

C A S E S T U D Y

AI-Powered Outreach Automation

How NodeCo Built a Fully Automated Prospect-to-Draft System Using n8n, Firecrawl, and OpenAI

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EXECUTIVE SUMMARY

NodeCo designed and deployed a fully automated outreach intelligence system for its own go-to-market operation — transforming static business directory listings into personalized Gmail draft emails, complete with AI-powered service recommendations and a three-touch follow-up sequence, all without a dedicated sales team or enterprise CRM investment.

The system scrapes any business directory URL, enriches each listing with real contact data, evaluates the company's website using AI to recommend the right service, generates a personalized cold email, saves it to Gmail as a draft for human review, and automatically creates two follow-up emails on a scheduled cadence. Built on n8n and integrated with Firecrawl, OpenAI, Airtable, and Gmail, the solution runs continuously at a fraction of the cost of traditional sales automation platforms.

6 Automated Workflows	~5 min Directory to Draft	3-Touch Follow-up Sequence	~\$30/mo Estimated Run Cost
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THE CHALLENGE

Cold outreach at scale is a manual, time-intensive operation for most small agencies and solo founders. The typical process requires researching prospects across directories and websites, manually writing personalized emails for each one, tracking follow-up timing across a spreadsheet or CRM, and monitoring inboxes for replies to stop sequences at the right moment.

For NodeCo — a growth agency being built alongside a full-time job — this meant a critical constraint: every hour spent on outreach admin was an hour not spent on client work or business development. The bottlenecks were predictable:

- Business directories expose company names and websites but rarely include direct email addresses or owner names
- Manually evaluating each company's website to determine the right service to pitch takes 5-10 minutes per prospect
- Writing personalized cold emails for every prospect, even with templates, still requires meaningful customization to avoid sounding generic
- Follow-up timing is easy to forget — most outreach fails not because of a bad first email but because of no follow-up
- Reply detection requires monitoring an inbox and manually updating records when a prospect responds

Impact of Manual Outreach

- Hours consumed by low-value directory research
- Inconsistent email quality across prospects
- Missed follow-ups due to manual tracking
- No scalability as prospect volume grows
- Reply detection dependent on inbox monitoring

Why Off-the-Shelf Tools Did Not Fit

- Enterprise platforms (Apollo, Salesloft) are priced for teams, not solo founders
- Instantly/Smartlead handle sequencing but not AI-powered personalization
- Clay handles enrichment but not end-to-end email generation
- No existing tool combined scraping, AI recommendation, and Gmail drafts
- Building this becomes the product — a live demonstration of the service offered

THE SOLUTION

NodeCo needed a custom six-workflow automation system that handles the complete outreach lifecycle — from directory scraping through AI enrichment to email generation, Gmail delivery, follow-up sequencing, and reply detection.

Workflow 1 — Directory Scrape (S1)

Any business directory URL is submitted through an n8n form trigger. Firecrawl's scrape endpoint extracts all member profile URLs from the directory listing page in a single API call. The system then loops through each profile URL, scraping the individual member page to extract the real business website, phone number, email address, and contact name. Extracted data is deduplicated and written to Airtable with a unique timestamp per record to ensure reliable downstream triggering.

Trigger: Manual form submission with directory URL

Scrape method: Firecrawl /v1/scrape (synchronous, no polling loop required)

Output: One Airtable record per business with website, phone, email, contact name

Workflow 2 — AI Service Recommendation (S2)

A webhook trigger fires immediately when S1 creates a new Airtable record. The system scrapes the prospect's actual business website using Firecrawl and passes the content to OpenAI with a structured prompt that evaluates the business and recommends exactly one of three NodeCo services.

Business Process Automation — Business appears to operate manually with no visible CRM, booking system, or automated follow-up

Website Refresh — Site is outdated, uses a basic template, has poor mobile experience, or lacks clear calls to action

Advertising — Website and operations look solid but there is no visible lead generation or growth mechanism

The AI returns the recommended service and a 2-3 sentence reasoning specific to that business. Both are written to Airtable and the record status advances to Recommended.

Workflow 3 — Email Draft Generation (S3)

A webhook fires when S2 completes. OpenAI generates a personalized cold outreach email using the company name, website, recommended service, and AI reasoning as context. The system prompt enforces a strict set of rules: peer-level tone, a specific observation about the business, no generic openers, under 150 words, and a natural CTA that invites a reply without using demo or pitch language.

The subject line, email body, and signature are parsed from the AI response and stored in Airtable. The record advances to Draft Created.

