Artificial Intelligence – A Beginning Understanding and Impact of AI on Insurance and Risk Management

Panel Moderator: Ward Ching, Aon and USC
Loren Nickel, Alphabet - Google
Eric Boyum, Aon Technology
Daniel Serota, Director Of Government Relations, Aon

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SESSION DESCRIPTION

Unanticipated Emergent Properties, Systems Hallucinations, Synthetic and Sentient Machine/Human Interface, META AI, ChatGBT, are terms we are now beginning to understand associated with AI.

This panel will treat what is AI, how is it being used, what are the Risk Management Implications and how we should be thinking about this new and disruptive technology.

This disruptive technology is growing and "learning" at a rapid pace. What does it mean to you?

Buckle Up!
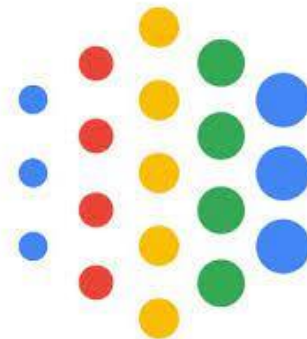
"Human-AI partnership can help solve society's challenges."

Satya Nadella, CEO, Microsoft

"These tools will help us become more productive, healthier, smarter and more entertained."

Sam Altman, CEO, OpenAI

"AI will have a more profound impact on humanity than fire, electricity and the Internet."

Sundar Pichai, CEO, Alphabet

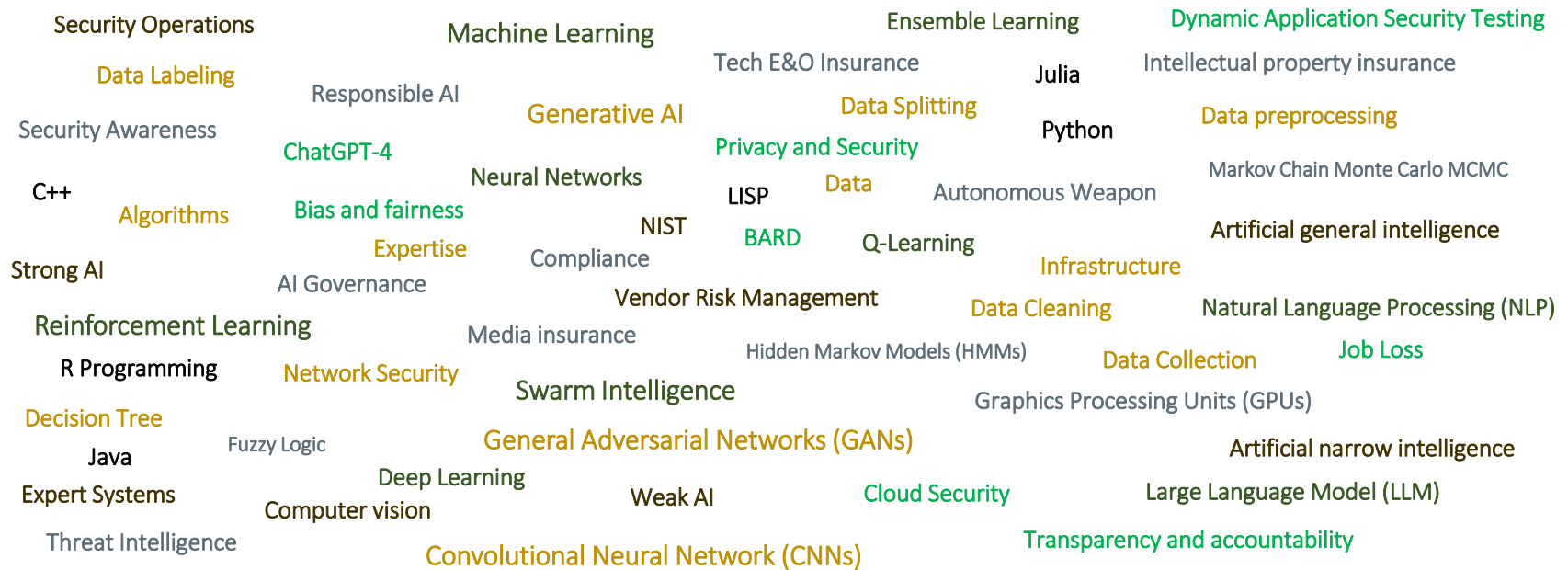**"AI has tremendous potential to boost productivity and may ultimately be the technology that can tamp down inflation."**

Larry Fink, CEO, BlackRock

AI@Aon

Understanding Artificial Intelligence

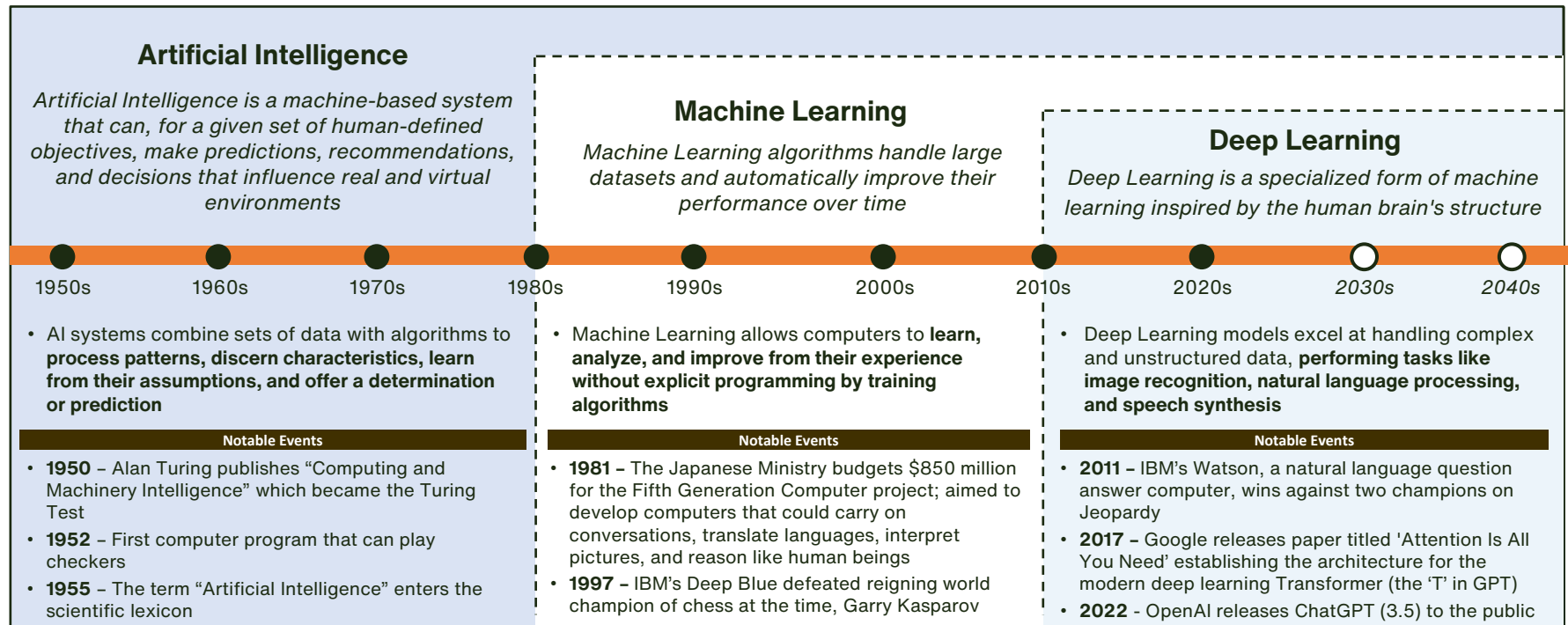There are several components and concepts that comprise the Artificial Intelligence sphere

