The Impact of AI on Audit & Quality Assurance

Ian Pay, Head of Data Analytics & Tech, ICAEW

About Me

- Head of Data Analytics & Tech at ICAEW since March 2022

- Previously worked at PwC UK for over 10 years

- Specialised in audit analytics and data acquisition

- Former teacher

THE INSTITUTE OF CHARTERED ACCOUNTANTS IN ENGLAND AND WALES

Established in 1880 by Royal Charter

202,450 members and students globally including around a quarter outside the UK

Provider of the ACA, one of the leading professional qualifications in the world

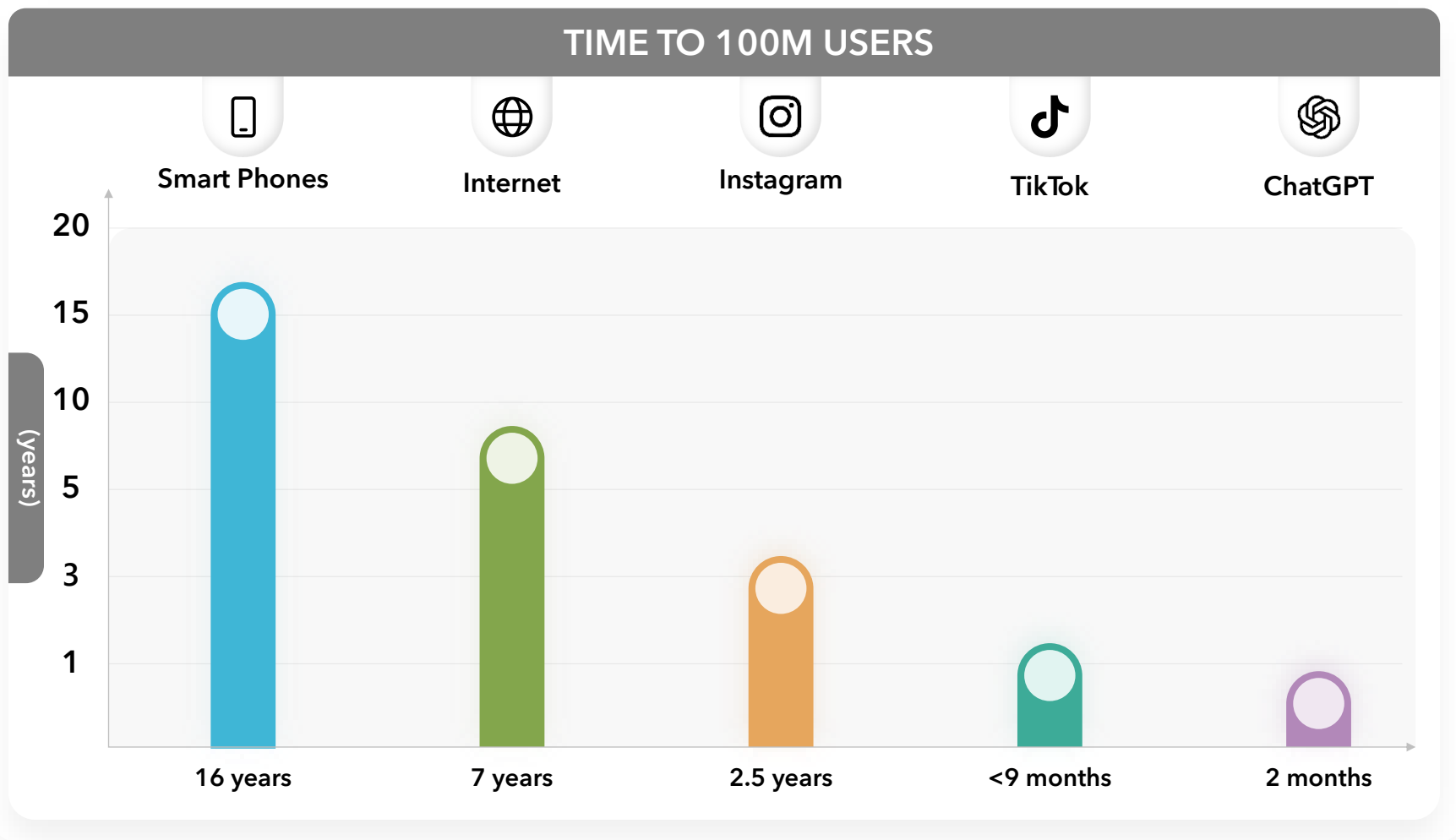Regulator of around 12,000 accounting and audit firms

- Active supporter of the UN Global Goals for Sustainable Development – the first major professional body in the world to be carbon neutral.

