# **VisioScreen AI SDR Agent — Operational Document**

## **Part 1 — Final Mermaid Workflow (Color Coded, Parser-Safe)**

**To view code, copy the code into this site:**[**https://mermaid.live/**](https://mermaid.live/)

****flowchart TD

%% ===== PRE-CALL IO =====

XIN[Excel/Sheet Input

1: Phone

2: PDG name

3: Sector code

4: Store type

5-6: Signed stores

7: Client number] --> A[Start Call - greet, intro, disclosure, opt out]

%% ===== CONSENT =====

A --> C{Consent obtained}

C --> |Yes| W{Line type}

C --> |No or opt out| END0[Red: no consent]

%% ===== LINE CLASSIFICATION =====

W --> |IVR detected| IVR[DTMF mode - parse prompts and send digits]

W --> |Human answered| H{Who answered}

W --> |No audio or drop| ERR[White: retry once, else unreachable]

%% ===== IVR HANDLING =====

IVR --> I1[Send DTMF digits; end multi digit with #]

I1 --> I2{Menu success}

I2 --> |Yes| H

I2 --> |No first attempt| I1

I2 --> |No second attempt| IENDO[Orange: retry later today; ivr\_used true]

%% ===== HUMAN SPLIT =====

H --> |Gatekeeper Madame| GK

H --> |PDG direct| PDG

H --> |Voicemail| VM

H --> |Wrong or closed| WC

%% ===== GATEKEEPER 1 - TRANSFER NOW =====

GK --> |1 Transfer now| G1

G1 --> G1R[Say: Thank you very much]

G1R --> END1[Green: connected - bridge to human rep]

%% ===== GATEKEEPER 2 - CALL THIS AFTERNOON =====

GK --> |2 Call this afternoon| G2

G2 --> G2R[Say: Understood; offer 1530 or 1630; confirm]

G2R --> END2[Orange: call later today]

%% ===== GATEKEEPER 3 - ANOTHER DAY OR VACATION =====

GK --> |3 Another day or vacation| G3

G3 --> G3R[Say: No problem; ask when available; confirm day]

G3R --> END3[Violet: call on specified day]

%% ===== GATEKEEPER 4 - SUSPICIOUS =====

GK --> |4 Are you sure he knows| G4

G4 --> G4R[Say: Yes he is aware; we equip many stores in your chain and region; cite 1-2 signed stores from sheet]

G4R --> G4F{Follow up}

G4F --> |Transfers| END4a[Green: connected - bridge]

G4F --> |Unavailable today| END4bO[Orange: later today]

G4F --> |Unavailable future| END4bV[Violet: future day]

%% ===== GATEKEEPER 5 - NOT INTERESTED OR ALREADY EQUIPPED =====

GK --> |5 Not interested or already equipped| G5

G5 --> G5R[Say: Understand; we are different - content creation plus automation plus screen management; cite 1-2 signed stores; request 60 second transfer]

G5R --> G5F{Reaction}

G5F --> |Positive transfer| END5a[Green: connected - bridge]

G5F --> |Refuses| END5b[Red: refusal]

G5F --> |Call later today| END5cO[Orange: later today]

G5F --> |Call another day| END5cV[Violet: future day]

%% ===== EDGES: EMAIL AND LANGUAGE =====

GK --> |Email only| GE

GE --> GER[Ask PDG email; promise store specific examples; 48-72h follow up]

GER --> END6[Yellow: nurture]

GK --> |Language switch FR| GL

GL --> GLR[Continue in French or send visuals by email]

GLR --> END7[Yellow: nurture]

%% ===== PDG PATH =====

PDG --> P0{Two minutes now}

P0 --> |Yes| Q[Qualify 2-3: promos live; who updates; screens; main KPI]

Q --> PITCH[30s value: we own content performance - design schedule AB tests and screen management]

PITCH --> OBJ{Objection raised}

OBJ --> |No| MEET{Close: demo now or schedule}

OBJ --> |Yes| OL[Objection loop up to two: budget timing competitor send info]

OL --> |Resolved| MEET

OL --> |Unresolved| HOFF[Offer human handoff or schedule; polite close if declined]

