



AI Impact on Higher Ed and Internal Audit

May 20, 2024

Today's Speakers



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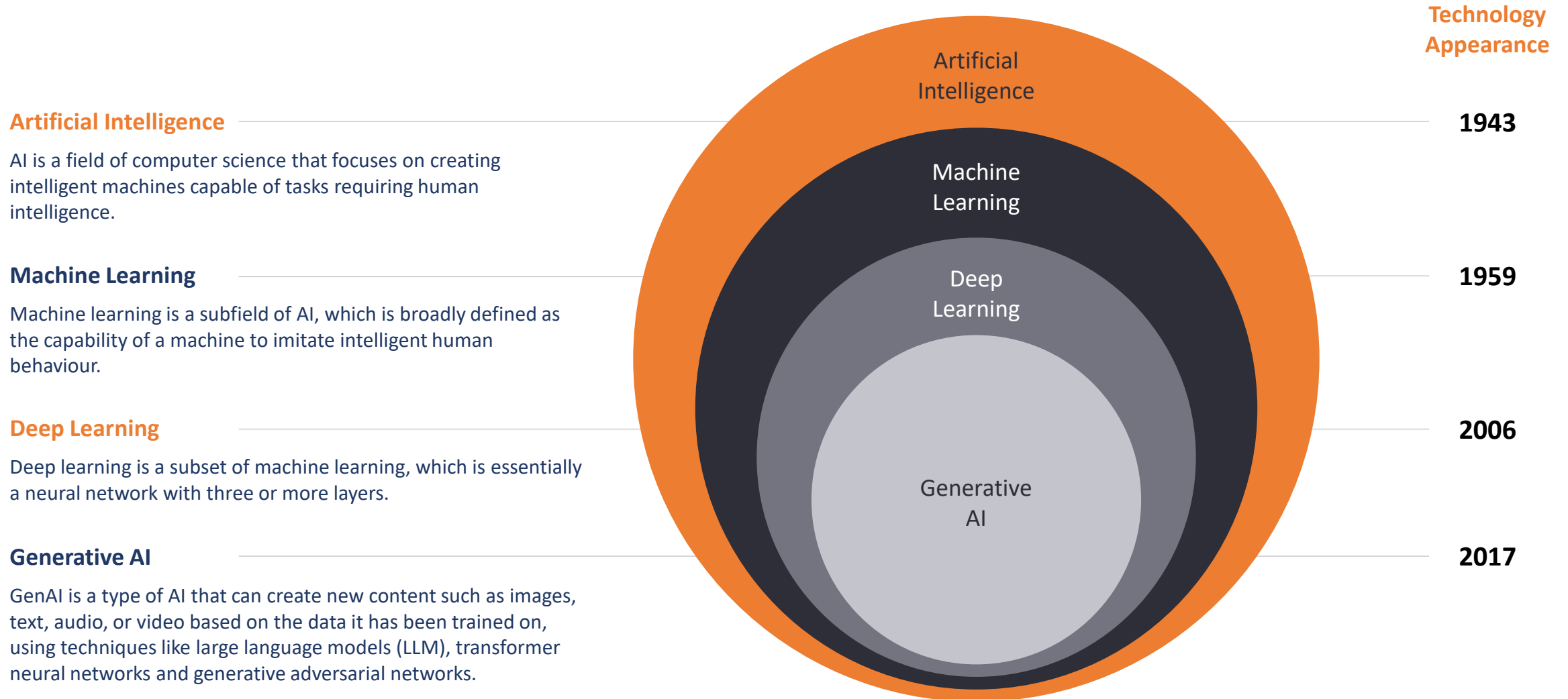
Questions?

The background of the slide features a person in a light blue shirt holding a tablet. A semi-transparent network diagram with white nodes and lines is overlaid on the person's head. The overall background is a soft-focus bokeh of light blue and white circles.

01

Introduction - AI and Generative AI (GenAI)

Understanding the AI landscape: What is AI and Generative AI (GenAI)?



Large Language Models

An AI Large language model (LLM) is a type of artificial intelligence that processes, understands, and generates human-like text.