- *Master technology and data* is one of our five strategic themes as we head towards our 150th anniversary in 2030.

- Our Data Analytics Communty (www.icaew.com/dac) is free for anyone to join (not just ICAEW members!) and currently has over 39,000 members.
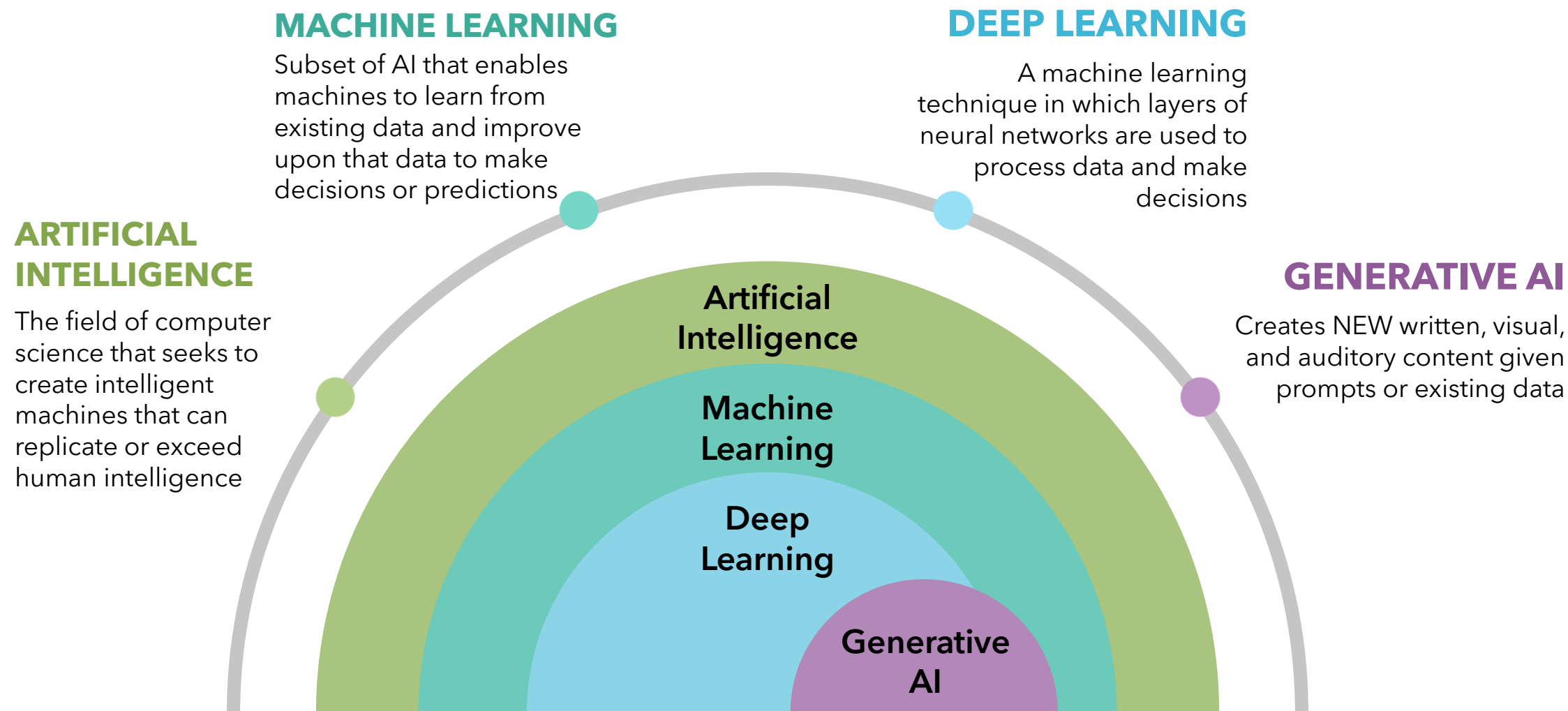
1

< **Opportunities & challenges of AI in audit**

On 30 November 2022, it all changed...

