Emerging Technologies in Auditing: Challenges and Opportunities

WGISTA Annual Meeting

Date: 6-7 May 2025

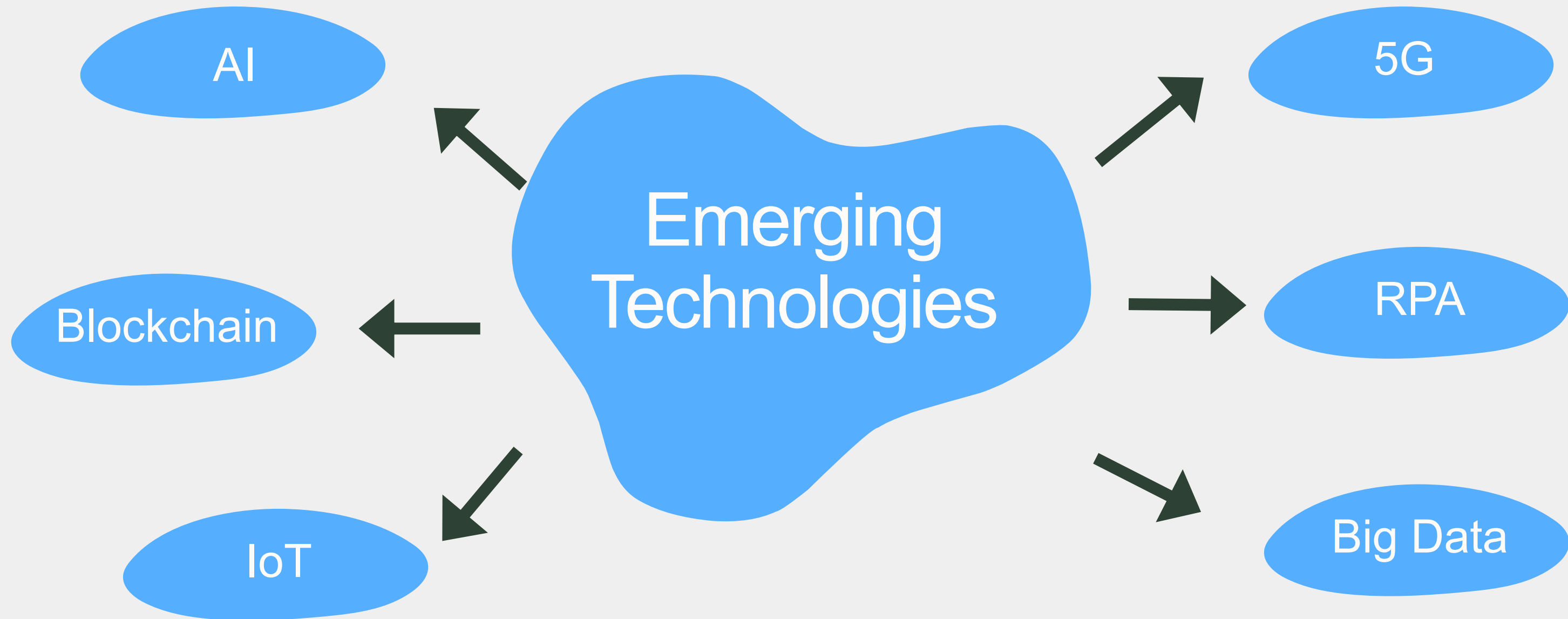# Agenda

▶▶ Emerging Technologies in Auditing

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Emerging Technologies in Auditing

Introduction to Emerging Technologies

Emerging Technologies Examples in Auditing

AI:
Fraud detection and anomaly spotting.

Blockchain:
Secure and transparent transaction tracking

IoT:
Real-time inventory audits.

RPA:
Automating document review and data entry.

Ethical Considerations in the Use of Emerging Technologies in Auditing

Introducing Ethical Challenges in Tech-Driven Auditing

Understanding the Moral Questions

Bias in AI Tools: AI might learn unfair patterns from its data, which can lead to unfair audit results

Privacy of Auditee Data: Financial info must be kept safe when using technological tools.

Transparency in Decisions: Auditors should explain how technological tools made their decisions.

AI

1- Ethical Risk of Bias in AI-Powered Audit Tools

The Hidden Risk of Unfair Technology

Risk in Training Data: Audit tools might pick up old or unfair patterns from their data.

Discriminatory Outcomes: Biased tools can treat people or cases unfairly.

Regular Review Needed: Tools should be tested and reviewed often to spot and fix bias.

