CASE STUDY 01 · AUTONOMOUS AI AGENT · N8N · GOHIGHLEVEL · SUPABASE · WHATSAPP API · OPENAI

Outbound WhatsApp Lead Engine.

Not a chatbot. An autonomous agent built for a real-estate agency in Spain that watches multiple property portals in real time, tracks every price change and the local news behind it, messages private sellers from the agent's own WhatsApp number, reads every reply, runs valuations on request, and hands the human agent a lead only when the seller says yes.

- 15 n8n workflows
- 3 GoHighLevel workflows
- 11 Meta-approved WhatsApp templates
- 9-table Postgres schema
- AI reply classification
- Automated valuations
- Price-moving news scan

By. Razi ur Rehman

The problem and the build.

The agency wanted every new private-seller listing in its territory contacted within days, followed up consistently for weeks, and handed to a human agent only when the seller showed interest. Doing this by hand meant missed listings, late follow-ups and no record of who was contacted.

I designed and built the full system end to end: the data model, the intake and scheduling logic in n8n, the CRM layer in GoHighLevel, the WhatsApp Business API setup with Meta template approval, the AI reply router, the valuation flow, and the monitoring that keeps it honest.

15
n8n workflows in production

3
GoHighLevel workflows (send, reply, alert)

11
WhatsApp templates approved by Meta

9
Postgres tables on Supabase

Live in production since 27 October 2026. Sends run Monday to Friday inside agreed hours, with hard limits per seller and per day.

INPUT

Multi-portal listings, in real time

A property-data feed watches the major Spanish portals and pushes every new, updated, price-dropped or removed private listing in the agent's zones as a signed webhook, as it happens.

ENGINE

n8n + Supabase + OpenAI

Rules, scheduling and state live in code and Postgres. AI is used only where judgement is needed: reading replies and judging news.

OUTPUT

WhatsApp from the agent's number

Approved templates go out through GoHighLevel on the agent's own number. Hot leads land in the CRM pipeline with an instant alert.

One agent. Nine jobs.

01 · LISTING WATCH

Real-time watch across multiple portals

Every private listing in the agent's zones is captured the moment it appears on any of the major portals. Price changes, relistings and withdrawn ads update the same record in real time, so nobody gets messaged about a home that already sold.

02 · PRICE DROPS

Price-drop trigger

A drop of 3,000 EUR or more fires a priority message within the send window, followed by a valuation offer 24 hours later. Relistings get their own message.

03 · AREA NEWS

News that could move prices in the area

Scans 22 Spanish news outlets for each town and the province, looking for housing news that could affect prices where the seller lives. An AI judge keeps only what matters, writes a one-line impact note, and queues it as a message.

04 · TIMED SEQUENCE

Four-step follow-up over 80 days

Opener on day 2, then follow-ups at days 12 to 18, 42 to 50 and 72 to 80. Every step is a Meta-approved template with the seller's details filled in.

05 · AI REPLY ROUTING

Positive, neutral, negative, valuation

OpenAI classifies each reply. Positive: opportunity, task and instant WhatsApp alert to the agent. Neutral: friendly keep-alive. Negative: goodbye, DND, permanent stop.

06 · INSTANT VALUATION

Valuation PDF on request

If the seller asks what their home is worth, the system sends a holding reply, requests an automated valuation, and delivers the PDF report back in the same WhatsApp thread.

07 · TERRITORIES

Zone to agent routing

Each town maps to an agent. Leads, alerts and opportunities are owned by the right person from the first message.

08 · MONITORING

Reconcile, heartbeat, usage email

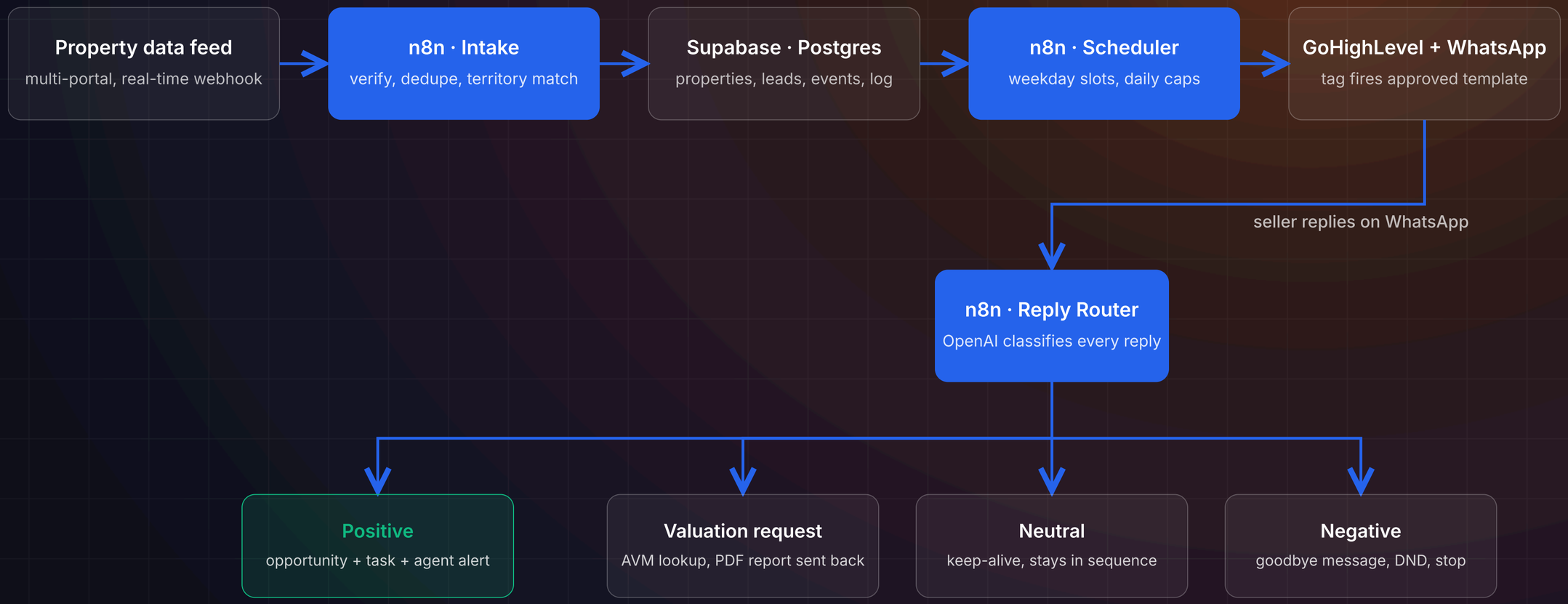
Daily reconciliation against the data provider, a keep-alive for the database, a Monday email with event counts and running costs, and one error handler for everything.

