

MTO/ETO MANUFACTURING

AI agents for RFQs, drawings, BOMs and quality evidence

DocBeaver helps make-to-order and engineer-to-order manufacturers reduce manual document work across enquiry, engineering, procurement, production, quality and handover.

We provide custom workflow analysis, integrations, AI-assisted document processing, dashboards and controlled automations. Each implementation is configured around company document types, approval rules and operating constraints. No software migrations required.

24/7 AI Workers



Admin/Back Office Worker

24/7 AI worker that organises document workflows scattered across company processes, email and other sources into an observable, controllable workflow. Also handles document-related tasks such as data entry, document formatting, and information extraction.



Knowledge Base Expert

24/7 AI worker that can be asked about company processes, documents, policies, orders and other documentation. Useful for onboarding and clearer understanding of processes, workbooks and document requirements.



Domain/Field Expert

24/7 AI expert that understands complex company-specific and scientific terms, standards and requirements.



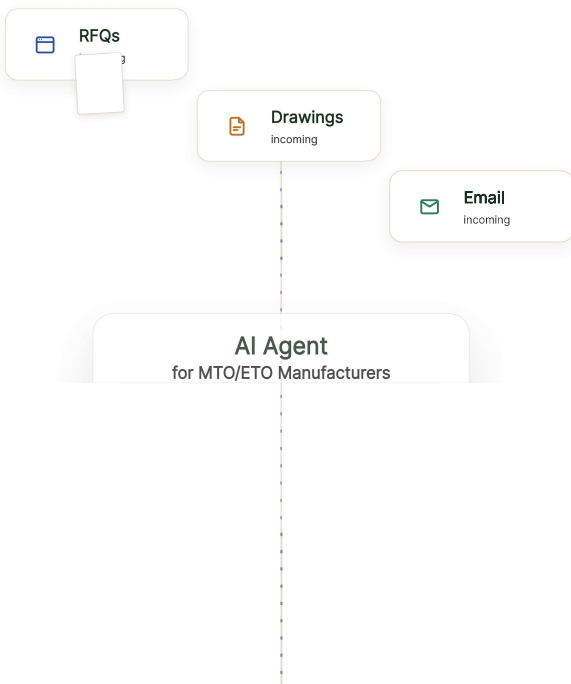
Customer/Company Support Chatbot

24/7 AI worker that understands the customer's project, specifications and requirements, as well as company policies, and helps customers with project questions.



Call Center Operator

24/7 AI worker that helps customers by phone, understands the company's expertise, product and service list, policies, and customer preferences; handles appointments and bookings.



30-80% Target reduction across document-heavy workflow areas

Built around the existing manufacturing stack

Microsoft 365, Outlook, Teams, SharePoint and OneDrive
CRM, CPQ, estimating models and Excel-based calculators
ERP, MRP, finance, MES, QMS and EQMS platforms
CAD, PDM, PLM, Supplier portals, shared inboxes and BI tools

Operating Issues

Document Workflow Optimisations

Document-control Dashboard

Estimated Efficiency Ranges

OPERATING ISSUES	SOLUTIONS
Disconnected RFQ intake RFQs, drawings, specifications, tender packs and email trails arrive through shared inboxes, CRM records, SharePoint folders and customer portals.	Document intake, classification and extraction prepare bid/no-bid checks, surface missing information and route exceptions to estimating, engineering or commercial approval.
Manual estimate and order handoff Quotes, assumptions, CPQ outputs and Excel calculators are compared by hand against customer purchase orders before acceptance.	Automated comparison workflows check PO versus quote, delivery dates, commercial terms, ordered items, drawing revisions and unresolved assumptions.
Drawing and BOM revision risk PDM, PLM, ERP and production teams can hold different views of released drawings, BOMs, revisions and engineering changes.	PDM/PLM-to-ERP checks compare released BOMs, drawing revisions, part data and live-job impact before purchasing or production proceeds.
Supplier document chasing Certificates, acknowledgements, material documents, inspection records and corrective action responses are chased through inboxes and portals.	Supplier document workflows track required evidence by PO, part, material, batch, serial number, heat number, job and delivery date.
Split NCR and CAPA evidence NCRs, concessions, CAPAs and audit evidence often sit across QMS, ERP, emails, inspection records, supplier correspondence and spreadsheets.	Evidence extraction and document linking connect NCRs to drawings, jobs, purchase orders, suppliers, concessions and corrective actions.
Late handover pack gaps Drawings, as-built records, certificates, test results, O&M manuals, commissioning documents and delivery paperwork are assembled late.	Live handover-pack tracking flags missing, outdated or unapproved documents before they block shipment, installation or customer acceptance.

