

**Disrupting the Industry:  
The Increasing Use of Artificial Intelligence  
in Underwriting & Claims Handling**

**Presented by: Bernd G. Heinze, Esq.  
Federation of Defense & Corporate Counsel**

**AIDA XVI World Congress 2023**

**Melbourne, Victoria Australia**

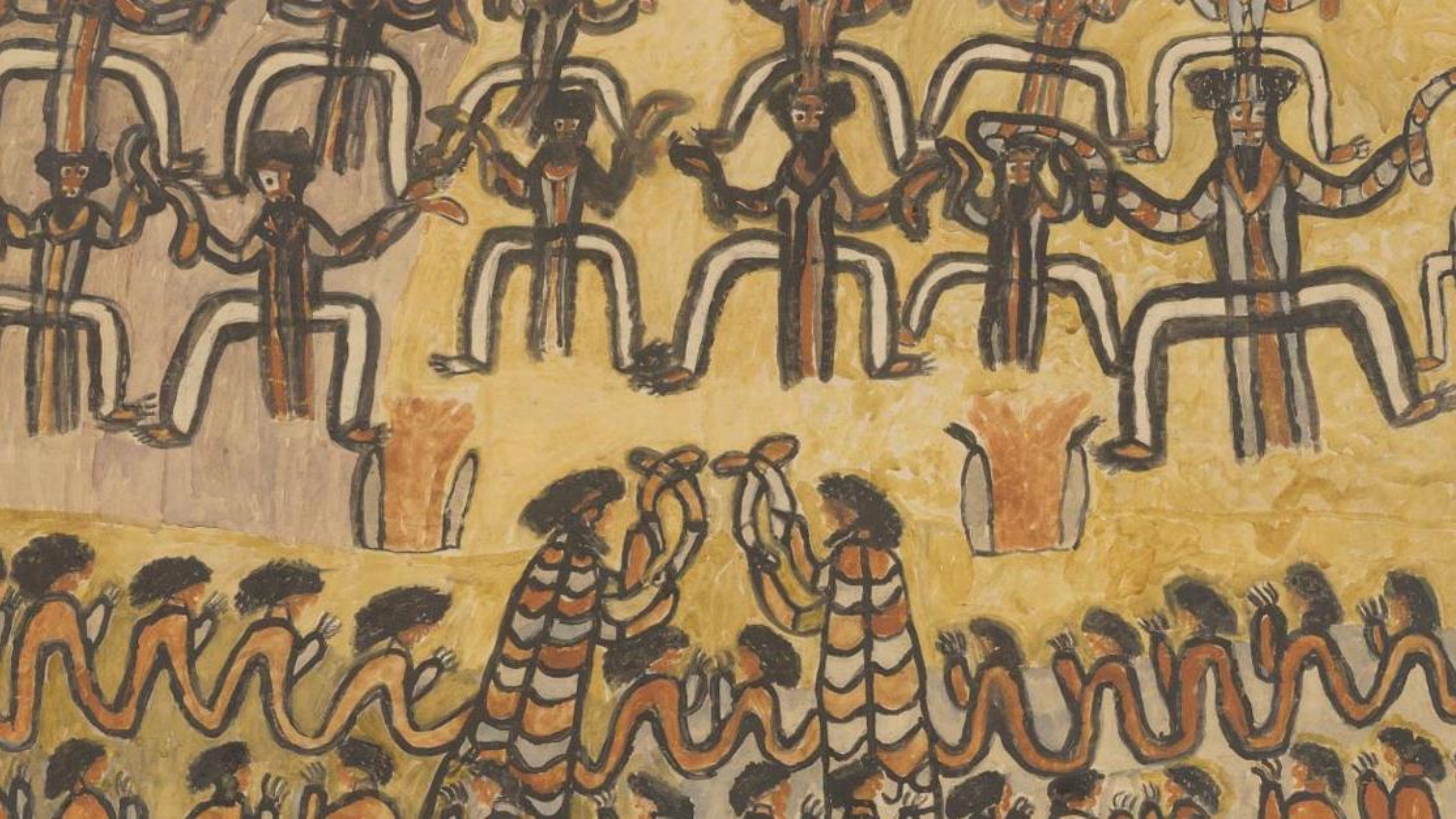
**1 September 2023**

# Many thanks

- Cameron Roberts
- Chris Rodd
- Angus Kench
- Dr. Carlos Estebenet









# Today's Agenda

- A discussion on the use of new technologies in insurance
- Current & future applications
  - Underwriting
  - Claims
  - Litigation
- Where are we heading
- The best way forward

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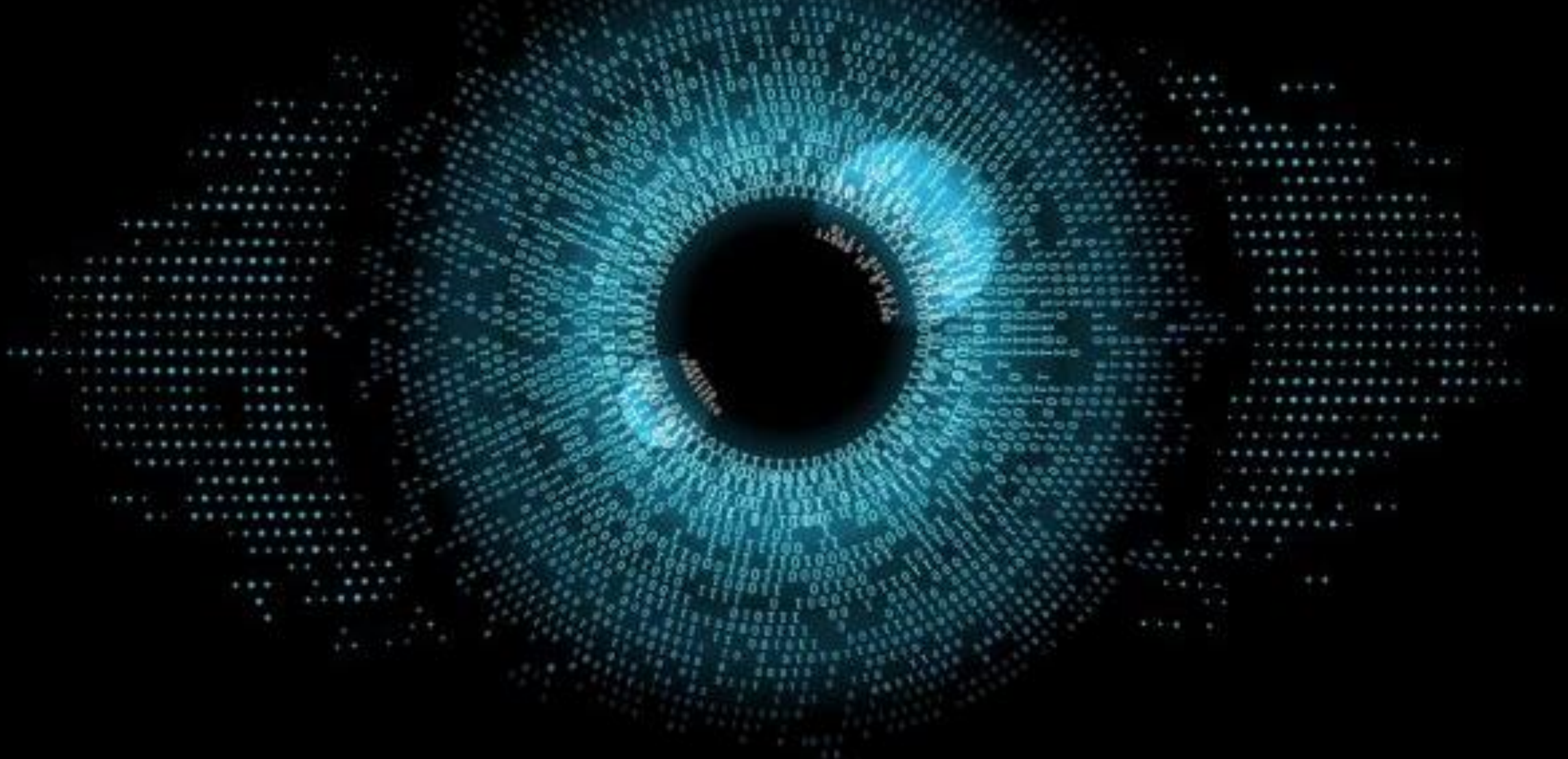
Cameron Roberts

“Will AI make us  
redundant and  
take our jobs  
away?”





