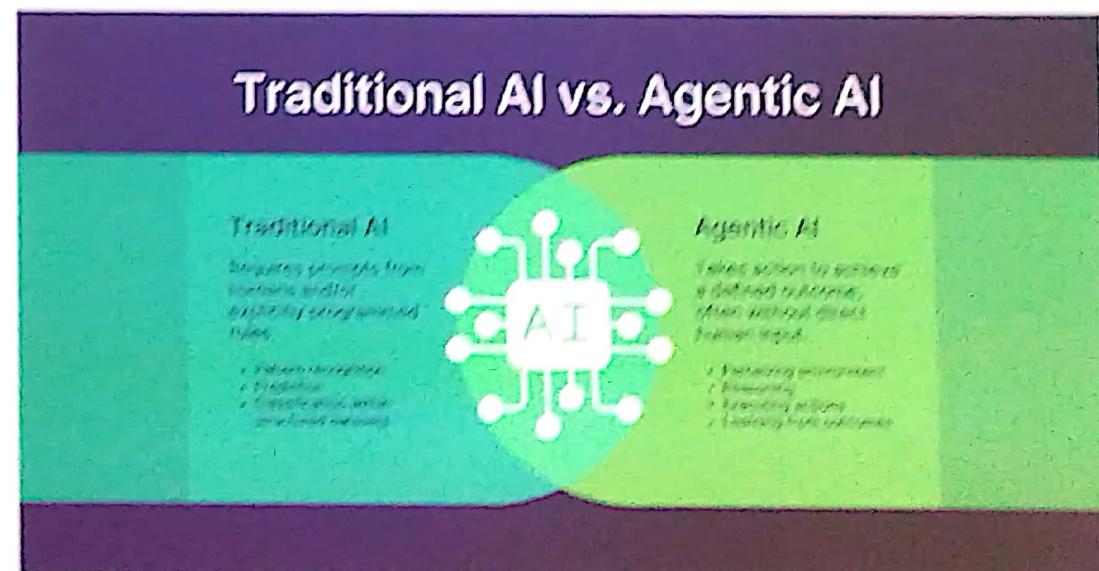


# Agentic AI: How is it Different?

\* Agentic AI refers to *AI systems capable of autonomous, goal-directed behavior*—planning, taking actions, interacting with tools, and iterating without waiting for humans. This shifts AI from *assistive automation* → *autonomous task execution*.

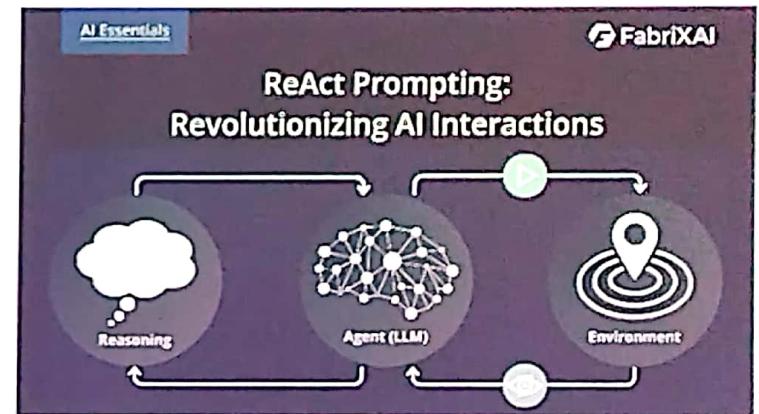
- Has goals and sub-goals
- Has long-term memory
- Can take actions using tools/APIs
- Can self-reflect and self-correct
- Works in multi-step workflows
- May collaborate with other agents



# Agentic AI: How It Matters?...

## Three Inflection Points:

1. LLMs + reasoning frameworks (ReAct, Tree-of-Thoughts)
2. Tool ecosystems (APIs, plugins, robotic interfaces)
3. Memory/knowledge graphs enabling continuity



### AI (2020–2024)

Answering  
Insights  
One-shot tasks  
Static output  
Human controls every step

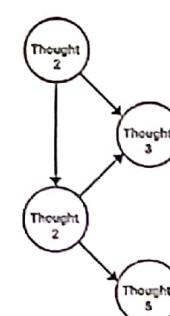
### Agentic AI (2025–2027)