Given the technology utilizing Artificial Intelligence (AI) can be, and often is, highly technical and complex, **companies are actively focused on implementing policies & strategy around the usage of AI to ensure effective & secure usage of AI solutions**

Security Operations   Machine Learning   Ensemble Learning   Dynamic Application Security Testing

Data Labeling   Responsible AI   Tech E&O Insurance   Julia   Intellectual property insurance

Security Awareness   Generative AI   Data Splitting   Python   Data preprocessing

ChatGPT-4   Privacy and Security

C++   Neural Networks   Data   Autonomous Weapon   Markov Chain Monte Carlo MCMC

Algorithms   Bias and fairness   LISP   NIST   Q-Learning   Artificial general intelligence

Expertise   Compliance   BARD   Infrastructure

Strong AI   AI Governance   Vendor Risk Management   Data Cleaning   Natural Language Processing (NLP)

Reinforcement Learning   Media insurance   Hidden Markov Models (HMMs)   Data Collection   Job Loss

R Programming   Network Security   Swarm Intelligence   Graphics Processing Units (GPUs)

Decision Tree   Fuzzy Logic   General Adversarial Networks (GANs)   Artificial narrow intelligence

Java   Deep Learning   Weak AI   Cloud Security   Large Language Model (LLM)

Expert Systems   Computer vision

Threat Intelligence   Convolutional Neural Network (CNNs)   Transparency and accountability

What is AI and how has it evolved?

Artificial Intelligence has become more sophisticated over time with the development of machine learning and deep learning, allowing it to deliver innovative solutions and transformative outcomes
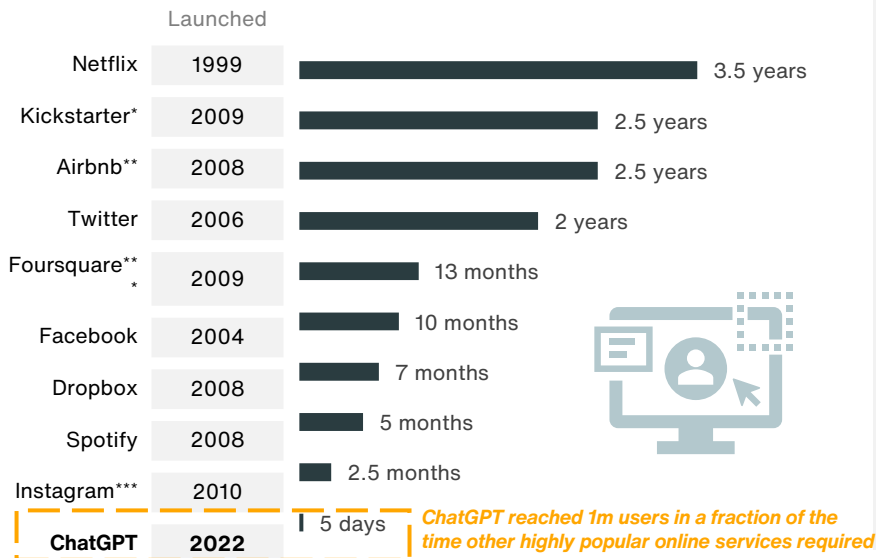
Artificial Intelligence

Artificial Intelligence is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, and decisions that influence real and virtual environments

Machine Learning

Machine Learning algorithms handle large datasets and automatically improve their performance over time

Deep Learning

Deep Learning is a specialized form of machine learning inspired by the human brain's structure

1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s	*2030s*	*2040s*

- AI systems combine sets of data with algorithms to **process patterns, discern characteristics, learn from their assumptions, and offer a determination or prediction**

Notable Events

- **1950** – Alan Turing publishes "Computing and Machinery Intelligence" which became the Turing Test
- **1952** – First computer program that can play checkers
- **1955** – The term "Artificial Intelligence" enters the scientific lexicon

- Machine Learning allows computers to **learn, analyze, and improve from their experience without explicit programming by training algorithms**

Notable Events

- **1981 –** The Japanese Ministry budgets $850 million for the Fifth Generation Computer project; aimed to develop computers that could carry on conversations, translate languages, interpret pictures, and reason like human beings
- **1997 –** IBM's Deep Blue defeated reigning world champion of chess at the time, Garry Kasparov

- Deep Learning models excel at handling complex and unstructured data, **performing tasks like image recognition, natural language processing, and speech synthesis**

Notable Events

- **2011 –** IBM's Watson, a natural language question answer computer, wins against two champions on Jeopardy
- **2017 –** Google releases paper titled 'Attention Is All You Need' establishing the architecture for the modern deep learning Transformer (the 'T' in GPT)
- **2022** - OpenAI releases ChatGPT (3.5) to the public

AI's rapid adoption

Utilization of AI technology, such as ChatGPT, has significantly outpaced historical usage rates seen by other prolific online technologies & services – however, this has brought about a number of challenges that must be addressed

Usage of AI technology has **increased at an unprecedented rate** relative to other major online services/technologies...

