands AI Mission targets increasing adoption from 40% to 60%

Of the businesses we surveyed in partnership with the Greater Birmingham Chambers of Commerce:

40% are blocked by budget for AI or digitalisation adoption

43% struggle with project delays or lack of expertise

While there is an expectation around AI adoption increasing, nearly half of SMEs we surveyed are experiencing barriers around expertise and budget.

THE SIZE OF THE OPPORTUNITY

INCREASING SPEED TO QUOTE LEAD TIME

Winning in a commoditised market:

When our pricing looks similar to competitors, differentiation comes from:

- Responsiveness
- Speed
- Ease of doing business
- Surprising and delighting

Without automation, quoting can be slow, innacurate and reliant on tacit knowledge.

Slow Quoting Costs Opportunities

Over the last 12 months, every manufacturer we spoke to believes they lost work due to quoting delays.

Pre digitalised quoting can look like this this:

Gathering data manually

Not using structured data

A slower response with significant effort

Reliance on a small number of highly experienced people

Quoting isn't free.
Even when deals are won, it costs...

Time from commercial teams

Engineering input

Opportunity cost elsewhere

Being the first to submit a quote, doesn't guarentee a win, BUT reducing manual quoting will:

- Set the enthusiasm bar
- Increase quoting capacity
- Reduce mistakes
- Remove reliance on individuals
- Reduce cost of sale
- Improve the overall customer experience.

How to create more accurate and faster quotes:

Streamline drawing-to-3D conversion
Reduce manual effort from customer-supplied information (eg drawings) to usable models (eg 3D CAD models).

Improve accuracy of production cost
Use historical job data to calculate and better analyse (or predict with AI) the cost for individual jobs.

Standardise cost and margin logic
Apply consistent pricing rules to reduce errors and improve quote confidence.

DIGITALISING VS AI

WHAT IS DIGITALISATION?

In plain English...
Digitalisation is about taking things that are slow, manual, or paper-based and using technology to improve how work is done.

For example automating invoice approval workflows by integrating finance systems.

AI ISN'T ALWAYS THE ANSWER

If your business has not yet digitalised, moving straight from manual processes to AI is unlikely to deliver value.

Before AI can be effective, data must first be captured, stored, and structured in a usable way.

This means digitalising paper or people-based processes and integrating them with your existing systems first.

Doing so reduces manual effort, frees up your team's time, and creates the data foundation required to enable AI in the future.

I.e. a basic digitalised foundation is fundamental to unlocking the full value of AI.

IF YOU ARE THINKING ABOUT DIGITALISING…

COMMON MISTAKES TO AVOID

Starting with the technology
Shiny tools fail when business processes aren't clear.

Don't build without proper scoping
Vague briefs lead to wasted time and budget.

Don't digitalise broken workflows
Automation only amplifies inefficiency.

Don't jump to AI before digitalising
AI without clean data is a fast way to burn money.

Don't commit to open-ended builds
Time-and-materials projects often overrun and under-deliver. Fixed scope and timeframes can avoid scope creep.

WHAT WORKS INSTEAD

Start with the business problem
Be clear on what you're trying to improve and why.

Do define a clear "definition of done"
This protects your investment and expectations.

Do consider bespoke solutions where needed
Not everything needs to be SaaS, especially for businesses looking to protect their current processes.

Do secure fixed scope and fixed cost
Certainty is critical in commoditised markets.

Do assign accountability and define success
Each build should have a clear purpose and measurable outcome.

A SENSIBLE ROADMAP & ROI CALCULATOR

Before spending a penny on a new tool, start with understanding the following:

One

What is the problem we are actually trying to solve?

Two

What is the size of the opportunity specifically?

What is the problem we are actually trying to solve?

Write a list of the top 10 bottle necks in your business.

For example:
- Manual drawing / dimension ingestion
- Manual machinery usage estimation
- Losing opportunities due to slow quoting
- Inaccurate margin calculation affecting project profitability

Or, what are the top 10 areas where you are currency reliant on a person?

What is the size of the opportunity specifically?

For each of the items on the list estimate how much specifically your business could either save or make in addition.

For example:
We know that we have a win rate of 25% but we know that there are opportunities that we lose due to our pace.

If we could automate our quoting and increase our win rate by even 5%, we know this would unlock an additional £1 in revenue.

Example ROI Calculator

Current Win Rate:
25%

Potential win Rate:
30%

Current Annual Revenue Generated:
£20m

Opportunity:
£1m additional revenue per year

From a 5% increased win rate

Input your business' current and desired ratios to calcutate potential digitalsiation ROI.

Summary:

Start with identifying bottle necks

Calculate project ROI from automation

Discovery / scoping / planning / definition of done (Venture Mapping)

Create a prioritised shopping list based on projected ROI and investment (£ and time)

Get fixed price quotes from providers

Start with building an MVP & iterate from there.

WHAT NEXT?

B13 specialises in democratising access to bespoke AI and software development for SMEs.

Our Trademarked Venture Mapping process enables businesses to fully map their business processes, creating detailed 'build bibles' with a detailed definition of done. It is this process that enables us to build AIs and software to a fixed scope and price.

If you would like to discuss the opportunity to increase automation within your organisation, you can contact us at **hi@b13.ai.**