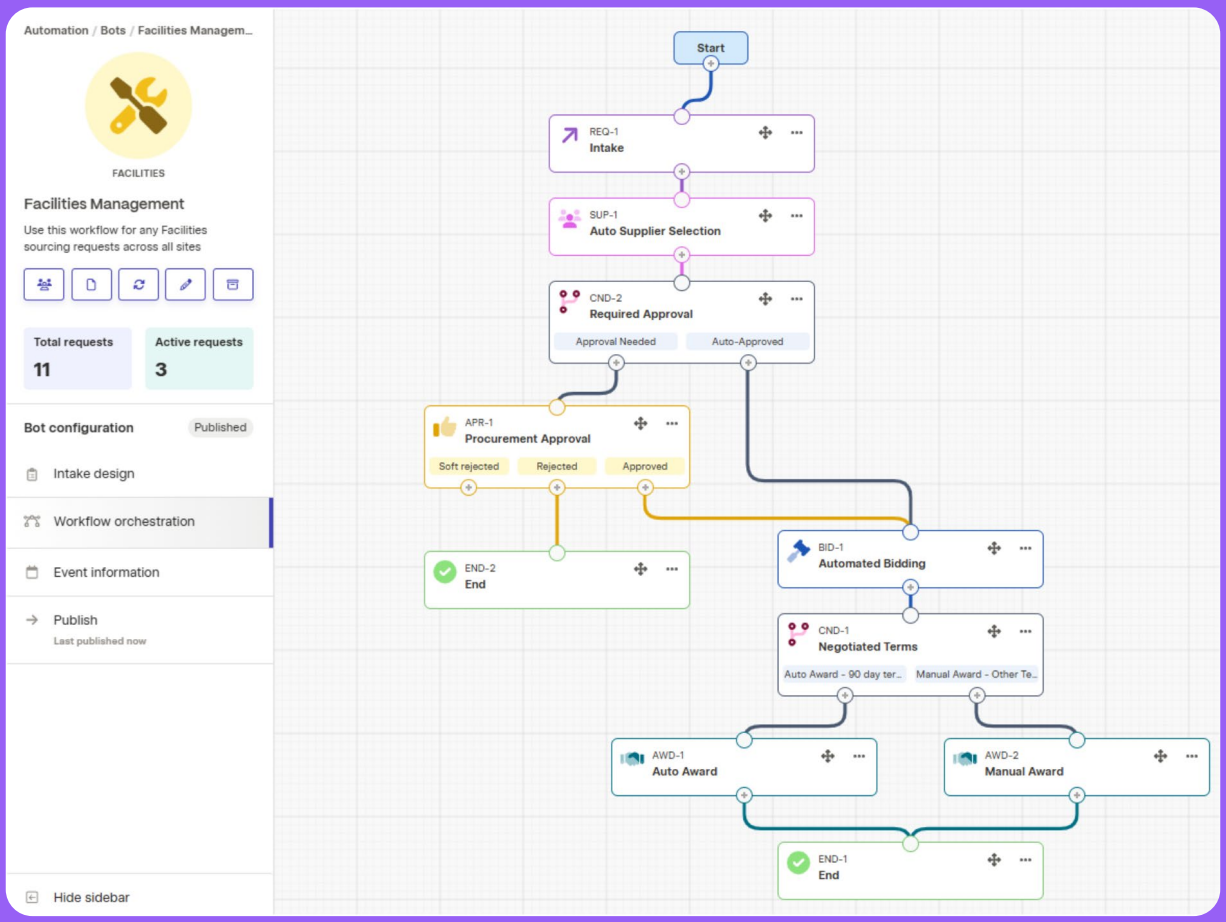
KEELVAR WORKFLOW RECIPES

The Autonomous Sourcing Cookbook

Recipes for procurement success



PREP TIME

2 MINUTES

SERVES

ENTIRE ORGANISATIONS

Keelvar

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Foreword: Automating Sourcing, the Right Way

Procurement's adoption of automation is accelerating, and bringing a wave of change that's bigger and more impactful than most other business functions have seen. At Keelvar, we're witnessing leading enterprises automating tens of thousands of sourcing events, achieving cost savings and efficiency gains that simply weren't possible a few years ago. But not every customer has cracked this nut open successfully and some have struggled to understand where to apply it and how best to approach the process.

And so this Autonomous Sourcing Cookbook was born: a guide meant to help procurement leaders 1) identify areas where automation can improve their existing processes and 2) lay the foundations to drive adoption of sourcing automation technology.

Why Automate Sourcing?

Firstly it's critical to understand that automation isn't just about handing manual tasks over to machines; it's about doing more competitive sourcing, and doing it better than was previously feasible. Automation enables procurement teams to consistently achieve higher standards across a broad range of tasks: from finding more suppliers, to launching RFXs faster, to making better trade-offs among cost and non-cost objectives.

What is Autonomous Sourcing?

Autonomous Sourcing involves using AI and smart technology to handle sourcing events from start to finish. It is a tool that executes workflows designed by procurement to address the nuances of each spend category.

Gartner defines Autonomous Sourcing solutions as
"using AI and advanced technologies to streamline and automate the sourcing process and facilitate decision support for awarding spend to suppliers".

These technologies might include automated event creation, supplier feedback, response scoring, or intelligent bid analysis and awards. To unlock real value though, Autonomous Sourcing solutions need to support multi-round, real-time negotiations with multiple suppliers (rather than one at a time), driving towards outcomes that benefit both buyers and suppliers.

Setting the Stage for Successful Automation

Some groundwork needs to go into creating a suitable environment for the adoption of automation.

Get selective

Question	Great candidate	Poor candidate
High volume of requests in this category?	Yes	No
Number of requesters	>3 per week	<3 per week
Do all requests follow the same / similar structure?	Yes	No
Is the list of suppliers well defined?	Yes	No
Is the request and service offering usually unambiguous?	Yes	No

Having now narrowed use cases or spend categories to a manageable few, ensure that you reflect the technical requirements to conduct those types of sourcing events in your RFP when evaluating ProcureTech solutions. For more detailed guidance on how to select sourcing categories for automation, read here.

Get buy-in
Once use cases are narrowed down to the most appropriate sourcing categories, it's critical to get buy-in from the right stakeholders. Naturally, senior leadership buy-in will be necessary to purchase autonomous sourcing technology in the first place, but the work doesn't stop there. While a chosen solution is implemented, it's critical to identify the stakeholders who will help you drive adoption of it. These may include:

- Category managers who will have input into the required data, steps or parties involved to complete a sourcing event in their categories
- Digital transformation advocates who will be accountable for training all users of the automation technology on best practices
- End users who may be
  - procurement staff triggering workflows to save time and focus on strategic tasks
  - or any other staff submitting sourcing requests (e.g. through a catalog or other existing system) which in turns triggers a sourcing event without procurement having to source it for them
- Leaders who have the power to enforce usage of the new tools available

Ensuring that these key players understand the technical requirements and tangible benefits of automation accelerates adoption, drives return on investment, and gives room for automation initiatives to scale.