Capabilities:

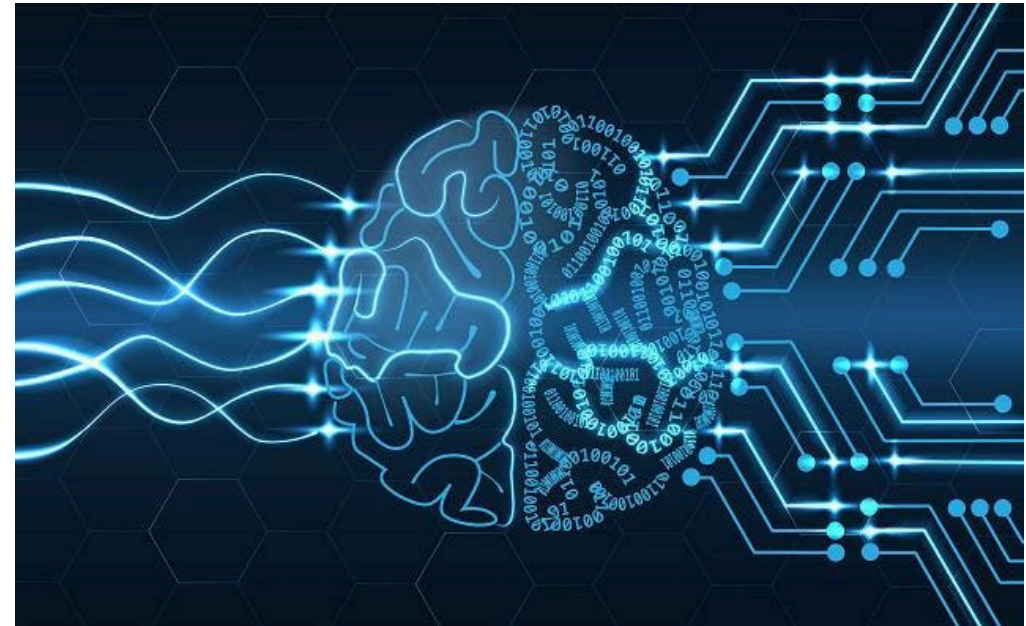
- Language translation, answering questions, text summarization, content creation

Benefits & Challenges:

- Beneficial for automating tasks and aiding decision making
- Challenges include ethical considerations and potential biases

Use cases of AI in today's field:

- Risk assessment and prediction, control testing, audit planning and scoping, report generation, policy and procedure review



Why are LLMs gaining popularity?

Emergence of LLMs

LLMs take advantage of **self-supervised learning** and can learn from large amounts of **unstructured and unlabeled** text data. These models are trained on large corpora of data, allowing for one model to be used for **multiple** use cases. The following **advancements** have made such models a reality :



Recently there has been widespread popularity of LLMs such as ChatGPT, which gained 1 million users in under a week

In the next year we expect to see at least 10% of companies invest in AI-supported digital content creation. The evolution in transformer networkers and pretrained models (like GPT-3) are paving the way

-Forrester Predictions 2023: Artificial Intelligence

Reinforcement learning and large language models have accelerated the development, accuracy and deployment of products that can automatically generate clean code from requirements

-Forrester Predictions 2023: Artificial Intelligence

What distinguishes LLMs from other ML models?



UNDERSTAND – The learning allows the model to understand prompts, instructions and process other text/image content



EXTRACT – These models are capable of learning from large amounts of text and can search and extract information from natural language text

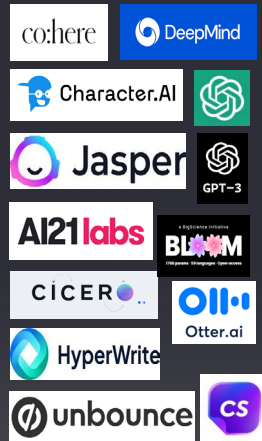


RESPOND – The ability for LLMs to understand and generate human-like text, enables them to respond to instructions and prompt by generating new content in response

Generative AI Models - Landscape



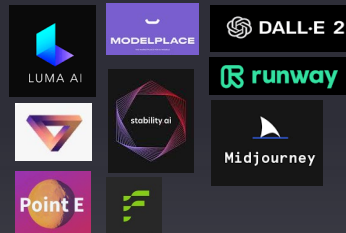
TEXT



PaLM By GOOGLE



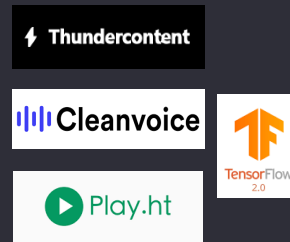
IMAGE/VIDEO



INSTANT NeRF by NVIDIA



SPEECH



DALL-E By MICROSOFT



AUTO CODING



MULTI-MODAL



MURAL By GOOGLE

Total AI Models Identified = 36

Models listed here are indicative and not exhaustive

02

Artificial Intelligence Governance

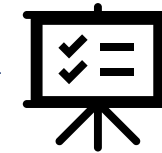
Why do we need AI Governance?