...which has resulted in **major risks and challenges** for users in a world where AI **technology is rapidly evolving**

Time Required for Selected Online Services to Reach 1m Users

	Launched	Time to 1m Users
Netflix	1999	3.5 years
Kickstarter*	2009	2.5 years
Airbnb**	2008	2.5 years
Twitter	2006	2 years
Foursquare***	2009	13 months
Facebook	2004	10 months
Dropbox	2008	7 months
Spotify	2008	5 months
Instagram***	2010	2.5 months
ChatGPT	2022	5 days

ChatGPT reached 1m users in a fraction of the time other highly popular online services required

*One million backers
**One million nights booked
***One million downloads

Recent Headlines Stemming from AI Technology Usage

Doe v. Microsoft CoPilot/GitHub and OpenAI over AI copyright code

Use of ChatGPT in Federal Litigation Holds Lessons for Lawyers
(potential sanctions after submission of six nonexistent cases)

Samsung Employees Committed Major Error in ChatGPT Usage
(internal meeting notes & source code entered into ChatGPT)

Radio Host Sues OpenAI for Defamation Over ChatGPT

State of the AI Environment

Regulatory and Enterprise Risk Management frameworks are being proposed to address emerging risks and developing areas for potential litigation

Developing Areas of Litigation and Risks

Copyright Infringement by training data on writers, artists and coders

Loss of Trade Secrets and **Intellectual Property**

Employment Bias/ **Discrimination**

Contract Risks

Cyber Security/ Privacy

Hallucinations – Unanticipated emergent properties

Deep Fakes

Job Evolution and Displacement

AI Detection Tools to manage reputational risk

Prebunking and Debunking to address disinformation

Silent Cyber to **Silent AI Coverage**

Frequency, Severity, and now **Velocity**

Source(s): STG Analysis, Third-Party Research

Generative AI's inevitable penetration into the business sphere

Given the rapid increasing importance of AI, business leaders cannot afford to ignore the technology, as transformative innovation in the workplace will rely heavily on AI

Artificial Intelligence is set to heavily alter our society and the way in which it functions

"Generative artificial intelligence" is set to add up to **$4.4 trillion of value** *to the global economy annually*

> The A.I. Revolution Will Change Work. Nobody Agrees How.
>
> The New York Times

By 2025, the World Economic Forum predicts automation & technology will **displace 85m jobs** *and* **create 97m new roles**

The Economist | How AI could change computing, culture and the course of history

AI has established itself as a technology that is not only here to stay, but **will change the way society functions –** business leaders must begin to **embrace AI technology to avoid being left behind**

Time-Saving Efficiency

Analysis Powerhouse

Tailored Personalization

Enhancing Collaboration

Authentic Simulation
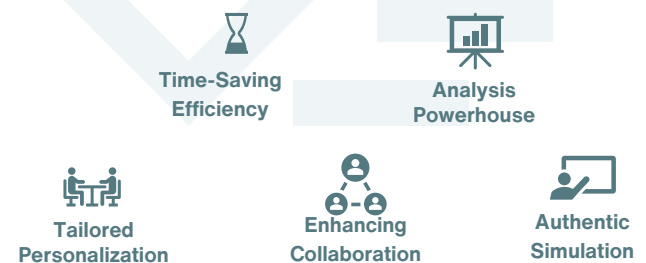
Benefits, risks, and uncertainties of Artificial Intelligence

If measures are put in place to mitigate the risks associated with AI, the benefits of the technology's development will ultimately outweigh the risks

Although the benefits of AI cannot be ignored...