TIME TO 100M USERS

	Smart Phones	Internet	Instagram	TikTok	ChatGPT
	16 years	7 years	2.5 years	<9 months	2 months

…but there is not just one type of AI

MACHINE LEARNING

Subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions

DEEP LEARNING

A machine learning technique in which layers of neural networks are used to process data and make decisions

ARTIFICIAL INTELLIGENCE

The field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence

GENERATIVE AI

Creates NEW written, visual, and auditory content given prompts or existing data

Artificial Intelligence

Machine Learning

Deep Learning

Generative AI

Audit is changing

98%

Believe their auditor uses advanced technology[1]

Of businesses believe technology will improve efficiency.[3]

80%

96%
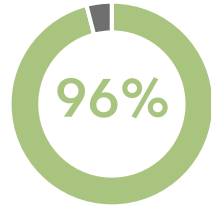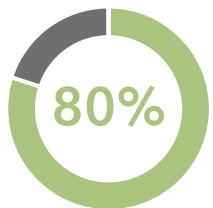
Welcome the use of technology in the audit space.[2]

Of UK companies expect auditors to evaluate their use of AI in financial reporting. [4]

68%
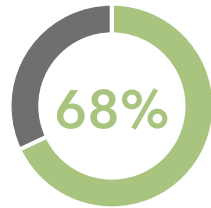
- **These statistics are all from "Future of Audit" surveys by top 10 audit firms in the last 5 years**

- **Their clients expect and welcome technology**

- **But… Does this apply across the board?**

[1] Mazars "The future of audit: market view – myths, realities and ways forward", 2021
[2] Deloitte "Global Audit Value Pulse Survey", 2020
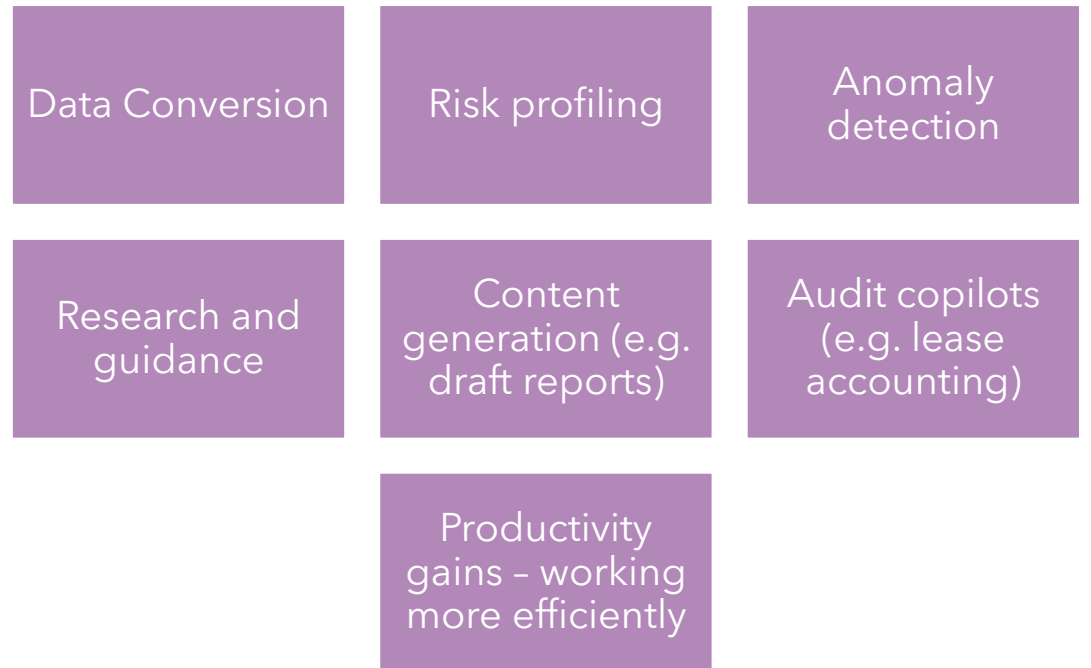[3] BDO "The Future of the Audit in 5 Predictions", 2022
4 KPMG "AI in audit: Not just hype", 2024