HOFF --> END8G[Green: connected now]

HOFF --> END8O[Orange: set today]

HOFF --> END8V[Violet: set future]

MEET --> |Demo now| END9[Green: connected - bridge]

MEET --> |Later today| END10[Orange: later today]

MEET --> |Another day| END11[Violet: future day]

P0 --> |No| PSCHED[Offer today or future]

PSCHED --> |Today| END12[Orange: later today]

PSCHED --> |Another day| END13[Violet: future day]

%% ===== VOICEMAIL =====

VM --> V1[Leave voicemail: value, two windows, callback number]

V1 --> END14O[Orange: retry today]

V1 --> END14V[Violet: retry future]

%% ===== WRONG OR CLOSED =====

WC --> U1[Update record; research correct contact; mark status]

U1 --> END15[White: unreachable or closed]

%% ===== POST-CALL IO =====

%% Telegram for Orange, Violet, Red

END0 --> TGMSG[Telegram send: 6 fields plus color plus next call; ask promo question for Red and Violet]

END2 --> TGMSG

END3 --> TGMSG

END4bO --> TGMSG

END4bV --> TGMSG

END5b --> TGMSG

END5cO --> TGMSG

END5cV --> TGMSG

END8O --> TGMSG

END8V --> TGMSG

END10 --> TGMSG

END11 --> TGMSG

END12 --> TGMSG

END13 --> TGMSG

END14O --> TGMSG

END14V --> TGMSG

%% Excel write-back for all endpoints

END1 --> XOUT[Excel/Sheet Output: outcome color, timestamp, next call, notes, ivr\_used, transcript link]

END2 --> XOUT

END3 --> XOUT

END4a --> XOUT

END4bO --> XOUT

END4bV --> XOUT

END5a --> XOUT

END5b --> XOUT

END5cO --> XOUT

END5cV --> XOUT

END6 --> XOUT

END7 --> XOUT

END8G --> XOUT

END8O --> XOUT

END8V --> XOUT

END9 --> XOUT

END10 --> XOUT

END11 --> XOUT

END12 --> XOUT

END13 --> XOUT

END14O --> XOUT

END14V --> XOUT

END15 --> XOUT

%% ===== COLORS =====

classDef green fill:#22c55e,stroke:#166534,color:#0b2814;

classDef orange fill:#f59e0b,stroke:#a16207,color:#1a1203;

classDef violet fill:#8b5cf6,stroke:#5b21b6,color:#150a33;

classDef yellow fill:#eab308,stroke:#a16207,color:#1a1203;

classDef red fill:#ef4444,stroke:#991b1b,color:#2a0b0b;

classDef white fill:#e5e7eb,stroke:#9ca3af,color:#111827;

class END1,END4a,END5a,END8G,END9 green;

class IENDO,END2,END4bO,END5cO,END8O,END10,END12,END14O orange;

class END3,END4bV,END5cV,END8V,END11,END13,END14V violet;

class END6,END7 yellow;

class END0,END5b red;

class ERR,END15 white;

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## **Part 2 — Node-by-Node Explanations**

### **English (aligned to the diagram)**

* **XIN** – Load one row from Excel/Google Sheet:  
   phone, pdg\_name, sector, store\_type, signed\_store\_1, signed\_store\_2, client\_number.  
   Use signed\_store\_1/2 to cite nearby examples in 4️⃣ and 5️⃣.
* **A** – Start call: greet, introduce VisioScreen, state purpose; disclose recording and ask consent.
* **C** – Consent test: Yes → W. No/opt-out → **END0 (Red)** then **TGMSG** then **XOUT**.
* **W** – Line type: automated IVR vs human vs silence/drop.  
   Silence/drop → **ERR (White)** (retry once; else write back).
* **IVR → I1 → I2 → IENDO (Orange)** – DTMF: send digits (end multi-digit with #). One retry allowed; fail → mark ivr\_used=true, schedule same-day retry → **TGMSG → XOUT.**
* **H** – Human branch: Gatekeeper / PDG / Voicemail / Wrong or Closed.