- Sound governance and AI Confidence is needed to safeguard against regulatory, reputational and business challenges



Drivers

AI adoption is increasing due to its potential to transform the business, develop new products, improve customer experience & operational efficiency, etc.



Objectives

Enable AI adoption by building an AI Confidence framework focused on unbiased, resilience, explainability, transparency, and performance



Requisites of AI Governance Program

Skillsets

The variety of skillsets required for AI Governance build Out is unique: AI expertise, AI Confidence Management, Regulatory Awareness, etc.

Collaboration

The build out of an AI Governance framework requires close collaboration and alignment across business functions and oversight levels.

Agility

AI is a fast-evolving field requiring agile governance. This is emphasized by rapidly changing regulatory requirements.

Why should AI adoption start with governance?

Why?

**Establishing a governance framework
maximizes upside value and minimizes
downside risk**

Organizations who lead with governance...

- Understand and mitigate risks of AI before they materialize
- Proactively identify high-value areas for AI deployment
- Scale learnings and best practices discovered in early pilots
- Accelerate ROI by protecting revenue in addition to generating it
- Adopt AI at scale and maximize impact across functions and BU's

Organizations who don't lead with governance...

- Reactively address risks, often inadequately
- Adopt AI in siloes which limits scale, ROI, and visibility
- Create prioritization chaos which results in fragmented investment
- Repeat mistakes across BUs throughout the AI adoption lifecycle, increasing the risk posture of the organization

03

AI across the Three Lines of Defense

Defining the risk mitigation scope of responsible AI (RAI) across three lines of defense



RAI risk universe

Compete

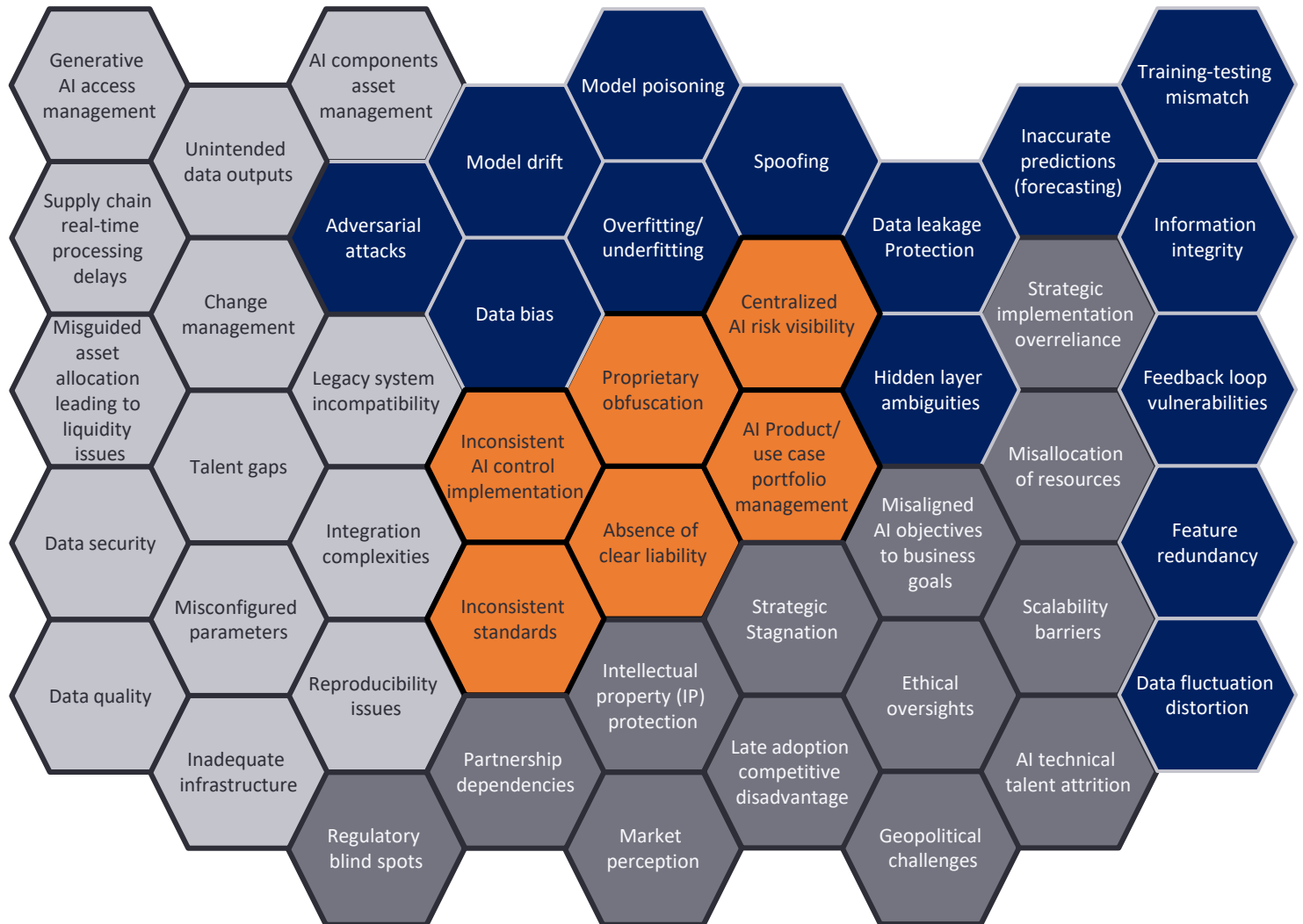
Enabling speed to market by having less friction between business and compliance functions