09 · AGENT'S OWN NUMBER

WhatsApp coexistence

Messages go out from the agent's existing WhatsApp number through the Business API, so sellers reply to a real person, not a bot line.

How it fits together.

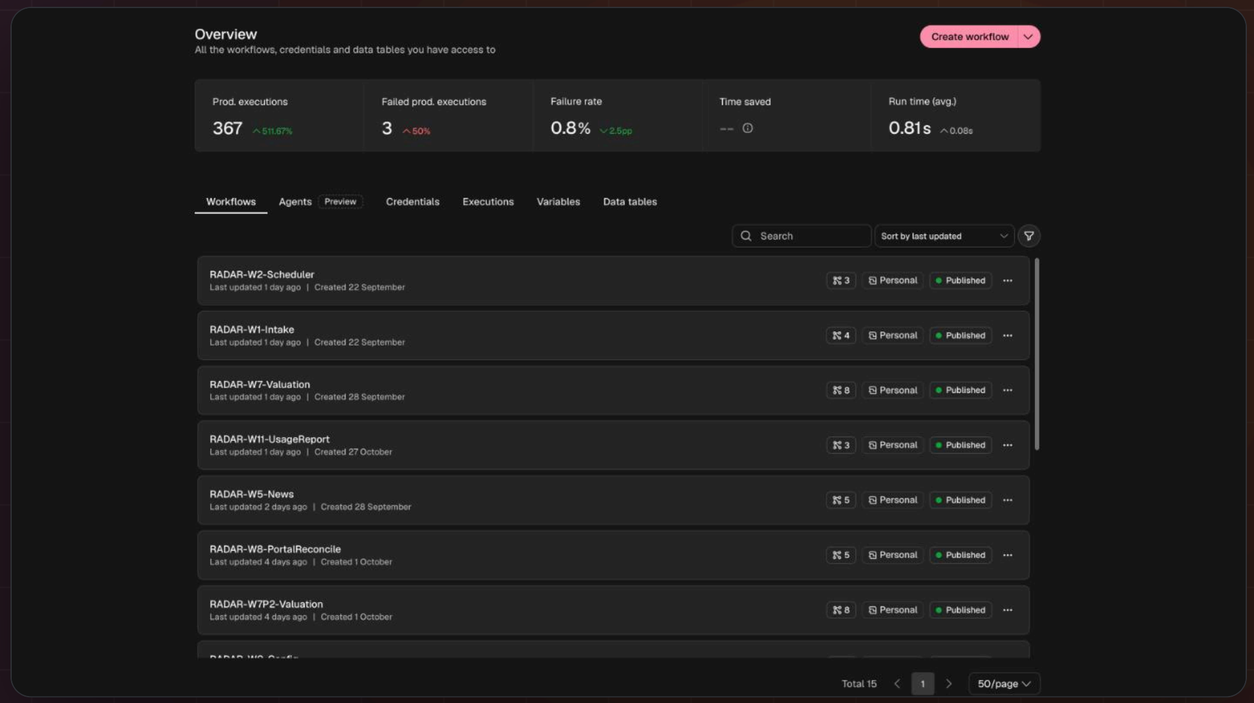


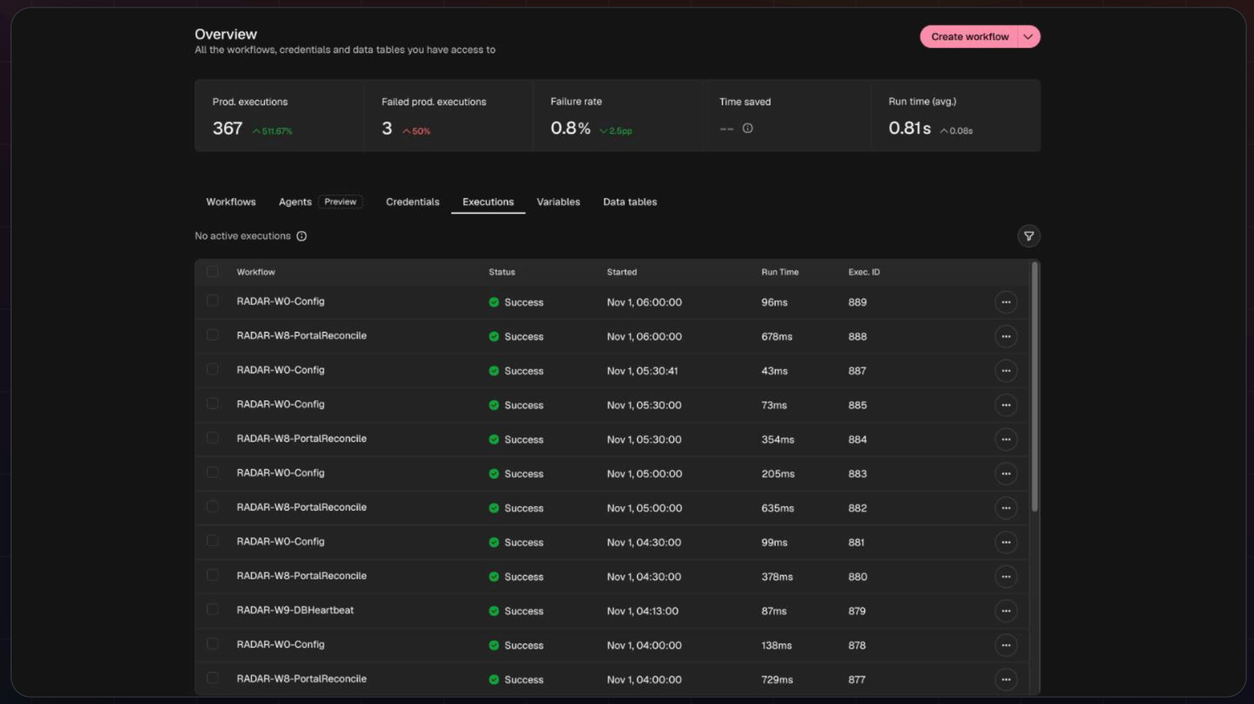
Scheduled side workflows: area news scan, 22 outlets (Mon + Thu) · zone statistics (weekly) · provider reconcile (daily + every 30 min)
database heartbeat (every 4 h) · weekly usage and cost email (Mon) · central error handler with email alerts

15 workflows, one instance.

Every moving part runs in n8n Cloud: intake, scheduling, sending, reply routing, valuations, news, reconciliation and monitoring. Each workflow is named, versioned and published separately so the client can see exactly what runs and when.

- 367 production executions at the time of capture, 0.8% failure rate
- Average run time 0.81 seconds
- Errors route to one central error-handler workflow