**Gatekeeper core (client’s original 1–5, expanded per your instruction):**

1. **G1 → END1 (Green):** “I’ll transfer you.” → “Perfect, thank you very much.” → bridge to human rep.
2. **G2 → END2 (Orange):** “Not here this morning.” → “Understood—would 15:30 or 16:30 suit?”
3. **G3 → END3 (Violet):** “Back Friday.” → “No problem—when is he available? I’ll call that day.”
4. **G4 → END4a/4bO/4bV:** Suspicious → confirm awareness + social proof; **explicitly cite 1–2 local signed stores from XIN.**
   * Transfers → **Green;** Unavailable today → **Orange;** Future → **Violet.**
5. **G5 → END5a/5b/5cO/5cV:** “Not interested / already equipped.” → Reframe + differentiation; **cite 1–2 local signed stores from XIN**; request 60-second transfer.  
   * Transfers → **Green**; Refuses → **Red**; Later today → **Orange**; Another day → **Violet.**

**Edges:**

* **GE → END6 (Yellow):** Email-only → capture PDG email; send store-specific examples; set 48–72h follow-up.
* **GL → END7 (Yellow):** Switch to FR; or send visuals by email.

**PDG path:**

* **P0:** Ask “Two minutes now?” No → **PSCHED**.
* **Q:** Qualify (promos live? who updates? screens? KPI).
* **PITCH:** “We own content performance—design, schedule, A/B, and screen mgmt—so faster rollouts & better promo lift with no extra staff time.”
* **OBJ→OL:** Handle objections (budget/timing/competitor/info) up to 2 cycles; if unresolved → **HOFF** (offer human handoff or schedule).
* **MEET:** Close: demo now (**END9 Green**), later today (**END10 Orange**), another day (**END11 Violet**).
* **PSCHED:** If P0 = No: offer today (**END12 Orange**) or future (**END13 Violet**).

**Voicemail & Others:**

* **VM → END14O/V:** Short VM with value + two windows + callback number; schedule retry.
* **WC → END15 (White):** Wrong number / store closed → update record and write back.
* **ERR (White):** Network retry once; else unreachable.

**TGMSG (Telegram):** Trigger **only** for Orange/Violet/Red outcomes. Send:

* Store type + sector, PDG name, client number, signed stores, next call day/hour (for 🟧/🟪), color icon, and the answer to:  
   **“Avez-vous déjà des promotions sur écrans dans le magasin ou êtes vous uniquement en affiche papier dans le magasin ?”** If **Red (refusal)** or **Violet (future)** → always ask that question and record: **YES** (and **how many**) or **NO**.  
   Then → **XOUT**.

**XOUT (Excel write-back):** Update the same row with: outcome\_color, timestamp, next\_call\_at, notes, ivr\_used, transcript\_link (optional).

### **Français (résumé des nœuds)**

* **XIN** – Lecture d’une ligne Excel/Sheet : téléphone, PDG, secteur, type de magasin, 1–2 magasins déjà signés, n° client. Ces magasins serviront d’exemples pour 4️⃣ et 5️⃣.
* **A** – Démarrage, présentation, mention d’enregistrement et demande de consentement.
* **C** – Si refus/opt-out → **END0 Rouge** puis **TGMSG** puis **XOUT**.
* **W** – Classification : menu IVR / humain / silence. Silence → **ERR Blanc**.
* **IVR / I1 / I2 / IENDO Orange** – Saisie DTMF (# fin multi-chiffres), 1 réessai ; si échec → ivr\_used=true, rappel le jour même.
* **H** – Standardiste / PDG / messagerie / numéro faux ou magasin fermé.

**Gatekeeper (1–5) :**

1. **G1 Vert** : Transfert immédiat.
2. **G2 Orange** : Rappel l’après-midi (15 h 30 ou 16 h 30).
3. **G3 Violet** : Rappel à une date ultérieure.
4. **G4** : Réassurance + **citer 1–2 magasins signés** de la zone → transfert (Vert) / indispo aujourd’hui (Orange) / ultérieur (Violet).
5. **G5** : Ré-cadre + **citer 1–2 magasins signés** + demande de transfert 60 s → transfert (Vert) / refus (Rouge) / rappel (Orange/Violet).

