**VitrineAlu Marketing Automation Plan (v2)**

**1) Executive Summary**

Automate creation of **cinematic short videos** and branded image posts from your installation photos (local + Google Drive), generate **platform‑specific captions/hashtags**, and **schedule drafts** for a once‑a‑week **owner approval**. Stack: **Google Gemini (image enhancement), OpenAI Sora via API where available (image→video), fallbacks (Runway/Pika/FFmpeg), n8n orchestration (Docker), Buffer/Wix for scheduling**. Outputs target **IG/TikTok/FB/YouTube Shorts** (vertical) + **LinkedIn** (B2B).

**2) Objectives**

* **Leads & reach**: Consistent, premium content to drive quote requests.
* **Low‑admin**: “Approve once per week”; no daily manual editing.
* **Cinematic look**: High‑quality images, subtle camera motion, tasteful overlays.
* **Brand consistency**: Fonts/colors/logo watermark; privacy safe (faces/plates blurred).

**3) Constraints & Assumptions**

* **Budget**: ≤ £150/mo leveraging existing subs (ChatGPT Pro, Gemini, Wix). Buffer allowed.
* **Hardware**: Windows 11, i7‑8700K + **RTX 4070 Super** always on.
* **Assets**: Photos on local NAS + Google Drive.
* **Access**: Sora/API availability can vary by region/provider; include fallbacks.

**4) System Architecture (Services & Tools)**

* **Enhance Service (Python/FastAPI)**
  + **Primary**: Google **Gemini Image** API (enhance, denoise, upscale, color grade).
  + **Optional local**: Real‑ESRGAN/CodeFormer (GPU) if needed.
  + **Background**: cleanup or replace (mask product; composite new background).
  + **Privacy**: face & license‑plate blur; **watermark**; export variants.
* **Video Service (Node/TypeScript)**
  + **Adapter pattern**: Sora (Azure OpenAI) → Runway/Pika → FFmpeg (Ken Burns + crossfades)
  + Inputs: enhanced image(s) + prompt/beat sheet + brand overlay; Outputs: MP4 (9:16 / 16:9).
* **Captioner (Node/TS)**
  + **LLM providers**: OpenAI + Gemini; platform‑tuned prompts (IG/TikTok casual; LinkedIn pro).
  + JSON output: caption, 3–5 hashtags, CTA, safe‑words/guardrails.
* **Orchestrator (n8n in Docker)**
  + Watch folders (Drive/local) → Enhance → Video → Caption → Upload → **Create Buffer drafts**.
  + Weekly **HTML digest** email (thumb + caption + slot) with **signed approve/reject** links → webhook finalizes publishing.
* **Scheduler**
  + **Preferred**: Buffer API (multi‑platform, drafts, timing).
  + **Wix**: use **Automations/Webhooks** to trigger n8n or display videos on site if desired.
* **Data & Infra**
  + Storage: /assets/source, /assets/ready, /assets/renders.
  + DB: Postgres (posts, assets, approvals, metrics). Queue: Redis.
  + **Docker Compose** for n8n, services, Redis, Postgres; healthchecks & logs.
  + Config: /config/brand.yaml, /config/schedule.yaml, /config/providers.yaml.

**5) End‑to‑End Workflow**

1. **Ingest**: New photos arrive in Drive/local “incoming/”.
2. **Enhance**: Gemini Image applies upscale/denoise/color; optional **background replace** (keep product). Face/plate blur; **watermark**; save to “ready/”.
3. **Assemble Video**:
   * Try **Sora** (image + prompt → 10–20s cinematic clip).
   * If unavailable/unsuitable: **Runway/Pika**; else **FFmpeg** (Ken Burns, crossfades, brand end‑card).
4. **Caption**: LLM produces platform‑optimized caption + hashtags + CTA (tone rules).
5. **Draft & Approve**: Upload assets; create **Buffer drafts** per **schedule.yaml**; send **weekly digest** (Approve/Reject links).
6. **Publish**: On approval, drafts are confirmed to auto‑post.
7. **Metrics**: Pull performance (views/likes/clicks) weekly → DB → summary in email.