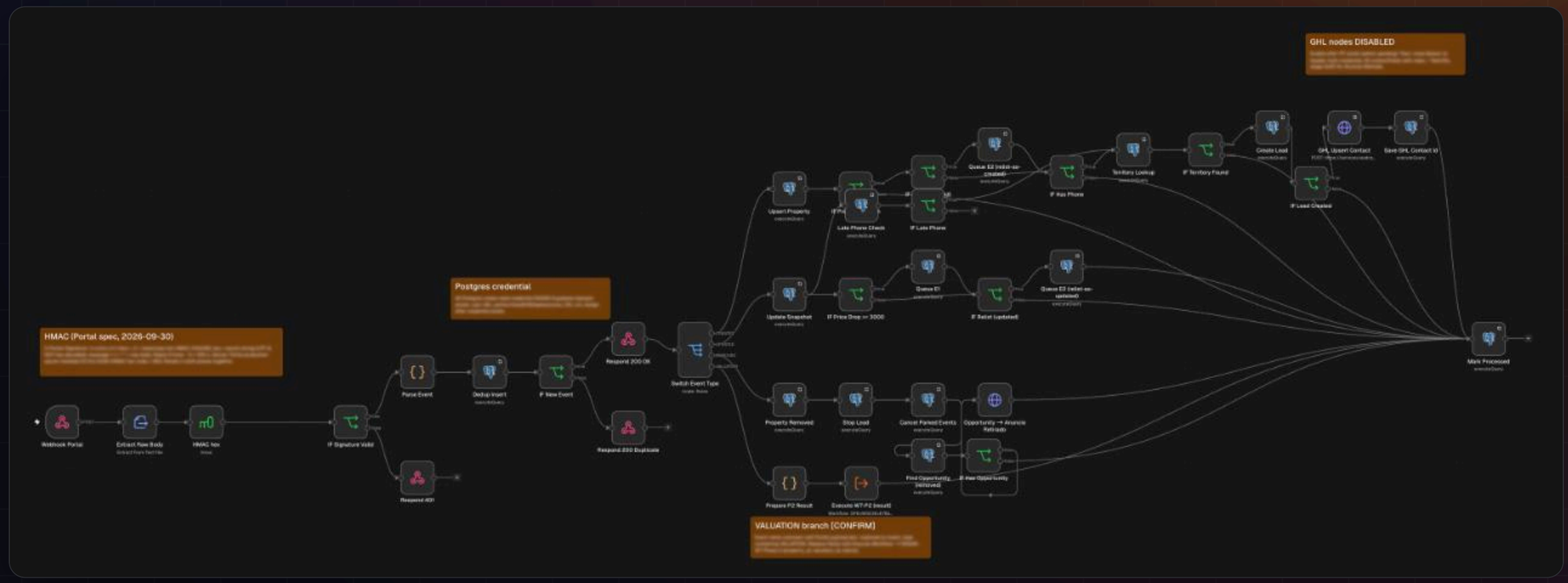




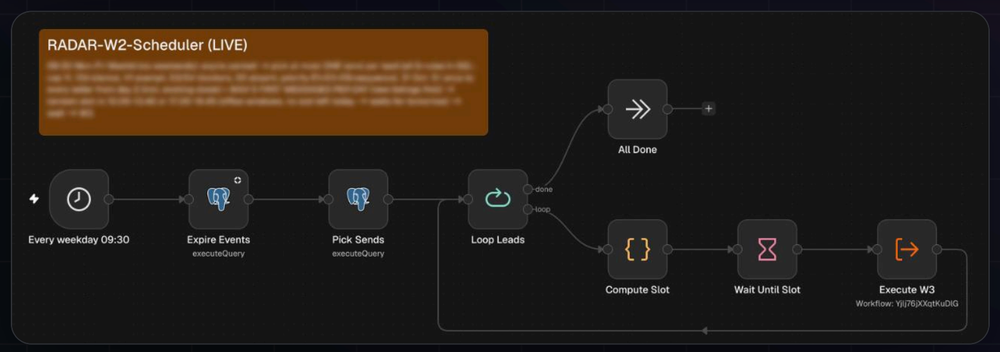
EXECUTION LOG: EVERY RUN VISIBLE TO THE CLIENT

Listings in, sends queued.

The intake workflow verifies the HMAC signature on every webhook, drops duplicates, stores a snapshot of the property, matches it to an agent territory and creates the lead in the CRM. Price drops, relistings and withdrawn listings update the same record. The scheduler runs every weekday morning, expires stale events, picks who is due, computes a send slot inside the allowed windows and hands each lead to the send workflow.



INTAKE WORKFLOW: SIGNATURE CHECK, DEDUPE, SNAPSHOT, TERRITORY LOOKUP, CRM UPSERT

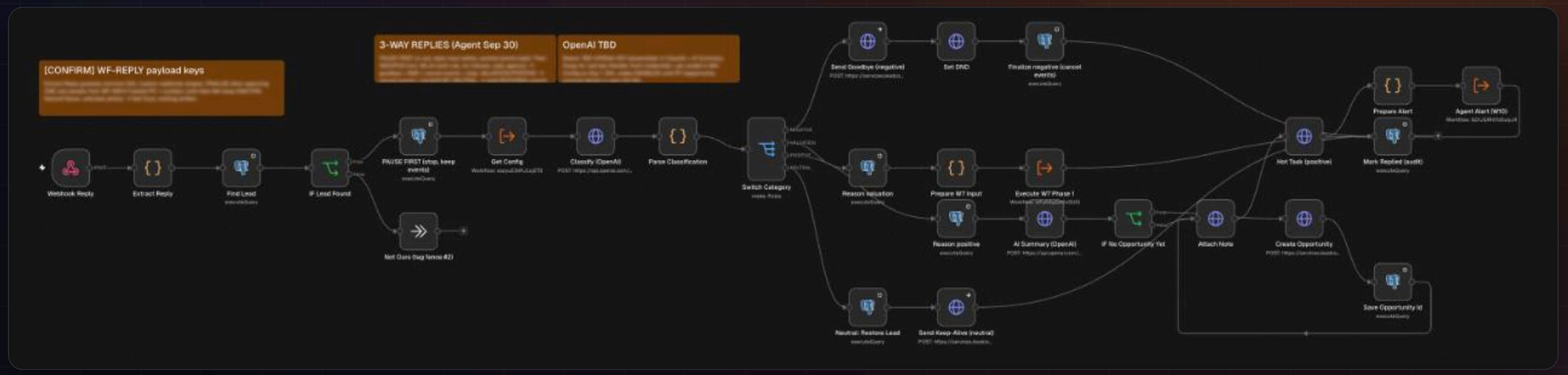


SCHEDULER WORKFLOW: WEEKDAY 09:30, PICK SENDS, COMPUTE SLOT, HAND OFF