AI in Audit – A Summary
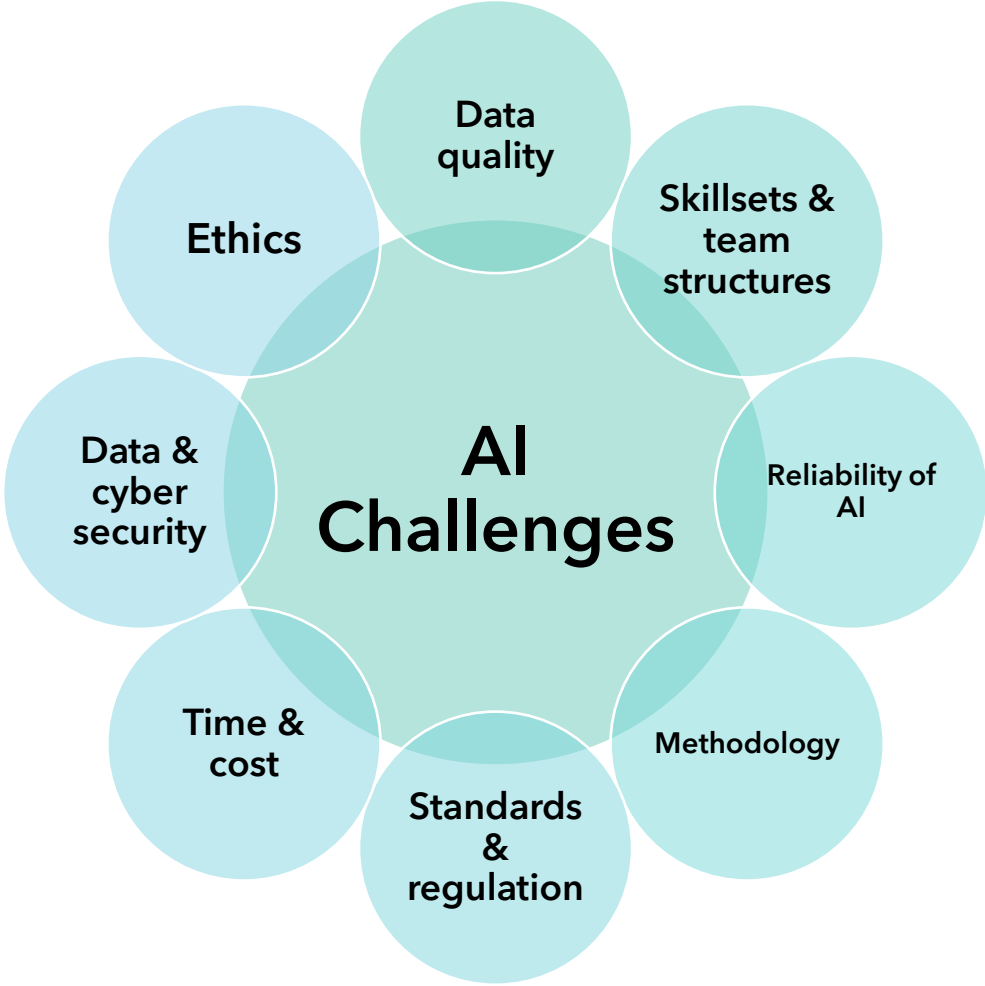
Benefits & Opportunities

- Deliver longer-term **efficiency** and reduce pressure on audit teams

- Enhance audit **quality**

- Enable teams to focus on **complex, judgemental** areas while the AI takes care of **routine, rule-based, lower-risk** testing