2- Ethical Responsibility for Auditee Data

Privacy and Security Responsibilities

Confidential Financial Info: Auditors must keep auditee's financial info safe when using cloud or AI tools.

Cybersecurity Measures: Use things like firewalls and encryption to protect audit systems.

Follow the Law: Auditors must respect privacy rules like GDPR(General Data Protection Regulation) when working with data.

3- Accountability and Oversight in Automated Auditing

Maintaining Ethical Accountability in Automated Audits

Human Oversight in Tech-Driven Audits

Maintaining Ethical Accountability in Automated Audits

Who is Responsible for Machine Decisions?

Audit Oversight: Even with technology, auditors are responsible for outcomes and explanations.

Explainable AI: Systems must provide reasons behind their decisions.

Documentation: Every tech-assisted decision must be logged and traceable.
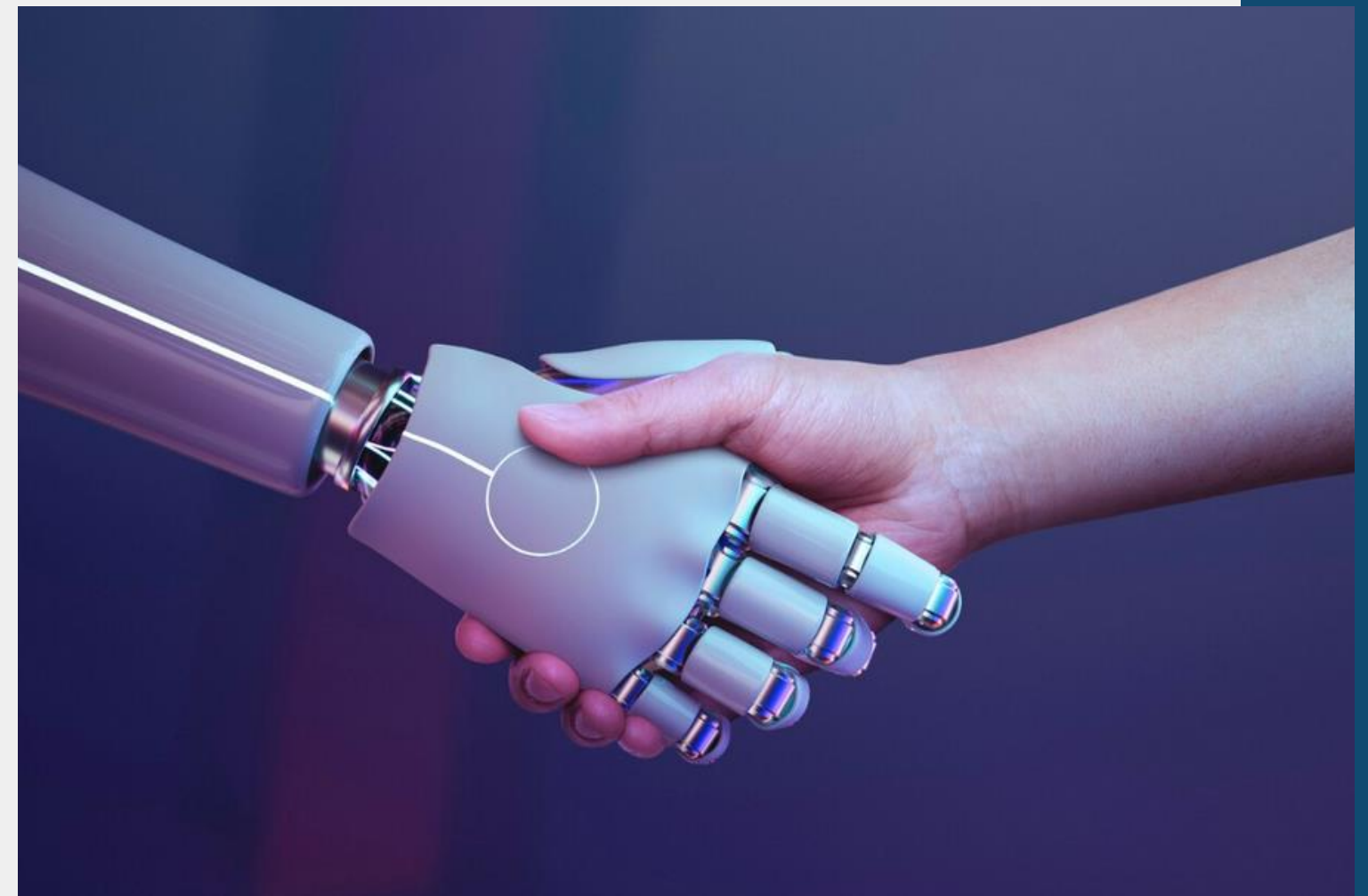
Human Oversight in Tech-Driven Audits

Why People Still Matter in Digital Auditing

Ethical Judgment: Only humans can apply moral reasoning to complex audit cases.

