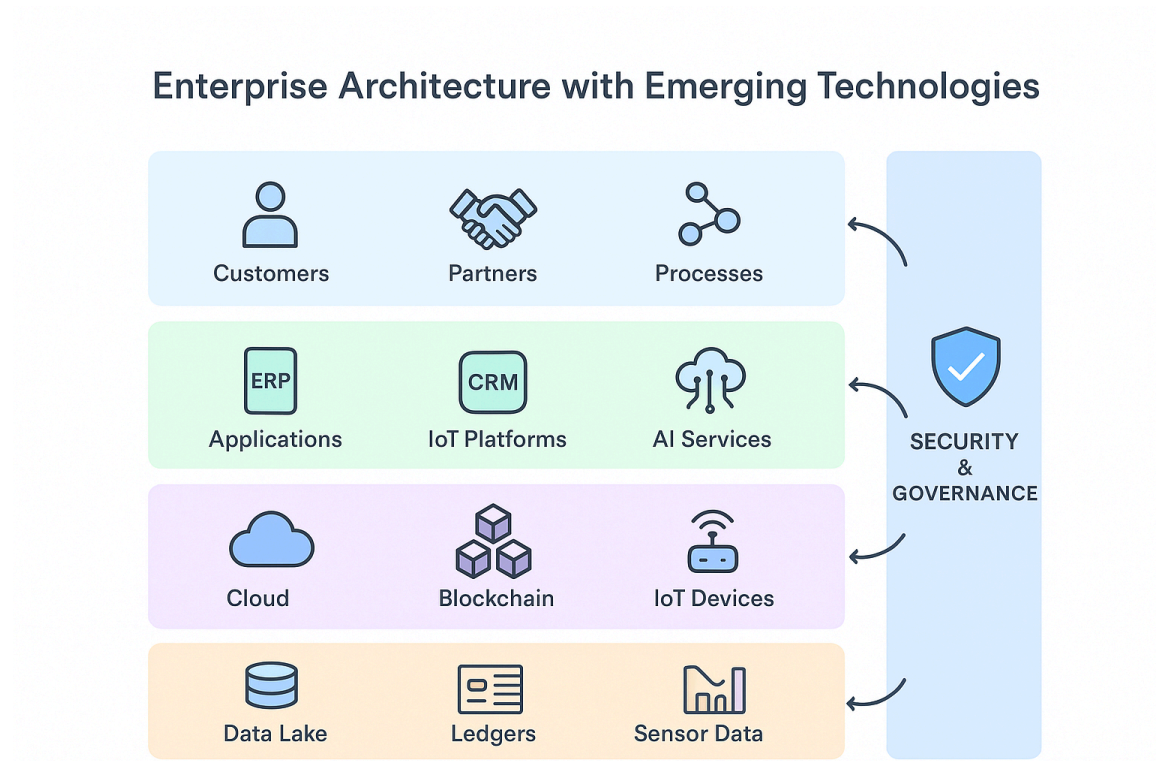# Enterprise Architecture with Emerging Technologies

This document illustrates the enterprise architecture integrating emerging technologies such as Cloud, IoT, AI, and Blockchain. The diagram shows layered architecture with security and governance spanning across all levels.

Enterprise Architecture with Emerging Technologies

Detailed Layer Explanations

1. Data Layer (Foundation)

• Data Lake → Central storage for structured & unstructured data (IoT data, logs, transactions).

• Ledgers → Blockchain-based distributed ledgers ensuring immutability and transparency.

• Sensor Data → Raw data collected from IoT devices (temperature, GPS, machine sensors, etc.).

👉 This layer provides the raw materials (data) for the upper layers.

2. Technology Layer

• Cloud → Infrastructure (IaaS, PaaS, SaaS) for scalability, computing, and storage.

• Blockchain → Ensures secure, decentralized transactions and trust across the enterprise.

• IoT Devices → Edge devices and gateways that sense, collect, and transmit real-world data.

👉 This is the 'engine room' that hosts and runs the digital ecosystem.

3. Application Layer

• Applications (ERP, CRM) → Core enterprise systems managing operations, customers, and resources.
• IoT Platforms → Middleware platforms for device management, data aggregation, and analytics.
• AI Services → Predictive analytics, machine learning, chatbots, recommendation systems.
👉 This layer turns raw technology and data into usable enterprise applications.

4. Business Layer

• Customers → End users benefiting from products and services.
• Partners → Business collaborators (suppliers, vendors, alliances).
• Processes → Business workflows supported by applications and technologies.
👉 This is the front-facing layer where business value is realized.

5. Security & Governance (Vertical Layer)

• Runs across all layers.
• Includes Identity & Access Management, Compliance, Privacy, Regulations, and Data Security.
👉 It ensures trust, compliance, and protection of data and systems across the entire architecture.

Summary

In short:
• Data Layer → Raw inputs
• Technology Layer → Infrastructure & emerging tech
• Application Layer → Business apps & intelligence
• Business Layer → Value creation for customers & partners
• Security & Governance → Trust and compliance everywhere