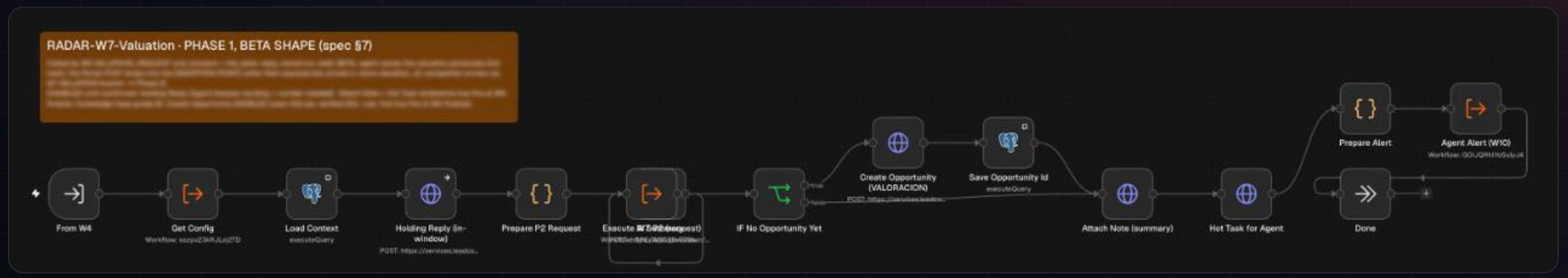
- Duplicate webhooks answered with 200 and dropped before any write
- Listings without a Spanish mobile number, and business transfers, never become leads
- Each lead gets at most one slot per day, inside the agreed hours

Every reply gets read.

When a seller answers, GoHighLevel posts the message to n8n. An OpenAI classifier sorts it into positive, neutral, negative or valuation request, and each branch does something different: creates an opportunity and alerts the agent, keeps the sequence alive, or sends a polite goodbye and sets do-not-disturb. Valuation requests call an automated valuation model, fetch the PDF report and deliver it back inside the same WhatsApp thread.