...it is necessary to contemplate the risks and uncertainties

Authentic Simulation

Tailored Personalization

Time-Saving Efficiency

Analysis Powerhouse

Enhancing Collaboration

Weighing the Benefits & Risks of AI

Benefits

Risks

Privacy & Data Security

Lack of Accountability

Bias & Fairness

Misinformation

Dependence
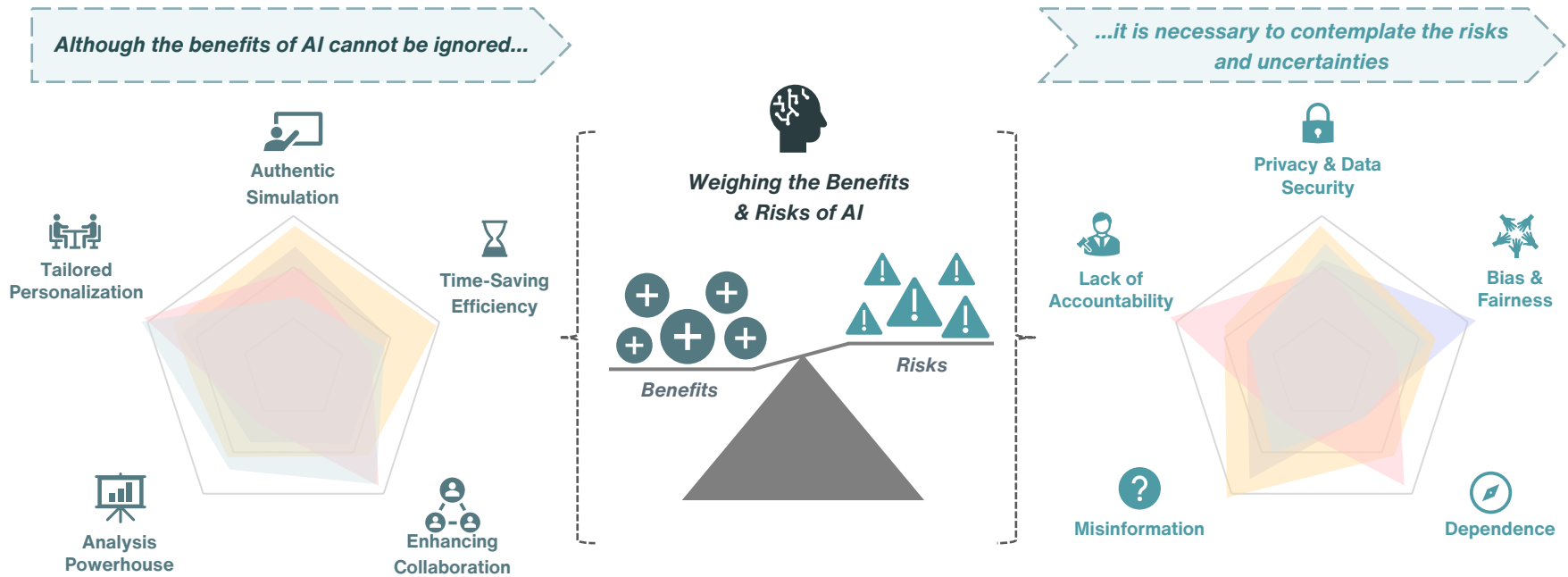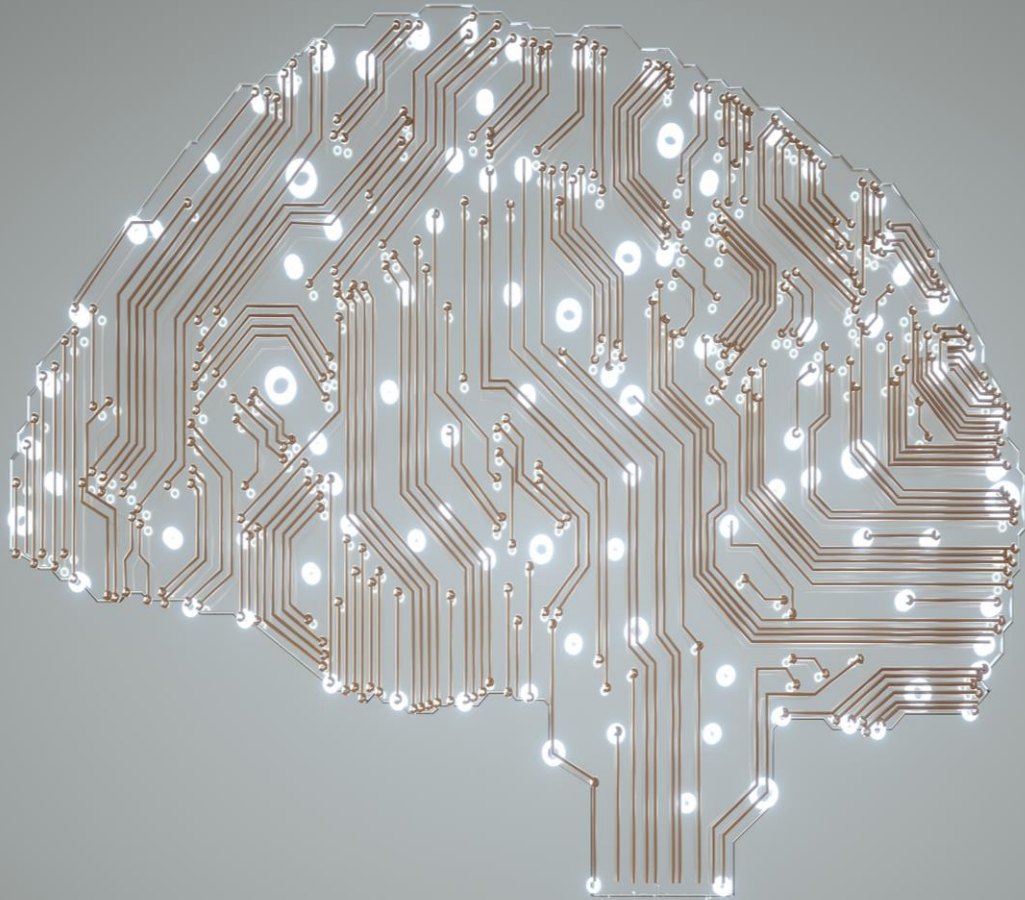
Pausing to Catch Our Breath....

Unregulated use of AI may become a problem – What does the Panel Think?

BBC

AI 'godfather' Geoffrey Hinton warns of dangers as he quits Google

2 May · Comments

Government Policy And Regulation — Harvard Business Review

Who Is Going to Regulate AI?

by Blair Levin and Larry Downes

May 19, 2023

The Economist

News | Babbage — Apr 26th 2023

What to fear about generative AI— and what to do about it

Forbes

FORBES > INNOVATION > ENTERPRISE TECH

Should We Stop Developing AI For The Good Of Humanity?

May 3, 2023, 02:29am EDT

The New York Times — May 30, 2023

A.I. Poses 'Risk of Extinction,' Industry Leaders Warn

Leaders from OpenAI, Google DeepMind, Anthropic and other A.I. labs warn that future systems could be as deadly as pandemics and nuclear weapons.

TIME MARCH 29, 2023 6:01 PM EDT

Pausing AI Developments Isn't Enough. We Need to Shut it All Down

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Elon Musk and other tech leaders call for pause in 'out of control' AI race

By Samantha Murphy Kelly, CNN Business
Updated 2:08 PM EDT, Wed March 29, 2023
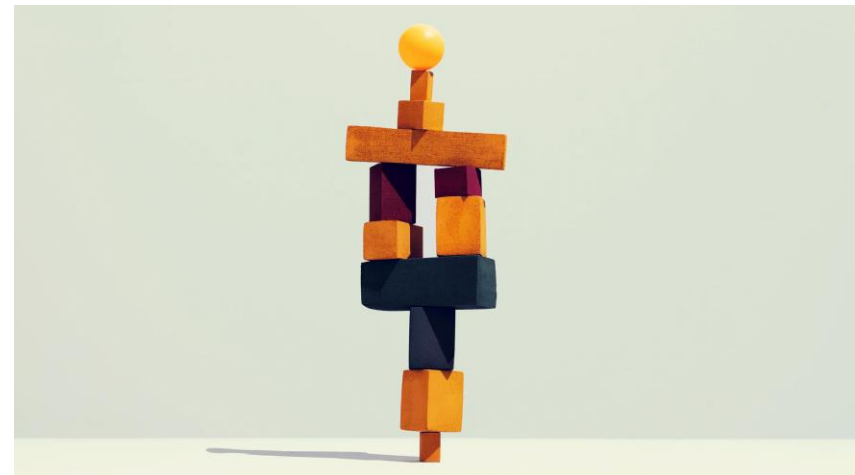
Client feedback on the state of AI Risk Management