Get building
Having identified:
1) the use cases for sourcing automation and
2) the stakeholders involved in creating it and using it,
it's now time to actually set up the automation. This is where our recipes come in. We'll start by illustrating this with a very simple, evergreen example below.

Note: This example can also be used to reverse-engineer the selection of the sourcing categories to automate.

A Workflow for Generic Tail Spend Sourcing

INGREDIENTS:

→ Essential Ingredients

Organization Name: Your company name and relevant business details.
Requirements & Policies: Make sure procurement owners back up the project.
Location: Identify the location and add it in a drop down so it's easily selected.
Training: Set up all tail end buyers with automation tool, and upskill them.

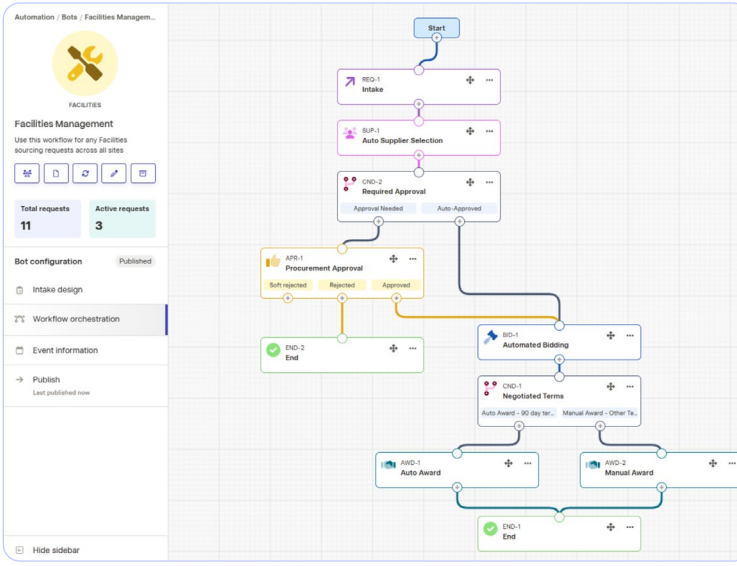
→ Optional Ingredients
NDA: NDA of your organization or code of conduct.

METHOD (WORKFLOW):

At its core, sourcing automation is a simple workflow to empower anyone in an organization to source items whether it be T-shirts, office supplies or any other ad hoc sourcing requests. The purposes of the workflow can vary: from saving time for procurement staff, to enforcing compliance, or simply making it easier for the teams outside of procurement to source items in categories which aren't actively managed.

Here are the steps to follow to create a generic sourcing workflow.

1. Create a generic intake form which can be applicable for most tail spend requests. This could include:
   a) Location
   b) Item Name
   c) Description
   d) Unit of measure
   e) Quantity
   f) *[Optional] Category: Tracking the spend category is an easy way to identify the types of spend for which the highest volume of requests is put in. If an increasing number of items in the same category are sourced via the workflow, proceed to create a more specific workflow for that category.*



2. Identify suppliers which will likely cover most of the requests that may come in, and enable automatic supplier selection
3. [Optional] Add a conditional approval step e.g. 'If price is greater than X, require approval from Procurement Employee'. Keep in mind: the approver shouldn't be a bottleneck.
4. Select whether the award decision should be manually selected or auto-awarded based on a preferred scenario (again, avoid creating bottlenecks)
5. Monitor the number of requests and requesters using the workflow and what the workflow is used for to create different, tailored variations.

Automating sourcing really is that simple. There's only one thing left to address:

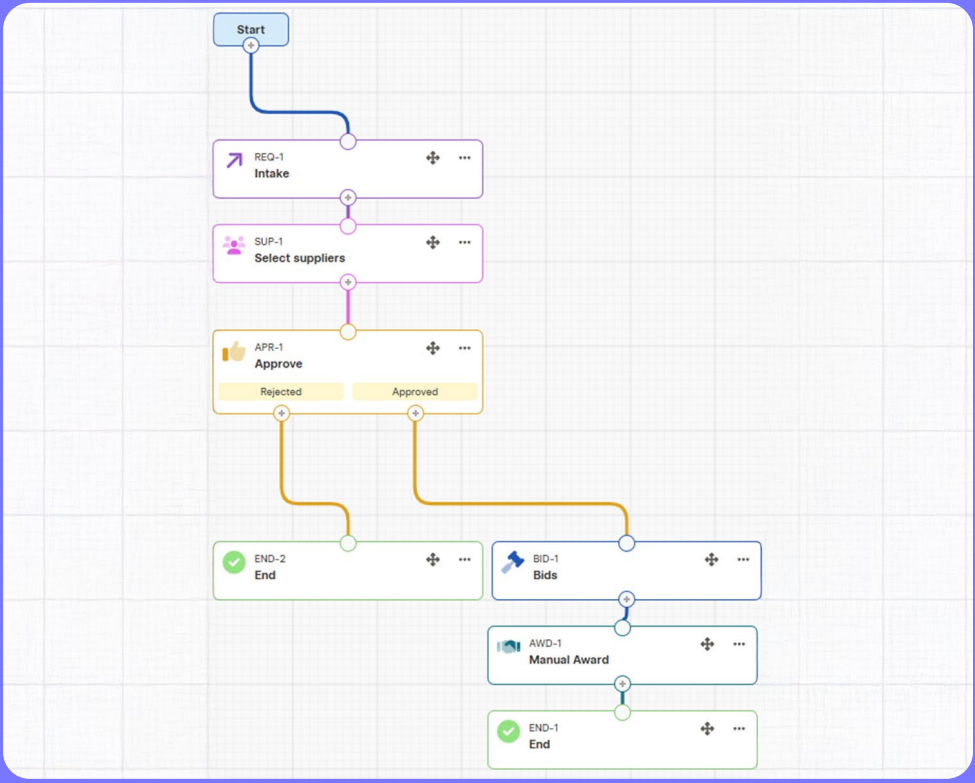
'I want to start automating my sourcing but my data isn't clean so I'm unsure where to start.'

With procurement teams squeezed to achieve stretch goals with tight resources, getting a budget for an automation solution can be tricky to begin with. But when that budget is unlocked, the stakes – and pressure to prove ROI – rise even further.

Diving into the data to uncover the best use cases, the biggest problem areas, or the low hanging fruit feels like a must. However, inaction or delaying tech adoption is far worse. Last year, 71% of sourcing events were agent-operated (i.e. executed autonomously by sourcing workflows) in Keelvar, and this number keeps growing. Organizations that aren't jumping on the automation bandwagon risk letting their competition seize a significant competitive advantage over them.

So without further ado, read on to start automating now.