Doing  
Execution  
Multi-step tasks  
Continuous loops  
AI initiates next step

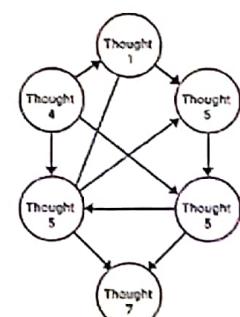
#### CHAIN-OF-THOUGHT



#### TREE-OF-THOUGHT



#### GRAPH-OF-THOUGHT



# Agentic AI: Real or Hype?

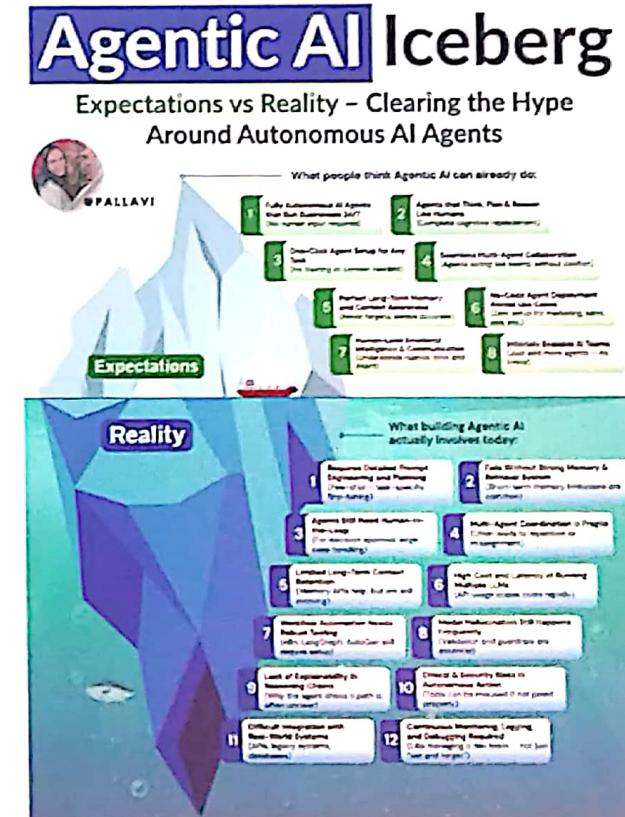
- \* We are in Early Commercial Deployment.
- \* Tendency of Hype. But, not hype—delivering value in customer support, operations, RPA augmentation, devops automation, and content workflows.

## Where It Is Most Applicable Today:

- Customer service → Autonomous triage & resolution agents
- Software engineering → Code agents + CI/CD automation
- Manufacturing → Intelligent RPA agents & digital twin feedback loops
- Business workflows → Research agents, sales ops, compliance agents
- Healthcare → Documentation agents, diagnostic assistance
- Financial services → Risk evaluation, process automation

## Where It Is NOT Yet Mature:

- High-stakes autonomous decision-making
- Robotic autonomy in unstructured environments
- Fully unsupervised operations for regulated industries



# Agentic AI: Early Instances in Industry

## \* Microsoft—AutoDev Agents

- Azure AI Agents: code debugging, test generation, dependency management. Internal teams report 20–40% cycle time reduction.

## \* Google—Project Astra

- Multimodal agents that perceive, reason, and act using cameras, environment context, and action APIs.

## \* Amazon—Autonomous Support Agents

- Amazon uses GenAI agents to auto-resolve 35–50% of customer issues without human escalation.

## \* Shopify—Commerce Agents

- Agents manage listings, customer Q&A, supply chain queries, and marketing copy.

## \* Startups

- Devin (Cognition Labs): “AI software engineer” executing multi-step coding tasks.
- Adept AI: Action-taking agents that operate SaaS tools (Excel, Salesforce).
- Sanctuary AI / Figure AI: Embodied agents for robotics (still early).