# Eyes Wide Open: The Use of AI Innovation for Insurance Professionals



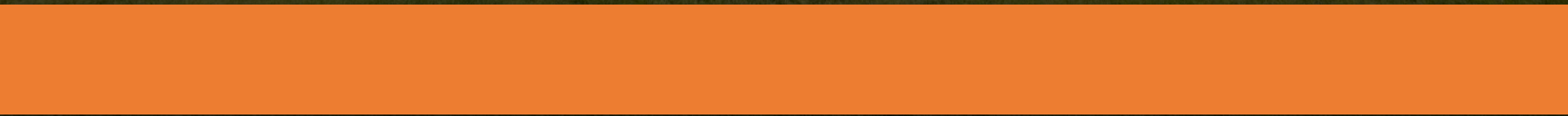


**It's the End of the World as We Know It  
(And I Feel Fine)**





Era of disruption





A magnifying glass with a black handle and frame is positioned over a background of binary code (0s and 1s). The text "BIG BROTHER IS WATCHING" is written in a red, pixelated font across the center. The magnifying glass's lens is focused on the word "IS".

**BIG  
BROTHER  
IS  
WATCHING**



# Booking the flight to Melbourne





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Data is king





How much data is created daily?

- **328.77 million terabytes of data are created each day.**  
(“Created” includes data that is newly generated, captured, copied, or consumed).
- **In zettabytes, that equates to:**
  - **120 zettabytes per year,**
  - **10 zettabytes per month**
  - **2.31 zettabytes per week, or**
  - **0.33 zettabytes every day.**



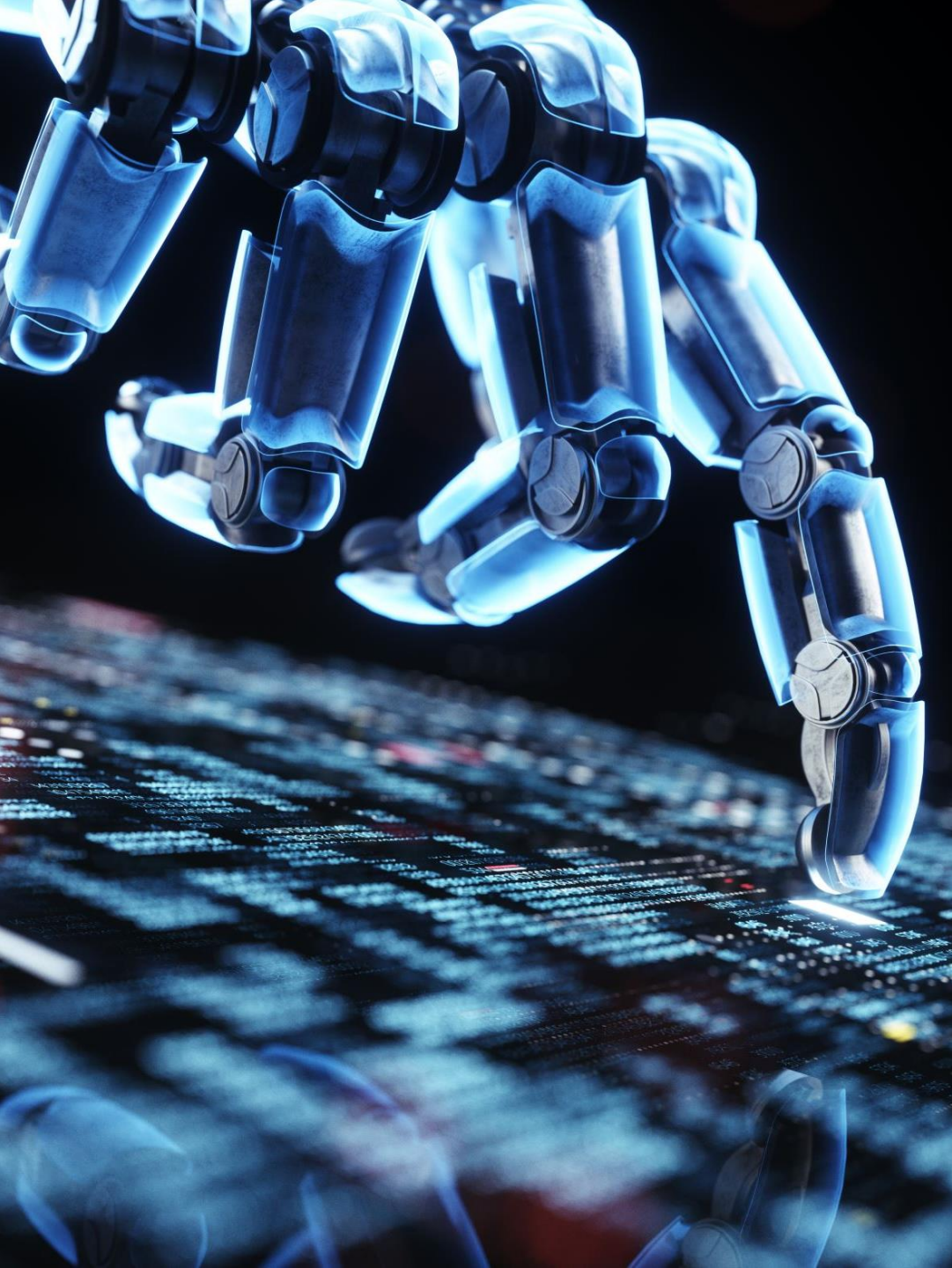


# Four trends reshaping the insurance industry

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- Explosion of data from connected devices
  - 1 Trillion connected devices by 2025
    - Cars, trucks, fitness trackers, smart watches, home assistants, Alexa, smart phones, shoes, refrigerators, thermostats, Netflix, TikTok
  - Insurers better understand customers
    - New products, pricing, real-time service delivery





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## Four trends reshaping the insurance industry