Spot Purchase of Marketing Collateral



INGREDIENTS:

→ Essential Ingredients

Organization Name: Your company name and relevant business details.
Collateral Requirements:
Item Name & Description: Specific name and detailed description of the marketing collateral (e.g., “A4 Flyers - Glossy, Double-Sided,” “Roll-Up Banner - 85cm x 200cm, Including Carry Case,” “Branded Ballpoint Pens - Blue Ink, Company Logo”).
Unit of Measure: Specify the unit for each item (e.g., each, banner, pen).
Estimated Quantity per Location (and overall): The exact number of units needed for each item and, if applicable, the delivery location for each quantity.
Material Specifications: Any specific material requirements or preferences (e.g., paper weight for flyers, material for banners, type of pen).
Dimensions/Sizes: Precise dimensions for printed materials, banners, etc.
Color Specifications: Specific color requirements (e.g., Pantone codes, CMYK breakdowns).
Finishing Requirements: Any specific finishing needs (e.g., matte or gloss lamination, folding type, binding).
Branding Guidelines: Link to or upload the latest brand guidelines document (including logos, color palettes, fonts, etc.).
Artwork Status: Specify if final, print-ready artwork files are provided (and include them), or if artwork design services are required.
Quality Requirements: Any specific quality standards or certifications required (e.g., print quality expectations).
Budget Range: The acceptable price range for each item or category of collateral.
Delivery Requirements:
Delivery Location(s): Specific address(es) where the finished collateral needs to be delivered.
Delivery Deadline: The latest acceptable delivery date for each location.
Payment Terms: Preferred payment terms (e.g., net 30, net 60).
Sustainability Goals: Any environmental or ethical sourcing considerations for the collateral (e.g., preference for recycled paper, suppliers with sustainable printing practices).

→ Optional Ingredients:

Purpose/Campaign: Briefly explain the intended use of the collateral.
Historical Purchase Data: Past costs and supplier information for similar materials.
Preferred Suppliers (If Any): A list of previously used or preferred vendors.
Service Level Expectations: Desired responsiveness and quality standards.
Packaging Requirements: Any specific packaging needs for the delivered collateral.
Proofing Requirements: Specify if a physical or digital proof is required.
Volume Discount Opportunities: Willingness to order larger quantities for better pricing.

METHOD (WORKFLOW):

1) Gather Required Data for Intake: Collect all essential and optional ingredients through a structured form or data integration.
2) Identify Suitable Suppliers:
- Utilize internal supplier databases or external sourcing platforms to identify potential suppliers based on the required collateral types, printing/production capabilities, finishing options, and geographic reach (considering delivery to all specified locations).
- Consider suppliers specializing in the specific types of marketing materials requested and their reputation for quality and brand adherence.

Auto-create the Bid Sheet: Generate a comprehensive bid sheet that includes:
- A clear description of each required marketing collateral item (name, description, specifications, unit of measure, estimated quantity per location and overall).
- Inclusion of the "Branding Guidelines" document and specification of the "Artwork Status" (and the artwork files if provided).
- Fields for suppliers to input their unit price for each item, applicable volume discounts, lead times (including proofing time if required), and delivery costs to each specified location.
- Sections for suppliers to outline their payment terms, turnaround times, proofing processes, and any relevant certifications or sustainability practices.
- Clear instructions on how to submit their bids and the bid deadline.

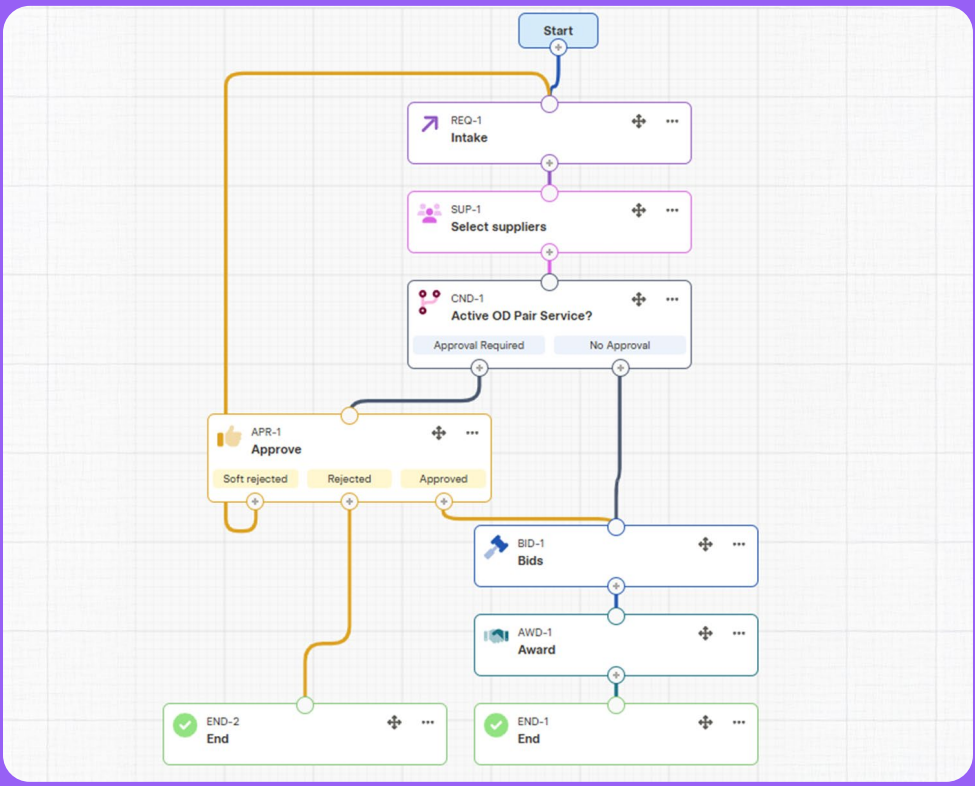
Elicit Bids: Distribute the bid sheet to the identified potential suppliers.
[Optional] Collect Capacity Constraints: For large print runs or tight deadlines, the workflow can inquire about suppliers' production capacity to ensure they can meet the demand within the required timeframe.
Offer Conditional Discounts (within the bid sheet): Structure the bid sheet to allow suppliers to offer:
- **Quantity-based discounts:** Price reductions for higher order volumes.
- **Multi-item discounts:** Price reductions for supplying a range of the requested collateral.
- **Multi-location discounts:** Price reductions for delivering to multiple specified locations.

Scenario Presentation and Trade-offs:
Based on the received bids, the workflow analyzes the data and presents procurement (or the requester) with various scenarios, highlighting:
- Lowest cost options per item and overall.
- Suppliers offering the best value considering price, stated quality, adherence to branding (based on their capabilities), and delivery capabilities across all locations.
- Potential cost savings from consolidating suppliers or increasing order volumes.
- Tradeoffs between price, turnaround time, proofing options, and supplier ratings (if available).

Automated Award (Conditional) or Manual Award:
- **Auto-award (with pre-defined rules):** If a supplier meets all pre-defined criteria (e.g., within budget, indicates adherence to branding and quality requirements) and offers the lowest overall cost, the workflow can automatically award the business.
- **Manual Award:** Procurement or the requester reviews the presented scenarios, considers the creative and brand-sensitive nature of the materials, and makes the final award decision.

Reward Function: The reward function should aim to optimize for cost-effectiveness, quality, brand adherence, and timely delivery. Examples include:
- **Cost Savings:** Percentage or absolute savings compared to previous purchases or a baseline price.
- **Number of Qualified Bids:** Higher number of competitive and compliant bids.
- **Supplier Quality Score:** Based on feedback or pre-qualification regarding print quality and material accuracy.
- **Adherence to Branding Guidelines:** Assessment (if possible pre-award) of the supplier's understanding and ability to meet brand requirements.
- **Timeliness of Delivery:** Meeting the required delivery deadlines.
- **Sustainability Score:** Favoring suppliers with sustainable practices or materials.