Checking AI Results: Auditors need to carefully review the output from AI tools to ensure it makes sense.

Intervention Rights: Auditors should be able to stop or adjust the system if they notice something wrong.

Balancing Innovation with Ethics

Keeping Progress Safe and Fair

Ethical Auditing Culture
Entities should build a culture where ethics guide how technology is used.

Innovation Policy
Auditing rules need to change with new technology but must always stay fair
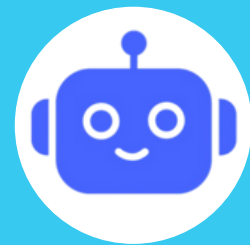
Continuous Ethics Training
Employees should keep learning how to use new tools in an honest and fair way.

Impact of Technology on Auditor Independence and Objectivity

How Technology Affects Auditor Independence

New Tools, Same Objectivity

AUTOMATION VS BIAS

Automated tools reduce human error but may introduce unseen bias.

DECISION SUPPORT, NOT REPLACEMENT

Auditors use AI as a guide, not as a final voice.

OWNERSHIP AND JUDGMENT

Auditors must still own decisions and apply professional skepticism.
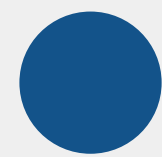
Risk to Objectivity from Auditee Technology

When Tools Belong to the Auditee

Record Keeping: Saving details of each step so others can review and check them.

Data Access Limits: Auditors might have limits on what data they can see or use.

Staying Independent: Clear rules and outside tools help auditors stay fair and unbiased.
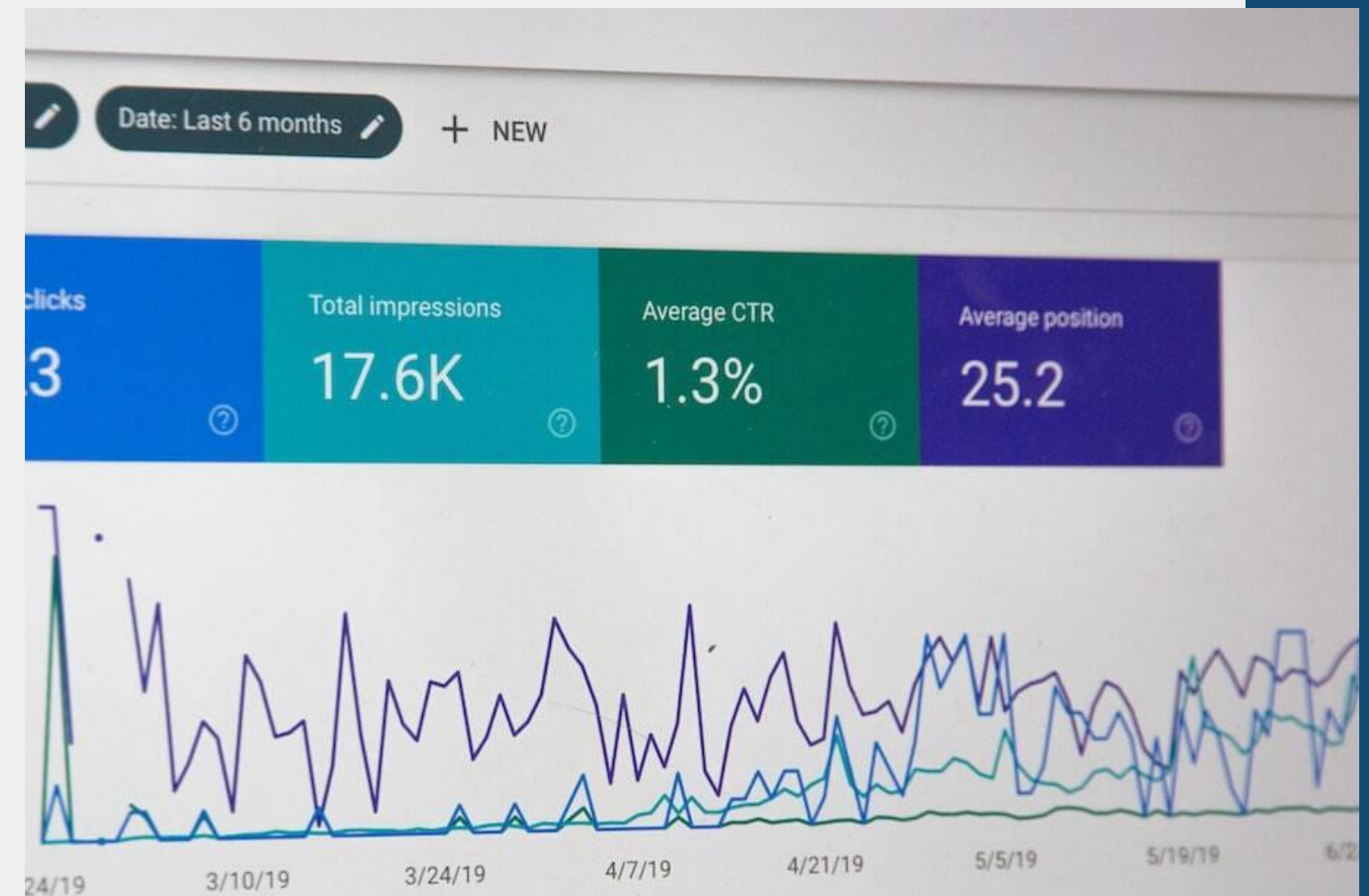
Positive Impacts of Technology on Auditor Independence

