

MAGAZINE EDITION CONCEPT

The Connected Furniture Factory

A magazine edition on furniture design software, DFM, manufacturing technology, process automation, installation and material inventory.

Pre-engineer ► Configure ► Quote ► Source ► Mix-produce ► Sort ► Install.

This is not a one-way chain. Site constraints, design changes, inventory and lead times, quality exceptions and service lessons return to pre-engineering, design, planning and approved sources — each as a controlled revision with a reason, an owner and a re-approval.

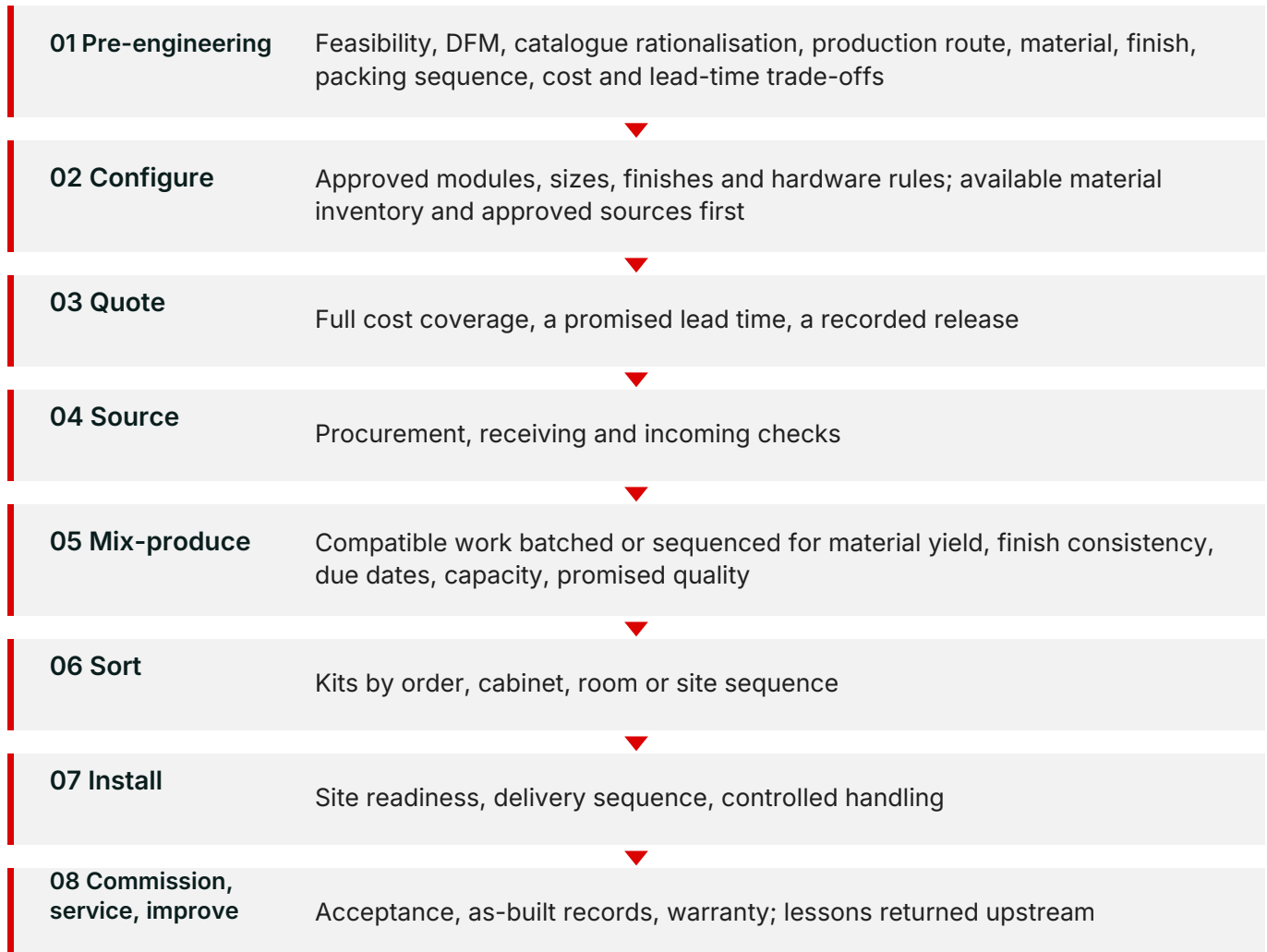
EDITORIAL PREMISE

Show the flow, the decisions that authorise it, the record that carries it and the system roles behind it.

THE WORKFLOW

Pre-engineering to service, in one loop

No gain here is automatic. Each is a controlled decision on validated data, approved by a person.



Return	What it re-opens
Site condition differs	Design, planning, delivery sequence
Inventory or lead time slips	Configuration, sourcing, quotation
Quality exception, NCR or CAPA	Pre-engineering, process control
Service lesson	Catalogue rules and standards

Targets of the first two steps: setup and cycle time, inventory, material use, labour, energy, freight.²

2. ISO 9001, process approach — <https://www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/iso9001-2015-process-appr.pdf>

BEFORE THE PRICE

Pre-engineering and a limited catalogue

Pre-engineering settles feasibility, DFM, modular rationalisation, the production route, material and finish, the packing and install sequence, and cost and lead-time trade-offs before a quotation is issued.

Design choice	What it is meant to achieve
Approved modules and sizes	Fewer variations to plan and make
Approved finishes and hardware	Simpler planning, better availability
Constructive rules	Repeatable quality, predictable routing
Governed exceptions	Project needs, recorded and approved
Available inventory first	Shorter lead time, less purchasing

Shorter setup and changeover time follows from fewer variations, not from software.

SYSTEM ROLES

An architecture concept, not a shopping list

Layer	What it carries
CRM	Brief, site survey, opportunity, approval state, customer communication
OMS	Controlled order record, quotation, change and revision state, promised delivery, order release