Protect

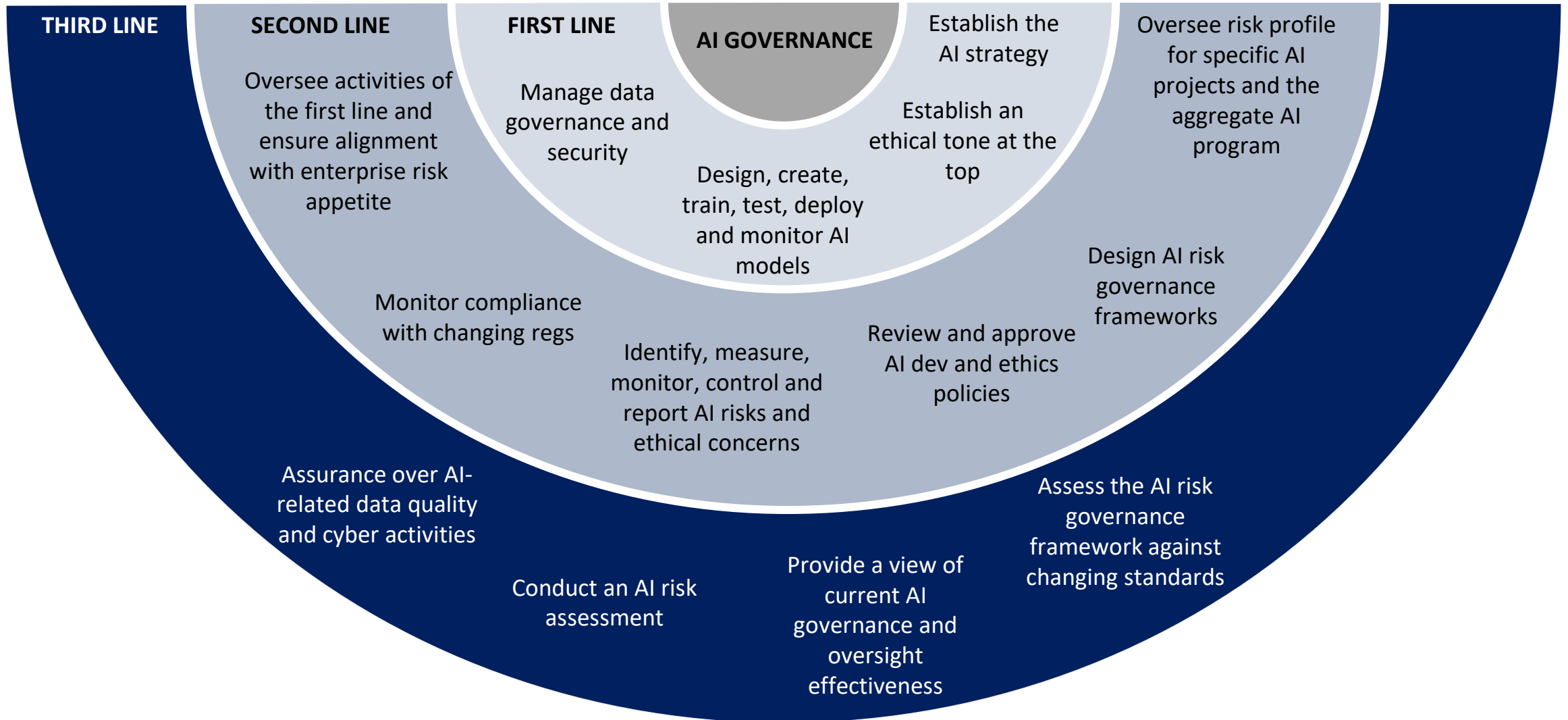
Internal value protection and external threat mitigation

