

企业 AI 转型 · 模拟业务案例。

ENTERPRISE AI TRANSFORMATION · SIMULATED BUSINESS CASE

Workspace · 订单运营 AI Agent

Workspace·Order Operations Agent

项目背景 | Project Background

- **制造贸易企业的订单运营涉及多个系统与部门，信息分散、流程割裂，大量工作依赖人工协调与重复跟进。**
Order operations in manufacturing and trading companies span multiple systems and departments, creating fragmented information, disconnected workflows, and heavy reliance on manual coordination and follow-up.

产品定位 | Product Positioning

- **以订单运营为切入点的 Agent 协作 Workspace，通过多个专业 Agent 协同，承担可重复、流程化的执行与跟进工作，同时保留人的业务判断与决策权，推动订单运营从被动响应走向主动运营。**
An Agent Collaboration Workspace, starting from Order Operations, coordinating specialized Agents to handle repetitive, process-driven execution and follow-up, while keeping business judgment and decision-making with people, evolving order operations from reactive response toward proactive operations..

我的角色 | My Role

- **AI 产品经理 | 负责业务拆解、场景设计、Agent 边界定义、MVP 规划、迭代路线与 ROI 设计。**
AI Product Manager | Responsible for business decomposition, scenario design, Agent boundary definition, MVP planning, product roadmap, and ROI modeling.

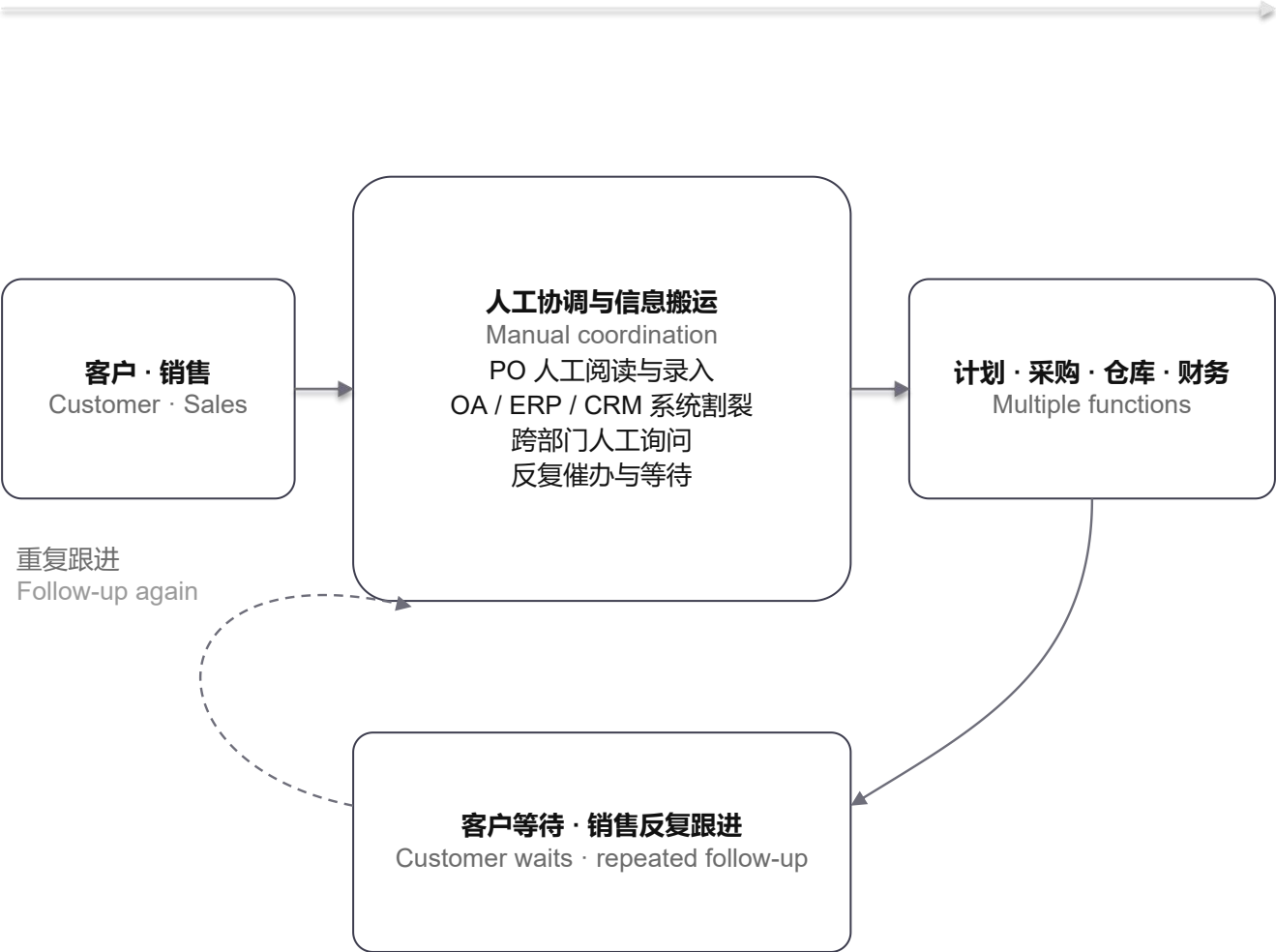
项目性质 | Project Type

- **模拟业务案例 | 完成产品方案设计、MVP 规划与业务价值评估，未线上落地。**
Simulated Business Case | Designed the product solution, MVP plan, and business value assessment; not deployed in production.

AI 理解任务，Agent 协调执行，Workflow 控制流程，企业系统执行，人负责关键决策。
AI understands, Agents coordinate, Workflows control, systems execute, humans decide.

业务问题：订单运营：协调多、跟进多、同步慢

Business Problem · Too much coordination. Too much follow-up. Slow updates.



