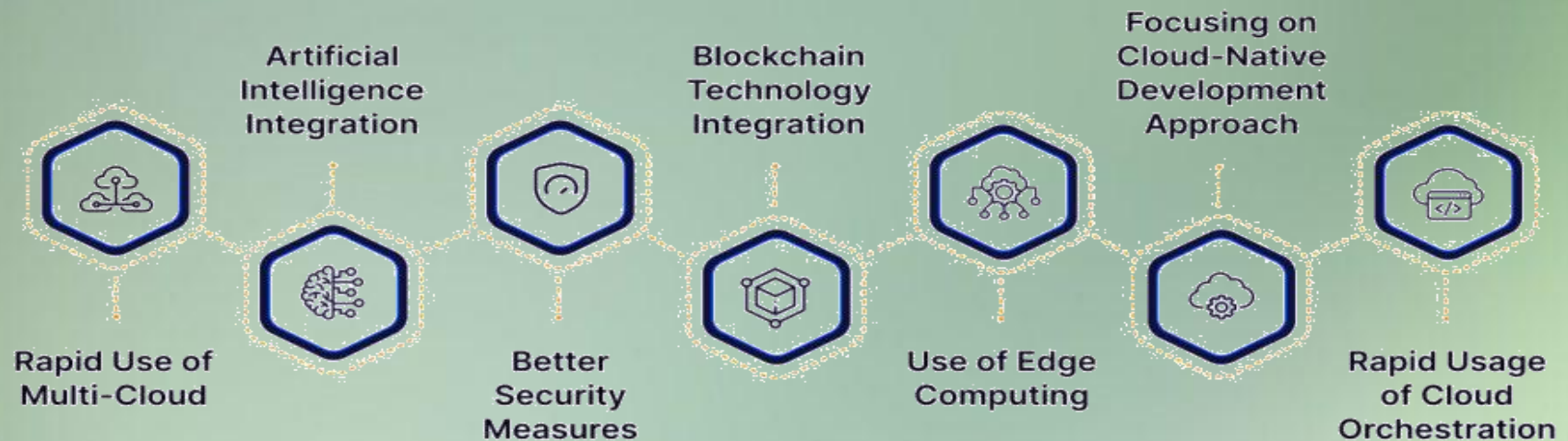


Introduction to Computing

Trends & Future of Computing

- Computing is evolving at an unprecedented pace.
- Emerging technologies are reshaping industries and daily life.
- This presentation explores key trends and the future of computing.

What Is the Future of Cloud Computing from 2025-2030?



Artificial Intelligence & Machine Learning

- Deep Learning & Neural Networks: Enhancing AI capabilities.
- Generative AI: AI-generated content and automation.
- Explainable AI: Ensuring transparency in AI decision-making.
- AI Ethics & Bias: Addressing fairness and accountability.



Quantum Computing

- Qubits & Superposition: Fundamental principles of quantum computing.
- Potential Breakthroughs: Faster problem-solving in cryptography, drug discovery, and simulations.
- Challenges: Stability, scalability, and cost.
- Leading Companies: Google, IBM, and startups pioneering quantum research.

Edge Computing & IoT

- - Decentralized Data Processing: Reducing latency by processing data near the source.
- - 5G & IoT Integration: Faster connectivity for smart devices.
- - Applications: Smart cities, healthcare monitoring, and industrial automation.
- - Security Concerns: Addressing vulnerabilities in connected devices.

CLOUD

Big Data processing
Business Logic
Data Warehousing

EDGE

Realtime data processing
At source/on premises
data visualisation
Basic analytics
Data caching, buffering
Data filtering, optimisation
M2tM comms

Sensors and controllers



Cloud Computing & Serverless Architecture

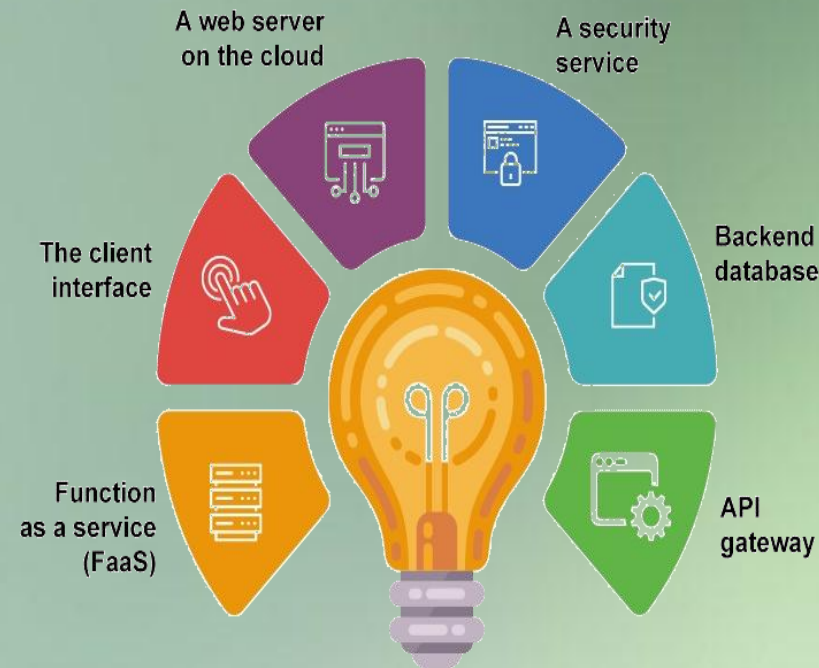
Hybrid & Multi-Cloud Solutions:
Combining public and private clouds.

Serverless Computing: Cost-efficient computing without managing infrastructure.

AI in Cloud Services: AI-powered cloud automation.

Security & Compliance:
Protecting cloud-based data.

KEY COMPONENTS OF SERVERLESS ARCHITECTURE



Cybersecurity Trends

- AI-driven Threat Detection: Using machine learning to identify cyber threats.
- Zero Trust Security Model: Never trust, always verify.
- Biometric Authentication: Facial recognition and fingerprint security.
- Quantum Cryptography: Future-proofing cybersecurity.



Blockchain & Decentralized Technologies

- Beyond Cryptocurrencies: Blockchain for supply chains, voting, and digital identity.
- Smart Contracts: Automating agreements with self-executing contracts.
- Decentralized Finance (DeFi): Disrupting traditional financial systems.
- NFTs & Digital Ownership: Transforming digital art and gaming.



Sustainable & Green Computing

- Energy-efficient Data Centers: Reducing carbon footprint.
- Recycling E-Waste: Addressing electronic waste management.
- Green AI: Making AI models more energy-efficient.
- Sustainable Hardware: Eco-friendly computing devices.

Future of Computing & Ethical Considerations

- Human-AI Collaboration: Enhancing productivity with AI assistance.
- Ethical AI & Regulations: Ensuring responsible AI development.
- Post-Moore's Law Computing: Innovations beyond silicon-based chips.
- Space Computing: AI and computing in space exploration.

The future of computing is filled with groundbreaking innovations.

Ethical considerations and security remain key challenges.

Continuous research and responsible implementation are essential.