Accelerate

Non-negotiable compliance with existing and emerging regulations



Developing a Responsible AI (RAI) Lifecycle Compliance Strategy



04

Artificial Intelligence & Internal Audit

Generative AI use cases for Internal Audit

<p>Information processing</p> <p>Process and synthesize information like human beings and in exceptional speed</p>	<p>1 Knowledge management</p> <p>Organize and analyse documents, regulations, policies, procedures, guidelines, education and audit work papers</p>	<p>2 Workpaper quality review</p> <p>Review audit workpapers for quality issues (language, formatting, and alignment with organizational standards)</p>	<p>3 Process, risk and control diagnostics</p> <p>Review, assess and rationalize Process, Risk, and Controls descriptions and connectivity</p>
<p>Information retrieval</p> <p>Retrieves specific relevant information with contextual understanding</p>	<p>4 Testing Automation</p> <p>Summarizing complaints/issues to detect risks and categorize risk topics</p>	<p>5 Issue management</p> <p>Automatically review, interpret and map issues to risk themes, and establish linkages to Product Risk Classification taxonomy and impacted regulation</p>	<p>6 Interpretation / summarization of unstructured data</p> <p>Ingest, interpret and summarize Governance, regulatory, contract (underwriting, vendor etc.) documents to allow users to search contextually and summarize on-demand</p>
<p>New content generation</p> <p>Generate new content by recognizing patterns across multiple sources</p>	<p>7 Business intelligence automation</p> <p>Utilize natural language user prompts to automatically generate intuitive and insightful visualizations, charts, and summaries to present the analysed data. Generate education and awareness materials for areas of non-compliance</p>	<p>8 CAE/Audit committee summary reports</p> <p>Generate summary reports for CAE and audit committees using Gen AI to interpret testing outcomes and existing monitoring routines</p>	<p>9 Risk, control, issue and procedure generation</p> <p>Automate generation of risk, control, issue and procedure documentation given a regulation/policy, to ensure consistency, clarity, reproducibility. Recommend remediation activities and draft remediation plans</p>

Artificial Intelligence Use Case in IA



Work program development

1. Develop key risks for consideration during audit planning/scoping
2. Develop test steps to support areas of the project



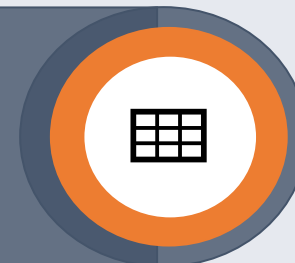
Walkthrough output

1. Record walkthroughs or other interviews to minimize burden of note taking
2. Summarize key points and to-dos based on content of the meeting



Deliverable generation

1. Reference available documents to pull out key themes and produce deliverables in PowerPoint



Excel analysis

1. Automate creating excel formulas and pivot tables
2. Perform simple data analysis in excel (e.g., identifying outliers)

Key questions for audit committees

A future-proof AI strategy requires reflecting on six aspects --- vision, governance, AI capabilities, risks, accountability and adoption. Find the right answers to why change, what to evolve and how to proceed an AI transformation.

What is your organization's AI strategy and how does this align with the organization's overall business strategy and objectives?

Does your organization have a dedicated governance framework in place to oversee the development and release of AI?

What steps can your organizations take to build AI strategy and systems on a foundation of trust and accountability?

Do you have visibility of AI being deployed across your organization — including AI that may impact your organization's internal controls and reporting to stakeholders?

How is your organization identifying and addressing potential risks associated with the use of AI, including bias, privacy, security and reporting related risks?

05

AI Regulatory Updates & Policies

US AI regulatory and policy developments

US Executive Order on Safe, Secure, and Trustworthy AI



1 New Standards for AI Safety and Security



2 Protecting Americans' Privacy



3 Advancing Equity and Civil Rights



4 Standing Up for Consumers, Patients, and Students



5 Supporting Workers



6 Promoting Innovation and Competition



7 Advancing American Leadership Abroad



8 Ensuring Responsible and Effective Government Use of AI

Progress to date

- *Developers of dual-use foundation models must report, among other information, AI safety test results to the Department of Commerce (DOC).*
- *The DOC to require US cloud infrastructure providers to implement Customer Identification Programs.*
- *Nine federal agencies completed AI risk assessments for critical infrastructure*
- *The OMB to require federal agencies to appoint Chief AI Officers and AI governance boards*
- *Launch of the US NIST AI Safety Institute Consortium (EY is a founding member)*

Questions?