Ocean Freight Spot Quoting



INGREDIENTS:

→ Essential Ingredients

Organization Details
Requesting Company Name & Department/User ID.
Relevant Billing/Cost Center Information.
Shipment Details:

- **Origin:** Full Address/Port/Terminal Code & Country (UN/LOCODE preferred).
- **Destination:** Full Address/Port/Terminal Code & Country (UN/LOCODE preferred).
- **Cargo Details:**
  - Commodity Description (HS Code strongly recommended).
  - Gross Weight & Measurement (Volume - CBM).
  - Piece Count / Number of Units.
  - Stackable / Non-Stackable.
  - Hazardous Materials (HAZMAT/DG) Status (UN Number, Class, Packing Group if applicable). Provide MSDS/DGD if needed.
- **Equipment Needed:** Container Type and Size (e.g., 40' HC, 20' GP, 45' PW, Reefer, Open Top, Flat Rack), Quantity.
- **Temperature Requirements:** Set point, range (if Reefer). Vent settings.

Service Requirements:

- **Service Type** (e.g., Port-to-Port, Door-to-Door, Port-to-Door, Door-to-Port).
- **Required Dates:**
  - Cargo Ready Date (CRD) / Earliest Departure Date (ETD).
  - Required Delivery Date (RDD) / Latest Arrival Date (ETA).

Compliance & Documentation:
- Known specific customs requirements (e.g., specific forms, pre-shipment inspection).
- Letter of Credit (L/C) details and requirements, if applicable.

Contact Information: Primary operational contact for the shipment (Name, Email, Phone).

INGREDIENTS:

→ Optional Ingredients:

Budget & Targets: For example not-to exceed budget (with currency), target transit time
Supplier Preferences: Preferred Carriers/Forwarders (with rationale if possible, e.g., existing contract, past positive experience) or blacklisted carriers
Historical Context:
- Historical Rate Data for this lane/commodity.
- Previous Carrier Used / Performance Notes for similar shipments.

Value-Added Services:
- Insurance Requirements (Coverage amount, specific clauses, e.g., All Risk).
- Customs Brokerage Needs (Nominated broker details if applicable).
- Pre-carriage / On-carriage (Drayage) Needs (Specify if required and provide addresses).
- Warehousing, Transloading, Cross-docking requirements.

Operational Constraints:
- Urgency Level / Priority (e.g., High, Medium, Low).
- Specific Routing Preferences or Restrictions (e.g., avoid specific transshipment hubs, prefer specific alliance).
- Loading/Unloading constraints (e.g., appointment required, specific equipment needed, hours of operation).

Market Context: Known capacity constraints or market conditions for the lane (e.g., GRI expected, peak season).
Communication Preferences: Preferred method/frequency for status updates (e.g., daily email summary, portal updates).
Internal Reference: PO Number, Sales Order Number, Project Code, Shipment ID.
Sustainability Preferences: Preference for carriers with specific environmental certifications or lower emission scores (e.g., EcoVadis rating, participation in GLEC, specific fuel type like biofuel).

METHOD (WORKFLOW):

1) Intake & Validation:
- Receive spot quote request via UI, API, or structured email parsing.
- Validate data completeness and plausibility (e.g., valid UN/LOCODEs, realistic date ranges, weight/volume consistency, HAZMAT details present if declared).
- Acknowledge receipt to the requester with a reference ID.

2) Supplier Identification & Filtering:
- Query internal database of approved carriers/forwarders and their contracted lanes/rates (if applicable).
- [Optional] Query integrated external sourcing platforms or rate marketplaces (e.g., Xeneta, Freightos, BlueX Trade, NYSHEX) via API for market rates and carrier options.
- Filter potential suppliers based on:
  - Active service on the required Origin-Destination lane pair.
  - Capability to handle specified cargo (HAZMAT, Reefer, OOG).
  - Equipment availability confirmation in the origin region.
  - Compliance with company policies & requirements (insurance levels, certifications).
  - Historical performance scores (reliability, cost accuracy, communication, damage rates).
  - Alignment with preferred/blacklisted supplier lists.
  - Carrier alliance considerations (if relevant for network coverage/reliability).

3) Automated RFQ Generation & Distribution:
- Generate a structured RFQ document or data payload (EDI 204/300, API call, standardized email template).
- Include all essential shipment details, required service levels, and requested pricing breakdown (e.g., Base Ocean Freight (BAS), Bunker Adjustment Factor (BAF/LSS), Terminal Handling Charges (THC O/D), Inland Haulage, Customs Clearance, specific surcharges). Request all-in or clearly itemized quotes.
- Specify quote validity period (e.g., 48 hours, 5 days) and a clear response deadline (date and time with timezone).
- Distribute RFQ to the filtered list of suppliers. Track delivery confirmation and read receipts if possible.

4) Bid Collection & Monitoring:
- Automatically ingest quotes received
- Monitor bid response status
- Send automated reminders to non-responsive suppliers (e.g., 24 hours before the deadline).

5) Quote Normalization & Evaluation:

- Normalize received quotes into a comparable format: Standardize cost components, convert currencies to a base currency, calculate total estimated landed cost.
- Evaluate quotes against predefined criteria using a weighted scoring model (weights configurable by user/admin):
  - Total Landed Cost: Compare against budget/target and historical/market benchmarks. Flag outliers and potential hidden fees.
  - Transit Time & Schedule Reliability: Evaluate proposed schedule (ETD, ETA, total transit days) against required dates. Factor in carrier's historical schedule reliability percentage for the specific lane. Assess number of transshipments.
  - Carrier Performance Score: Incorporate composite score based on historical reliability, communication, claims record, sustainability scores, user feedback.
  - Capacity/Space Confirmation: Prioritize quotes with confirmed space ('CY/CY' basis) vs. 'subject to availability' or 'subject to roll'.
  - Alignment with Requirements: Verify compliance with all specified needs (equipment type/grade, services, documentation handling).
  - Quote Validity & Terms: Ensure quote validity covers the required booking window. Review payment terms and free time conditions (demurrage/detention).