Benefits that Strengthen Fair Auditing

Data-Driven Decisions: Auditors rely more on data analysis than personal opinions.

Efficient and Transparent Processes: Digital trails make audit steps easier to track and review.

Early Error Detection: Technology spots risks and mistakes faster than manual checks.

Global Collaboration: Online tools let audit teams work together from anywhere.

Staying Independent in Technological Audits

Keeping Auditor Judgment Strong

Use of Independent Tools

It's better to use tools that are not part of the auditee's systems.

Audit Trail Integrity

Always keep full records of decisions made with the help of technology.

Regular Peer Reviews

Other auditors should check and review decisions made using technological tools.

Remote auditing

What Is Remote Auditing?

Auditing Without Being On-Site

Digital Evidence Review
Auditors check financial info through shared systems and cloud tools.

Virtual Meetings
Interviews and reviews are done using video calls.

Location Flexibility
Auditors can do their job from any place with an internet connection.

Benefits of Remote Auditing

Why Many Auditors Prefer It

Lower Costs

Entities save on travel and accommodation expenses.

Quick Data Access

Digital tools help auditors get and share info faster.

Flexible Timing

Audits can be done in different time zones, making the process faster.

Challenges in Remote Auditing

What Makes It Tricky

Limited Physical Evidence: Not all documents or assets can be verified remotely.
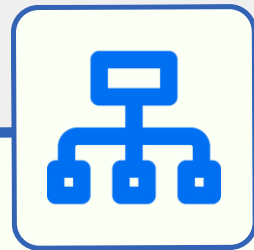
Tech Access Issues: Slow internet or limited system access can delay the work.

Communication Barriers: Virtual meetings may miss non-verbal cues or cause confusion.

Best Practices for Remote Auditing

How to Ensure Quality and Reliability

Strong IT Infrastructure
Ensure stable internet, secure systems, and backup tools.

Clear Communication Plan
Set expectations, roles, and timelines before starting.

Data Security Measures
Use encryption and secure platforms for sharing information.

Detailed Documentation
Record every step carefully to maintain audit trail transparency.

Essential Technologies Used in Remote Auditing

Tools That Make Remote Audits Possible

- **Video Conferencing Tools:** Zoom, Microsoft Teams enable live discussions and walkthroughs.

- **Cloud Storage Platforms:** Google Drive, Dropbox for secure document sharing and storage.

- **Data Analytics Software:** Tools like ACL (Audit Command Language) and IDEA (Interactive Data Extraction and Analysis) analyze large datasets quickly.

- **E-Signature Solutions:** DocuSign, Adobe Sign for approving documents remotely.

Impact of 5G Technology on Auditing

How 5G Will Transform Auditing

Speed and Access Like Never Before

Ultra-Fast Data Sharing: Auditors can get financial information instantly from any location.

Improved Remote Auditing: Fast mobile networks make online audits smooth and easy.

Smart Device Integration: 5G connects smart devices that send live data directly to audit tools.

5G Risks in Auditing

Speed Can Add Vulnerabilities

More Security Risks

5G connects more devices, opening more doors for hackers.

Uncontrolled Data Flow

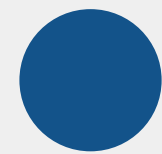Real-time data may skip normal safety checks.