Client feedback has found fragmented procedures in place for managing AI risk as well as limited insight to enterprise-wide AI risk

Procedures

Fragmented procedures in place for managing AI risk

! Key Issues

- **Risk Managers**, General Counsel, Procurement and business units **are often NOT involved with the process of AI evaluation and approval**
- Feedback from enterprise clients is the **lack of uniformity in the process**
- Risk Managers tasked with determining the limit of liability AI carries, **but don't have a standardized method for determining risk**

Insight

Limited insight to enterprise-wide AI risk

! Key Issues

- **Not consistently tracking** the extent to which AI is **embedded in third party services** or products
- CRO's and Risk Managers **do not have ability to aggregate non-compliance**
- **Concern at C-suite and board level**

Source(s): STG Analysis, Third-Party Research

AI Risk Management Framework

The National Institute of Standards and Technology (US Department of Commerce) released an AI Risk Management Framework to address concerns around managing Artificial Intelligence risk

In collaboration with the private and public sectors, NIST has developed a framework to better manage risks to individuals, organizations, and society associated with artificial intelligence (AI)

NIST AI Risk Management Framework	Trustworthy and Responsible AI Resource Center
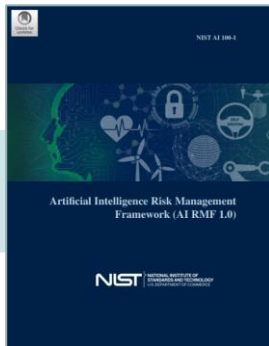
Description

Released on January 26, 2023, the NIST AI Risk Management Framework (AI RMF) is intended for voluntary use and to improve the ability to incorporate trustworthiness considerations into the design, development, use, and evaluation of AI products, services, and systems.
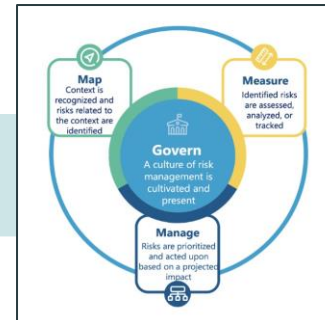
Description

On March 30, NIST launched the Trustworthy and Responsible AI Resource Center, which will facilitate implementation of, and international alignment with, the AI RMF

How can organizations make better AI decisions?

Although we are just starting the AI journey, we can leverage lessons learned from the rise of internet cyber risks and solutions, including Internet of Things' combinations of intangible and tangible perils and solutions

Identify, Access and Quantify AI Use

o Manage access to generative AI in accordance with your organization's policies

o Understand copyright ownership of AI–generated materials

o Use actuarial modelling

o Follow industry and AI trends

Mitigate

o B2B contractual limitation of liability

o Vendor risk management

o Maintain human oversight

o Check deliverable before distribution

o Require NDA from recipients if you want trade secret protection

Artificial Intelligence Risk Management

Transaction Solutions

o Mergers and acquisitions checklist

o Litigation protection

o Legal, claims and insurance review

  o Engage a qualified attorney, tax expert and accountant

Risk Transfer

o Insurance

o Captive or self-insurance

o Alternative risk transfer (parametric, insurance linked securities)

AI Enterprise Risk Management Checklist

Organizations must answer several key questions to ensure they are appropriately prepared to address Artificial Intelligence risks
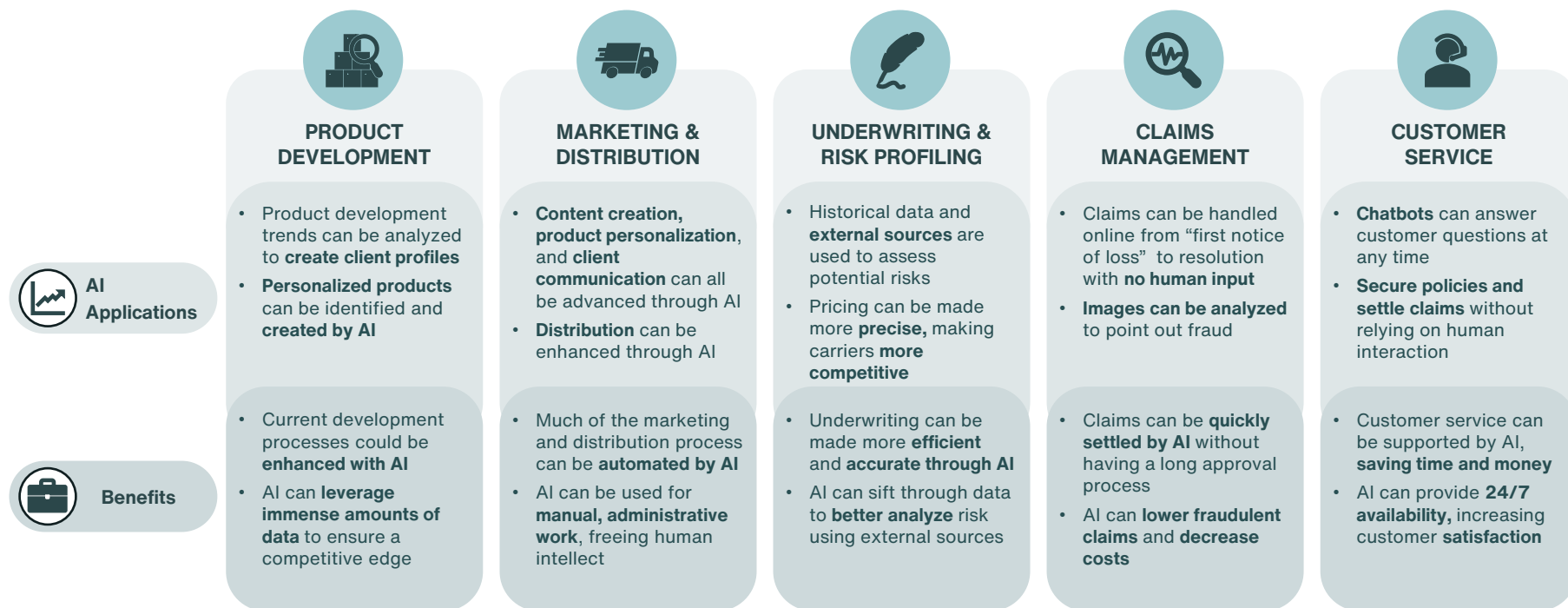
- ☑ Are Artificial Intelligence risks **effectively managed and reported to the Board?**

- ☑ **Does the Board have the requisite skill sets** to provide effective Artificial Intelligence **risk oversight**?