当前痛点 Current pain points:

Pain points that consume selling time:

内部流程复杂、信息分散、跨部门跟进频繁，异常依赖人工发现和推动，导致客户等待、业务响应慢，并增加遗漏与延迟风险。

Complex processes, fragmented information, frequent cross-functional follow-ups, and manual exception handling lead to customer waiting, slower response, and higher risk of missed actions and delays.

人正在成为信息瓶颈。

People are becoming the information bottleneck.

让人专注判断与决策，让 Agent 负责执行与跟进。

Let people focus on decisions while Agents handle execution and follow-up.

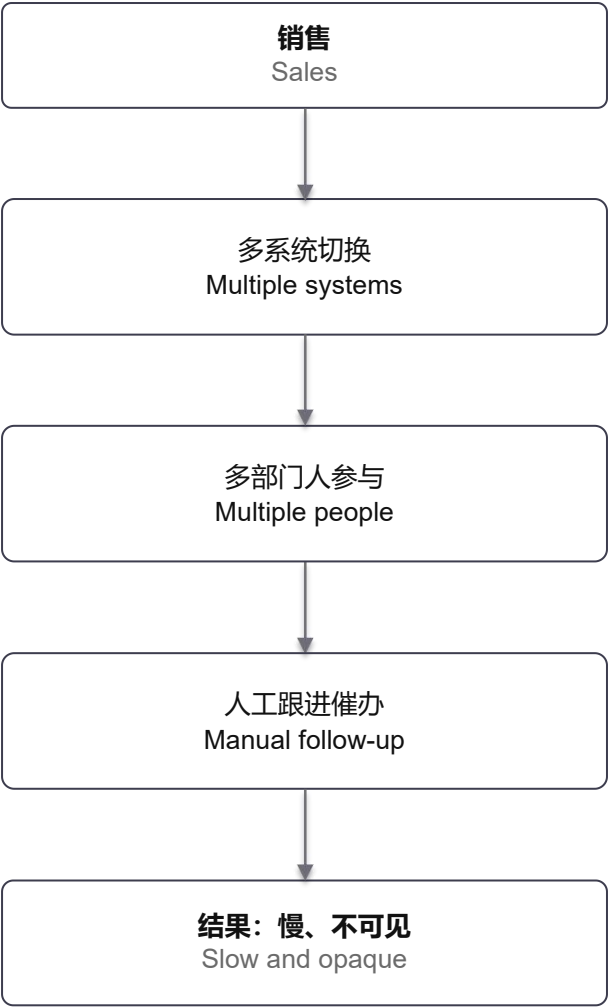
详细产品需求、业务规则与功能规格见《产品需求文档（PRD）》（链接见最后一页）。

Detailed product requirements, business rules, and functional specifications are documented in the Product Requirements Document (PRD), with the link provided on the final page.