Lagging Compliance Standards

Current laws are not fully ready for the fast changes 5G brings.

5G Powers Continuous Auditing

Audit Without Pausing

- **Instant Transaction Logs:** 5G allows real-time audit data uploads from multiple systems.

- **Continuous Controls Testing:** Always-on networks support non-stop monitoring of risk areas.
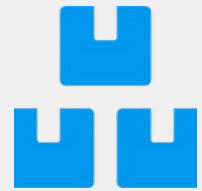
- **Faster Fraud Detection:** Strange activity is spotted and flagged as soon as it happens.

Use Cases of 5G in Real-Time Auditing Scenarios

How 5G Transforms Live Audit Interactions

LIVE INVENTORY CHECKS

Auditors can inspect warehouse stock in real-time via smart cameras.

INSTANT TRANSACTION TRACKING

Real-time review of financial activities ensures immediate anomaly detection.

VIRTUAL SITE TOURS

Auditors remotely observe facilities via high-res 5G video streams.

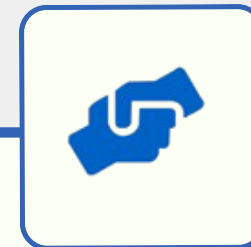# Preparing Audit Teams for the 5G Era

Upskilling for a Tech-Driven Future

Tech Training

Auditors need training on 5G tools, IoT systems, and real-time platforms.

Cybersecurity Awareness

Auditors must understand new 5G-related threats and how to mitigate them.

Cross-Functional Collaboration

Working closely with IT, legal, and compliance teams is essential.

Policy and Ethics Update

Update audit guidelines to address 5G-era risks and standards.

Future of Continuous Auditing and Monitoring

The Future of Continuous Auditing

Always-On Assurance

AI-Powered Analysis

AI will check transactions and quickly point out any risks.

Cloud Integration

Systems will sync with cloud platforms for up-to-date data access.

Proactive Risk Alerts

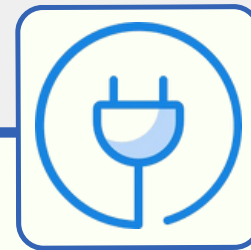Auditors will be notified before issues grow big.

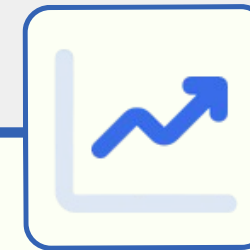# Continuous Monitoring with Smart Tools

Real-Time Insight, Constant Control

Dashboards and KPIs
Live dashboards display performance and alert on risk.

System Integration
Audit tools connect to other business systems in real time.

Anomaly Detection
Algorithms spot unusual patterns instantly.

Why Continuous Auditing Matters

Big Wins for Business and Oversight

Quick Risk Handling
Issues are caught early before damage spreads.

Increased Trust
Regulators and investors feel more confident with clear and strong audits.

Ongoing Compliance
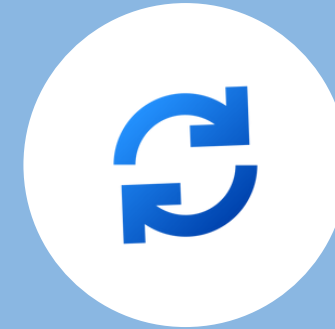Constant checks help make sure rules are being followed all the time.

Next-Gen Continuous Auditing

Trends That Will Shape the Future

Predictive Risk Modeling
I will spot possible risks before they happen.

Regulatory Sync
Audits will align instantly with real-time compliance databases.

Full Automation
Routine audit tasks will be done completely by machines.

Dashboards and Alerts in Modern Audits

Always Watching, Always Notifying

Live Dashboards: Display audit KPIs, anomalies, and risk scores instantly.

Automated Notifications: Email or system alerts trigger when risks exceed thresholds.

Prioritized Attention: Helps auditors focus on the most critical issues first.

AI + Human Auditors

Better Together in Continuous Auditing

Speed + Judgment

AI works fast; humans apply ethics and experience.

Shared Workloads

Repetitive tasks go to AI; complex reviews stay human.

Stronger Assurance

Working together improves both accuracy and understanding.

Conclusion & Key Takeaways

What We've Learned About Technology in Auditing

Technology Is Transforming Audits: New tools like AI and 5G are making audits faster, smarter, and more continuous.

Ethics and Judgment Still Matter: Even with advanced technology, human must guide audits with ethical thinking and good judgment.

Auditors Must Evolve: Auditors need new skills and roles to stay effective in a tech-driven environment.

Thank You!