- Ability to provide new **insights** back to clients

- New **services** – AI Assurance

- Growing market of **third party providers**

Use Cases

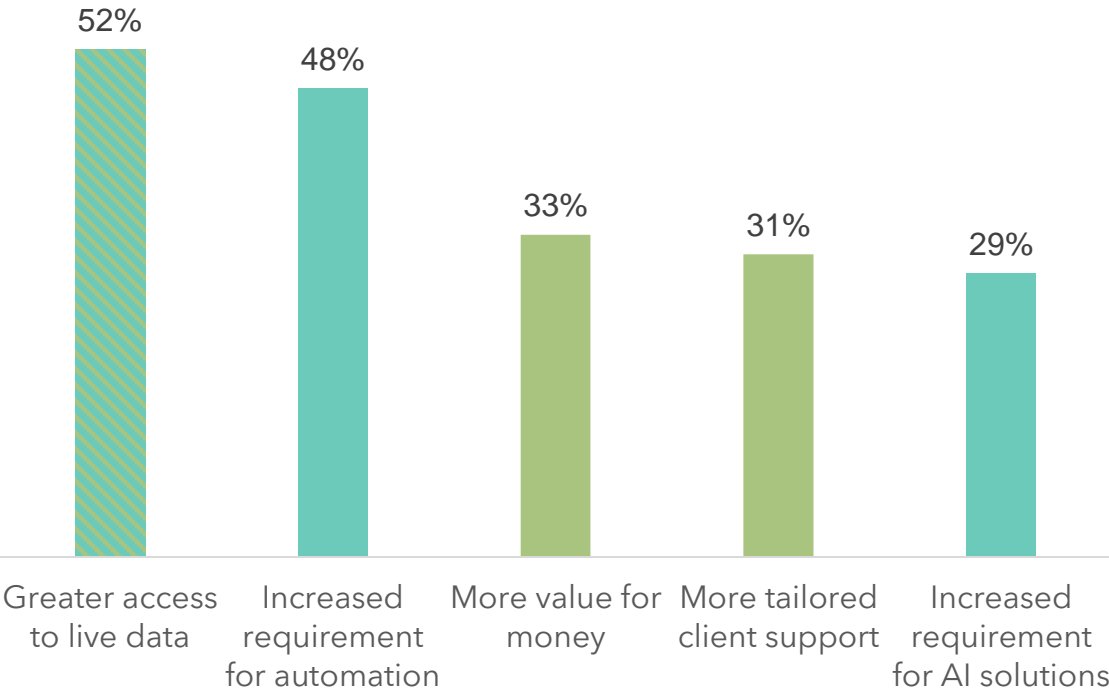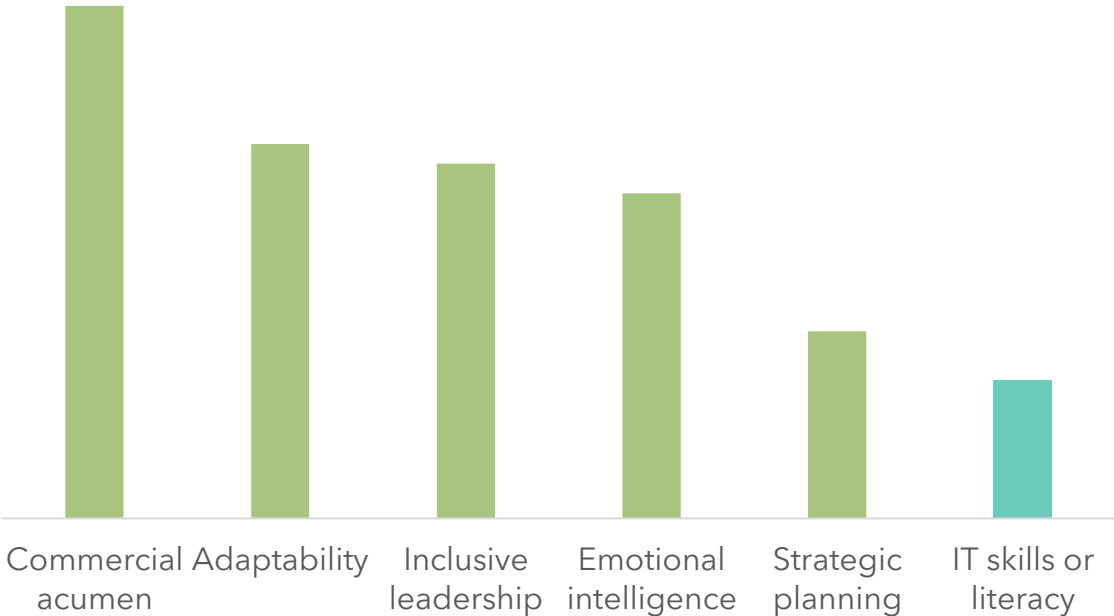|		
Data Conversion	Risk profiling	Anomaly detection
Research and guidance	Content generation (e.g. draft reports)	Audit copilots (e.g. lease accounting)
	Productivity gains – working more efficiently	

However – start from the problem!

AI in Audit – Challenges

Are we investing in the right skills?

Most significant ways clients' needs are likely to change in the next three years[2]

| Greater access to live data | Increased requirement for automation | More value for money | More tailored client support | Increased requirement for AI solutions |
| 52% | 48% | 33% | 31% | 29% |

Top three skills for the next generation of practice leaders[2]

Commercial acumen · Adaptability · Inclusive leadership · Emotional intelligence · Strategic planning · IT skills or literacy
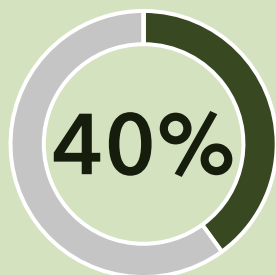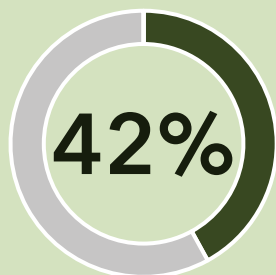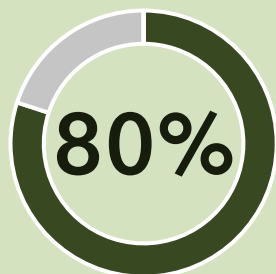
2