## \* Enterprise Integrators

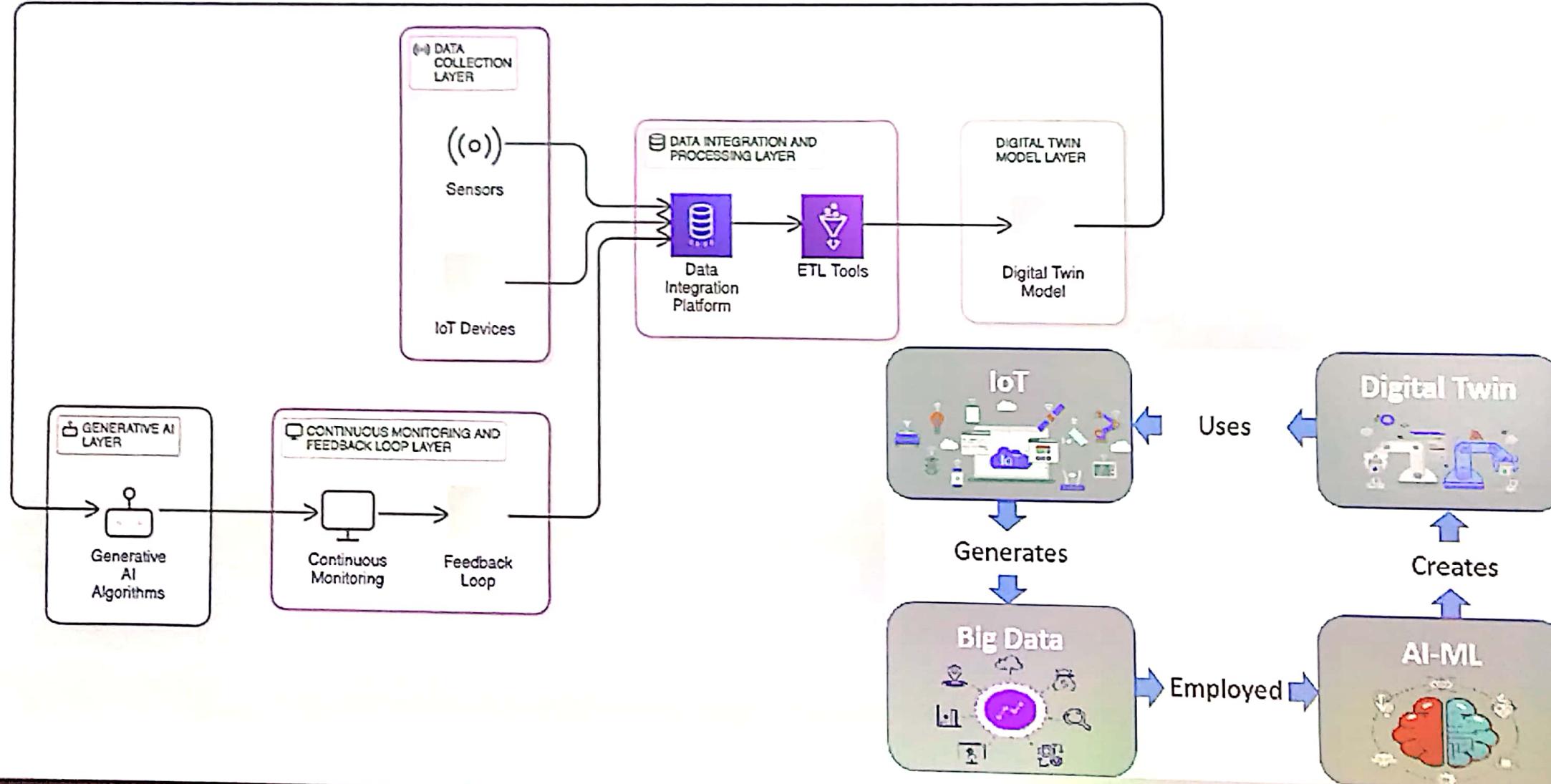
- ServiceNow Now Assist Agents automating IT/workflow operations

## Key Benefits of AI Agents in Real-Life Business Applications



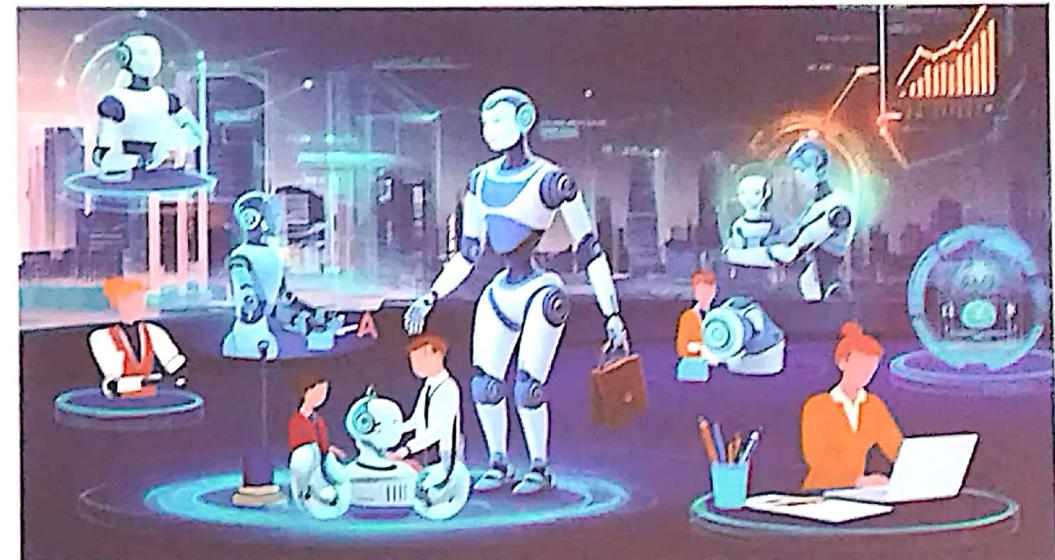
# Relationship of IoT, Big Data, AI-ML and Digital Twin