Document Workflow Optimisations

RFQ and enquiry processing

RFQs often arrive with drawings, specifications, email trails, tender packs and unclear assumptions. Estimators and engineers spend time identifying relevant documents, extracting requirements and checking whether similar work has been quoted before.

IMPLEMENTATION

Capture RFQs from Outlook, CRM, SharePoint or customer portals.

Classify drawings, specifications, tender packs and supporting documents.

Extract quantities, deadlines, drawing references, standards and customer requirements.

Prepare bid/no-bid checklists and route missing or conflicting information.

Search previous quotes, jobs, assumptions and exception history.

30-50%

Target reduction in RFQ administration time, with quote pack preparation typically 20-40% faster.

Contract review and order acceptance

Customer purchase orders may not match the quotation. Delivery dates, specifications, payment terms, drawing revisions and commercial assumptions can change between quote and order.

IMPLEMENTATION

Compare customer POs against quotes and assumptions.

Check ordered items, delivery dates and commercial terms.

Validate drawing revisions against the latest accepted issue.

Surface open exclusions, assumptions and technical risks.

Route exceptions to the right approver before order acceptance.

40-70%

Target reduction in contract review preparation time, with fewer missed document discrepancies.

Engineering release and BOM handover

In ETO environments, drawings, BOMs and design changes may continue to evolve after order acceptance. Manual transfer of BOMs and revisions into ERP creates delay and production risk.

IMPLEMENTATION

Monitor released drawings and revision data from PDM or PLM.

Compare eBOM and ERP BOM records.

Check missing part, supplier and material data.

Track ECO, ECN and engineering change impact on live jobs.

Capture approval evidence for design-to-production handover.

50-85%

Target reduction in BOM and revision re-keying, with engineering-to-ERP handover typically 25-45% faster.

Supplier document control

Supplier documents are frequently chased manually, including acknowledgements, certificates of conformity, material certificates, delivery notes, subcontractor inspection records and corrective action responses.

IMPLEMENTATION

Track required supplier documents by PO, part, material, job and delivery date.

Monitor supplier inboxes or portals.

Read certificates and extract key fields.

Match certificates to POs, batches, serial numbers or heat numbers.

Escalate late, missing, rejected or inconsistent supplier evidence.

30-55%

Target reduction in supplier document chasing, with fewer goods-in or despatch delays caused by missing paperwork.

NCR, CAPA and quality evidence

NCRs, concessions, CAPAs and audit evidence may be split between QMS, ERP, emails, inspection records, supplier correspondence and spreadsheets.

IMPLEMENTATION

Classify NCRs by job, part, supplier, process and defect type.

Extract evidence from inspection reports, emails and attachments.

Link NCRs to drawings, jobs, purchase orders and concessions.

Route corrective actions and show overdue tasks.

Make quality history searchable across documents and systems.

25-45%

Target reduction in NCR administration, with CAPA and audit evidence gathering typically 30-50% faster.

Handover and despatch documentation

Handover packs are often assembled late from drawings, as-built records, test results, certificates, O&M manuals, commissioning documents, delivery paperwork and warranty information.