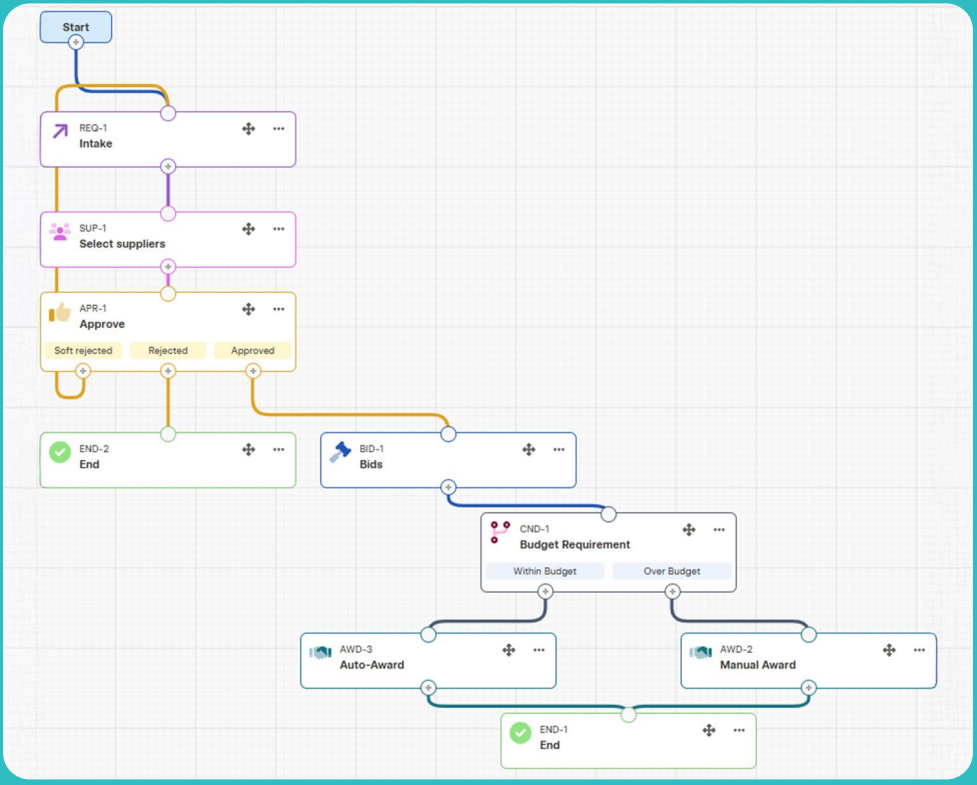
6) Scenario Presentation & Recommendation:

- Present top 2-3 evaluated quote options to the requester/approver (note: in Keelvar this is done automatically)
- Provide a calculated recommendation ("Agent's Choice") based on the scoring model and predefined business rules (e.g., "Lowest cost within acceptable transit time & reliability > 85%," "Fastest option within X% of budget").
- Include qualitative notes or warnings if applicable (e.g., "New carrier, limited performance data," "High risk of port congestion at destination," "Unusually low rate - verify inclusions").

7) Award Decision & Booking Initiation:

- Conditional Auto-Award: If configured and quote meets strict criteria (e.g., below budget, meets dates, from preferred carrier), automatically award and initiate booking. Requires high confidence.
- Manual Award: In Keelvar, selection of the preferred quote is done with one-click award/reject buttons. Capture reason code for rejection if possible.
- Upon award decision, automatically generate and transmit a booking request (EDI 300, API, email with standardized template) to the selected carrier/forwarder. Include all necessary references (Quote ID, PO number).
- Track booking confirmation (EDI 301, API update, email parsing). Handle exceptions (e.g., booking rejected due to space/rate change, quote expired) by:
  - Alerting the user.
  - Suggesting the next best quote.
  - Re-initiating the RFQ process (potentially with adjusted parameters or supplier list).

Short-Term Warehousing Sourcing



INGREDIENTS:

→ Essential Ingredients

Organization Name.
Storage Requirements:

- **Space Required (Square Footage or Pallet Positions):** The exact or estimated amount of space needed.
- **Duration of Need:** Start and end dates for the warehousing requirement. Specify if flexibility on dates is possible.
- **Commodity Type:** General description of the goods to be stored (e.g., dry goods, temperature-sensitive, hazardous materials).
- **Handling Requirements:** Any specific needs for loading/unloading (e.g., forklift access, dock doors, ground-level access).
- **Security Requirements:** Level of security needed (e.g., basic, monitored, climate-controlled).
- **Insurance Requirements:** Any specific insurance coverage the warehouse provider must have.

Location Preferences:

- **Target Location(s):** Specific address(es), city(ies), or radius around a location where warehousing is needed.
- **Acceptable Distance (Optional):** Maximum acceptable distance from the target location.

Contact Information: Name, email, and phone number of the requestor.
Budget (internal): Budgeted expected cost.

→ Optional Ingredients:

Access Requirements: Specific hours of access needed to the stored goods.
Value-Added Services: Any additional services required (e.g., inventory management, labeling, packing/unpacking).

Sustainability Considerations: Any environmental or social responsibility preferences for the warehouse provider.
Past Provider Feedback (If Applicable): Any positive or negative experiences with previous short-term warehousing providers.
Urgency Level: How quickly is the warehousing space needed?

METHOD (WORKFLOW):

1) Intake and Requirement Parsing:
- Receive the warehousing request with the provided ingredients.
- Automatically parse the key requirements: space, duration, commodity, and location.

2) Supplier Identification Logic
- Query an internal database of pre-qualified warehousing providers, filtering by:
- Location proximity to the Target Location(s).
- Warehouse type and capabilities (e.g., temperature control, handling equipment).
- Available space within the required timeframe.
- Compliance with essential requirements (security, insurance).
- [Optional] Integrate with external warehousing marketplaces or platforms to broaden the search.
- Prioritize suppliers with positive past performance or pre-negotiated short-term rates.

3) Automated Inquiry Generation:
Based on the parsed requirements and identified suppliers, automatically generate a concise inquiry or Request for Information (RFI).
- The inquiry should clearly state:
- Space required and duration.
- Commodity type and any specific handling/storage needs.
- Target location and acceptable radius.
- Request for pricing for storage and handling rates..
- Request for confirmation of availability within the required dates.
- [Optional] Inquiry about value-added services and their costs.

4) Eliciting Bids/Quotes:
- Send the automated inquiries to the identified potential suppliers.
- Clearly define the response format and deadline.

5) Bid/Quote Evaluation:
Automatically collect and organize the responses.
- Evaluate the bids based on:
- Price: Compare against the provided budget range.
- Availability: Confirm ability to meet the required dates.
- Location: Assess proximity to the target location.
- Capacity: Verify sufficient space is available.
- Capabilities: Ensure they meet the handling, security, and other essential requirements.
- [Optional] Consider value-added services offered and supplier reputation.

6) Scenario Presentation and Trade-offs:
- Present the top warehousing options to the requestor (or procurement, depending on the defined process).
- Highlight key trade-offs between price, location, and specific features.
- [Optional] If no options meet all criteria, present the closest matches and potential compromises (e.g., slightly further location, different handling capabilities).

7) Automated Award (Conditional) or Manual Award:
- [Optional] For straightforward requests within budget and meeting all essential criteria, the bot can be configured to automatically award the business and initiate the contracting process (e.g., generate a simple agreement or forward to a legal review step).
- For more complex or out-of-budget scenarios, the bot should present the options to a designated approver (e.g., the requestor or a procurement representative) for manual review and award.