## Integration of Generative AI and Digital Twins



# Agentic AI: What Tasks are @High-Risk?

- Routine information manipulation
  - data entry, reconciliation, reporting
- First-level cognitive tasks
  - summarization, drafting responses, basic analysis
- Repetitive digital workflows
  - CRM updates, scheduling, tagging, filtering
- Low-complexity content creation
  - social posts, SEO blogs, product descriptions
- Testing & QA tasks
  - repetitive scenario testing, regression...



## Roles with Significant Automation Pressure (Partial or Complete):

- BPO/Customer support
- Back-office operations
- Junior analysts
- Junior programmers (basic CRUD-level dev)
- Documentation-heavy jobs (legal ops, medical scribes)

# Agentic AI: What New Avenues Opening?

- AI Workflow Designers, Agent Orchestrators
- Prompt Engineers → Task Engineers → Goal Engineers
- Data + Knowledge Graph Architects
- Digital Twin + Agentic Control Engineers
- Vertical AI agents: legal, healthcare, manufacturing, mobility
- Hybrid CPS + AI agent systems in factories and logistics
- Safety, Alignment, and Governance Roles
- AI Verification & Validation Specialists



## New Economic Model: Human-AI Teams

- Humans set goals, constraints, ethics, customer context
- Agents perform execution
- Humans provide judgment and escalation

# Agentic AI: Challenges, Risks?

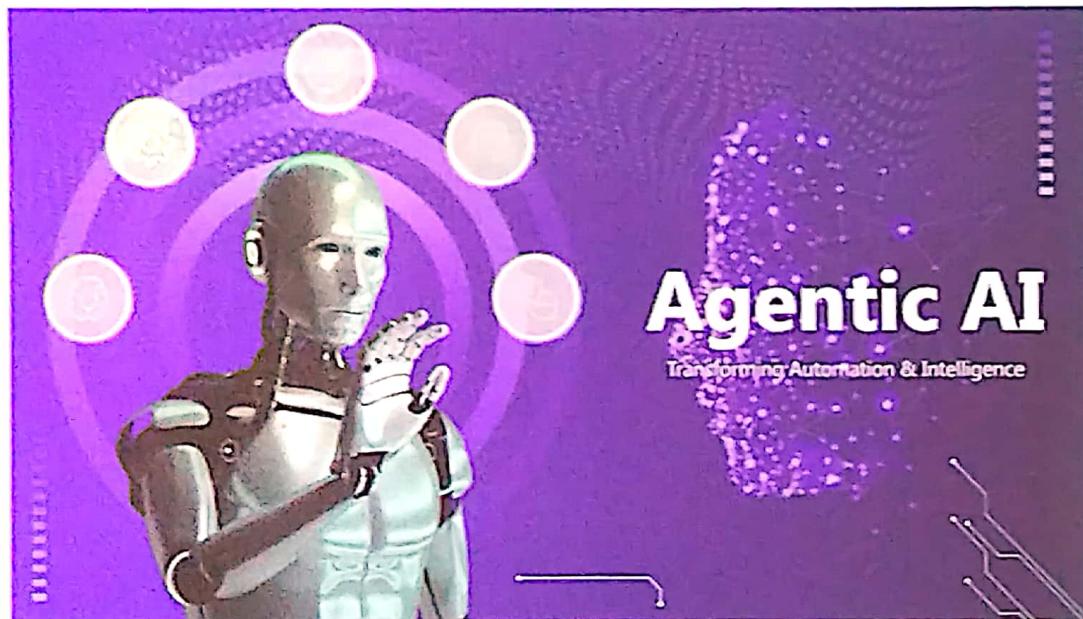
- Misalignment & runaway actions
- Tool misuse and harmful behavior
- Data leakage, privacy
- Hallucinations in long action-chains
- Auditing autonomous decisions
- Workforce transitions & capability gaps
- Governance frameworks not yet mature

## Agentic AI Risks for Regulated Industries



▲ Multimodal

>> **Supervised autonomy** is the practical model for 2026–2027.



# Thank You

(Ack: Book, Internet Resources)  
[© TechCrafter International Pvt Ltd]

Dr. Aloknath De, Founder & CEO - TechCrafter.cps  
(Follow us in LinkedIn)