IMPLEMENTATION

Track required certificates, inspection records and test evidence.

Monitor as-built drawings, concessions, commissioning documents and O&M manuals.

Apply customer-specific handover requirements.

Flag missing, outdated or unapproved documents before shipment.

Build despatch and customer acceptance evidence packs.

50-80%

Target reduction in handover pack assembly time, with fewer late-stage document gaps.

DOCUMENT-CONTROL DASHBOARD

One controlled view of document readiness across live jobs

DocBeaver can implement dashboards that show RFQs waiting for technical review, orders requiring contract review, jobs with missing drawings or BOMs, supplier documents due or rejected, NCRs awaiting action and handover packs with missing evidence.

Human-in-the-loop by design

AI can prepare evidence, extract data, compare records and identify exceptions. Final approval remains with the responsible person or function where decisions affect cost, quality, compliance, release status or customer commitment.

Quote and margin approval

Bid/no-bid approval

Contract review

Drawing and BOM release checks

Engineering change approval

Supplier document acceptance

NCR classification and escalation

Concession approval

Handover pack release

IMPLEMENTATION MODEL

Assess document flow, prototype selected workflows, then expand

The first implementation usually focuses on a small number of high-value workflows such as RFQ intake, PO-versus-quote checks, supplier certificate tracking, BOM and drawing revision checks, NCR evidence gathering or handover-pack readiness.

ESTIMATED EFFICIENCY RANGES

Practical targets for mid-size MTO/ETO manufacturers

These are implementation targets, not fixed guarantees. Actual results depend on document volume, system access, data quality, workflow complexity and the level of integration possible.

WORKFLOW AREA	TYPICAL AUTOMATION TARGET
RFQ intake and quote pack preparation	20-40% faster preparation
Contract review checks	40-70% faster preparation
BOM, revision and job-pack checks	50-85% less re-keying and manual comparison
Supplier document chasing	30-55% reduction

WORKFLOW AREA	TYPICAL AUTOMATION TARGET
NCR evidence gathering	30-50% faster evidence collection
Handover pack assembly	50-80% faster assembly
General document search and status chasing	40-60% reduction

[ROI Calculator →](#)

DocBeaver is best for manufacturers with:

- Make-to-order or engineer-to-order workflows
- High document volume relative to headcount
- Frequent RFQs, drawings, BOMs and supplier documents
- ERP plus Microsoft 365 as a core operating environment
- CAD, PDM or PLM involvement in production release
- Quality workflows involving NCRs, concessions, CAPAs or audits
- Project-based or job-based delivery

SPECIFIC WORKFLOWS

Manufacturing workflow automation pages

Manufacturing RFQ automation

DocBeaver helps manufacturers turn RFQ emails, drawings, specifications and customer attachments into structured estimating review packs.

[Read more](#)

BOM revision checking automation

DocBeaver helps engineering, procurement and production teams compare BOMs, drawings and revision evidence before purchasing or release.

[Read more](#)

RELATED PAGES

Other document automation solutions

All Industries

Domain-agnostic AI workers and automations for admin, support and document-heavy teams.

[Read more](#)

MTS/CTO Manufacturing

Demand signals, order checks, configurations, SKU data, supplier evidence, quality records and dispatch packs.

[Read more](#)

Commercial Insurance Brokerage

Renewals, MTAs, placements, claims, compliance QA and reconciliation workflows for broker teams.

[Read more](#)

Assess your document-heavy manufacturing workflows

Start with one workflow across enquiry, engineering, procurement, production, quality or handover, then expand once the control model is proven.

[Book a workflow assessment →](#)

DocBeaver

AI integrations for companies that need source traceability, reviewer control, reliable tool use, and measured production behavior.

ENGINEERING STANCE

Workflow before autonomy

Tool interfaces are product surfaces

Human approval for consequential steps

Evals and traces from day one

REFERENCES

AI implementation resources

Document automation ROI calculator

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