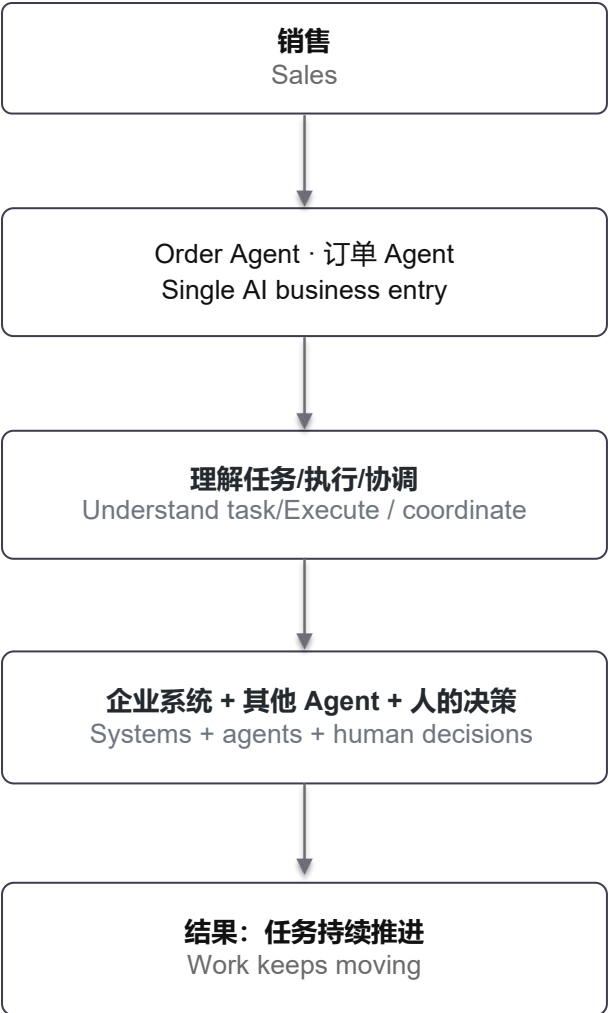
从人工流程到 Agent 流程

From Manual Operations to Agentic Workflow

AS-IS 现状：人驱动



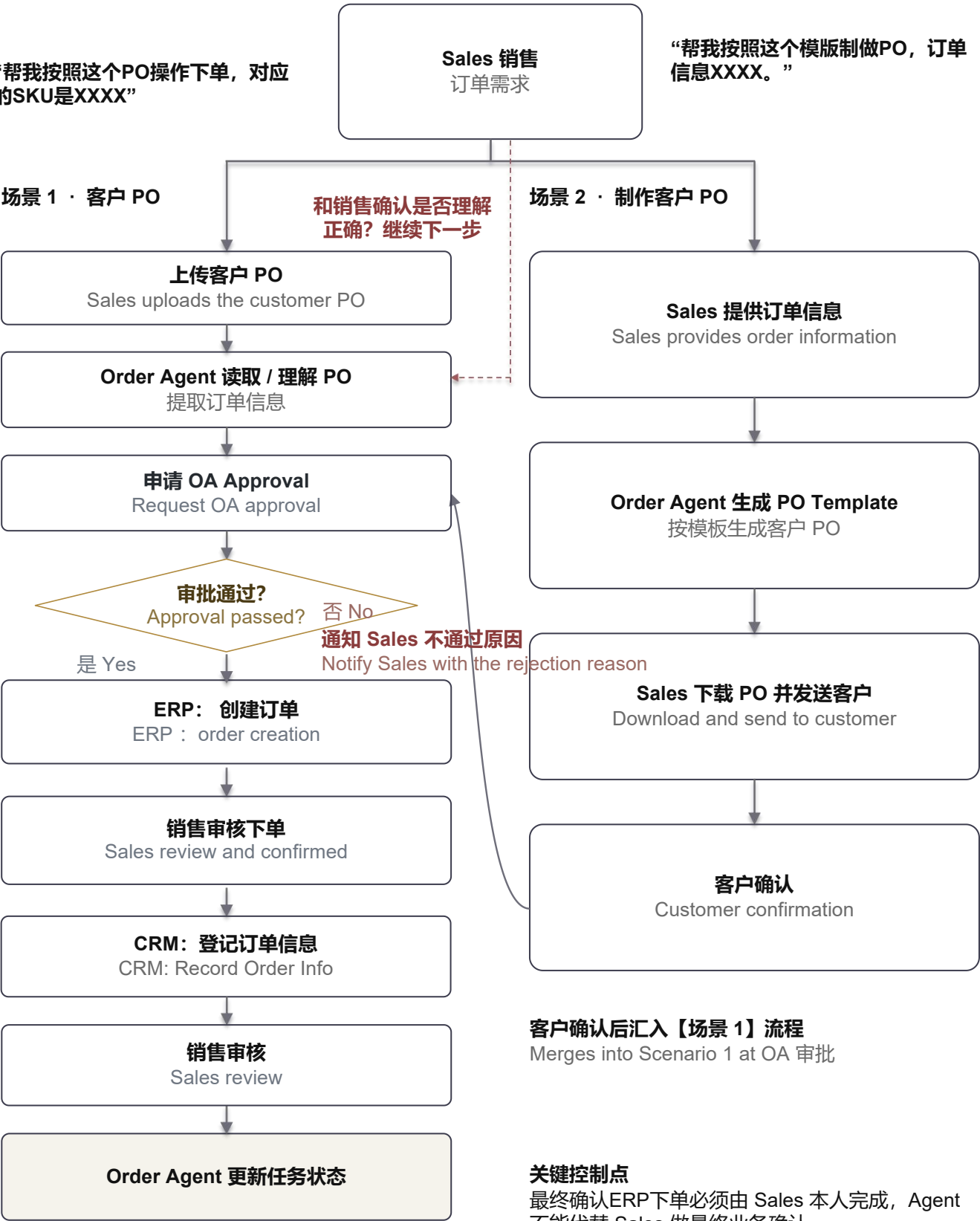
TO-BE 目标：Agent 驱动



把人工跟执行与跟进交给 Agent，让业务流程持续向前。
Let Agents handle the follow-up, so business workflows keep moving.

核心场景 01：PO → Order

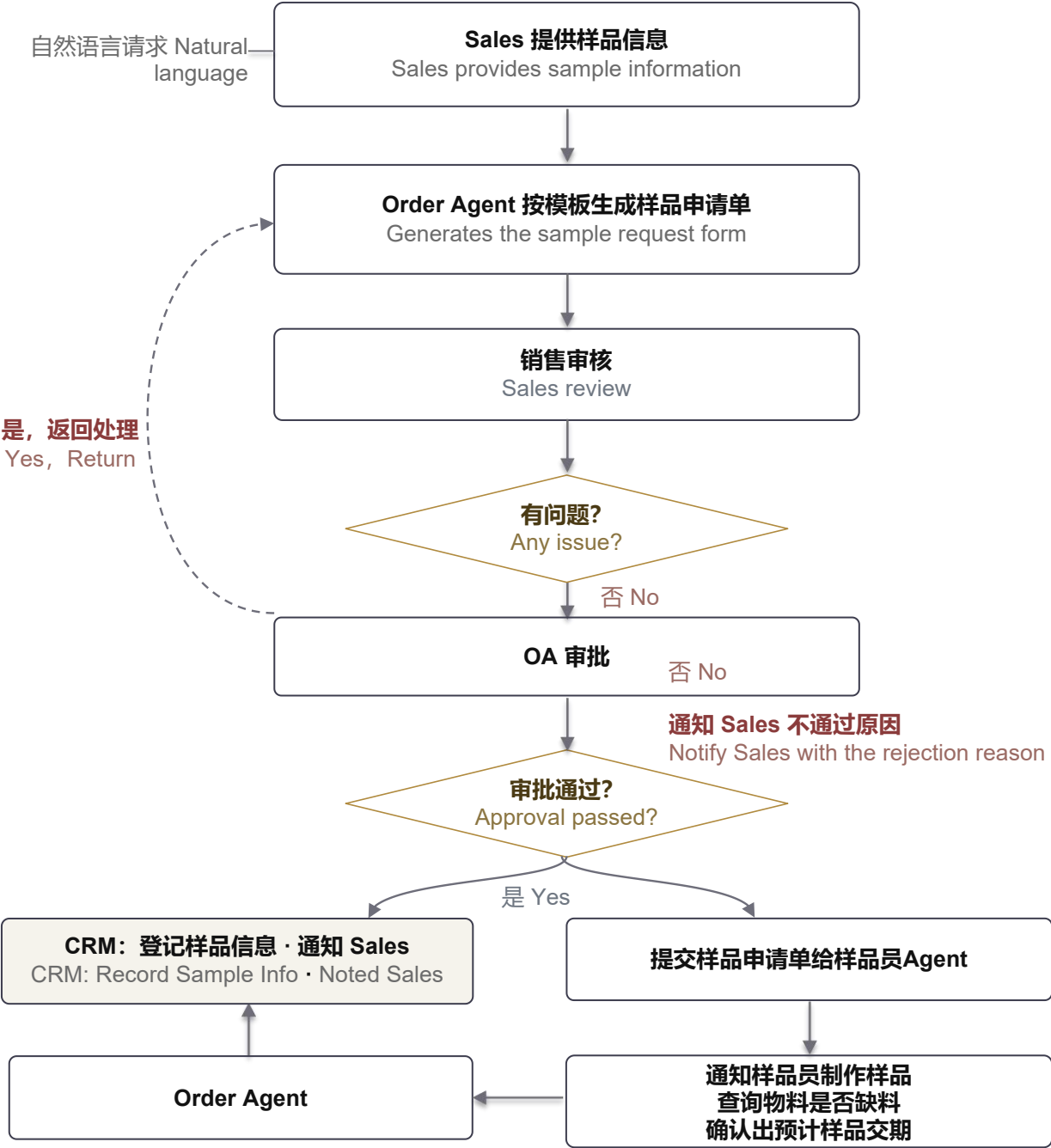
Core Scenario 01 — PO to Order · Two entry paths, one order flow