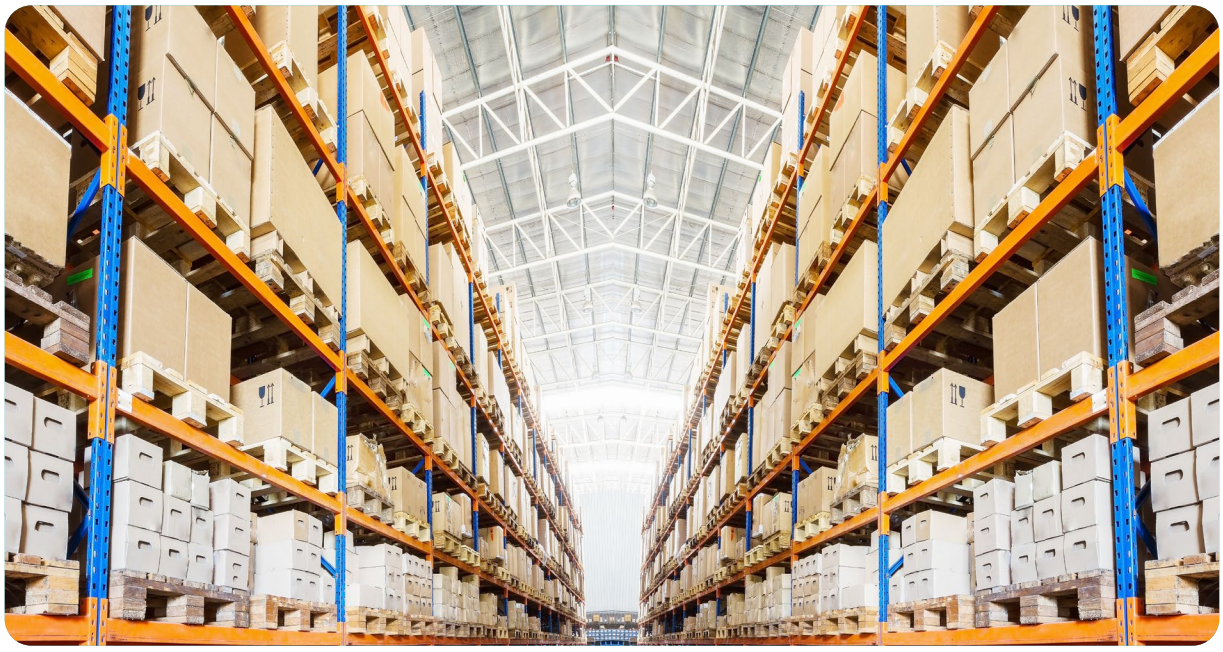
8) Feedback and Documentation:
- Automatically record the outcome of the sourcing event, including the chosen provider, pricing, and terms.
- Gather feedback from the requestor on the experience and the suitability of the chosen warehouse.

Reward Function:
A reward function to measure the performance of individual runs could include:

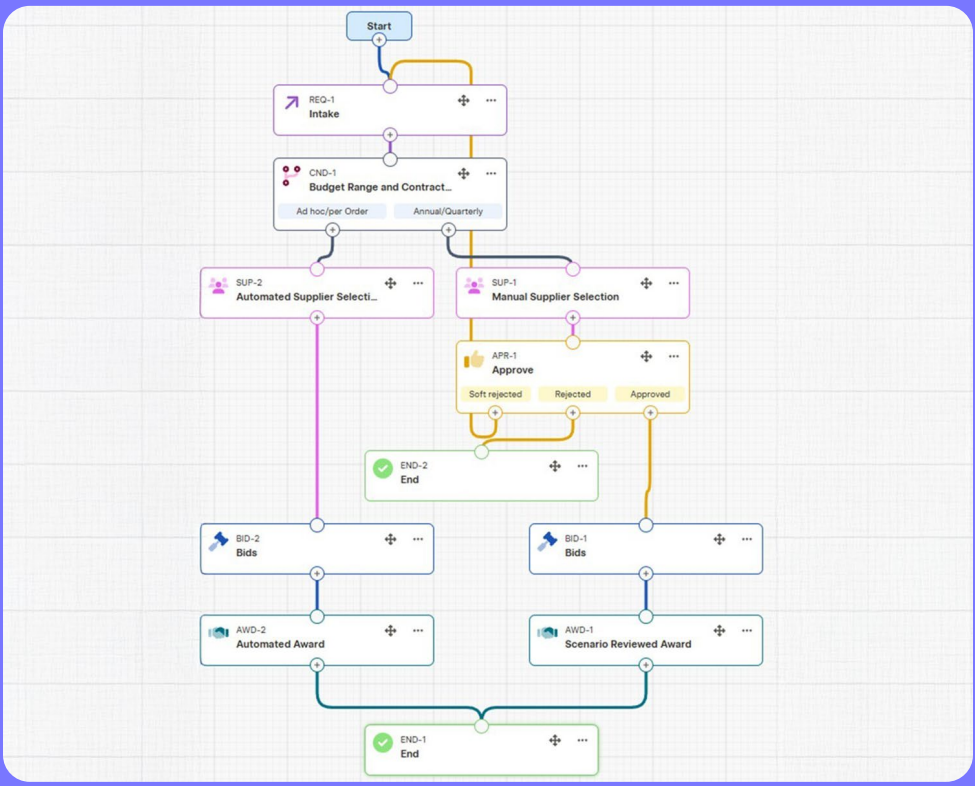
- **Speed of Sourcing:** Time taken from the initial request to the identification of a suitable option.
- **Cost Efficiency:** Difference between the awarded price and the initial budget (positive for savings, negative for exceeding).
- **Alignment with Requirements:** Binary metric (met/not met) for each essential requirement (location, duration, capacity, etc.).
- **Requestor Satisfaction:** Score based on feedback received after the warehousing period.
- **Number of Qualified Bids:** Higher number indicates a more competitive process.

Learning and Training:

- **Configure the pace of learning:** Start with a slower pace, allowing for manual oversight and validation of the bot's selections. Gradually increase automation as confidence in the bot's performance grows.
- **Training window for online learning:** Continuously feed the bot with data from past sourcing events (successful and unsuccessful) and user feedback.
- **Adaptation:** The bot should learn to prioritize suppliers based on factors like responsiveness, reliability, and cost-effectiveness for short-term needs. It should also learn to better understand the nuances of different commodity types and their storage requirements.
- **Regular Review:** Periodically review the bot's performance metrics and adjust the supplier identification logic and evaluation criteria as needed.



Office Supplies Sourcing



INGREDIENTS:

→ Essential Ingredients

Organization Name: Your company name and relevant business details.
Requirements & Policies:

- **Budget Range:** Overall budget for office supplies (annual, quarterly, or per order).
- **Payment Terms.**
- **Sustainability Goals:** Preference for eco-friendly or recycled office supplies.
- **Contract Term & Review Cycle:** Desired contract duration and frequency of reviews or renewals (if seeking a primary supplier).
- **Delivery Locations:** Address(es) of the offices or departments requiring supplies.

Core Office Supply List:

- **Item Name & Description:** Specific names and descriptions of frequently ordered items (e.g., “8.5 x 11 white copy paper,” “black ballpoint pens,” “standard size sticky notes”).
- **Preferred Brands (Optional but Recommended):** If there are preferred brands for certain items due to quality or standardization.
- **Unit of Measure:** How each item is typically ordered (e.g., ream, box, pack, single).
- **Estimated Annual Quantity (EAQ) or Typical Order Quantities:** Projected usage or standard order sizes for each item.