**Bords :**

* **GE Jaune** : Email + suivi 48–72 h.
* **GL Jaune** : Passage en français ou envoi d’email avec visuels.

**PDG :**

* **P0** : « 2 minutes ? »
* **Q** : qualification (promos, contenu, écrans, KPI).
* **PITCH** : performance du contenu et gestion écrans.
* **OBJ/OL/HOFF** : gestion des objections, main humaine si besoin.
* **MEET** : démo maintenant (Vert), plus tard (Orange), autre jour (Violet).
* **PSCHED** : planification si occupé (Orange/Violet).

**Messagerie / divers :**

* **VM** : message concis + rappel planifié (Orange/Violet).
* **WC** : faux numéro / fermé (Blanc).
* **TGMSG** : envoi Telegram pour **Orange/Violet/Rouge** avec les 6 champs + couleur + créneau + réponse à la question « promos sur écran / affiches papier ».
* **XOUT** : mise à jour Excel (couleur, horodatage, prochain appel, notes, ivr\_used, lien transcription).

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# **Parts 4 & 5 — Full Scripts (English | Français)**

| **ENGLISH** | **FRANÇAIS** |
| --- | --- |
| **Introduction (Gatekeeper likely)**“Hello, this is Mr. Moreau from VisioScreen. We specialize in dynamic display solutions for retail stores, and we’re the number one provider in the large-format supermarket segment. I’d like to speak with Mr. ‘…’, the store’s owner or general manager, please. He already knows our work because we’re the only company in France offering this solution as a fully managed and supported service. May I speak with him for a brief moment?” | **Introduction (Interlocutrice)**« Bonjour, ici M. Moreau de la société VisioScreen. Nous sommes spécialisés dans les solutions d’affichage dynamique pour magasins et numéro 1 sur le marché des grandes surfaces. Je souhaiterais parler à Monsieur “.....” , s’il vous plaît. Il connaît déjà notre travail car nous sommes les seuls en France à proposer cette solution mais de manière gérée et accompagner . Pourrais-je l'avoir au téléphone je vous prie?. » |
| **Compliance disclosure** – “I’m an AI assistant calling for VisioScreen. This call may be recorded for quality. Is it okay to proceed?” | **Mention légale** – « Je suis un assistant vocal IA pour VisioScreen. Cet appel peut être enregistré pour le contrôle qualité. Êtes-vous d’accord pour continuer ? » |
| **1) Transfer Now**Madame: “I’ll transfer you.”Agent: “Perfect, thank you very much.”**Action:** Bridge to the human representative. **Log:** Green. | **1️⃣ Transfert immédiat Madame** : « Je vous le passe. »Agent : « Parfait, merci beaucoup. »Action → Transfert immédiat (🟩). |
| **2) Call Back This Afternoon**Madame: “He’s not here this morning.”Agent: “Understood—would 3:30 PM or 4:30 PM work better?”**Action:** Confirm the time. **Log:** Orange. | **2️⃣ Rappel cet après-midi** Madame : « Il n’est pas là ce matin. »Agent : « Très bien, préférez-vous que je vous rappelle en après-midi sur les coups de 15 h 30 ou 16 h 30 ? » → confirmation (🟧). |
| **3) Absent Today / Another Day**Madame: “He’s back Friday.”Agent: “No problem—when will he be available? I’ll call on that day.”**Log:** Violet. | **3️⃣ Absent aujourd’hui / autre jour** Madame : « Il revient vendredi. »Agent : « Pas de souci — quand sera-t-il disponible ? J’appellerai ce jour-là. » (🟪). |
| **4) Suspicious / Defensive**Madame: “Are you sure he knows what this is?”Agent: “Yes, absolutely. He knows us. We equip dozens of stores in your region and hundreds across your chain—for example, **{{signed\_store\_1}}** and **{{signed\_store\_2}}**. We’re the only company in France that manages both content creation and automation and the screen operations—that’s exactly why it’s worth his attention.” → If transfer: Green; if unavailable today: Orange; future: Violet. | **4️⃣ Méfiance / défensive** Madame : « Êtes-vous sûr qu’il sait de quoi il s’agit ? »Agent : « Oui, tout à fait. Il connaît le sujet ; nous équipons des dizaines de magasins dans la région et des centaines de votre chaîne. Pas loin vous connaissez peut-être ” … “ ( 1 ou 2 magasins de la région ) . Nous sommes les seuls en France à gérer la création et l'automatisation des contenus et la gestion des écrans — c’est pour cela que cela vaut son attention et qu'il sait qui nous sommes effectivement. » → Si transfert 🟩 sinon 🟧/🟪. |