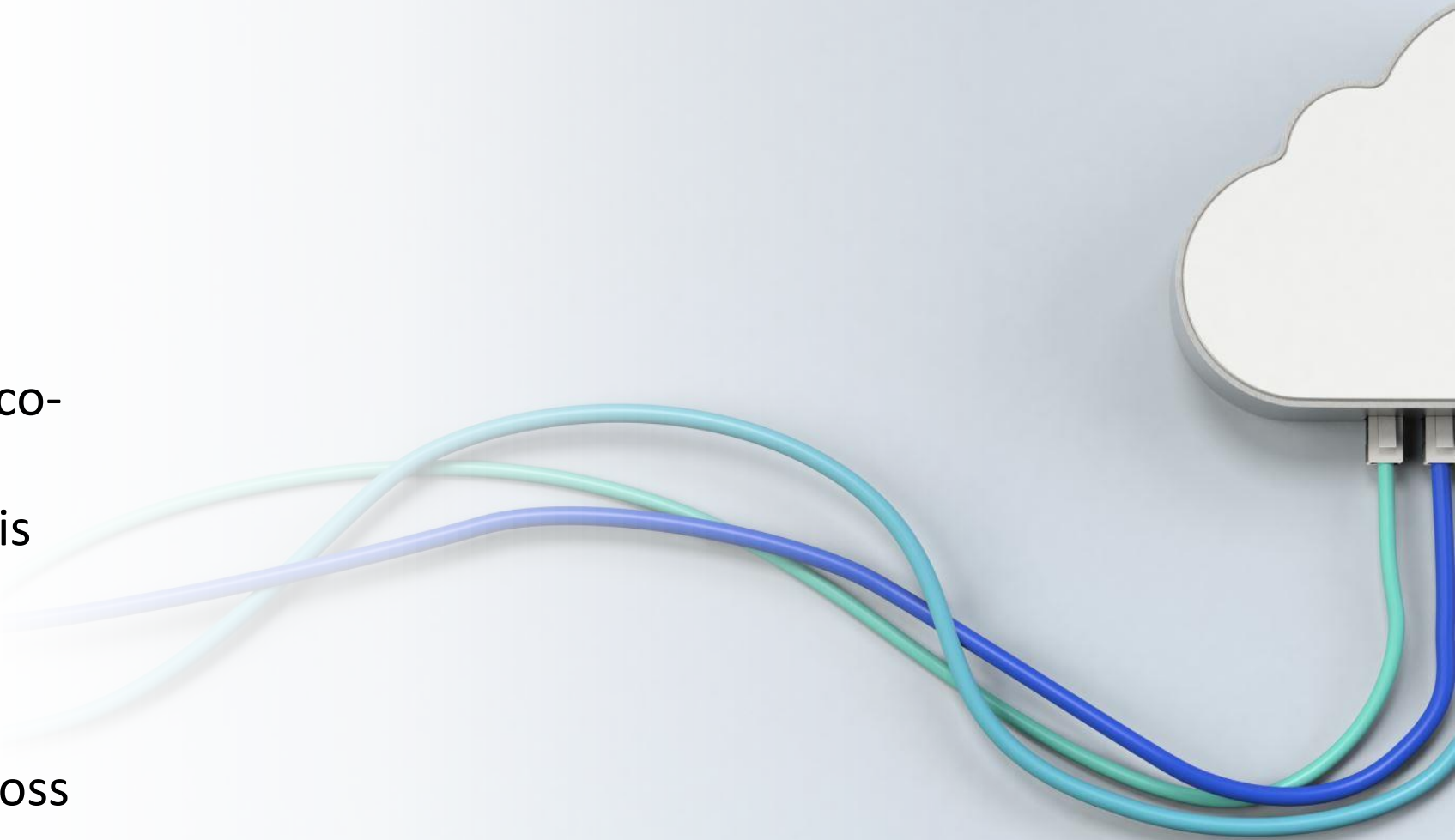
- Increased prevalence of physical robotics
  - 3-D printing of products and buildings
  - Programmable autonomous drones
  - Autonomous farming
  - Enhanced surgical robots
- Shifting of risk pools
- Changing customer expectations
- Enabling new products & channels



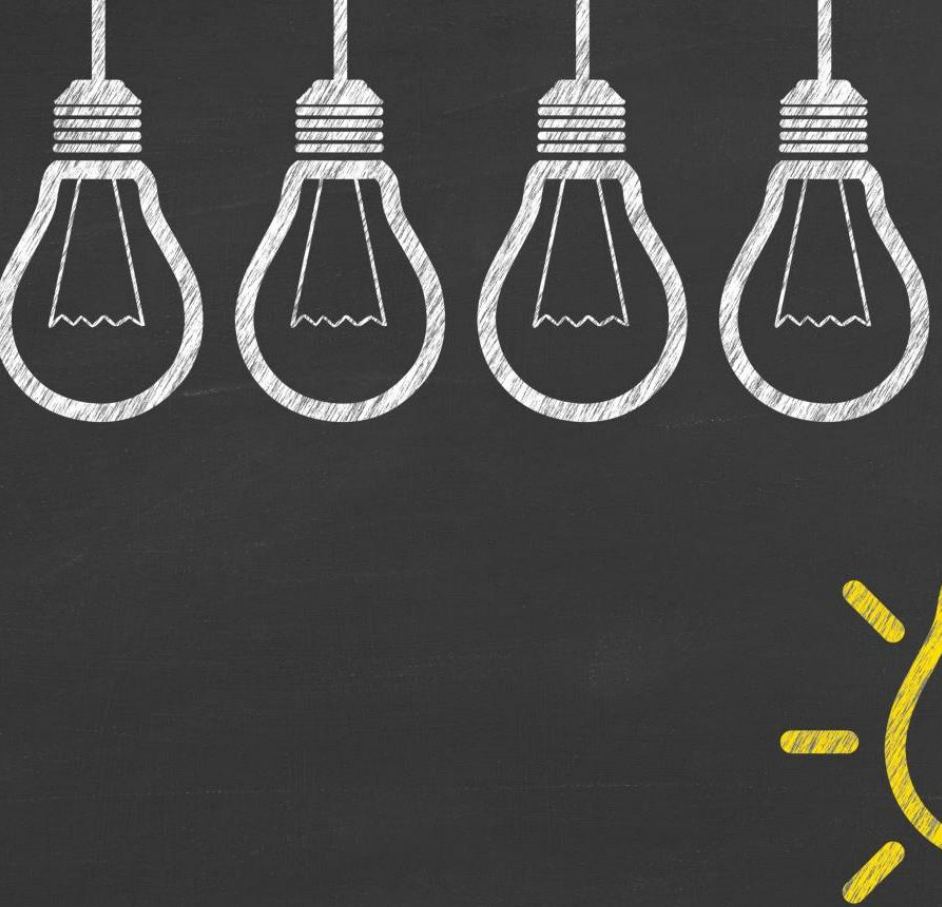
## Four trends reshaping the insurance industry

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- Open source and data ecosystems
  - (Almost) Everything is connected
  - Data is becoming ubiquitous
  - Shared and used across industries







