

Enterprise AI Platform with Agentic Capabilities

Core Agentic Components: Autonomous Agents (Layer 5) • Multi-Agent Orchestration (Layer 6) • Intelligent Model Selection (Layer 4) • Human-in-Loop Escalation (Layer 12)

★ 1. Data Layer - Sources & Ingestion

Sources:

- SAP/ERP (ODATA, IDocs, SAP PI/PO)
- Salesforce (APIs + webhooks)
- Digital Farming (sensors, satellite, IoT)
- 3rd-party APIs & internal files

Ingestion: CDC, Batch ETL, Kafka streaming, MQTT edge ingestion

🔒 8. Security & Privacy

- RBAC/ABAC with least privilege
- Prompt injection filters
- Data leakage prevention
- KMS & secrets vault
- Network segmentation
- Supply chain controls

⌚ 2. Data Storage & Knowledge Bases

- Data Lake (raw) + Warehouse (curated)
- Vector DB for semantic retrieval
- Knowledge Graph for entities
- Document stores
- Version control & lineage

⚙️ 3. Feature & Memory Management

- Feature store for ML features
- Short-term session memory
- Long-term enterprise memory
- Temporal context versioning
- TTL & retention policies

⚡ 4. Model & LLM Layer AGENTIC-ENABLED

- **Intelligent routing:** Auto model selection
- **Context-aware:** RAG pipelines
- Model catalog (small to large LLMs)
- Multimodal capabilities
- Cost/latency optimization

👤 5. Agent Layer CORE AGENTIC

- **Autonomous agents:** Assistant & task agents
- **Tool execution:** API bus & adapters
- **Safety controls:** Sandboxing & permissions
- **Escalation:** Human-in-the-loop

⌚ 6. Multi-Agent Orchestration CORE AGENTIC

- **Autonomous coordination:** Multi-agent workflows
- **Goal-oriented:** Complex business processes
- **Decision-making:** State machine management
- **Safe execution:** Transaction guardrails
- **Communication:** Inter-agent messaging

☒ 7. Governance, Compliance & Ethics

- Policy engine (GDPR/HIPAA)
- Explainability (XAI) modules
- Immutable audit logs
- Regulatory mapping
- Decision trail tracking

⌚ 9. Evaluation, Testing & Monitoring

- Pre-deploy testing & red-teaming
- Production observability
- Business metrics tracking
- Drift detection
- Canary deployments

⚙️ 10. Ops, Cost & Performance

- Autoscaling & tiered inference
- Cost control & quotas
- SLA/SLO management
- Cache optimization
- Resource efficiency

✳️ 11. MLOps & DataOps

- CI/CD for models & agents
- Continuous feedback loops
- Training trigger automation
- Human labeling integration
- Reproducible pipelines

⌚ 12. UX & Edge AGENTIC-ENABLED

- **Human-agent collaboration:** Escalation UIs
- **Autonomous edge:** Local decision-making
- Audit & explanation screens
- Hybrid cloud deployment

Data Sources

- SAP/ERP:** Financial & operational data
- Salesforce:** Customer & sales data
- Digital Farming:** IoT sensors, satellite imagery



Processing

Ingestion → Storage → Feature Engineering → Knowledge Graphs



AI Agents

Context-aware agents performing actions across enterprise systems

Architecture Classification:

⚡ CORE AGENTIC:

Autonomous agents that make decisions and take actions without human intervention

⚡ AGENTIC-ENABLED:

Traditional components enhanced with intelligent, autonomous capabilities

ENTERPRISE FOUNDATION:

Essential enterprise data and infrastructure layers that enable agentic capabilities

Implementation Priority Checklist:

Phase 1 (Foundation):

- Build ingestion & canonical data model
- Deploy vector DB + knowledge graph

Phase 2 (Intelligence):

- Implement RAG pipeline
- Build model catalog with selection policy

Phase 3 (Action):

- Build agent sandbox + tool adapters
- Add governance & security controls

Phase 4 (Operations):

- Add CI/CD & monitoring
- Implement feedback loops

Key Integration Points for Your Data Sources:

SAP/ERP Integration

- ODATA/IDocs connectors with CDC
- Two-phase commit for transactions
- Strict RBAC and audit trails
- Financial data validation pipelines

Salesforce Integration

- REST APIs + real-time webhooks
- Customer/opportunity entity mapping
- Sales process automation agents
- Lead scoring and pipeline insights

Digital Farming Integration

- IoT sensor data via MQTT/edge gateways
- Satellite imagery and drone data processing
- Time-series analytics for crop monitoring
- Agronomy knowledge base integration

This blueprint provides a comprehensive, enterprise-ready foundation for agentic AI systems tailored specifically for your SAP/ERP, Salesforce, and digital farming data integration needs.



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