REPLY ROUTER: THREE-WAY CLASSIFICATION PLUS VALUATION BRANCH



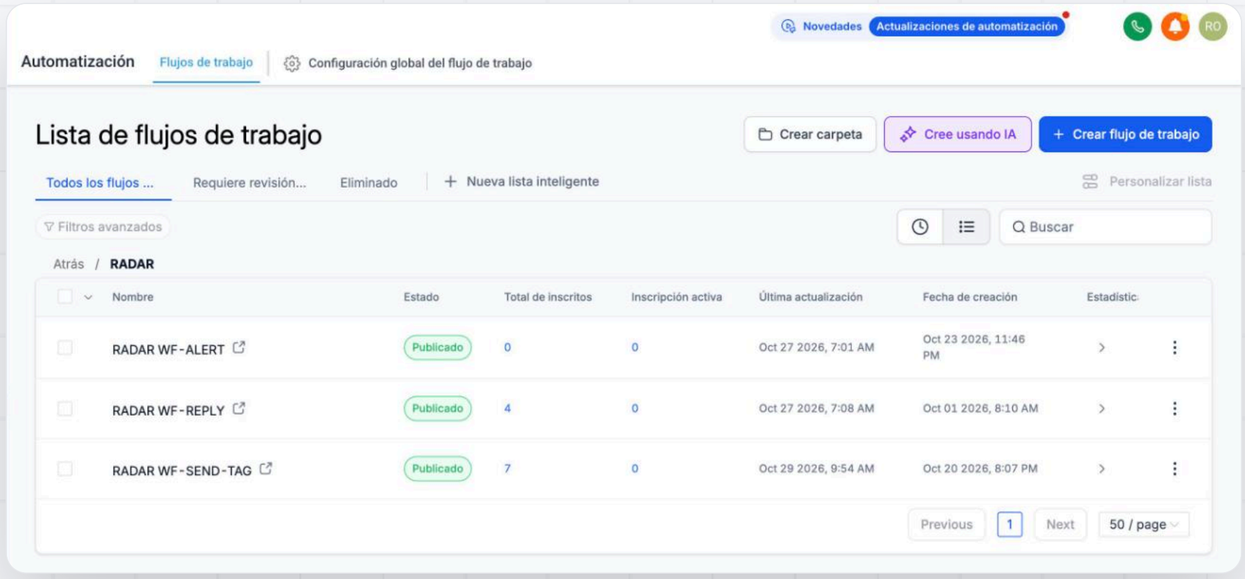
VALUATION WORKFLOW: HOLDING REPLY, AVM REQUEST, OPPORTUNITY, TASK, AGENT ALERT

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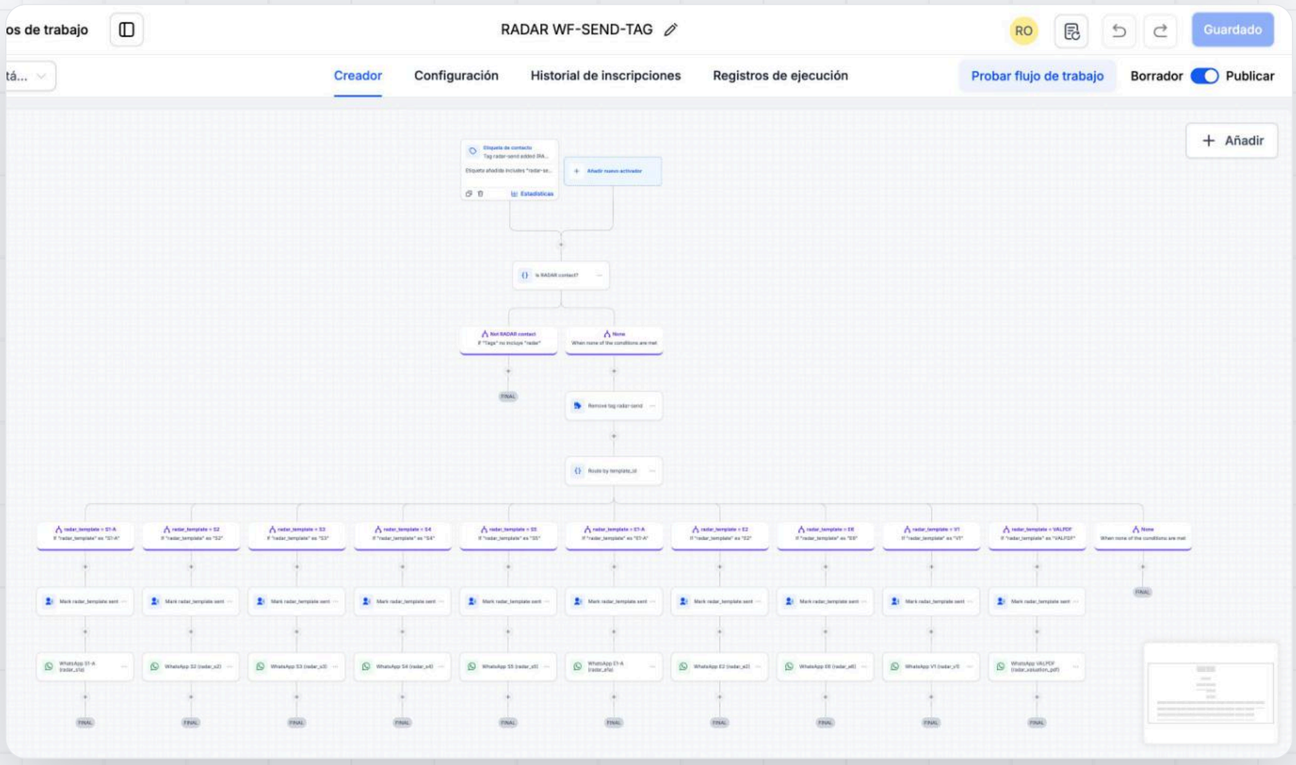
The CRM layer.