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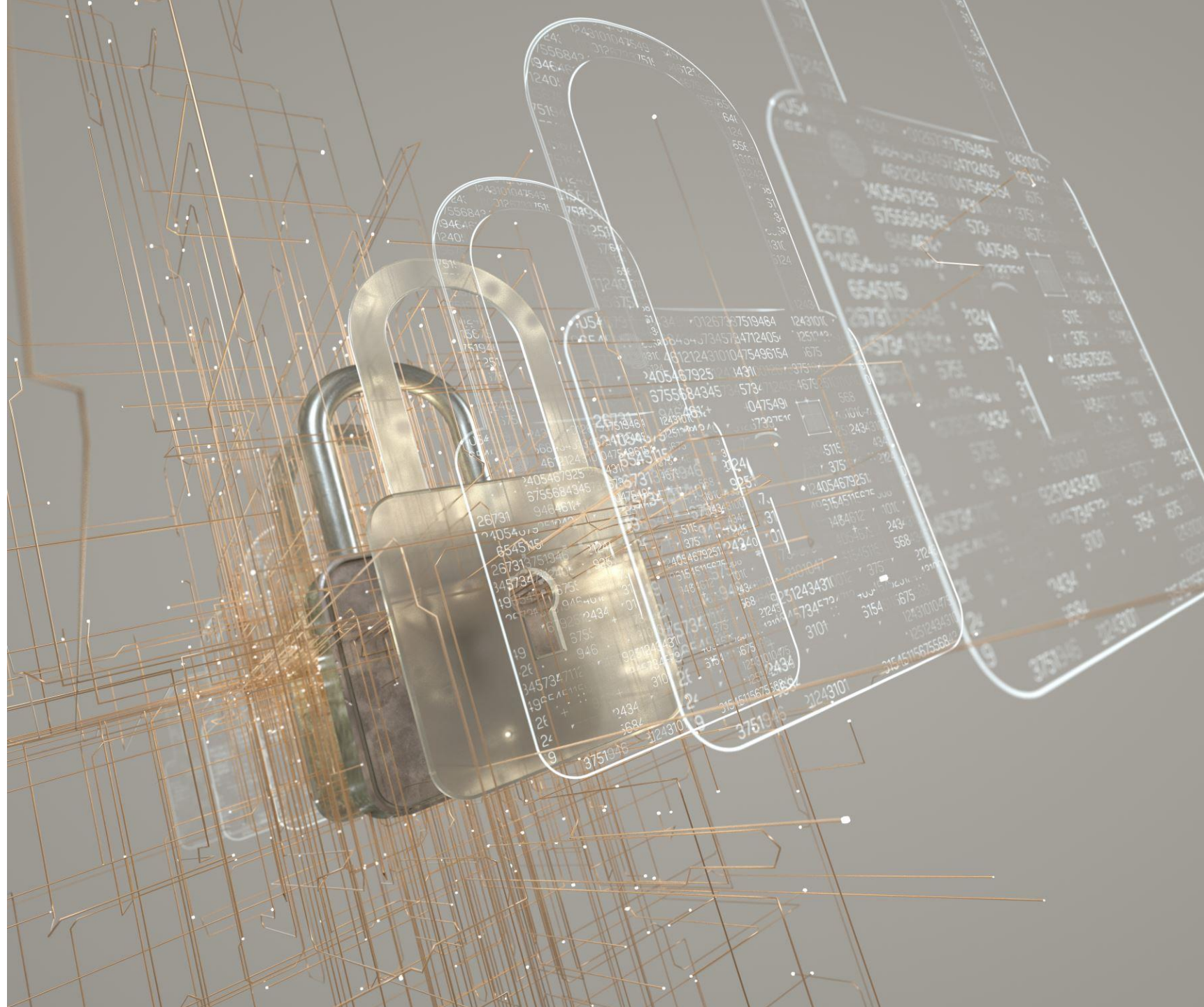
# Four trends reshaping the insurance industry

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- Advances in Cognitive Technologies
  - Carriers have access to models that are constantly changing, learning and adapting to developments
  - Drives new products/pricing



What About:  
Personal  
protected  
information?







# What is artificial intelligence?



« The capacity given by humans to machines to memorize and learn from experience, to think and create, to speak, to judge and make decisions »





# “Write Compelling Reasons Why to Attend WICA”

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- Here are some specific reasons why you should attend the WICA World Insurance Congress in Melbourne, Australia in 2023:
- **To learn about the latest trends and developments in insurance:** The Congress will feature a wide range of speakers who will discuss the latest trends and developments in insurance. This is a great opportunity to learn about new technologies, new products, and new ways of doing business in the insurance industry.
- **To network with industry leaders from all over the world:** The Congress will bring together industry leaders from all over the world. This is a great opportunity to network with people who can help you grow your business or advance your career.
- **To share best practices:** The Congress will feature a number of breakout sessions where you can share best practices with other insurance professionals. This is a great opportunity to learn from others and share your own insights.
- **To experience Melbourne, Australia:** Melbourne is a vibrant and cosmopolitan city with a rich history and culture. The Congress will be held in the heart of Melbourne, so you will have the opportunity to explore the city and experience all that it has to offer.
- I hope this helps!

# “Write a limerick on why to attend WICA”

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- In Melbourne, the Congress convenes, Where insurance insight convenes. With minds that innovate, And knowledge elevates, New horizons in coverage it gleans!
- In Melbourne, beim Kongress so klug, Versicherungswissen im Flug. Neue Ideen und Trends, Von Experten stets kennt, Für Wissen, das stets im Vordergrund liegt!
- 喺墨爾本參加大會，保險知識學不完。專家齊聚集，創新不斷捷，保險界趨勢全都攬！
- En Melbourne, el congreso brillará, Seguro y sabiduría se abrazarán. Nuevas ideas surgirán, Y el conocimiento crecerá, ¡En beneficio de todos, sin dudar!
- У Мельбурні зібрались всі, На Конгрес, де страхування - біль. Ідеї, як вогонь, Знання - багатство дороге, Цей з'їзд на користь, без сумнівів миль.



# What is ChatGPT?



- **Chat Generative Pre-trained Transformer**
- Large language model-based chatbot developed by OpenAI and launched on November 30, 2022
- Enables users to refine and steer a conversation towards a desired length, format, style, level of detail, and language used.
- Uses information prior to 2021

# 3 Types of Artificial Intelligence

## Artificial Narrow Intelligence (ANI)



Stage-1

### Machine Learning

- ▶ Specialises in one area and solves one problem



Siri



Alexa



Cortana

## Artificial General Intelligence (AGI)



Stage-2

### Machine Intelligence

- ▶ Refers to a computer that is as smart as a human across the board

## Artificial Super Intelligence (ASI)



Stage-3

### Machine Consciousness

- ▶ An intellect that is much smarter than the best human brains in practically every field



# The Language of AI

**What is Artificial Intelligence?**

Artificial intelligence (AI) is a machine's ability to perform the cognitive functions we usually associate with human minds.

# The Language of AI

**What is natural language processing?**

Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken and written -- referred to as natural language. It is a component of artificial intelligence.