**6) Content Strategy & Cadence**

* **IG/TikTok/FB/Shorts**: 3 posts/week (vertical 1080×1920; 15–30s).
* **LinkedIn**: 1–2 posts/week (image carousel or 16:9 30–60s; spec/value focus).
* **Optional**: Wed story/pin repurpose.
* **Seasonality**: Jan–May lighter; Jun+ heavier.

**7) Brand, Safety & Quality**

* **Brand**: logo (70% opacity, BR corner), fonts (Poppins/Inter or specified), palette in brand.yaml.
* **Safety**: forbid exact addresses; auto‑blur faces/plates; avoid medical/claims; “authentic but premium.”
* **QA**: size/aspect checks; max hashtags; caption length; fallback if any step fails.

**8) Implementation Roadmap (Phased)**

**Phase 1 – Foundations (1):**

* Docker Compose for n8n, Enhance (FastAPI), Video (Node), Captioner, Redis, Postgres.
* Google Drive/local watch; enhance pipeline; watermark/blur; write to ready/.

**Phase 2 – Video (2):**

* Video adapters: **Sora (Azure API)** submit/poll; **Runway/Pika** fallback; **FFmpeg** fallback with Ken Burns + crossfades + brand end card.
* Config flags: VIDEO\_BACKEND=sora|runway|pika|ffmpeg.

**Phase 3 – Orchestration & Scheduling (3):**

* n8n flow: ingest→enhance→video→caption→upload→**Buffer drafts** per schedule.yaml.
* Weekly digest email (thumbnails, captions, times) with **HMAC‑signed** approve/reject; webhook to finalize.

**Phase 4 – Copy & Carousels (4):**

* Platform prompt packs; hashtag rules; carousel grouping (2–5 images) and Buffer multi‑asset post.

**Phase 5 – Metrics & Reports (5):**

* Nightly metrics harvester; Sunday summary; top‑performers + learnings.

**Phase 6 – Hardening (6):**

* Retries/backoff; cost guards; observability (pino logs, alerts); security (secrets, scopes).

**9) Config & Env (examples)**

* GEMINI\_API\_KEY, OPENAI\_API\_KEY, AZURE\_OPENAI\_ENDPOINT, AZURE\_OPENAI\_KEY
* RUNWAY\_API\_KEY, PIKA\_API\_KEY, BUFFER\_TOKEN, WIX\_WEBHOOK\_SECRET
* GOOGLE\_SA\_JSON, DB\_URL, REDIS\_URL, MAIL\_HOST/USER/PASS
* brand.yaml (logo path, colors, fonts, watermark opacity/pos)
* schedule.yaml (weekly slots by platform/timezone, max lengths, aspect)
* providers.yaml (backend selection, timeouts, retries, cost caps)

**10) Risks & Mitigations**

* **Sora access/region** → Use **Azure** where available; fall back to Runway/Pika/FFmpeg.
* **API rate/cost** → throttle in n8n; queue + backoff; weekly batch.
* **“AI look” backgrounds** → conservative prompts; easy toggle to original/blurred background.
* **Music/licensing** → use royalty‑free library; avoid trending audio automation.

**11) Acceptance Criteria (DoD)**

* Drop 10 new photos → within 1–2 hrs system produces **3+ vertical clips** + **1 LinkedIn asset**, all **on‑brand**, privacy‑safe, with captions/hashtags, **queued as Buffer drafts**, and included in **one digest email** with working approve/reject links.
* On approval, posts publish at configured times; metrics appear in Sunday email.

**Quick “How We Operate” (owner view)**

1. Add photos during week.
2. Sunday: open the digest email; **Approve All** (or tweak rejects).
3. Done—content auto‑posts all week.