- ☑ **Is your risk management framework optimized** for Artificial Intelligence challenges?

- ☑ **Is your AI risk appetite and framework clearly defined** and communicated across your organization?

- ☑ Have you **quantified the severity of the impact** arising from extreme Artificial Intelligence events?

- ☑ **What response strategies do you have** in place in case Artificial Intelligence risk events occur?

- ☑ Do you have the full picture of your organization's Artificial Intelligence **supply dependency**?

- ☑ Is Artificial Intelligence risk management part of your **M&A due diligence process**?

- ☑ How are **ethical considerations** factored into Artificial Intelligence implementation?
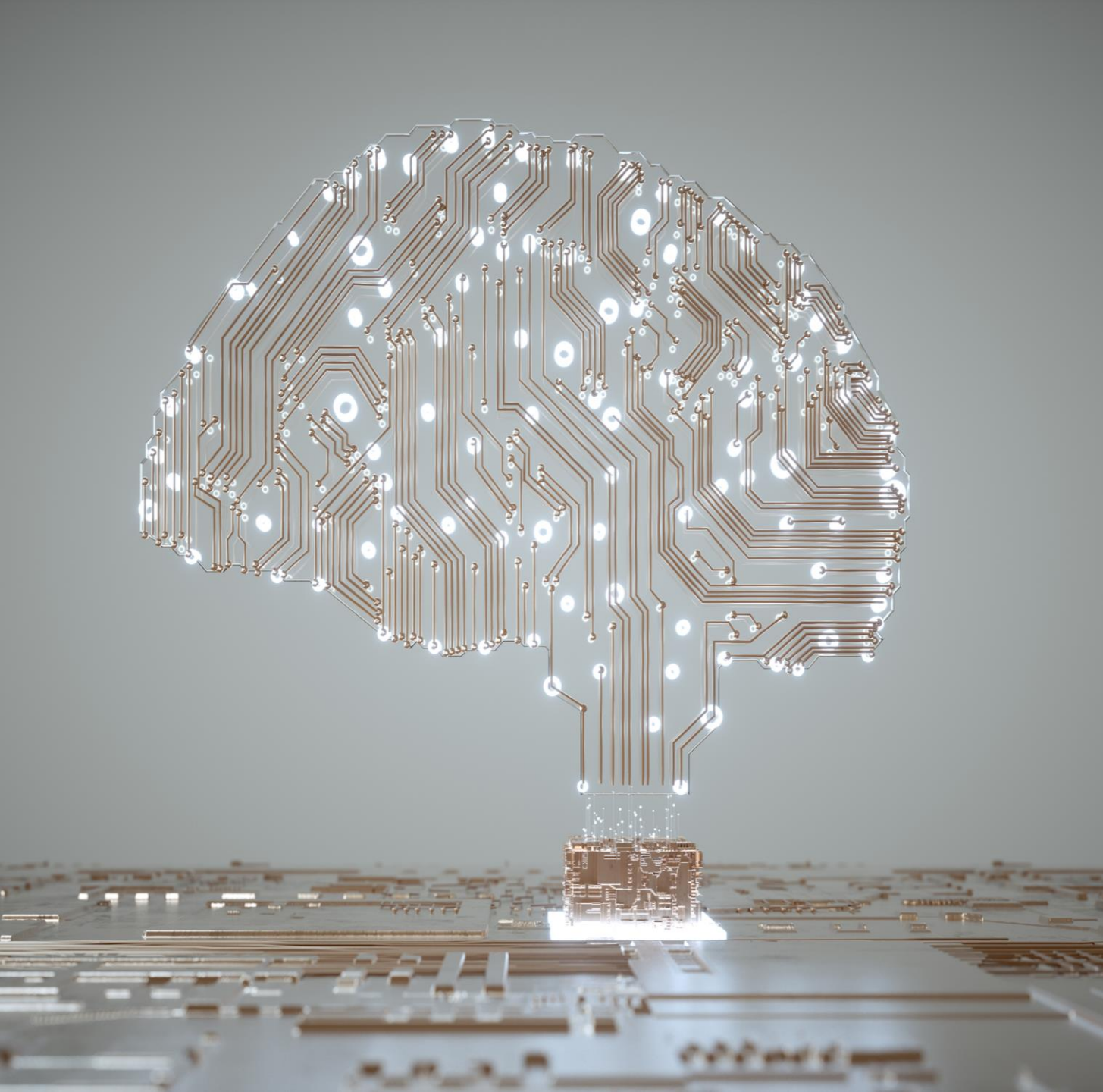
What about how AI applies to Insurance?

AI usage in the Insurance Value Chain

To understand the potential impact of AI on the insurance industry, the key pillars of the insurance value chain can be analyzed, looking at the applications and benefits of the technology

AI Applications

Benefits

PRODUCT DEVELOPMENT

- Product development trends can be analyzed to **create client profiles**
- **Personalized products** can be identified and **created by AI**

- Current development processes could be **enhanced with AI**
- AI can **leverage immense amounts of data** to ensure a competitive edge

MARKETING & DISTRIBUTION

- **Content creation, product personalization**, and **client communication** can all be advanced through AI
- **Distribution** can be enhanced through AI

- Much of the marketing and distribution process can be **automated by AI**
- AI can be used for **manual, administrative work**, freeing human intellect

UNDERWRITING & RISK PROFILING

- Historical data and **external sources** are used to assess potential risks
- Pricing can be made more **precise,** making carriers **more competitive**

- Underwriting can be made more **efficient** and **accurate through AI**
- AI can sift through data to **better analyze** risk using external sources

CLAIMS MANAGEMENT

- Claims can be handled online from "first notice of loss" to resolution with **no human input**
- **Images can be analyzed** to point out fraud

- Claims can be **quickly settled by AI** without having a long approval process
- AI can **lower fraudulent claims** and **decrease costs**

CUSTOMER SERVICE

- **Chatbots** can answer customer questions at any time
- **Secure policies and settle claims** without relying on human interaction

- Customer service can be supported by AI, **saving time and money**
- AI can provide **24/7 availability,** increasing customer **satisfaction**