# The Language of AI

**What is machine learning?**

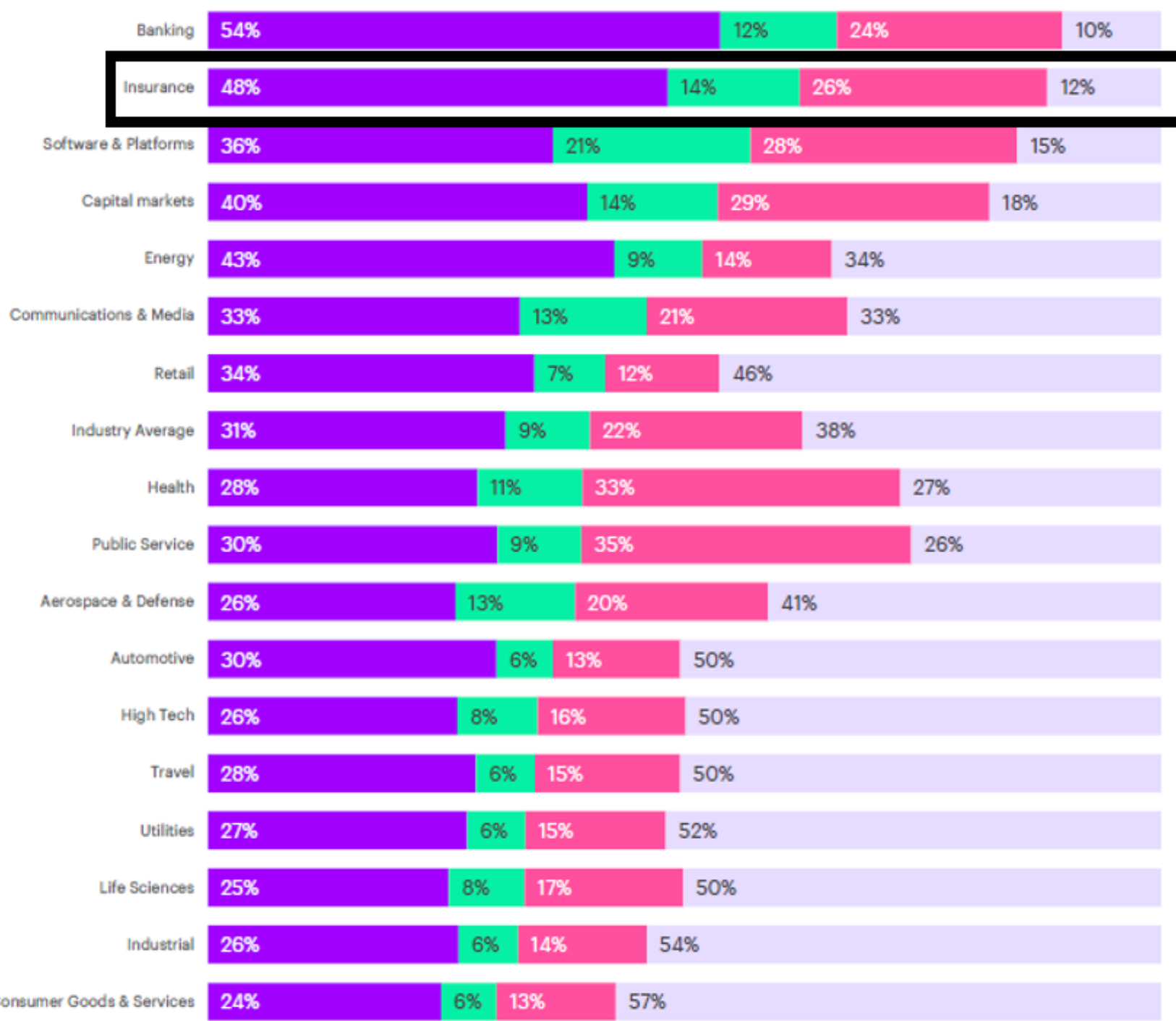
Machine learning is a branch of artificial intelligence and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy.

# The Language of AI

**What is Deep Learning?**

A type of machine learning that can process a wider range of data resources (images, text), and can often produce more accurate results through the use of neural networks—based on the ways neurons interact in the human brain.





## Work time distribution by industry and potential AI impact

Based on their employment levels in the US in 2021




# AI Impact on Underwriting

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- 
- Predict & Prevent
  - Enhance decision making
  - Lower Costs
  - Empower pricing
  - Optimize the customer experience



# AI Impact on Underwriting

- **Blurring lines/consolidation**
  - **between traditional underwriting, broking and risk management**
- **Shift from:**
  - **“process” to “experiential”**
  - **“classification & rating” to “guidance and retention”**
  - **Annual Policy Period & Premium to Usage Based Insurance**
    - **Increased negotiation of terms & conditions, deductible/SIR/Reinsurance**

