

# 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

## 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

## 🔒 8. Security & Privacy

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

## ⚡ 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

## ⚡ 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

## 📋 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):	Phase 2 (Intelligence):	Phase 3 (Action):	Phase 4 (Operations):
<ul style="list-style-type: none"><li>Build ingestion &amp; canonical data model</li><li>Deploy vector DB + knowledge graph</li></ul>	<ul style="list-style-type: none"><li>Implement RAG pipeline</li><li>Build model catalog with selection policy</li></ul>	<ul style="list-style-type: none"><li>Build agent sandbox + tool adapters</li><li>Add governance &amp; security controls</li></ul>	<ul style="list-style-type: none"><li>Add CI/CD &amp; monitoring</li><li>Implement feedback loops</li></ul>

## 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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