核心场景 02：样品申请跟进

Core Scenario 02 — Sample Request

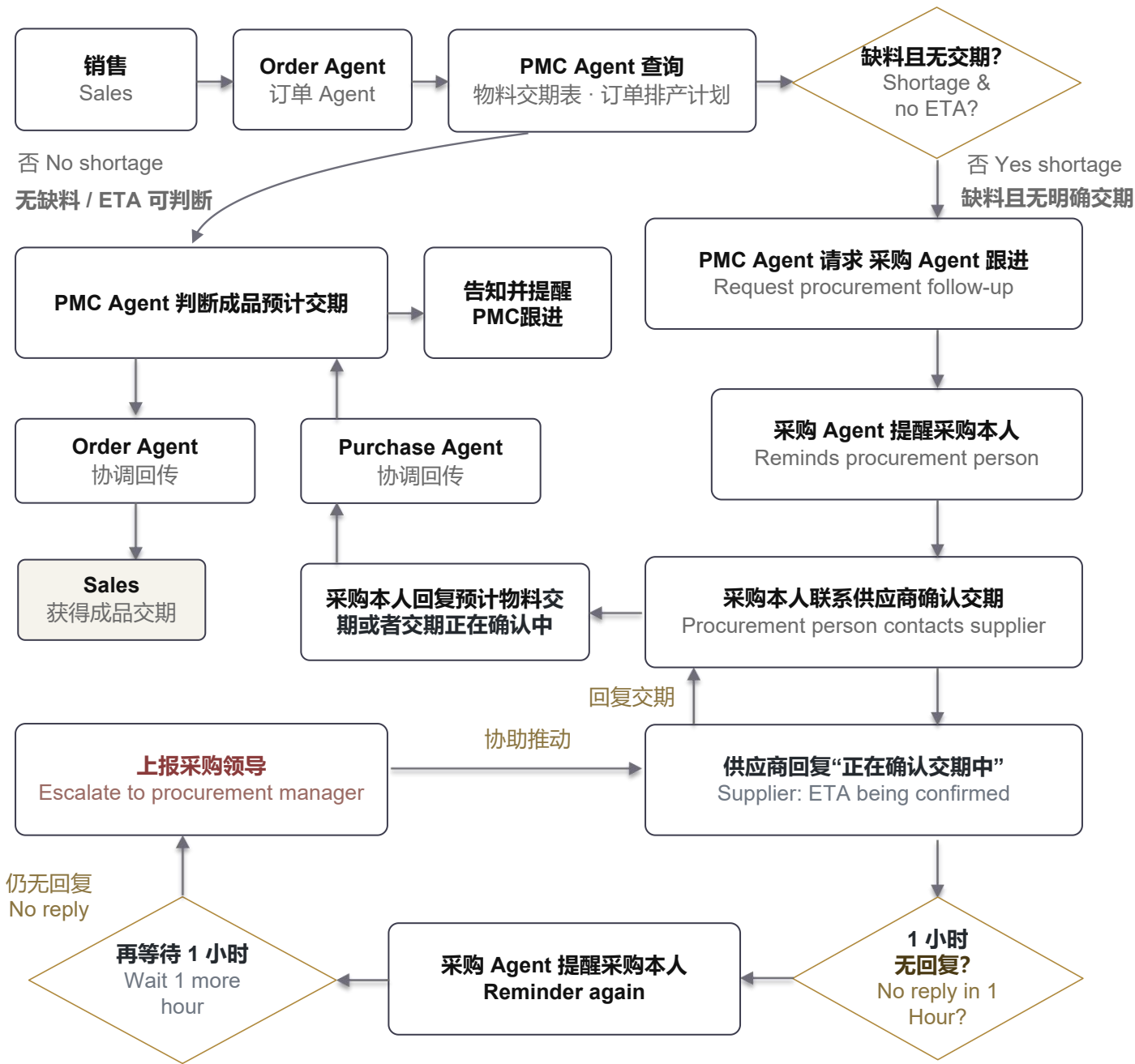
“帮我申请 ABC 客户 A001 产品 10 个样品，规格是XXXX。”



核心场景 03：订单交期跟进

Core Scenario 03 — Delivery Follow-up

“帮我跟一下这个订单PO: XXXX 什么时候能交？”