| **5) Not Interested / Already Equipped**Madame: “Not interested / already equipped.”Agent: “I completely understand—that’s exactly why I’m calling. We don’t just sell screens; we create and automate the content and manage the screens with you day to day. For nearby references, we already work with **{{signed\_store\_1}}** and **{{signed\_store\_2}}** in your sector. Could you please connect me for a 60-second overview? I promise I won’t waste his time.” → Transfer: Green / Refusal: Red / Later today: Orange / Another day: Violet. | **5️⃣ Pas intéressé / déjà équipé** Madame : « Pas intéressé / déjà équipé. »Agent : « Je comprends tout à fait — c’est justement pour cela que j’appelle. Nous ne vendons pas seulement des écrans ; nous créons et gérons les contenus et accompagnons vos promotions quotidiennes. Pouvez-vous me le passer un instant, je vous assure que je ne lui fais pas perdre son temps madame ? » → Transfert 🟩 / Refus 🔴 / Rappel 🟧/🟪. |
| **Email-only Request**Agent: “Happy to. Could I have the PDG’s email so I can send store-specific examples and a brief overview? I’ll follow up in 48–72 hours.” **Log:** Yellow. | **Demande email seulement** Agent : « Avec plaisir — pourriez-vous me donner l’email du PDG pour envoyer des exemples adaptés et un bref résumé ? Je relancerai sous 48-72 h. » (🟨). |
| **Language Switch**Agent: “I’m happy to continue in French or, if you prefer, send an email with visuals.” **Log:** Yellow. | **Changement de langue** Agent : « Je peux continuer en français ou envoyer un email avec des visuels. » (🟨). |
| **Voicemail (PDG)**Agent: “Hello [Name], Mr. Moreau for VisioScreen. We design and schedule your promotional content and manage the screens with you—partners see faster rollouts and stronger performance. I’ll try you again around [time] for a quick moment.” → Orange/Violet. | **Messagerie vocale (PDG)**Agent : « Bonjour [Nom], M. Moreau pour VisioScreen. Nous créons et programmons vos contenus promotionnels et gérons les écrans avec et pour vous — vous auriez donc des résultats visibles plus rapides sur vos promotions ainsi que de meilleures performances et attractions. Je vous rappellerai vers [heure] en eseprent vous joindre au téléphone pour un court instant. » → 🟧/🟪.  STOP |
| **STOP / Transition to PDG path** | **Qualification PDG**« Avez-vous déjà des promotions sur écrans ? Qui met à jour les contenus ? Combien d’écrans ? Votre priorité : trafic, panier moyen ou performance promo ? » |
| **PDG Qualification**“Do you already run promotions on in-store screens? Who updates the content today? Approximately how many screens? What’s the top priority—footfall, basket size, or promo sell-through?” | **Argumentaire valeur**« Nous portons la performance du contenu — conception, programmation et A/B test, gestion des écrans. Résultats plus rapides et meilleures promos sans charge supplémentaire. » |
| **Value Pitch**“We own content performance: we design, schedule and A/B test creatives, and we manage the screens. Partners get faster rollouts and better promo lift with no extra staff load.” | **Options de clôture**« Je peux vous montrer deux exemples rapides — dix minutes maintenant ou demain à [heure] ? » → 🟩/🟧/🟪. |
| **Closing Options**“I can show two quick examples—ten minutes now, or tomorrow at [time]?” → Green / Orange / Violet. | **Réponses aux objections**Budget : « Forfaits simples selon nombre d’écrans; ROI en un trimestre. »Timing : « Bloquons 10 minutes à [heure1] ou [heure2]. »Concurrent : « Vous connaissez la valeur des écrans; nous gérons le contenu. »Info : « Meilleur email pour envoyer des exemples + relance 48–72 h. » |
| **Objection RepliesBudget:** “Simple flat plans by screen count and content cadence; most partners see ROI within a quarter.”**Timing:** “Let’s lock 10 minutes at [time1] or [time2].”**Competitor:** “Great—you already value screens; we handle the content and scheduling for performance.”**Send Info:** “What’s the best email? I’ll send examples and follow up in 48–72 hours.” | **Gestion IVR / DTMF**Détecte un menu, envoie les chiffres (# pour terminer), un réessai, journal Orange si échec. |