< Auditing AI

Global client trends

40% Of enterprise-scale businesses are <u>considering</u> integrating AI into operations[1]

42% Of enterprise-scale businesses <u>have</u> integrated AI into their operations[1]
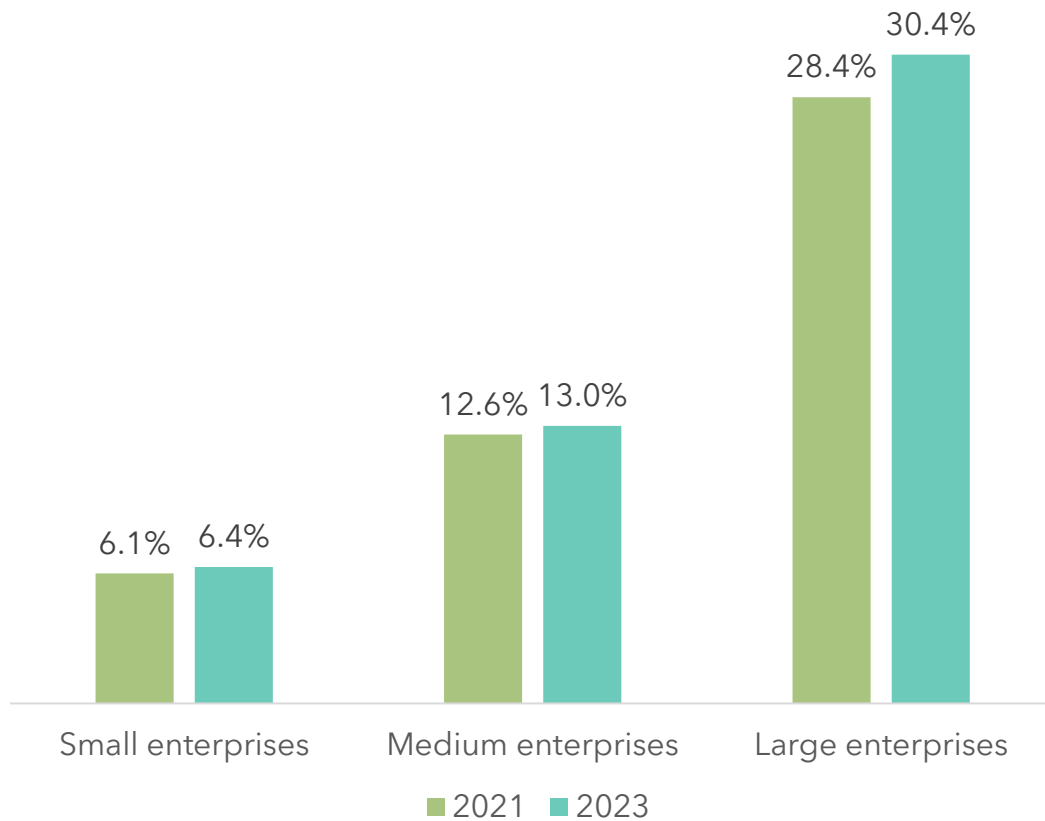
80% Of enterprise-scale businesses have or are considering integrating generative AI [1]

- Majority of enterprise-scale businesses will have AI models deployed in the near future

- Is the picture in Europe different?

European trends

Percentage of enterprises using AI by size in the EU, 2021 and 2023

	2021	2023
Small enterprises	6.1%	6.4%
Medium enterprises	12.6%	13.0%
Large enterprises	28.4%	30.4%

Eurostat, Enterprises using artificial intelligence technologies

- In all, AI uptake in Europe is somewhere close to 8% for all enterprises.

- This also varies by region and sector.

- But… what are they using the tech for?

What is AI being used for?

- IT Security
- Financial management and reporting
- Sales and customer behaviour analytics
- Fraud detection
- Production & operational processes
- Marketing & customer recommendations
- Customer support

Addressing risks of clients using AI

Due to the myriad of models and their ability, risks range by use case but can include:

Ethical	Compliance	Financial	Technology
•Unrepresentative data •Bias in data •Bias in algorithm •Lack of human oversight •Lack of explainability or transparency •Unintended consequences…	•Breach of privacy •Model drift •Lack of monitoring •Compliance with sector specific rules	•Expensive resources •Cost increases due to delays (e.g. data issues, model development) •Infrastructure and upskilling costs might outstrip benefits	•Under resourced teams •Mismatching skills sets •Data issues •Weak error analysis •Supply chain dependencies •Cyber security risks