Workflow 4 — Gmail Draft Save (S4)

A webhook fires when S3 completes. The email subject line and body are passed to Gmail via OAuth2, creating a draft in the hello@nodeco.ai Drafts folder. The Gmail thread ID is captured and stored in Airtable for downstream reply detection. The record advances to Draft Saved.

No email is sent automatically. Every draft is reviewed and sent manually — maintaining human judgment over every outbound message.

Workflow 5 — Follow-up Sequence Scheduler (S5)

A daily schedule trigger runs at 7:30 AM. The system queries Airtable for records where the follow-up send date matches today and the follow-up has not yet been sent. For each matching record, OpenAI generates a contextually aware follow-up email using the original email body as input, and saves it as a Gmail draft.

- Follow-up 1 fires 3 days after the initial email is sent

- Follow-up 2 fires 3 days after Follow-up 1
- Both are saved as Gmail drafts — never sent automatically
- The sequence terminates at Complete after Follow-up 2 is created

Workflow 6 — Reply Detection (S6)

A schedule trigger runs every 15-30 minutes. For every record in Sequence Active status, the system searches Gmail for any replies to the original email thread using the subject line as the search key. If a reply is detected from an address other than hello@nodeco.ai, the record is immediately updated to Replied and no further follow-up drafts are created.

TECHNOLOGY STACK

Component	Tool	Purpose
Automation Engine	n8n Cloud	Workflow orchestration and webhook-based triggering across all six workflows
Web Scraping	Firecrawl	Directory listing extraction and individual business website scraping
AI Recommendation	OpenAI GPT-4o	Website evaluation, service recommendation, and email generation
Email	Gmail + OAuth2	Draft creation, thread ID capture, and reply search
Database	Airtable	Prospect record storage, status tracking, and follow-up date management
Trigger Architecture	n8n Webhooks	Direct workflow-to-workflow calls replacing unreliable polling triggers

OUTCOMES & BUSINESS IMPACT

Operational Efficiency

- A 14-business directory is scraped, enriched, and converted to personalized Gmail drafts in under 5 minutes
- Follow-up emails are generated and saved automatically — no calendar reminders or manual follow-through required
- Reply detection runs every 15-30 minutes and stops sequences immediately — no inbox monitoring needed
- Estimated 3-5 hours saved per week vs. equivalent manual outreach process
- System runs continuously at approximately \$30/month in API costs

Quality & Consistency

- Every email references something specific about the prospect's business — no generic templates
- Service recommendation is grounded in actual website content, not guesswork
- Email tone and structure enforced by prompt rules across every record
- Human review maintained at every send point — no unsupervised outbound messages
- Full audit trail in Airtable linking every email, follow-up, and reply to its prospect record

PLANNED ENHANCEMENTS

Feature	Description
LinkedIn outreach	Extend the system to generate LinkedIn connection messages with the same AI personalization as email
Contact enrichment	Integrate a people-search API to find owner and decision-maker names automatically rather than relying on directory data
Email deliverability	Add domain warming and sending infrastructure to support higher outreach volume without deliverability risk
CRM integration	Push replied and engaged prospects into a full CRM pipeline for deal tracking and proposal management
Performance dashboard	Airtable reporting view showing open rates, reply rates, and conversion by service recommendation type

WHY THIS APPROACH MATTERS

The outreach automation landscape is dominated by enterprise platforms designed for funded sales teams. For growing businesses watching every dollar, enterprise outreach platforms carry a steep price tag, a long implementation timeline, and no guarantee of ROI — a combination that puts sophisticated sales automation out of reach for the companies that need it most.

What this system demonstrates is that a purpose-built, AI-powered automation using readily available tools, can deliver enterprise-grade outreach intelligence at a fraction of the cost and complexity. The system:

- Requires no enterprise CRM or sales platform subscription
- Adapts the service recommendation and email tone to each prospect based on actual website content
- Scales with directory volume without additional headcount or manual effort
- Can be extended or modified in n8n's visual workflow builder without developer involvement
- Costs a fraction of traditional sales automation or AI prospecting platforms

This solution demonstrates that AI-augmented outreach automation is no longer the exclusive domain of funded sales organizations. Solo founders and small agencies can build sophisticated, production-grade outreach systems quickly and cost-effectively using modern no-code and AI tools.

Built with NodeCo

This system was built by NodeCo — a growth agency that helps small and midsize businesses design, deploy, and scale AI-powered workflows without enterprise complexity. The same system built for NodeCo's own outreach is available as a service customized for your business.

nodeco.ai