# **Jira Epic: Build and Deploy VisioScreen AI SDR Voice Agent (Excel + Telegram Integrated)**

#### **Epic Summary**

Develop and deploy an MVP-level French-language AI SDR (Sales Development Representative) voice agent for **VisioScreen**, designed to perform outbound calls to retail stores, qualify prospects, log results in Google Sheets, and send outcome notifications via Telegram. The system must operate fully on **open-source or free-tier services**, use **ElevenLabs French male voice**, and run on **Render** servers. The architecture should employ **Vapi** for conversational logic orchestration (or an open-source alternative), and optionally **n8n** for workflow automation.

### **Epic Goals**

1. Build a fully functioning AI voice agent capable of initiating and handling sales conversations using the operational document provided.
2. Integrate the agent with a Google Sheet as its primary CRM and data repository.
3. Implement a Telegram notification system for key call outcomes.
4. Ensure full bilingual (English/French) conversation flow alignment for client validation.
5. Deliver a ready-to-test MVP hosted on Render using free/open-source tools.

## **Milestone 1 – Project Setup and Environment Configuration**

**Goal:** Prepare development environment, integrate necessary APIs, and establish basic infrastructure.

**Tasks**

1. **Server Setup (Render):**
   * Create or configure an existing Render server instance for hosting the agent backend.
   * Ensure Docker or Node.js environment supports LLM/STT/TTS integration.
   * Verify Python or JavaScript runtime compatibility for required packages.
2. **Google Sheets Integration:**
   * Set up a connected Google Sheet containing the following columns:  
      Phone Number, PDG Name, Sector, Store Type, Signed Store #1, Signed Store #2, Client Number, Outcome Color, Timestamp, Notes.
   * Implement OAuth or service-account access for read/write operations.
3. **Telegram Bot Setup:**
   * Create a Telegram bot via @BotFather.
   * Configure bot token and set up an n8n or direct webhook listener to receive structured call logs.
   * Define Telegram message template: color icon (🟧/🟪/🔴), call result, store details, and question response.
4. **Repository & Workflow Structure:**
   * Create a new Git repository.
   * Add folders for agent\_logic, voice\_integration, n8n\_workflow, and docs.
   * Upload the full operational document (Markdown) for internal reference.

## **Milestone 2 – Voice Agent Core Development**

**Goal:** Build and test the conversational AI core using Vapi or an open-source equivalent.

**Tasks**

1. **LLM Orchestration:**
   * Choose the orchestrator based on cost and stability:  
     + Primary: Vapi (if free tier allows French TTS/STT integration).
     + Alternative: Coqui TTS + Whisper STT + local GPT (e.g., Ollama or OpenAI API key limited to dev testing).
   * Implement context memory for handling store-specific conversations.
2. **Voice Integration (ElevenLabs):**
   * Connect ElevenLabs French male voice for real-time TTS output.
   * Configure streaming TTS output via WebSocket or API for low latency.
   * Handle input from microphone or call audio for STT processing.
3. **Conversation Flow Implementation:**
   * Import and implement full conversation tree from operational document.
   * Map each Mermaid node (G1–G5, P0, END, TGMSG, XIN, XOUT) to corresponding voice logic in Vapi or equivalent.
   * Embed French-language script exactly as written by the client; English is only used for internal documentation.
4. **Excel/Sheet Input Logic (XIN):**
   * Build function to fetch next contact row from Google Sheet.
   * Parse 7 key fields and push data into conversation context.
   * Auto-fill regional store names dynamically in script nodes 4️⃣ and 5️⃣.