Assurance techniques will be needed to mitigate these risks…

The AI Assurance Ecosystem

Algorithmic impact assessment ①

Bias audits ②

Compliance audits ③

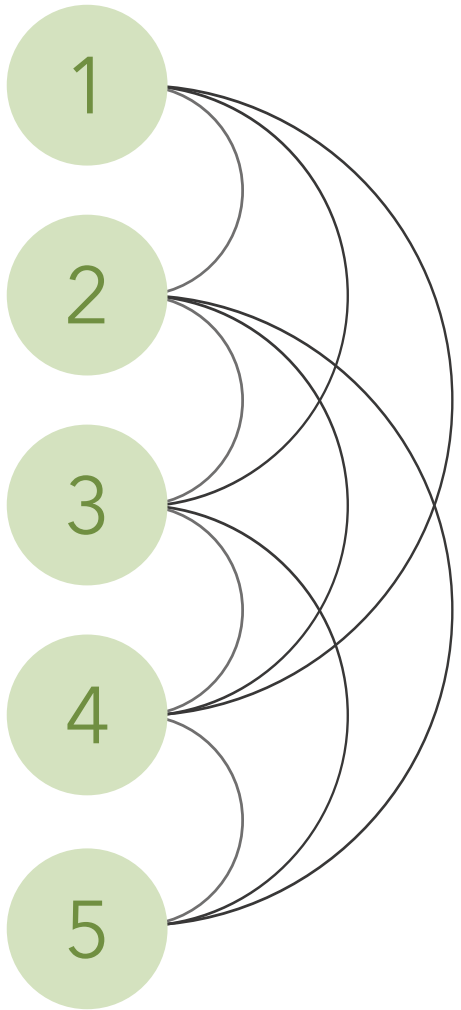**Conformity assessment** ④

Formal verification ⑤

Build to justified trust

Where people, groups and organisations trust the use of AI systems based on reliable and replicable evidence.

3

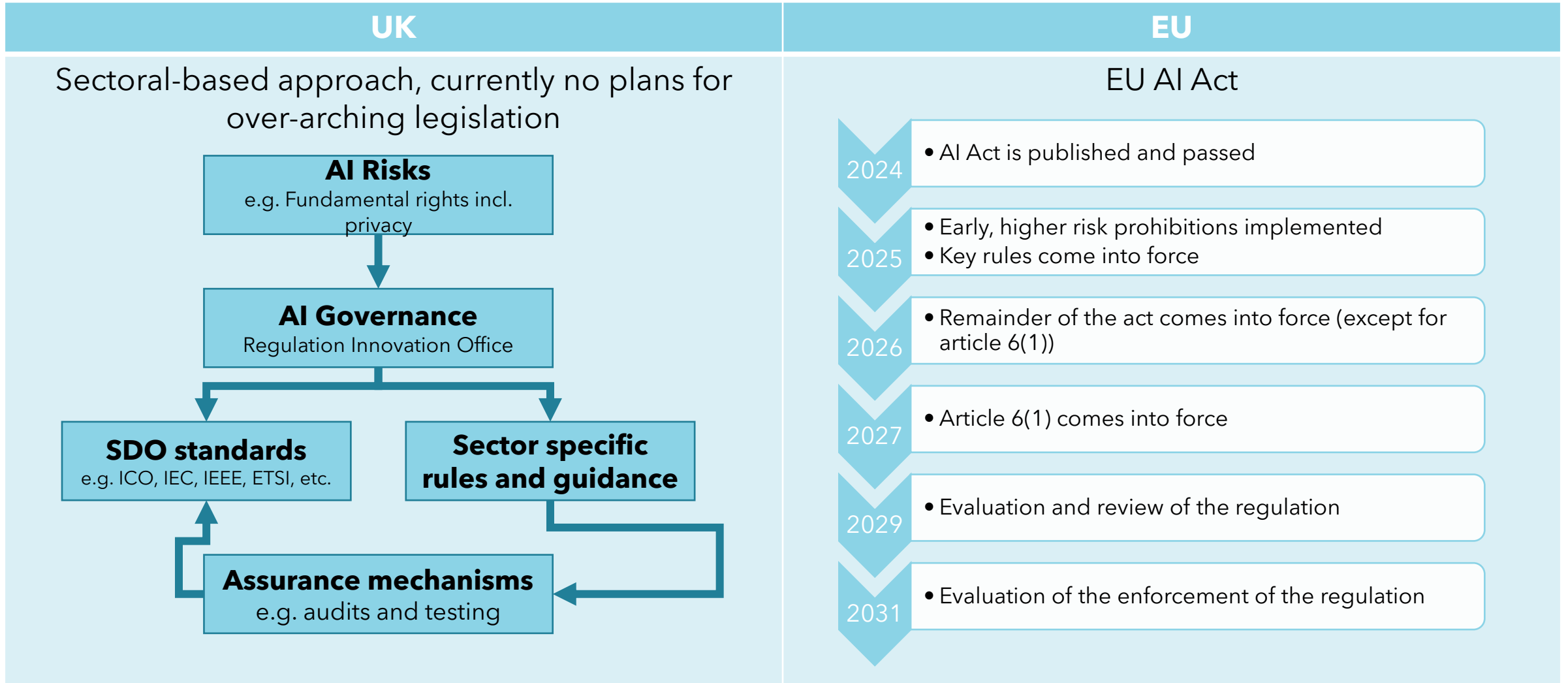## Regulation, standards and professional bodies