Quality Standards: Any specific quality requirements or certifications (e.g., paper weight, ink type).
Delivery Requirements: Preferred delivery frequency, lead times, and any specific instructions (e.g., delivery to specific floors or departments).

→ Optional Ingredients:

Number of Employees/Departments: To better estimate overall consumption.
Order History (If Available): Data on past office supply purchases, including items, quantities, and costs.
Preferred Suppliers (If Any): Existing or previously used suppliers that are favored.
Online Ordering Platform Preferences: If there's a preferred online platform for ease of ordering and management.
Reporting Requirements: Need for reports on spending, usage by department, or sustainability metrics.
Consolidation Opportunities: Willingness to consolidate orders across multiple locations for better pricing.
Automated Reordering Thresholds: Desired stock levels that trigger automatic reorders.
Employee Ordering Portal Requirements: Need for a self-service portal for employees to request supplies (with approval workflows).

METHOD (WORKFLOW):

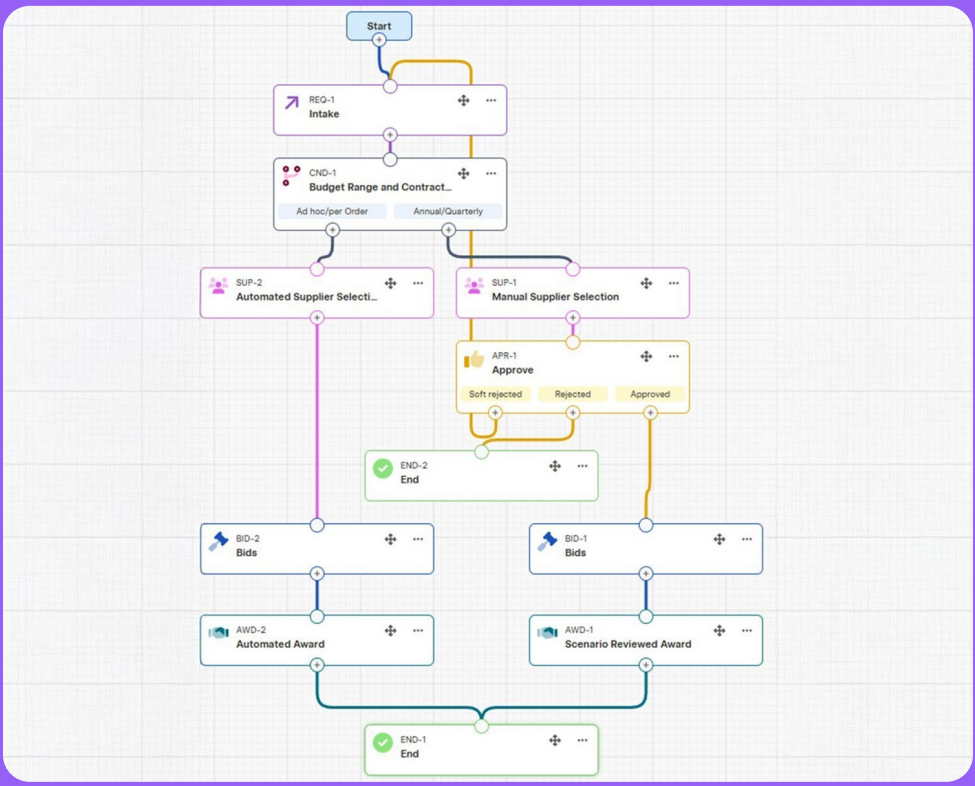
1) Intake and Catalog Creation: The bot receives and structures the office supply list, including descriptions, preferred brands, units of measure, and estimated quantities. This forms the basis of the sourcing catalog.
2) Supplier Identification: The bot queries a database of potential office supply vendors based on the essential criteria:
- **Product Range:** Ensuring they offer the majority (if not all) of the required items.
- **Pricing Competitiveness:** Identifying suppliers known for competitive pricing.
- **Delivery Capabilities:** Verifying they can deliver to the specified locations with acceptable lead times.
- **Sustainability Offerings:** Filtering for suppliers with a range of eco-friendly products (if required).
- **Online Ordering Platforms:** Identifying suppliers with user-friendly online ordering systems (if preferred).

3) Automated Request for Quotation (RFQ): The bot sends an RFQ to a shortlist of potential suppliers, including the office supply catalog with estimated quantities and requesting unit prices, bulk discounts, delivery costs, and any other relevant fees.
4) Quotation Elicitation and Collection: The bot manages the collection of quotes from participating suppliers.
5) Automated Quote Evaluation: The bot evaluates the received quotes based on pre-defined criteria:
- **Total Cost Analysis:** Calculating the total cost of the required supplies from each vendor, including delivery.
- **Price Benchmarking:** Comparing quoted prices against historical data or industry benchmarks (if available).
- **Sustainability Score:** Evaluating the availability and cost of eco-friendly alternatives offered by each supplier.
- **Delivery Terms:** Assessing delivery costs, lead times, and service areas.
- **Supplier Reliability (If Data Available):** Considering past performance data or ratings for each supplier.

6) Scenario Generation and Optimization: The bot can generate different sourcing scenarios, such as:
- **Lowest Overall Cost Supplier:** Identifying the supplier offering the best total price for all items.
- **Best Value Supplier:** Balancing cost with quality, sustainability, and service.
- **Multi-Sourcing Strategy:** Recommending different suppliers for specific categories of items if it leads to better pricing or specialized offerings.

7) [Optional] Automated Negotiation (Basic): The bot could be configured with basic negotiation rules to attempt to secure better discounts based on volume or contract duration.
8) Presentation to Stakeholders (Procurement, Office Management): The bot presents the top-ranked scenarios, along with a clear breakdown of costs and benefits for each option, to the relevant stakeholders for review and decision-making.
9) Award Recommendation and Contract/Account Setup: Based on stakeholder feedback, the bot recommends a supplier (or suppliers) for the business. This may involve setting up an account or finalizing a contract.
10) [Optional] Integration with Ordering System: The bot can be integrated with the organization's procurement or accounting system to facilitate automated purchase order creation and tracking.
11) Performance Monitoring and Reporting: The bot can track spending patterns, item usage, and supplier performance (e.g., delivery times, order accuracy). It can also generate reports on sustainability metrics if tracked.
12) [Optional] Automated Reordering: Based on pre-defined thresholds, the bot can automatically initiate reorders for frequently used items.
13) Performance Measurement:
- **Reward Function:** Define metrics to measure the performance of individual sourcing runs, such as:
  - Cost savings achieved compared to previous spending or budget targets.
  - Efficiency of the sourcing process (time to award).
  - Supplier adherence to delivery timelines and order accuracy.
  - Percentage of spend allocated to sustainable products (if a goal).
  - Stakeholder satisfaction with the selected supplier and the ordering process.

MRO Urgent Spot Purchases



INGREDIENTS:

→ Essential Ingredients

Problem Description: Detailed explanation of the system failure or urgent need.
Required Component/Service: Specific part number, description, or service required for the fix.
Urgency Level: Criticality of the downtime and required resolution timeframe.
System/Asset Information: Identification of the affected system or asset.
Location of Need: Where the component or service is required.
Budget (If Applicable): Pre-approved spending limit for the resolution.