GoHighLevel holds the contacts, pipeline and WhatsApp channel. Three published workflows do the CRM-side work: one fires the right approved template when n8n applies a send tag, one forwards every inbound reply to the router, and one alerts the agent the moment a lead turns hot.

- Six-stage pipeline from new lead to mandate won
- One template branch per message variant, all tagged and tracked
- Send tag removed after each message so nothing fires twice



WORKFLOW FOLDER: ALL THREE PUBLISHED

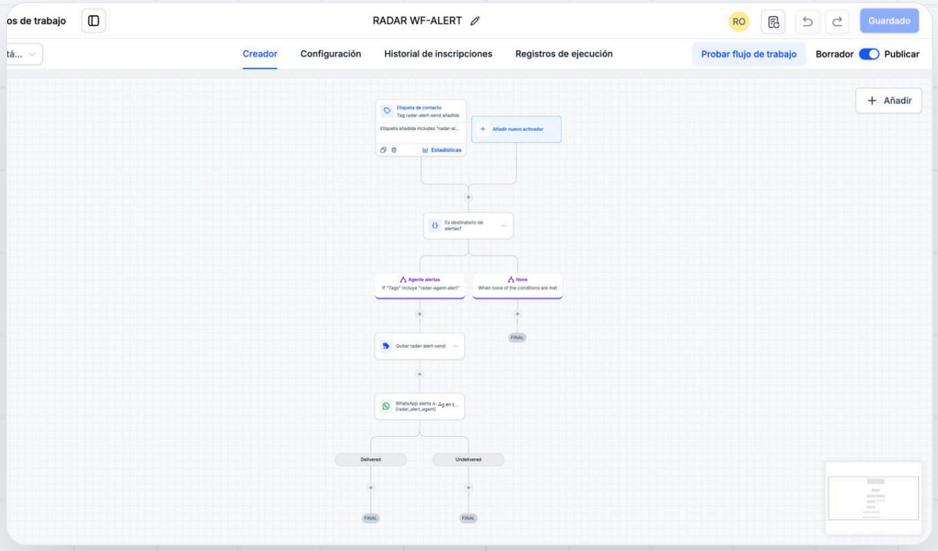


SEND WORKFLOW: ONE BRANCH PER APPROVED TEMPLATE

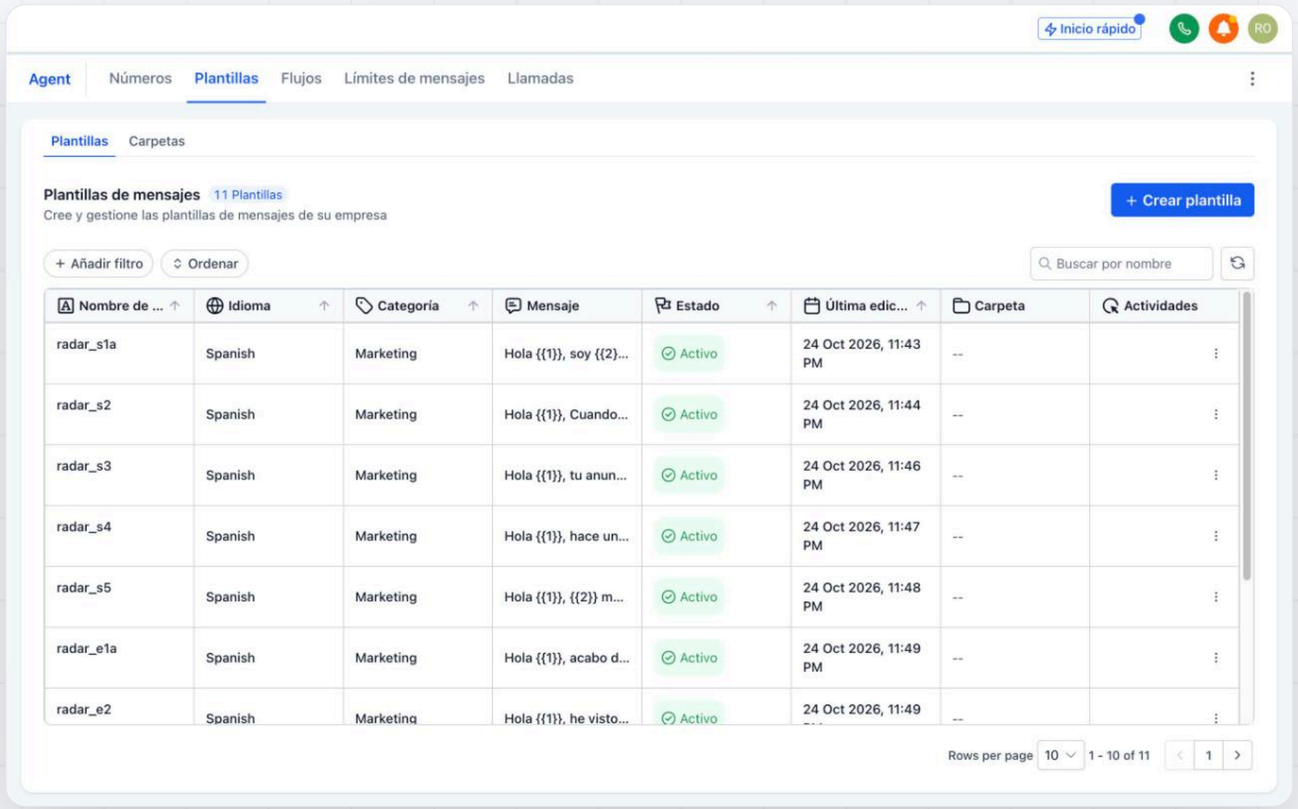
Approved templates.