AI Standards

The AI assurance ecosystem will rely on underpinnings of standards, many have already been developed by the ISO, IEC, ETSI, ITU, DIN, NIST, etc.

At present the UK Governments AI Standards hub has more than 300 published standards already, with more on the way…

However – financial audit standards remain unchanged (although IAASB is starting to look at some of the ISAs).

- ISO/IEC 38505 – Governance of data
- ISO 38507 – Governance implications of the use of AI by organisations
- ISO/IEC TR 29119 – Part 11: Guidelines on testing AI-based systems
- ISO/IEC TS 4213 – Assessment of machine learning classification performance.
- NIST AI Risk Management Framework
- ISO/IEC TR 24027 – Bias in AI systems and AI aided decision making

The Regulatory Approach

UK	EU
Sectoral-based approach, currently no plans for over-arching legislation	EU AI Act

UK:

AI Risks
e.g. Fundamental rights incl. privacy

↓

AI Governance
Regulation Innovation Office

SDO standards
e.g. ICO, IEC, IEEE, ETSI, etc.

Sector specific rules and guidance

Assurance mechanisms
e.g. audits and testing

EU:

2024
- AI Act is published and passed

2025
- Early, higher risk prohibitions implemented
- Key rules come into force

2026
- Remainder of the act comes into force (except for article 6(1))

2027
- Article 6(1) comes into force

2029
- Evaluation and review of the regulation

2031
- Evaluation of the enforcement of the regulation

What is ICAEW doing?

- Guidance e.g. www.icaew.com/GenAIGuide

- Training e.g. AI Ethics e-learn module available to all members

- Engaging with standard setting organisations, government departments and research bodies

- Looking at where AI fits into the ACA qualification

- Events, webinars and content

- Research e.g. CAW global membership research

- Talking (and listening!) to students and members – what are you seeing, what are you doing, where do you need support?

4 < Conclusion

Implications for auditors & regulators

Foundations
- Data quality is critical to success
- Identify problems that AI can solve – is AI always the right answer?
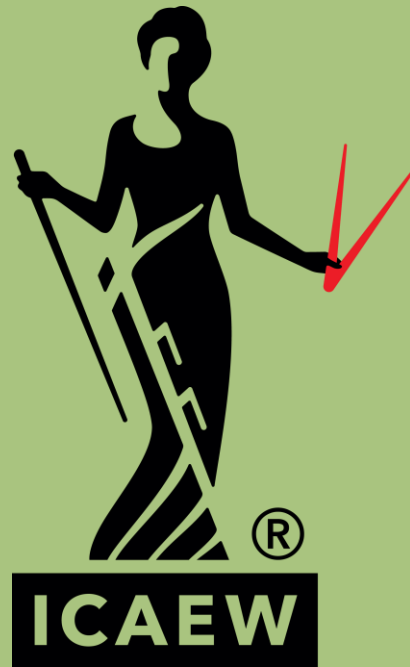- How you *use* AI and how you *audit* AI are two different areas of focus

Opportunities
- Many different ways AI can be used effectively
- AI Assurance a key growth area
- Software ecosystem

Challenges
- Skills – limited existing skills and strong competition for them
- Changes to roles and staffing requirements
- Transparency and evolution of AI models
- Over-reliance on AI outputs creates risk for auditors and auditees

Regulator / professional body role
- Auditing standards and regulation need to keep pace
- Qualifications need to keep pace – and qualified accountants need help to keep pace too
- Responsibility and auditability across multiple AI providers
- Supporting smaller firms with less budget & resource

icaew.com