→ Optional Ingredients for Optimizing Speed and Reliability::

Base Contracted Rates (Supplier Specific): Agreed rates per hour for service.
Preferred Supplier List (MRO): List of go-to suppliers for common MRO items.
On-Site Inventory (If Applicable): data on available spare parts at site.

METHOD (WORKFLOW):

Assuming the above key data ingredients are in place, the next step is to rapidly source the necessary fix. Speed and reliability are paramount in urgent MRO situations.
1) Urgent Need Intake: Receive notification of the urgent requirement with the Problem Description and Required Component/Service.

2) Rapid Supplier Identification:

- Query the Preferred Supplier List for suppliers of the required component & service.

3) Immediate Inquiry/Quotation Request:

- Automatically send an urgent inquiry to identified suppliers detailing the Required Component/Service, Urgency Level, and Location of Need.
- Request immediate availability confirmation, pricing & estimated time required.

4) Bid Evaluation:

- Evaluate received quotations based on availability, price, and lead time. Prioritize suppliers who can meet the urgent timeframe.

5) Automated Purchase Order (Conditional):

- If a quote meets the urgency requirements and is within budget (optional), automatically award the request & send to a Purchase Requisition solution for PO issue.

6) Procurement Alert (Out-of-Bounds/Critical):

- If no suitable quotes are received within a critical timeframe or if all quotes exceed the budget, alert Procurement for manual intervention and expedited sourcing strategies.

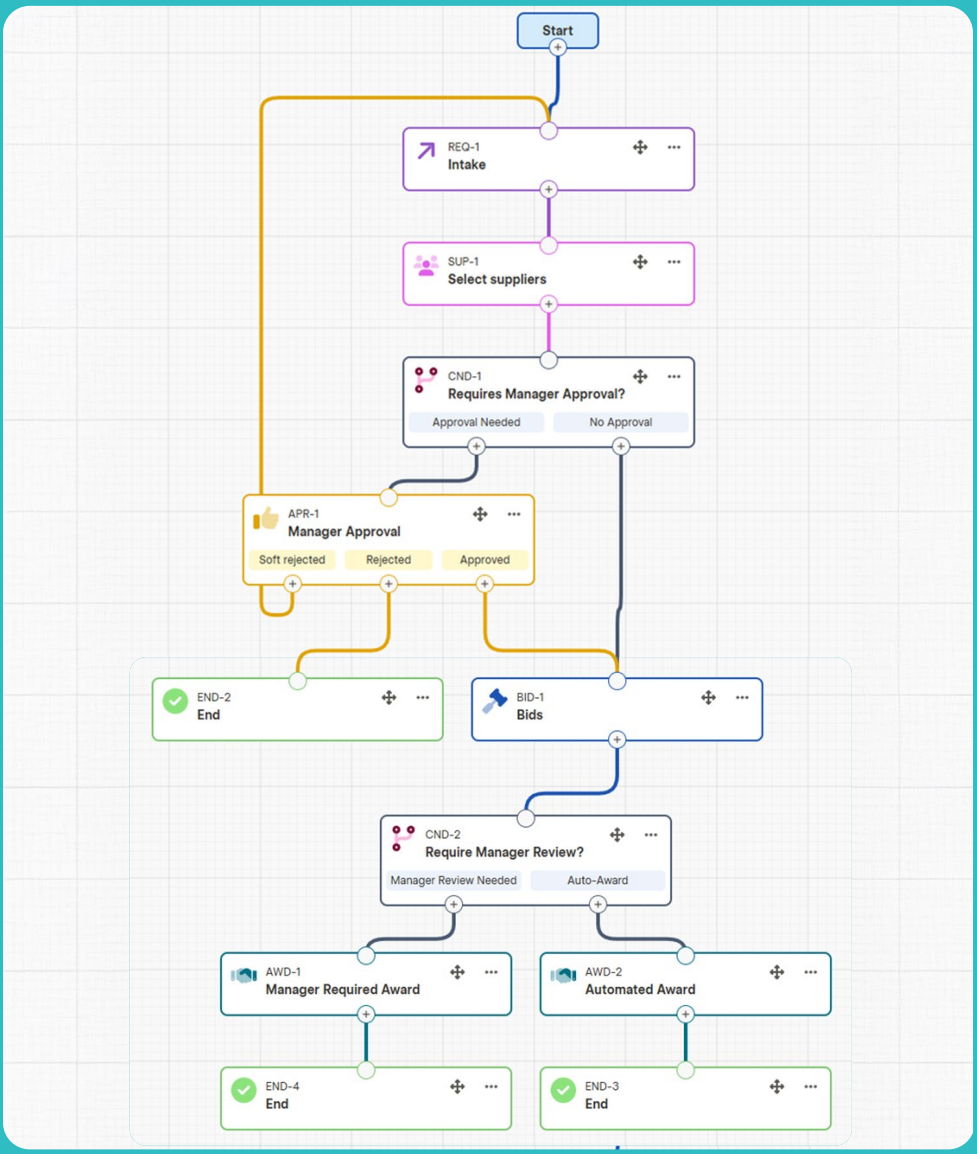
7) Tracking and Updates:

- Automatically track the status of the bid status and expected delivery/service time.

8) Performance Measurement:

- **Reward Function:** Measure the speed of resolution (time from request to award), cost-effectiveness (within budget), and system downtime avoided.

Temporary Staffing



INGREDIENTS:

Reason for Request: Defined business reason for needing temporary staffing
Location Name, City, Region, Country (if needed): Location where staffing is needed.
Expected Hours per Week: Weekly requirement for work, would also be used in determining a total cost per week, which could be expanded out to cost/month and cost/year
Type of Position: What type of position is required, would be a single select of all available kinds of roles an organization would need

- Maintenance
- Janitorial Services
- Manufacturing
- Accounting or Bookkeeping

Required Years of Experience: Indicate whether this is a role requires a minimum amount of relevant work experience
Contract Start Date:
Contract End Date:

METHOD (WORKFLOW):

Assuming the above key data ingredients are in place (please note that it may not be necessary to have all of them), the next step is to execute a process that leads to the best result in expectation. Sourcing excellence in Staffing needs to provide a method for relaying the needs of each location to defined job requirements to ensure bidders are given clear staffing requirements to provide both qualified candidates and apples-to-apples pricing to be compared against other bidders.

1) **Intake:**

- Gather required data for Intake.

2) Supplier Selection

- Identify suitable suppliers given logic for suppliers (not pictured). Could automatically pre-select or filter suppliers based on the Type of Position needed and/or location where the position is needed

3) Hiring Manager Approval

- Seek approval from the hiring manager to publish the bid event. Each request can be assigned to
- [Optional] Approval can be automated based on criteria from Intake form such as the position type if certain types of positions do not require and manual approval

4) Bid Event Creation and Invitation

5) Automated Award (Conditional):

- [Optional] If a request is for a particular type of position not requiring Hiring Manager review and approval, can be auto-awarded based on predefined criteria. Otherwise Hiring Manager can review results, choose a scenario or manually select an award.