## **Milestone 3 – Call Execution and Data Logging**

**Goal:** Enable end-to-end call handling with voice input/output, outcome detection, and automated logging.

**Tasks**

1. **Call Handling Loop:**
   * Implement outbound call initiation or audio session (depending on Vapi/alternative capabilities).
   * Trigger agent intro and manage branching logic per Mermaid flow.
2. **Excel/Sheet Output Logic (XOUT):**
   * On call completion, write to the same Google Sheet row:  
     + Outcome Color, Timestamp, Next Call Date/Time, Notes, ivr\_used, transcript\_url.
   * Validate proper row locking and concurrency handling.
3. **Telegram Message Dispatch (TGMSG):**
   * For outcomes 🟧, 🟪, or 🔴:  
     + Send structured Telegram message including 6 Excel fields, color emoji, next call date/time, and the French question  
        *“Avez-vous déjà des promotions sur écrans dans le magasin ou êtes-vous uniquement en affiche papier dans le magasin ?”*
     + Record the answer in the message (YES/NO + count).
4. **Fail-Safe / Error Handling:**
   * Log unreachable numbers, wrong contacts, or IVR loops (⚪ White).
   * Retry logic for network drops (max 1 retry per contact).
   * Maintain error log in separate tab of Google Sheet.

## **Milestone 4 – Integration with n8n Automation**

**Goal:** Connect automation layer for workflow orchestration and monitoring.

**Tasks**

1. **Workflow Setup:**
   * Create n8n workflow hosted on Render.
   * Triggers:  
     + Start node: Google Sheets new row event.
     + Webhook node: agent call completion.
     + Telegram node: send message template.
   * Ensure each Telegram message matches the defined schema.
2. **Data Pipeline Validation:**
   * Test full path: Google Sheet → Agent Call → Outcome → Telegram → Sheet update.
   * Add conditional logic for re-queueing 🟧/🟪 outcomes.
3. **Monitoring and Logs:**
   * Store execution logs in n8n dashboard or Render logs.
   * Daily cron job to check unprocessed rows (status = blank).

## **Milestone 5 – Testing and Client Validation**

**Goal:** Validate voice accuracy, logic flow, and French-language compliance with client.

**Tasks**

1. **Internal English QA:**
   * Developer tests logic flow using English text responses to confirm all nodes work.
   * Check data writes correctly in Sheets and Telegram outputs trigger.
2. **Client French QA:**
   * Client performs live test calls in French.
   * Verify pronunciation, intonation (ElevenLabs voice), and accuracy of branching (Madame 1–5, PDG paths).
3. **Feedback Round:**
   * Record client feedback (via Google Doc or Notion).
   * Implement minor updates (timing, tone, or logging format).

## **Milestone 6 – Documentation and Deployment**

**Goal:** Deliver final MVP with full handover documentation.

**Tasks**

1. **Code Documentation:**
   * Comment each function: XIN, XOUT, TGMSG, conversation logic.
   * Provide .env.example file for API keys (Google, Telegram, ElevenLabs).
2. **Deployment on Render:**
   * Push Docker or Node app to Render.
   * Link Google credentials and Telegram webhook.
   * Verify runtime < 500MB RAM usage for free-tier eligibility.
3. **User Guide:**
   * Provide PDF and Notion summary including:  
     + Setup instructions for environment variables.
     + Flow overview (Mermaid diagram).
     + Usage and maintenance (how to reset sheet, add new leads, etc.).
4. **Acceptance Criteria:**
   * AI agent executes all 5 Madame scenarios + PDG path correctly.
   * Sheet and Telegram logs reflect accurate statuses and timing.
   * French voice and phrasing match client’s approved script.
   * All operations run on free tiers (Render, n8n, Vapi/open-source stack).

### **Deliverables**

* Fully working AI SDR voice agent deployed on Render.
* Google Sheet integration with automated read/write.
* Telegram notification workflow.
* n8n automation on Render.
* Documentation (technical + operational).
* MVP ready for live client testing in French.