Outbound WhatsApp at this volume has to run on Meta-approved message templates. I set up the eleven Spanish variants, submitted them through the WhatsApp Business channel in GoHighLevel and got all of them approved and active.

The alert workflow is the human handoff: a positive reply sends the agent a WhatsApp alert with the lead details and creates the task in the CRM.



AGENT ALERT WORKFLOW



11 TEMPLATES, ALL ACTIVE

Built to not get banned.

Outreach systems fail when they are too aggressive. Every limit on this page is enforced in the database and the scheduler, not left to a prompt.

Max 11 messages per seller

The full sequence is capped. After that the lead is parked, never spammed.

One message per day

No seller ever receives two messages in the same day, whatever the trigger.

12-day silence rule

No reply for 12 days means the sequence stops on its own.

Max 5 first messages per day

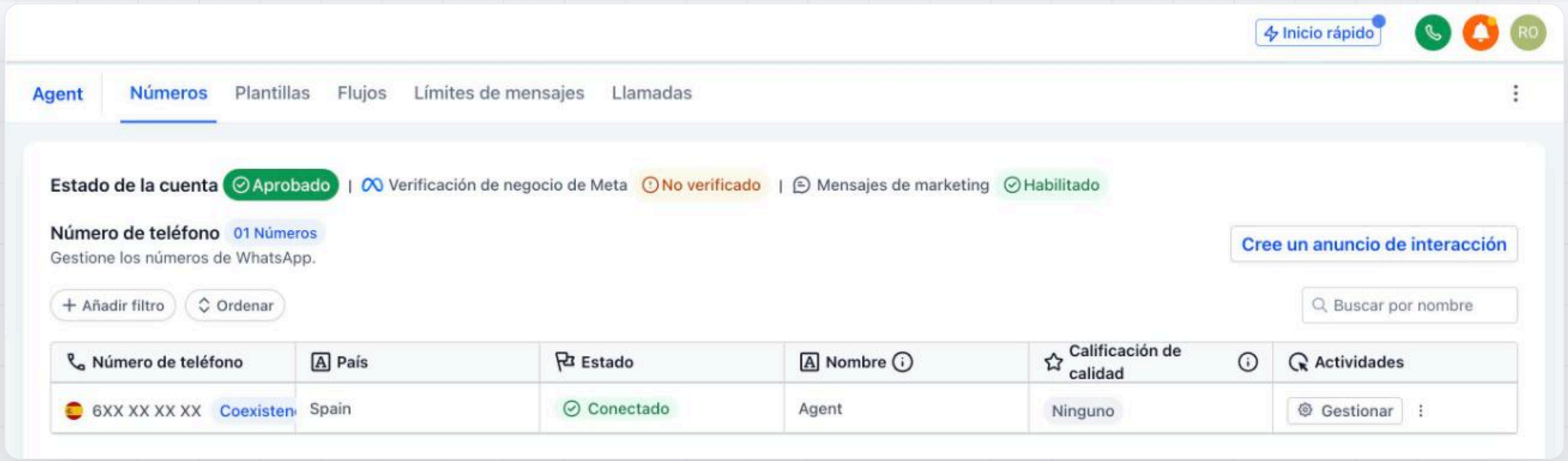
New conversations are rate-limited so the number warms up safely.

Send windows only

Monday to Friday, 10:00 to 13:45 and 17:00 to 19:45 local time. Replies to sellers go out immediately, any day.

Name guard and opt-out

Messages only use a name when one is confirmed. Negative replies set DND immediately.