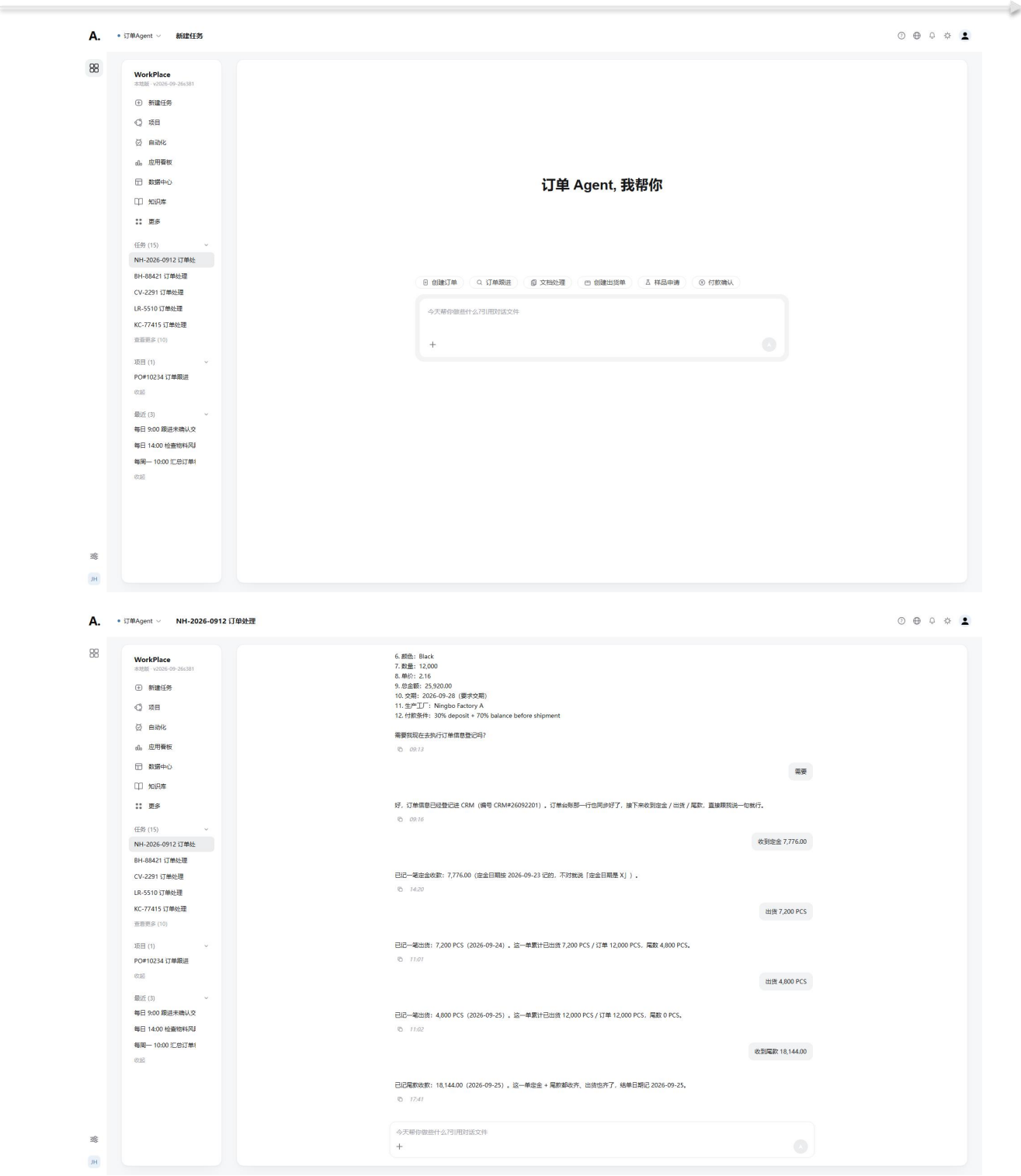
Agent 主动查询与跟进，减少业务等待和跨部门协调。

The Agent proactively checks and follows up, reducing waiting time and cross-functional coordination.