ERP	Finance and commercial control, GST and tax treatment, procurement and receiving, landed cost, payables and receivables, stock valuation
APS	Finite-capacity planning and sequencing against material, labour, tooling and delivery commitments
MES	Released tasks and routing; start, finish, hold and rework confirmation; first-piece and quality status; production visibility
WMS	Material inventory locations, reservations, issue and return, receipts, offcuts, kits, finished goods, dispatch control

Interfaces and governance matter more than the length of the list. Few factories need every layer at once; each earns its place by removing an exception.

CONTROL ON THE FLOOR

Identity, material inventory, exceptions

Control	In practice
Barcode-first identity	Order, cabinet or assembly, part, hardware kit; each label carries a controlled identifier resolving to released job data
Material inventory	Locations, reservations, issue and return, receipts, cycle counts, finished goods and dispatch control
Offcuts	Measured, recorded with material, finish and location, planned back in only after review
Exception lane	Temporary, capped work-in-progress buffers and a defined rework or express route with an owner and a re-entry point
Mix-produce guard	Batching never overrides traceability, approved revision, quality or a customer commitment

Where a part cannot be marked, identity travels on a kit label or a defined scan point.³

3. GS1, identification standards — <https://www.gs1.org/standards>

COMMERCIAL CONTROL

What the quotation must cover

Material cost drivers plus labour, machine time, wastage, consumables, packing, logistics and freight, installation, overheads, GST and taxes, and margin. Landed cost, tax treatment and stock valuation sit with the finance layer. Commercial release stays a recorded human decision.

Gate	What it needs
Before sourcing	Site measurement, feasibility, customer approval, order confirmation and design freeze
Before release	Validated job data, the approved revision and confirmed material availability
Before dispatch	Completeness check against the packing structure, and site readiness
Before closure	Commissioning, acceptance, as-built records and warranty handover

A gate has an input, an owner and a recorded outcome. Work waits until it clears.

