GRAAP

Automated Purchase Order Processing



Business use case

User Journey Map: Automated Purchase Order Processing



Problem:

A global manufacturer receives purchase orders in multiple formats (Excel, PDF, scanned images, TXT) and non-standard layouts/codes from customers across Europe and the Americas. Teams spend hours validating item codes on each PO and manually fill in data into the ERP, creating delays and risk of errors.



Goal:

Reduce time spent on review process by automatically validating customer information and checking the presence of product codes. Documents that pass validation should be automatically approved, while only those with missing or inconsistent data are flagged for manual review.



User in this journey:

A procurement specialist Bob who uses Graip.AI to process incoming POs and post to ERP system.



Solution:

Implemented an end-to-end automated PO workflow in Graip.AI. The Graip.AI Agent ingests and classifies all PO formats (PDF, DOCX, XLS/XLSX, TXT, PNG/JPG scans), extracts key fields (product codes, quantities, dates, pricing, customer details), and validates against ERP master data. It also performs customer identity resolution by cross-checking Customer ID against postal address data (street, city, ZIP, country) to ensure the correct ERP customer number is used. Discrepancies (e.g., multiple IDs mapped to the same address or Code for Items not found) are flagged in real time; those documents are flagged to an exception queue for review by a human. Approved records are posted directly into the client's ERP via API with full auditability.

Stages: 1 Discover 2 Intake 3 Classification 4 Data extraction 5 Validation 6 Mapping & validation 7 Clarification 8 Automatic approval 9 Human review & correction 10 Approval 11 SO creation 12 ERP posting 13 Confirmation 14 Report

1. PO receiving — Human

Bob receives POs by email in mixed formats and languages, resulting in non-standard layouts and codes that complicate intake.



2. PO forwarding — Human

Bob forwards the original email to Graip.AI Agent for processing.



3. Ingestion & classification — Agent

Graip.AI Agent ingests each attachment, classifies it by file, and routes it to the appropriate flow.



4. Field extraction (header + items) — Agent

Graip.AI Agent captures header fields (customer, bill/ship-to, PO number/ date, currency, terms) and line items (item code, description, quantity, UoM, unit price, line amount, requested date).



5. Customer ID identification — Agent

Graip.AI Agent matches customer names and address details with existing ERP records. If the match is unclear or duplicates are found, the Agent flags the issue and proposes the most likely options for Bob.



6. Item code mapping and validation — Agent

Graip.AI Agent turns “customer language” into “ERP language”:

- Maps customer item codes to internal/ERP material codes using master mappings and historical patterns
- Validates mandatory fields per line (code, qty, UoM, price)
- Checks pricing and discounts against contracts or price lists and flags out-of-policy values
- Validates math consistency (line totals vs. header totals, currency consistency)



7. Exception flagging and clarification drafts — Agent

If issues are found, Graip.AI Agent routes the PO to an exception state and clearly explains what blocks Sales Order (SO) creation (e.g., “Item code not found on line 3”, “Missing requested delivery date”, “Price mismatch vs. contract”).

- The Agent drafts a ready-to-send clarification email to the customer, listing exact line-level questions.
- The Agent notifies Bob to review or approve the message, or to correct data internally if it’s a mapping or master-data issue.



8. Automatic approval — Agent

If all validations pass, Graip.AI Agent automatically approves the PO and prepares an SO draft with fully structured header and lines, ready for ERP creation. The data transferred includes a JSON file, the source email, and the original attachments.



9. Human review and error handling — Human

Bob reviews the flagged issues and resolves them directly in the Agent:

- Confirm customer/ship-to selection
- Approve/adjust item mappings
- Fill missing delivery details / validate substitutions
- Approve pricing exceptions or request customer confirmation (send an email)

10. Approval — Human

After review, Bob approves the PO document with all adjustments.



11. Sales Order draft creation — Agent

Once the PO is clean, Graip.AI Agent compiles the final SO payload, including traceability links to:

- Original PO document(s)
- Source email thread
- Extracted fields and validation outcomes
- Who approved or changed what (audit trail)

12. ERP posting and finalization — Agent

Graip.AI Agent creates the Sales Order in the ERP via API and returns the ERP-generated SO number to Bob.
If the ERP rejects the submission, the Agent surfaces the ERP error (e.g., blocked customer, invalid ship-to, blocked material) and routes it back to an exception step with a recommended fix.

13. Customer confirmation and handoff — Agent

After successful posting, Graip.AI Agent can generate an order confirmation summary (SO number, items, quantities, dates) and notify Bob to send it to the customer, or send it automatically, ensuring the PO-to-SO cycle is closed with a consistent, auditable handoff.

14. Monthly report — Agent

On the first day of each month, Graip.AI Agent automatically generates and delivers an email with PO-to-SO performance report, including key operational metrics such as straight-through processing (STP) rate, exception and rejection rates, ERP posting success and failure rates, processing volumes, and average handling time.

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