Source(s): STG Analysis, Third-Party Research

Leadership decisions will dictate where the firm lands on the Adoption & Competitive Advantage Curve

The degree of maturity and sophistication across the four key elements of effective AI implementation will dictate the future direction of a firm's strategy
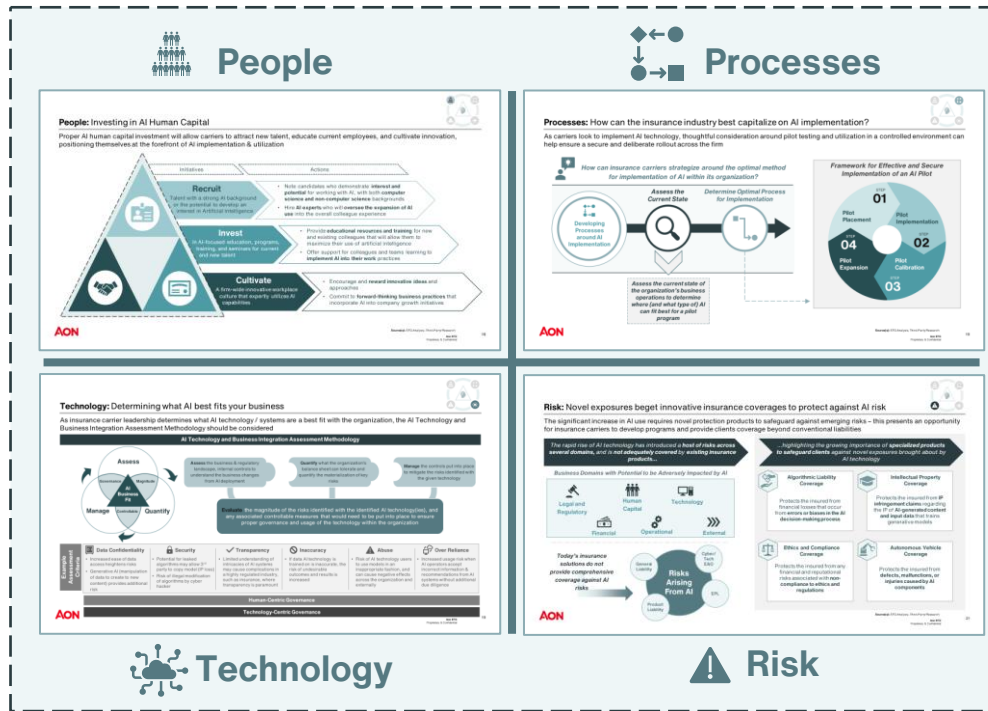
How insurance carrier leadership strategize around the four major components of AI will dictate the organization's placement within the AI technology adoption curve...
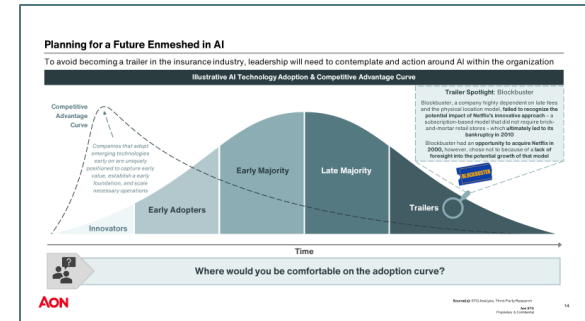
... is your organization where it wants, and needs, to be?

Wrapping Up!

You can start breathing again.

Generative AI is here to stay and should not be ignored

AI Considerations

Data
Data strategy including curation, cleaning, and monitoring for accuracy

Governance
Generative AI is relatively new and evolving quickly which creates both opportunity and risk and a strong governance framework is required.

Skills / Capabilities
Leveraging Generative AI will require skills and capabilities which are highly sought after and in short supply. Attracting and retaining talent is critical. Skills augmentation will also be required

Investment
Whilst Generative AI has the potential to be transformative it will require significant investment (training models, IT infrastructure, 3rd party licenses, training etc). Clear ROI needs to be established to ensure proposed investments meet your needs.

Use Case Identification
Key is developing a use-case portfolio to manage risk, data access, and resource allocation

Perfection should not get in the way of risk aware progress

No one has the experience base and answers— now is the time for a test and learn approach. The appropriate operating model to support speed and learning is essential
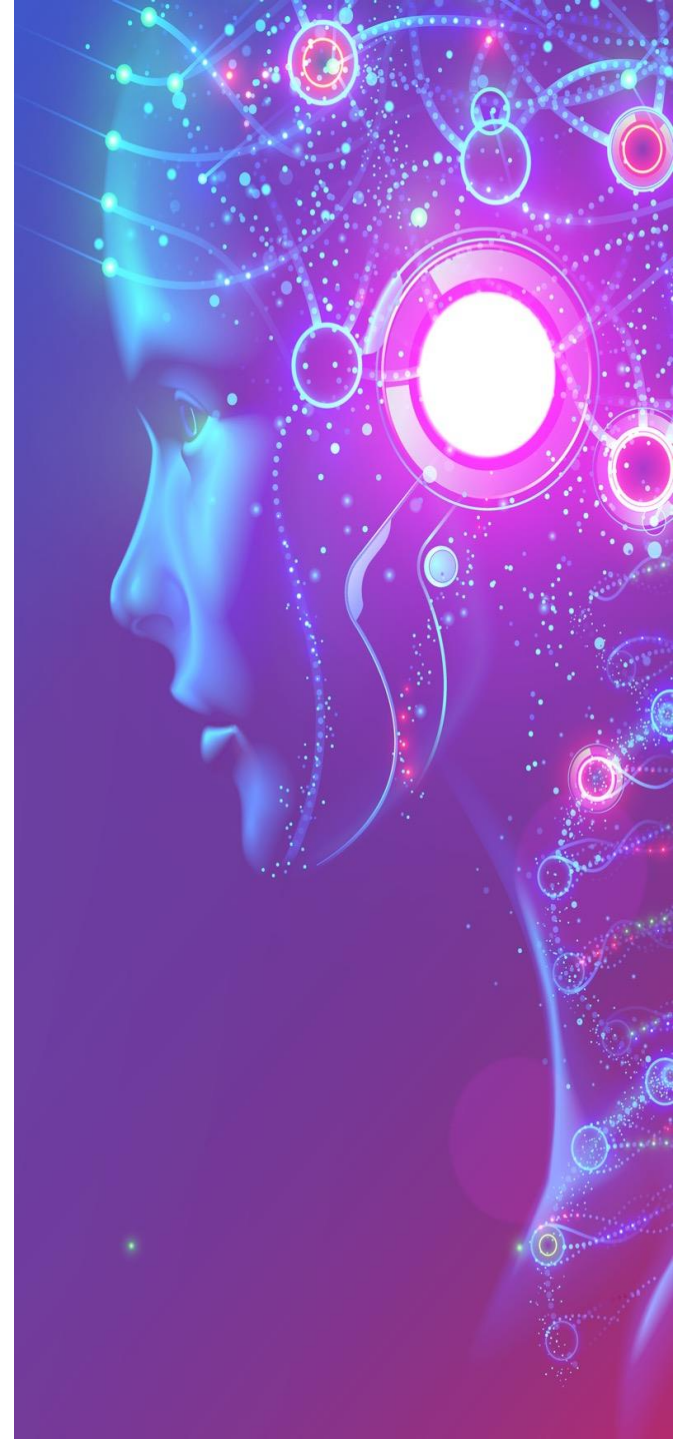
Artificial Intelligence – The way of the future