Purchase Agent 不直接联系 Supplier，真正联系供应商的是采购本人。

界面 01：任务入口与文档处理

Screens 01 — Task Entry & Document Handling



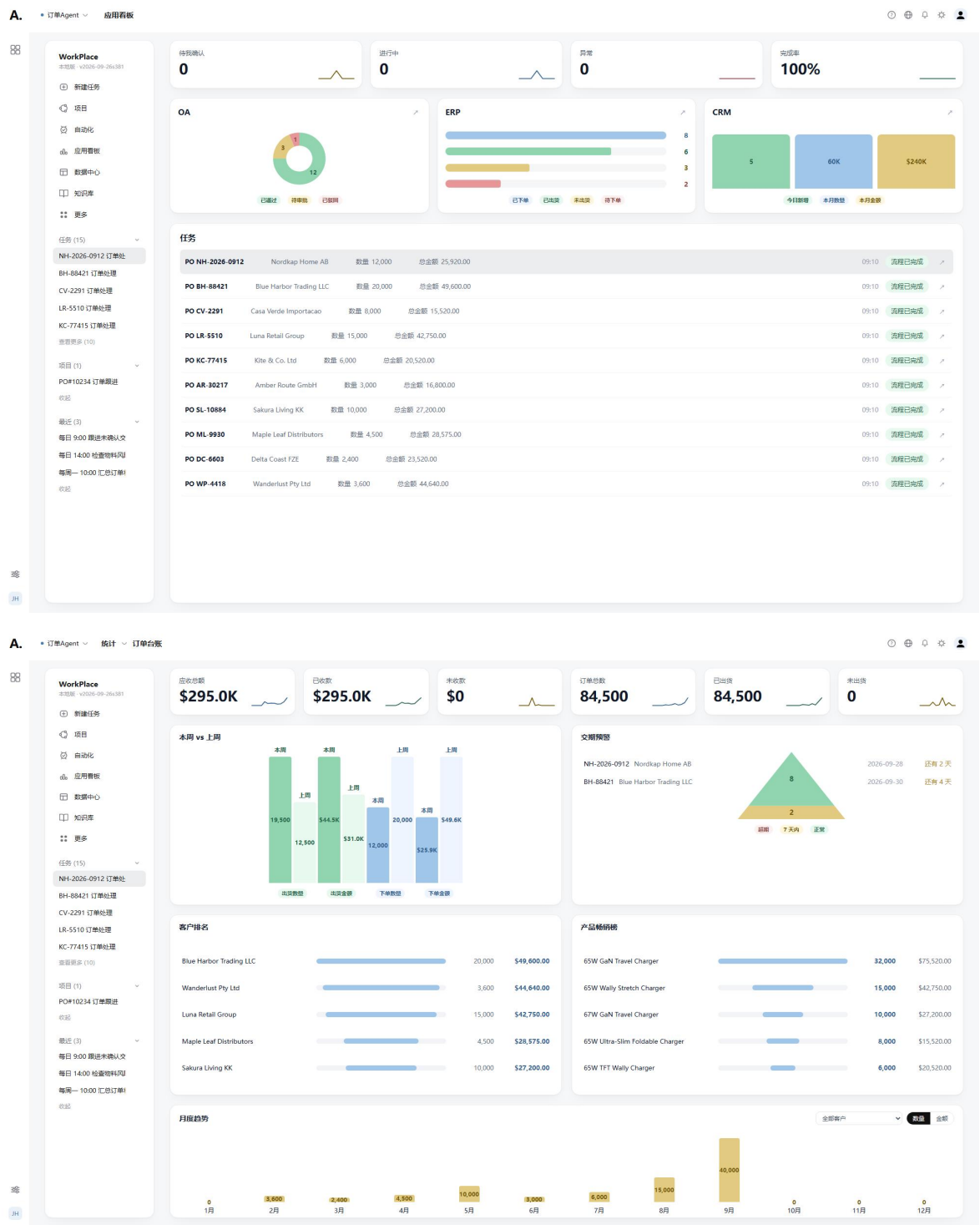
客户 PO 拖进来即可解析，原始文件与解析结果一直并存可查。
Drop in a customer PO: the source file and the parsed result stay side by side.

逐字段确认，只改被指的那一格，其余字段不动。
Confirm field by field — only the field you point at changes.

金额联动重算：改单价，总金额自动更新并标注已重算。
Amounts recalculate automatically and are marked as recomputed.

界面把「Agent 能做」变成「人能看懂、能接管」：每一步都有状态、有出口、有边界。
The UI makes the Agent legible and interruptible: every step has a state, an exit and a boundary.

界面 02：一屏看进度，一屏看统计
Screens 02 — Dashboard & Analytics



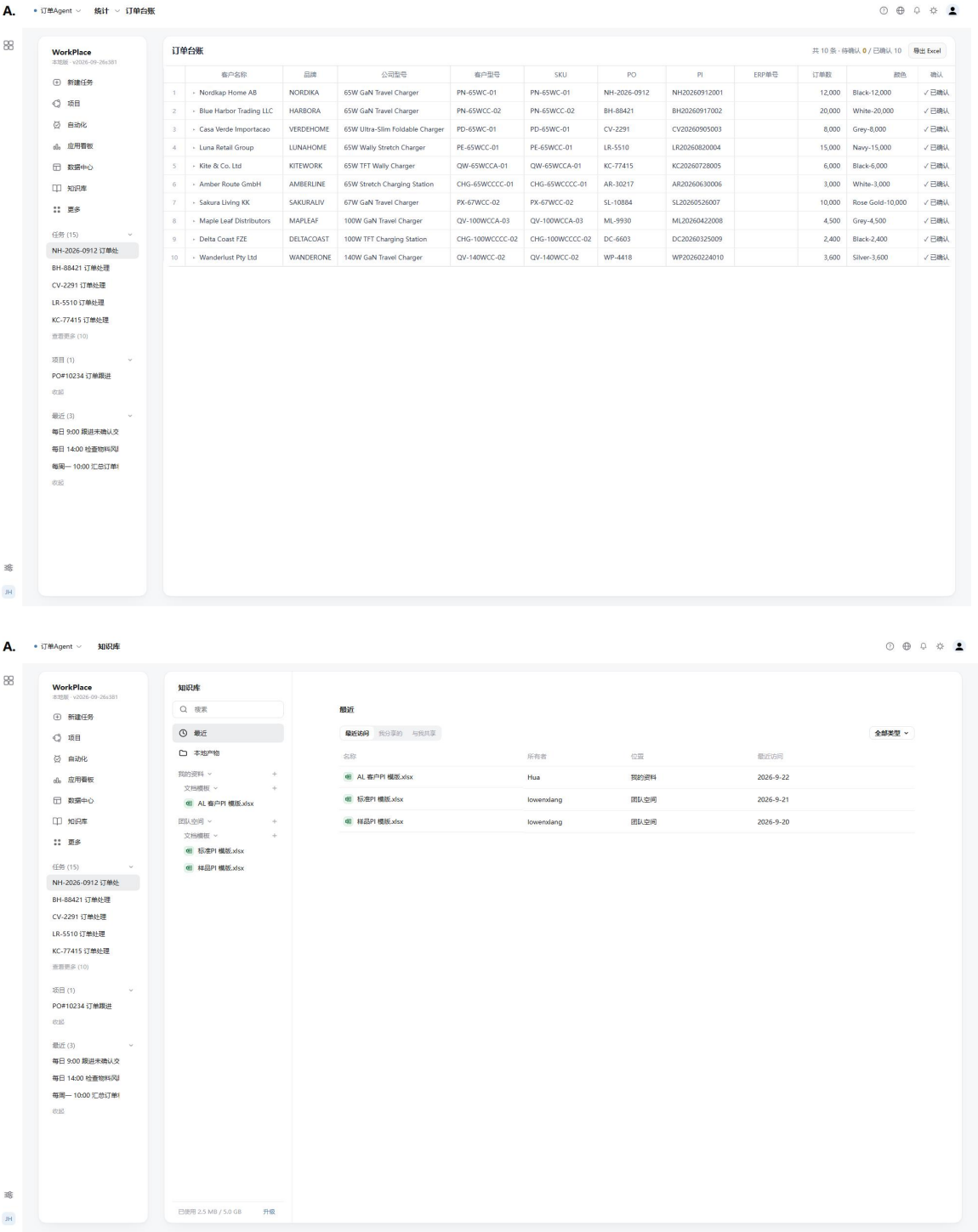
数字就是待办，不是报表：异常、临期、未收尾款自己列出来，带 PO 与客户名。
Numbers are to-dos, not reports — exceptions and due-soon orders surface with PO and customer.