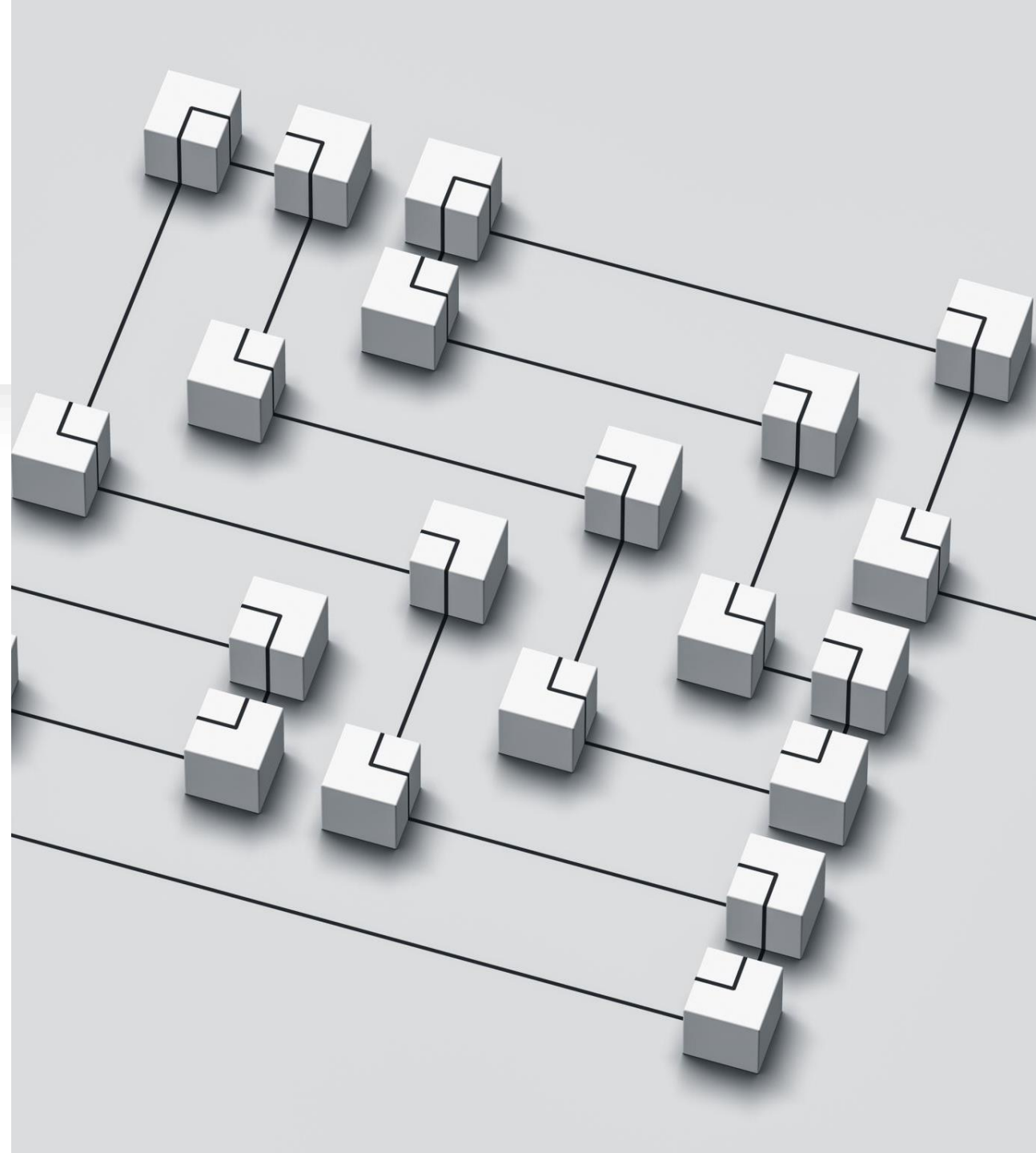




Underwriting

# How will AI Impact Underwriting?

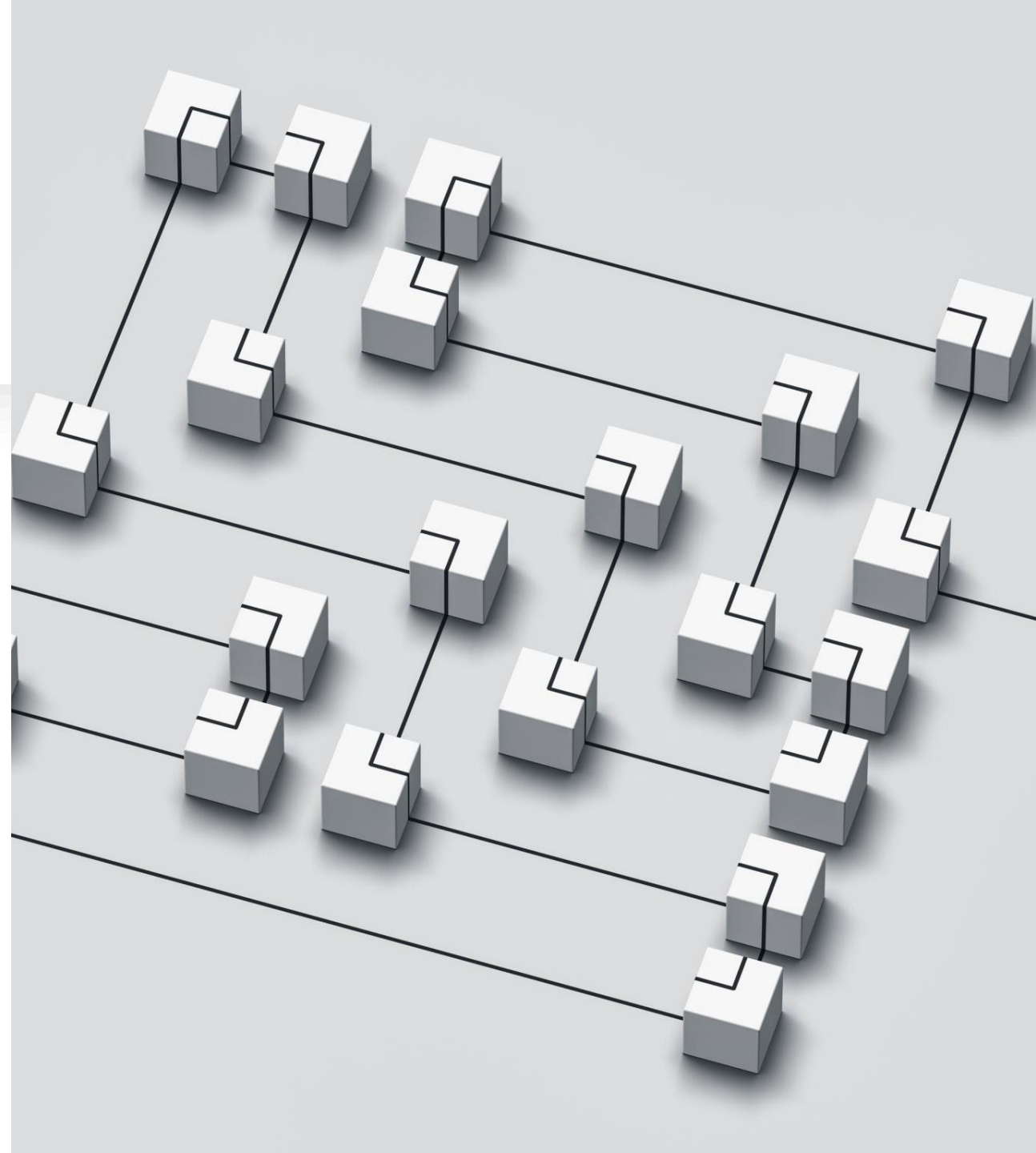
- For most P&C, SME and personal lines:
  - Underwriting reduced to a few seconds
  - Automated
    - Machine and deep learning models
    - Powered by internal and external data
      - Interfacing with data collected from devices; loss history; actuarial tables
  - AI model sees tens of millions of policies expiring and claims reported in 20 minutes than U/W sees in 20 years





# How will AI Impact Underwriting?

- For most P&C, SME and personal lines:
  - Insurers now can make decisions on forecasts on Terms & Conditions and pricing
  - Proactive outreach with bindable quote for product bundle
  - Tailored to buyer's risk profile and coverage needs
  - Captives/Risk Retention Groups & Risk Purchasing Groups Increase



# How will AI Impact Underwriting?

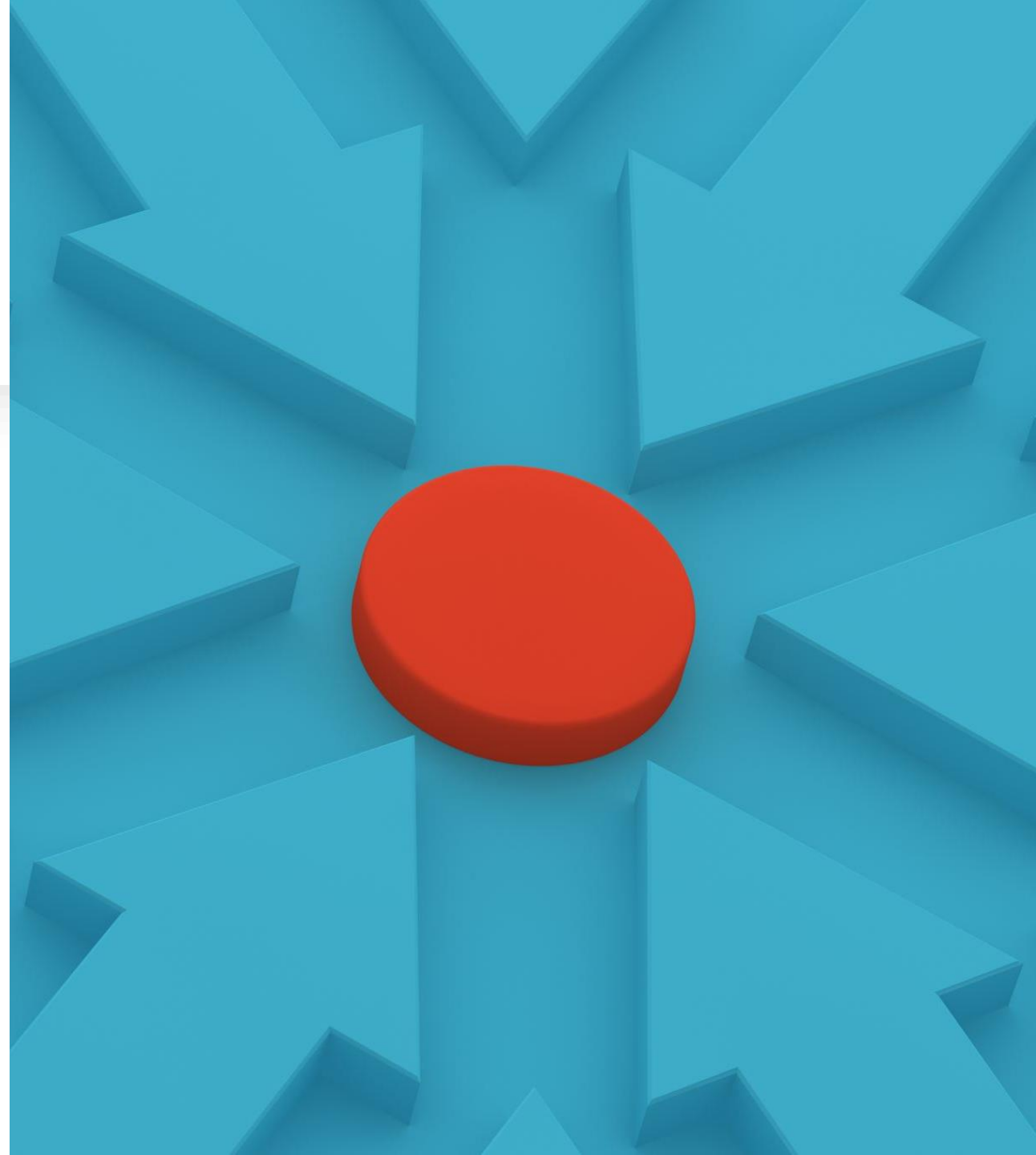
- Benefits:
  - Insurers with bespoke Policies
  - Sophisticated proprietary platforms
  - Offering differentiated experiences, features and value
  - Collaboration with bolt-on covers/experiences
  - Pricing in real-time
  - Consumers able to decide how actions influence coverage, insurability and pricing

A hand holding a magnifying glass over the word "Pricing" on a white card against a brick wall background. The word "Pricing" is written in a stylized, hand-drawn font. The letters "Pri" are blue with a sketchy texture, while "cing" is black with a similar texture. The magnifying glass is positioned over the "Pri" part of the word, making it larger and more prominent. The background is a light-colored brick wall.