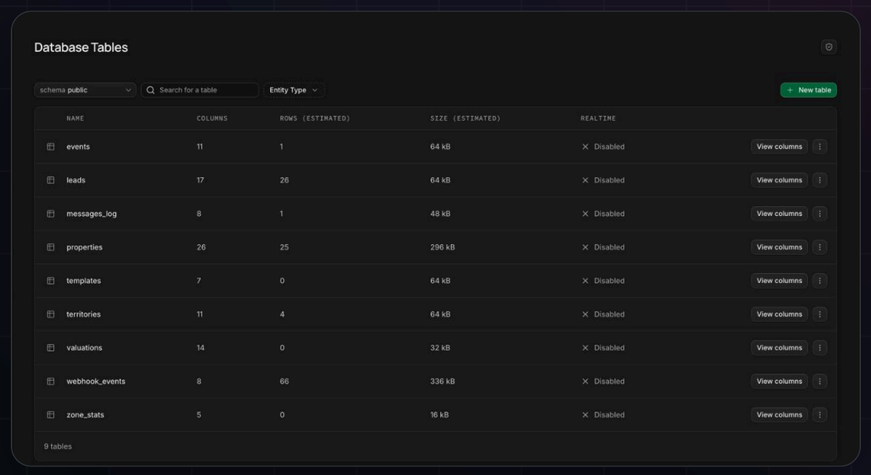


WHATSAPP BUSINESS ACCOUNT: APPROVED AND CONNECTED ON THE AGENT'S NUMBER

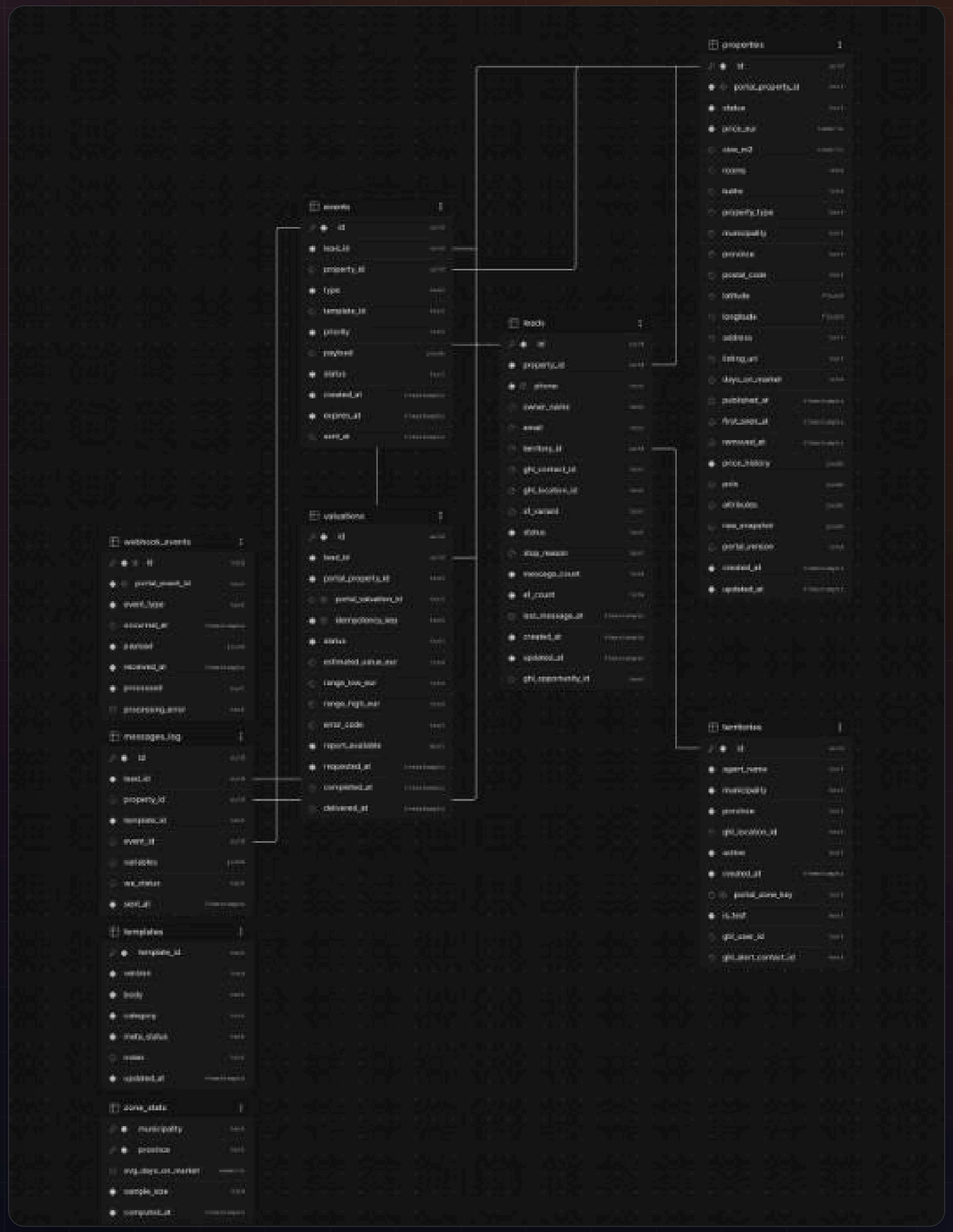
One source of truth.

Nine tables on Supabase hold every property snapshot, lead, scheduled event, sent message and valuation. The CRM stores the conversation; Postgres stores the state. That split is what makes the limits enforceable and the reporting honest.

- Raw webhook events kept for replay and audit
- Idempotency keys on valuation requests
- Territory table maps each zone to its agent



TABLES



Live, measured, maintained.

The system went live on 27 October 2026 and is in its first weeks of production. The numbers here are straight from the n8n instance at the time of writing, not projections.

What I delivered: system design, database schema, 15 n8n workflows, 3 GoHighLevel workflows, WhatsApp Business API setup and template approval, AI classification and news-judging prompts, the valuation flow, monitoring, and full technical documentation the client can hand to any engineer.

367
production executions so far

0.8%
failure rate across all workflows

0.81s
average run time

100%
of 11 WhatsApp templates approved by Meta

STACK

n8n Cloud · GoHighLevel · Supabase

Plus OpenAI for classification and news judging, Tavily for news search, a property-data API with an automated valuation model, and the WhatsApp Business API.

HANDOFF

Documented for the next engineer

Architecture, workflow-by-workflow notes, database schema, integration contracts, deployment and operations runbook.

NEXT

Built to add agents and towns

New territories are rows in a table. New agents are a CRM user and an alert contact. No workflow changes needed.

Thank you.

Need a lead engine, a voice agent or a CRM build that runs on its own? Message me and tell me what you are trying to automate.

GoHighLevel · n8n · Make · Zapier · Retell AI / Vapi · Supabase · OpenAI / Claude

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