一套数字，三个视图：看板 / 统计 / 台账同源，任一个数都点得回那张订单。
One dataset, three views — dashboard, analytics and ledger agree, and every figure traces back.

一屏看清生意：客户排名、产品畅销榜、月度趋势，谁在下单、哪个型号在走量。
The business at a glance — top customers, best sellers and monthly trend.

把数据变成动作：能看懂、能追究、能接管。
Data turned into action — legible, traceable, takeover- ready

界面 03：订单台账与知识库
Screens 03 — Order Ledger & Library



文件在库里：模板与资料统一管理，派活时直接引用。
Docs in the Library — referenced the moment a task starts..

一行一单：逐行确认，收付款与出货收在子行，展开见每一笔。
One row per order — confirm per row; payments and shipments expand into detail..

先跑起来：真 CRM 要先过授权、字段映射、权限；台账当天能用，可导出 Excel。
Runs before integration — the ledger works today and exports to Excel.

默认保留人工确认点：Agent 提效，人保留判断权与最终确认权。
Human confirmation is a design choice, not a limitation: the Agent drafts, the human decides.

Agent 如何运行

How the Agent Works



Prompt: 定义 Agent 如何理解任务、结合业务上下文并生成结构化决策。
Defines how the Agent understands the task, applies business context and produces structured decisions.

Workflow: 定义执行顺序、分支逻辑、验证机制以及人工确认节点。
Defines the execution sequence, branching logic, validation and human checkpoints.

Skill: 封装可复用的业务能力，例如订单创建、订单跟进和出货协同。
Packages reusable business capabilities such as order creation, follow-up and shipment coordination.

Tool: 连接 Agent 与 CRM、ERP、OA 等企业系统。
Connects the Agent to enterprise systems such as CRM, ERP and OA.

State: 维护业务执行上下文、任务进度以及 Workflow 中的待处理动作。
Maintains business execution context, task progress, and pending actions across the workflow.

Evaluation: 评估任务完成率、业务准确性、工具可靠性、人工介入率和异常处理能力。
Measures task completion, business accuracy, tool reliability, human intervention and exception handling.

先说清边界，再说能力；先定义怎么衡量，再谈效果。
Boundaries first, capabilities second; define how we measure before claiming results.

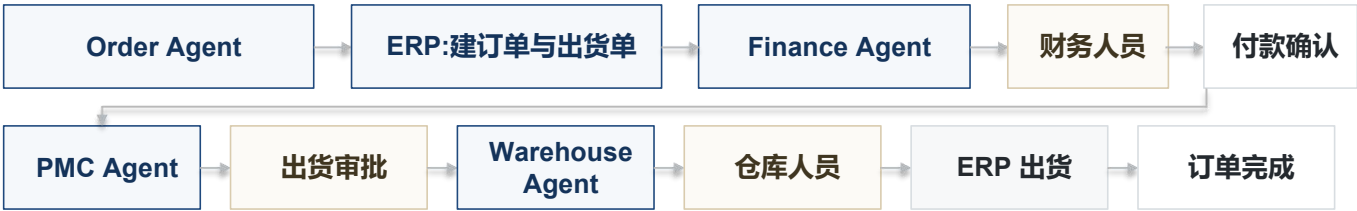
详细机制、架构决策与取舍依据见《AI Agent 解决方案设计》（链接见最后一页）。

Agent 架构与系统连接

Agent Architecture & System Integration



P1 — Full Order Lifecycle 完整订单生命周期



边界一：Order Agent

订单与流程执行，不代替人工做最终决策

边界二：Purchase Agent

采购跟进 / ETA 收集 / 提醒与升级；不直接联系供应商

边界三：Warehouse Agent

仓库任务协调 / 出货跟踪 / ERP 状态跟踪；不自行决定出货

AI 协调工作，人保留业务责任。

AI coordinates the work; humans retain business accountability.

业务价值与 AI 单位经济性

Business Value & AI Unit Economics



模型路由策略 Model Routing Strategy

不是所有任务都需要最强模型；能用规则或 API 解决，就不要调用大模型

简单任务	单据 / PO	复杂业务推理	高风险决策
小模型 / 快模型	文档模型 + 结构化抽取	中等 / 强模型	强模型 + 人工复核

核心公式 Key Formulas

单订单 AI 成本 = AI 运营总成本 ÷ 处理订单数

AI Cost per Order = Total AI Operating Cost ÷ Orders Processed

年度 AI 运营成本 = 模型 + 工具/API + 文档处理 + 基础设施 + 监控 + 人工复核

Annual AI Operating Cost = Model + Tool/API + Document Processing + Infrastructure + Monitoring + Human Review

年度经济价值 = 人力产能价值 + 错误减少 + 延迟避免 + 额外业务贡献

Annual Economic Value = Labor Capacity Value + Error Reduction + Delay Avoidance + Additional Business Contribution