Pricing

# Benefits of AI Underwriting

- Minimize possibility of human error
- Consistency
- Increased profitability
- Fairer pricing
- New business acquisition opportunities
- Improved customer loyalty
- Combat cyber threats
- Improve risk understanding





A hand in a dark suit sleeve with a white cuff is holding a blue, irregularly shaped object that features a white circuit board pattern. The background is a plain, light grey color.

How will AI Impact Claims?

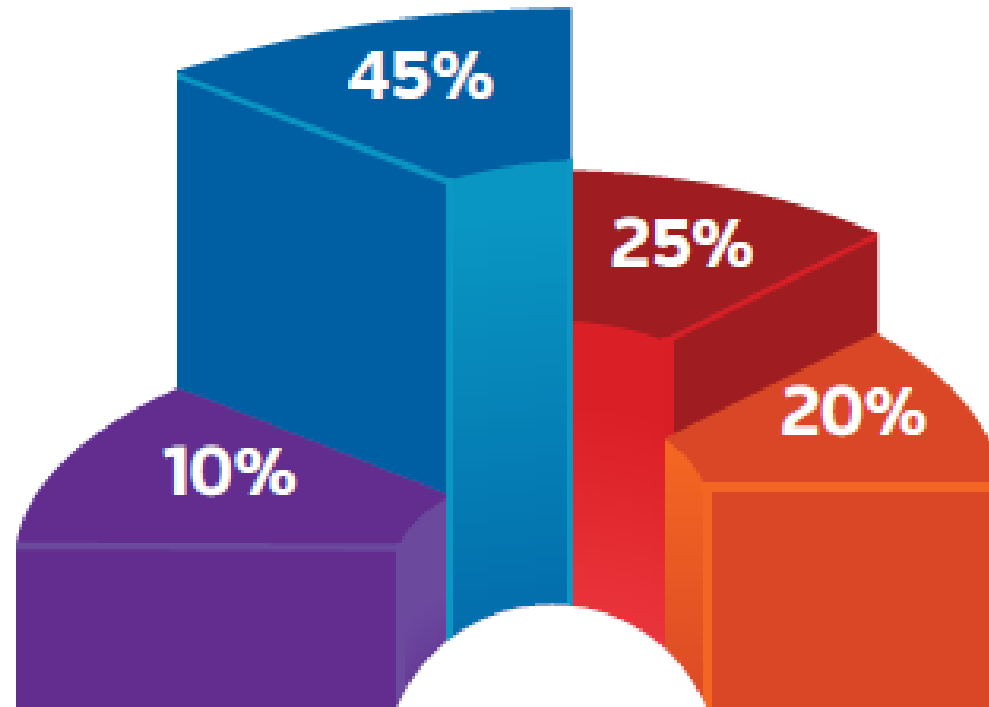
## What do you believe is the best strategy to enhance the claims experience for customers?

**01** Providing personalized customer support

**02** Streamlining claims handling process and reducing wait times

**03** Improving transparency and communication

**04** Implementing self-service options for claims reporting and tracking



Where do you think emerging technologies are enhancing claims processing efficiency the most?

**01** Automated claims triage and initial assessments



Automation

46%

**02** Using ML to analyze historical data and identify patterns



Machine Learning

19%

**03** Integrating NLP to documents and extract relevant information



NLP

16%

**04** Applying computer vision to analyze images of physical damage



Computer Vision

18%



## Policy renewal

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- 87% of customers say claims processing effectiveness and speed of payment impact their decision to renew coverage with same carrier.

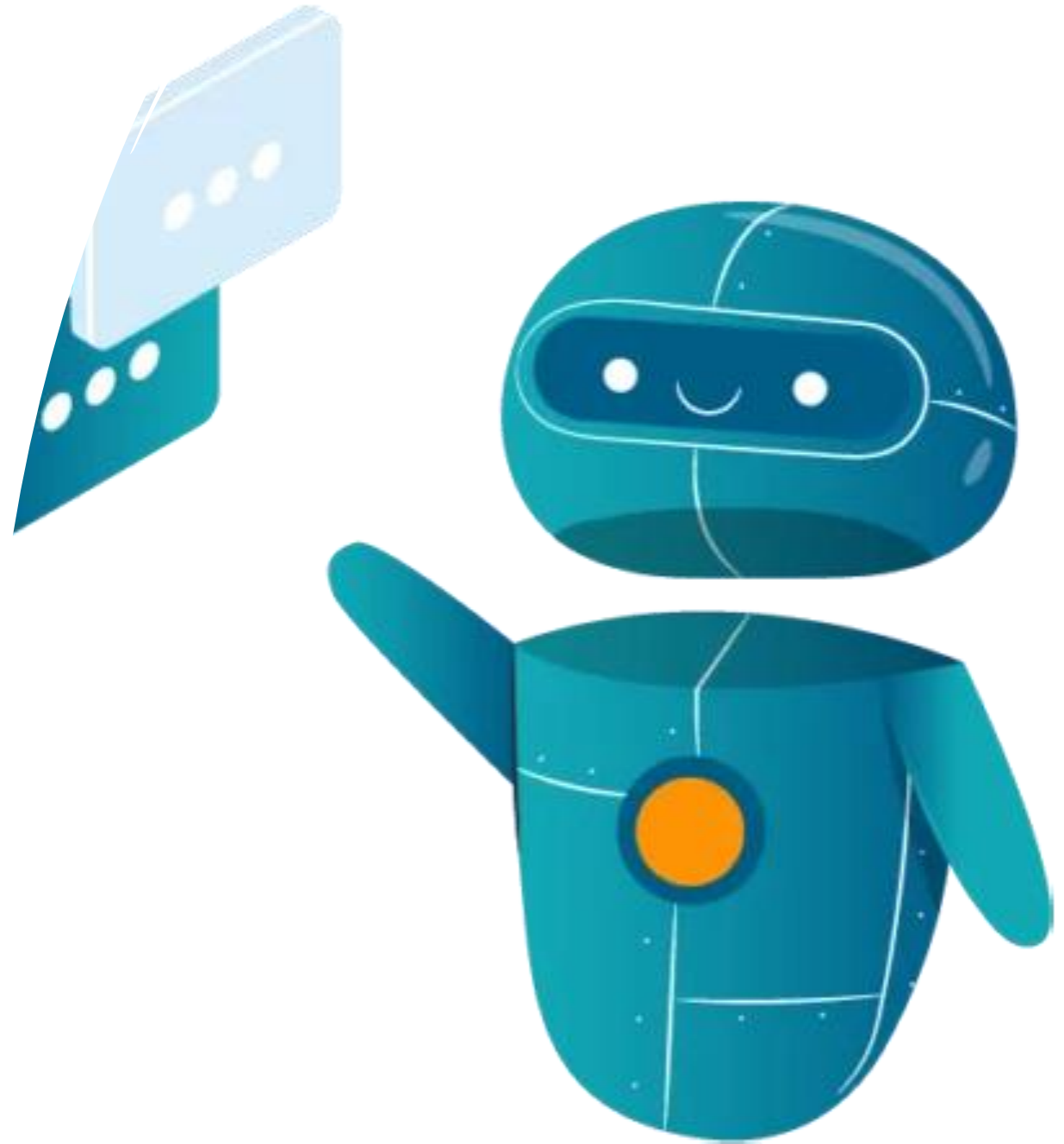
EY Study



# Our new lawyer?

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Chatbot passed bar exam in California in 6 minutes with 93% accuracy



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## How will AI Impact Claims?