QUALITY AND SAFETY

Prevention, not final inspection

Every check carries a criterion and a recorded result. Non-conformance, rework and corrective action return to pre-engineering, design and planning.

Check	What it confirms
Incoming	Material and hardware against approved standards
First piece	Setup proved before the batch runs
In-process	Dimensions, edges, drilling and finish
Final	Assembly, hardware and completeness

UTILITIES AND SAFETY THE EDITION MUST COVER

- Machine guarding and interlocks
- Dust extraction and housekeeping; wood dust is a health hazard
- Fire protection in finishing and dust-handling areas
- Electrical power quality, earthing and machine protection
- Compressed air quality and safe pressure practice
- Ergonomics and panel handling

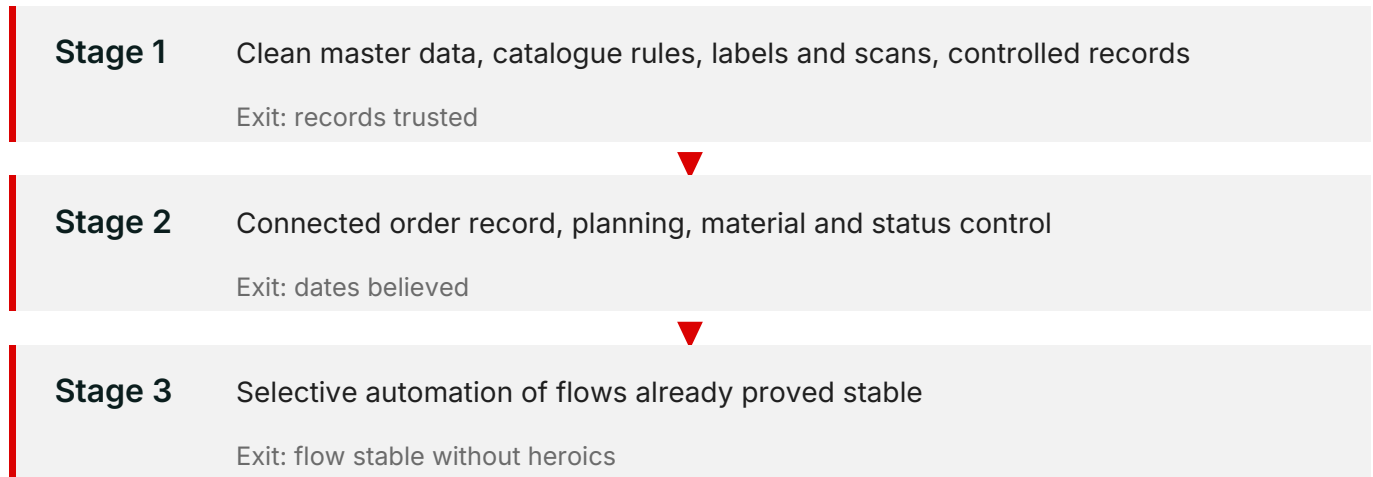
Topics for competent engineering review, not specifications: legal requirements, equipment instructions and qualified assessment govern any implementation.⁴

4. OSHA, wood dust — <https://www.osha.gov/etools/woodworking/production/wood-dust>

STAGING AND PUBLISHING

Data first, machines later

Keeping the chain digital and traceable is the idea called a digital thread. It is reached in stages, and each stage earns the next.¹



Website asset	What it does
Interactive workflow	Each step opens what happens there and the returns it triggers
Readiness assessment	Self-check returning a staged roadmap
Control-point checklist	Downloadable gate, scan and packing checklist

BEFORE ANYTHING IS PUBLISHED

- Technical fact-check
- Permissions and privacy review
- Content approval
- Responsive quality check
- Analytics instrumentation live

¹ NIST, digital thread — <https://www.nist.gov/programs-projects/digital-thread-manufacturing>