年度净收益 = 年度经济价值 - 年度运营成本

Annual Net Benefit = Annual Economic Value - Annual Operating Cost

回收期 = 一次性投入 ÷ 月度净收益

Payback Period = One-time Investment ÷ Monthly Net Benefit

试点基准：投入约 11.2 万 · 年净收益约 45.6 万 · 含爬坡第 5 个月回本（保守第 8 个月）· 三年累计约 137 万。

数字口径见《AI Order Agent ROI 商业论证》（9 张表 · 含爬坡回本与敏感性分析）。

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产品难点、风险权衡与兜底设计

Product Challenges, Trade-offs & Fallback Design

险类型 Risk Type	产品难点 / 风险 Challenge / Risk	设计权衡 Trade-off	兜底机制 Fallback
业务风险 Business Risk	PO 解析错误可能导致错单 Incorrect PO interpretation may result in incorrect orders.	允许 Agent 执行流程，但关键决策保留人工。 Trade-off: Allow the Agent to execute workflows while retaining human control over critical decisions	- PO 解析结果必须经过人工 Review。 PO parsing results require human review. - 物料编码、客户编码、数量等关键字段进行规则校验。 Critical fields such as material code, customer code, and quantity are validated by business rules. - Agent 可执行 ERP 建单，但不拥有最终业务确认权限。 The Agent can execute ERP order creation, but does not have final business confirmation authority. - 原始 PO、AI 输出及人工修改全程留痕，可回溯。 Original PO, AI outputs, and human modifications are fully logged and traceable.
系统风险 System Risk	多个 Agent、ERP、OA 协同过程中，可能出现任务状态不一致或接口失败。 Risk: Multi-Agent and ERP/OA integration may result in inconsistent task states or system failures.	由 Order Agent 统一调度，子 Agent 执行专业任务。 Trade-off: Order Agent centrally orchestrates the workflow while specialized Agents execute sub-tasks.	Fallback: - Order Agent 维护全局主状态。 Order Agent maintains the master task state. - 接口或网络异常 → 有限重试。 Interface or network failure → limited retries. - 重试失败 → 异常挂起 → 人工介入。 Retry failure → exception hold → human intervention. - 已生效 ERP / OA 数据不由 Agent 自动回滚。 Effective ERP / OA transactions are not automatically rolled back by the Agent.
组织风险 Organizational Risk	业务人员可能担心 AI 出错带来责任风险，也可能抵触新流程。 Risk: Users may worry about accountability when AI makes mistakes or resist changing established workflows.	Agent 辅助执行，而非替代业务人员。 Trade-off: The Agent assists execution rather than replacing business users.	Mitigation: - 高风险动作保留人工控制点。 Human control points are retained for high-risk actions. - 操作过程可查看、修改、终止。 Users can review, modify, or stop Agent actions. - MVP 先选择种子用户进行小范围试点。 Start with a small MVP pilot involving selected users. - 用业务数据验证实际价值。 Validate business value through real operational data.
异常风险 Exception Risk	真实业务中可能出现图片、扫描件、多语言 PO，以及审批反复驳回或跨部门长时间无响应。 Risk: Real-world operations may involve image-based, scanned, handwritten, or multilingual POs, repeated approval rejections, or prolonged cross-functional delays.	自动化优先，异常及时降级人工。 Trade-off: Automate by default and fall back to human handling when exceptions occur.	Handling: - 标准 PO 自动处理；低置信度输入 → 人工处理。 Standard POs are processed automatically; low-confidence inputs fall back to manual handling. - 审批连续驳回 → 触发主管预警。 Repeated approval rejections trigger management alerts. - 跨 Agent 超时 → 分级提醒与升级。 Cross-Agent timeouts trigger tiered reminders and escalation. - 中间状态实时同步，避免业务人员盲目等待。 Intermediate status is kept visible to prevent users from waiting without visibility.

本方案为模拟企业 Agent 案例。在设计主流程之外，提前识别业务、系统、组织与异常场景风险，并设计相应的兜底机制。

This is a simulated enterprise Agent case. Beyond the core workflows, key business, system, organizational, and exception risks were identified upfront, with corresponding fallback mechanisms.

MVP 与落地建议

MVP & Recommendation · Start small. Prove value. Then scale.



MVP 指标 MVP Metrics

以 Target / Illustrative 呈现，不虚构数值

运营 Operational	业务 Business	Agent	采纳 Adoption
· 订单处理时长 Order Processing Time · 人工触达减少 -P0 Manual Touch Reduction · 催办减少 Follow-up Reduction · 异常率 Exception Rate	· 客户响应时间 Customer Response Time · 延迟避免 Delay Avoidance · 业务贡献 Business Contribution · 内部确认周期 -P0 Internal Cycle Time	· 任务完成率 Agent Task Completion Rate · 人工接管率-P0 Human Handoff Rate · 准确率 Agent Accuracy	· 用户采纳率-P0 User Adoption · 重复使用 Repeat Usage

从人工协调走向 Agent 驱动的运行。
From manual coordination to agentic operations.

THANK YOU

Let's Connect!



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以下材料索引 | 完整内容请见个人网站

Portfolio Materials | Full materials available on my personal website

Case Study(案例说明)	概览、业务问题、场景、界面、机制与商业价值
AI Agent 解决方案设计	架构决策、取舍依据、落地细节
PRD (含流程图)	需求、字段定义、验收标准
ROI 商业论证	投入产出、爬坡回本、敏感性、PoC 方法
可交互原型 (Figma)	真实界面与交互流程 (中英双版)
可运行 DEMO	免注册上手, 跑完生成 PI 到登记 CRM

目标是以人为本，以终为始，让 Agent 承担繁琐、重复、耗时的工作，让人创造更多业务价值。

The goal is to Human-centered. Outcome-driven. Let Agents handle repetitive, time-consuming work, so people can create more business value.