Artificial Intelligence is set to introduce a new paradigm of how companies, across all industries, conduct business
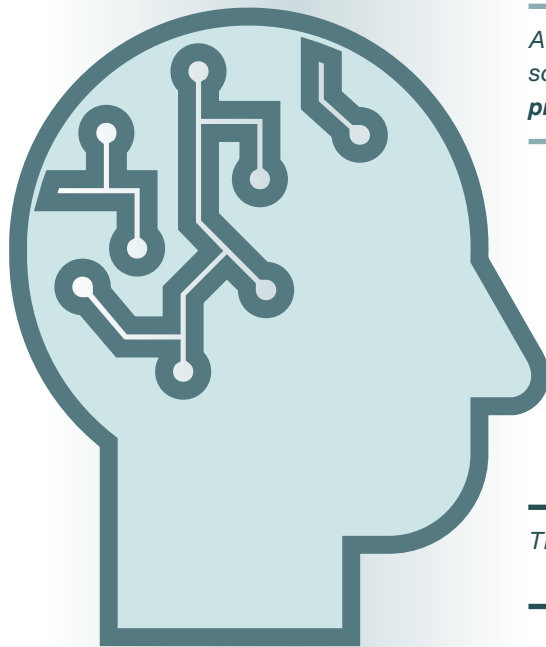
*As tools using advances in natural language processing work their way into business and society, they could drive a **7% (or almost $7 trillion) increase in global GDP** and lift **productivity growth by 1.5 percentage** points over a 10-year period"*

Goldman Sachs

*AI can and will affect **every aspect of our business**. When you [have] a great idea on AI, it doesn't mean anything unless it's **embedded across the firm**. We not only have to be better, but **we must have innovation**. To us, things like AI are going to be **incredibly important**. It may be one of the **biggest changes of our time**, and we've got to be able to translate that change into an **impact for clients** and **scale it around the firm***

Greg Case, CEO, Aon

*This is the **fastest we've ever gone**, and it will be the **slowest we'll ever go** again*

Eric Boyum, Technology National Practice Leader, Aon
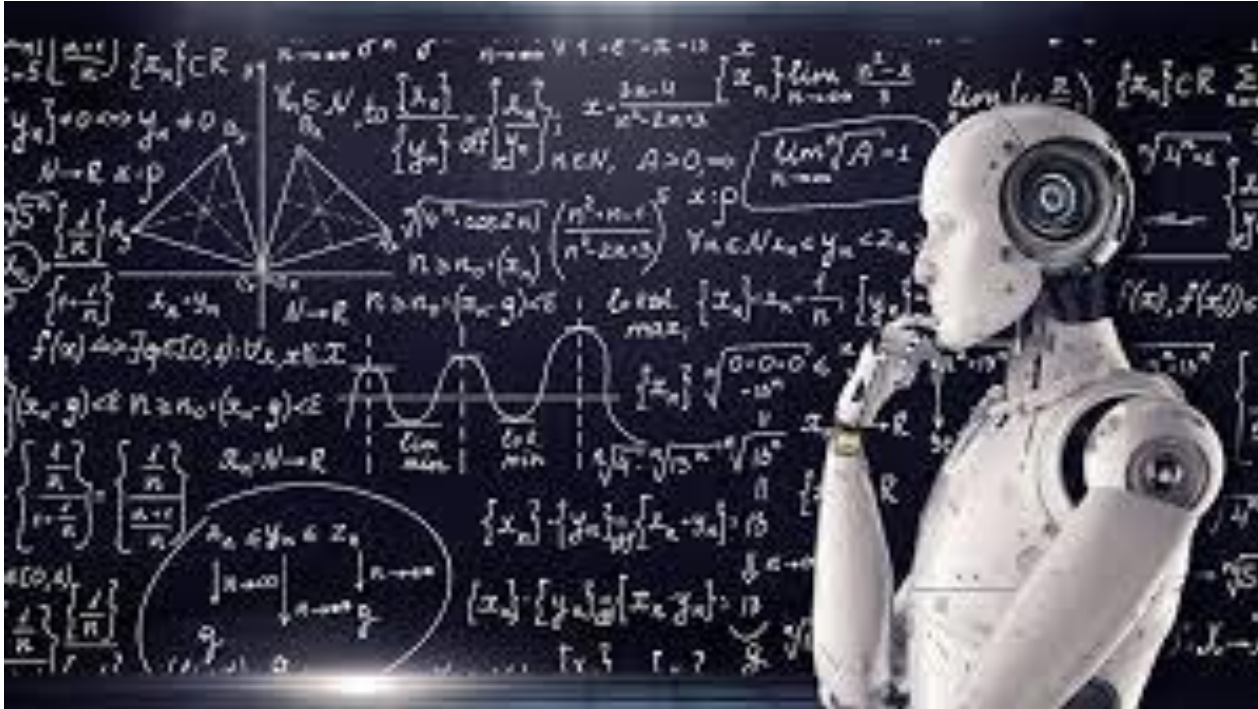
Questions?

Mahalo.
This concludes our presentation.