- By 2030:
- Over 50% of claim activities now automated
- Immediate response
- Advanced algorithms handle initial claim functions
  - Increase of speed, efficiency and accuracy
  - Decrease costs
  - Resolution in minutes v. days/months
  - ACH Payments
- Automated customer service apps (voice/text)
  - Interface with claims, fraud/SIU, medical service, policy and repair systems





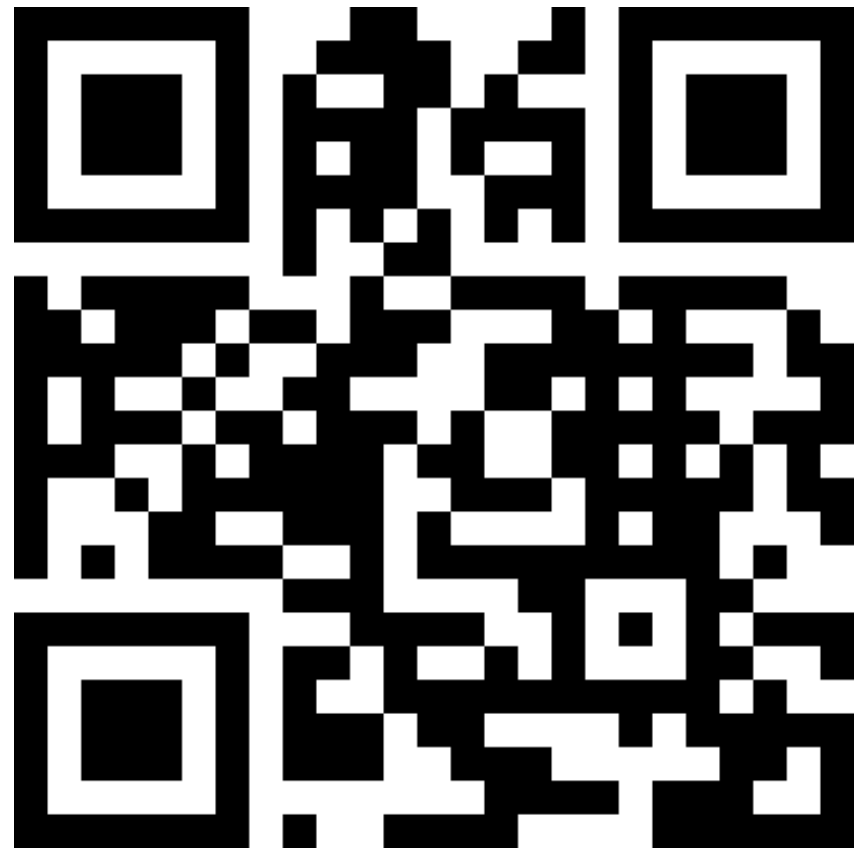
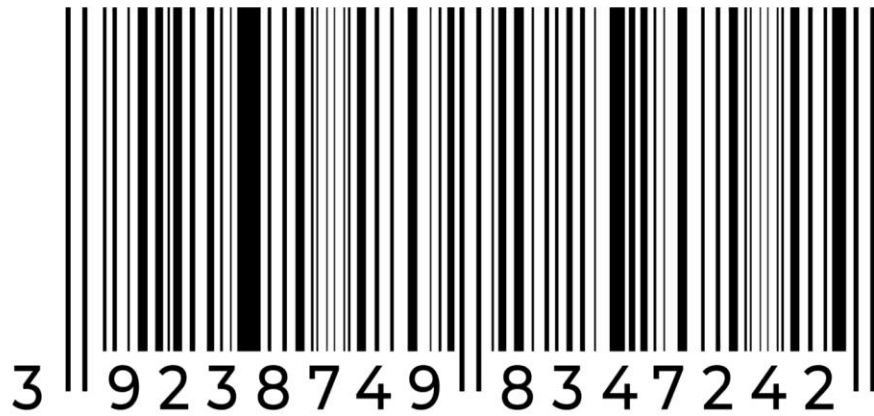
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## How will AI Impact Claims?

- Reduce draft & review time
- OCR scanning
- Efficiency, speed, accuracy: choosing the winning argument
  - Increasing the % of success
- Paralegals & Associates => Life Support
- Billing changes from hourly to alternative/flat rate arrangements
- Consistency



# Enhancing the Claims Experience



# How will AI Impact Claims?

- Predictive results: Indemnity & Defense
- Interpret Policy against FNOL
  - Draft Acknowledgement, RoR or Denial
- Defense Counsel/Jury Selection
- Draft Answer, Affirmative Defenses, Discovery, Motions
- Lower loss ratios







Empathy?

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Mistakes



Accountability



- Scams
- Hackers
- Malware





# Resilient Insurance Company

57 claim offices around the world

In 2022, over 460 property damage claims with business income component

187 resulting lawsuits worldwide

157 claims included BI/EE demands

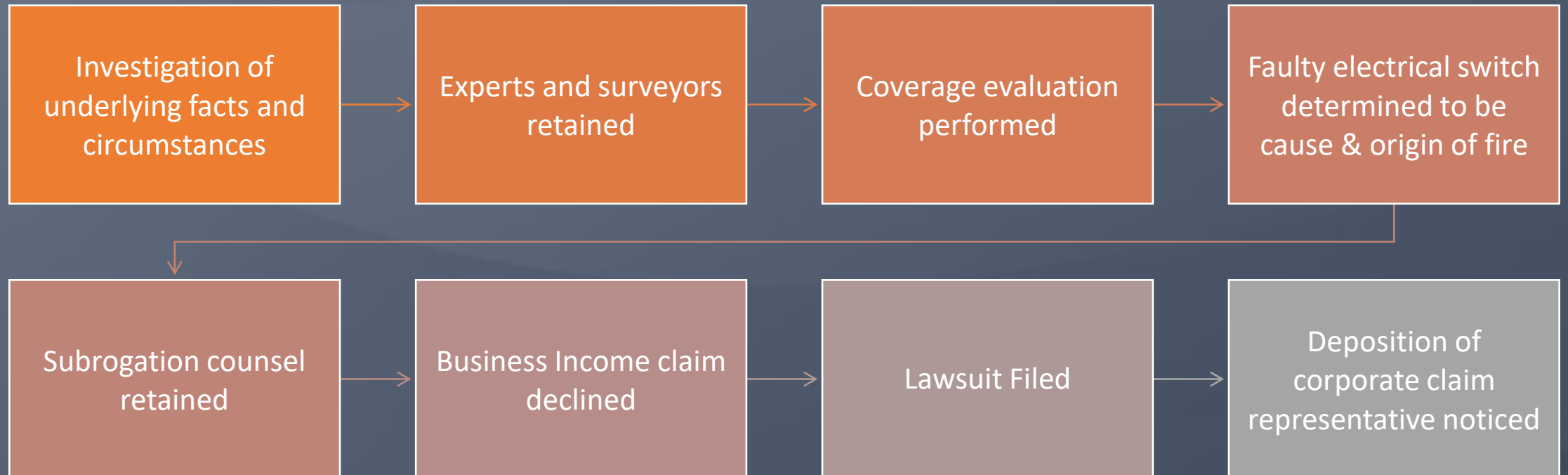
144 different defense counsel

116 separate corporate witnesses



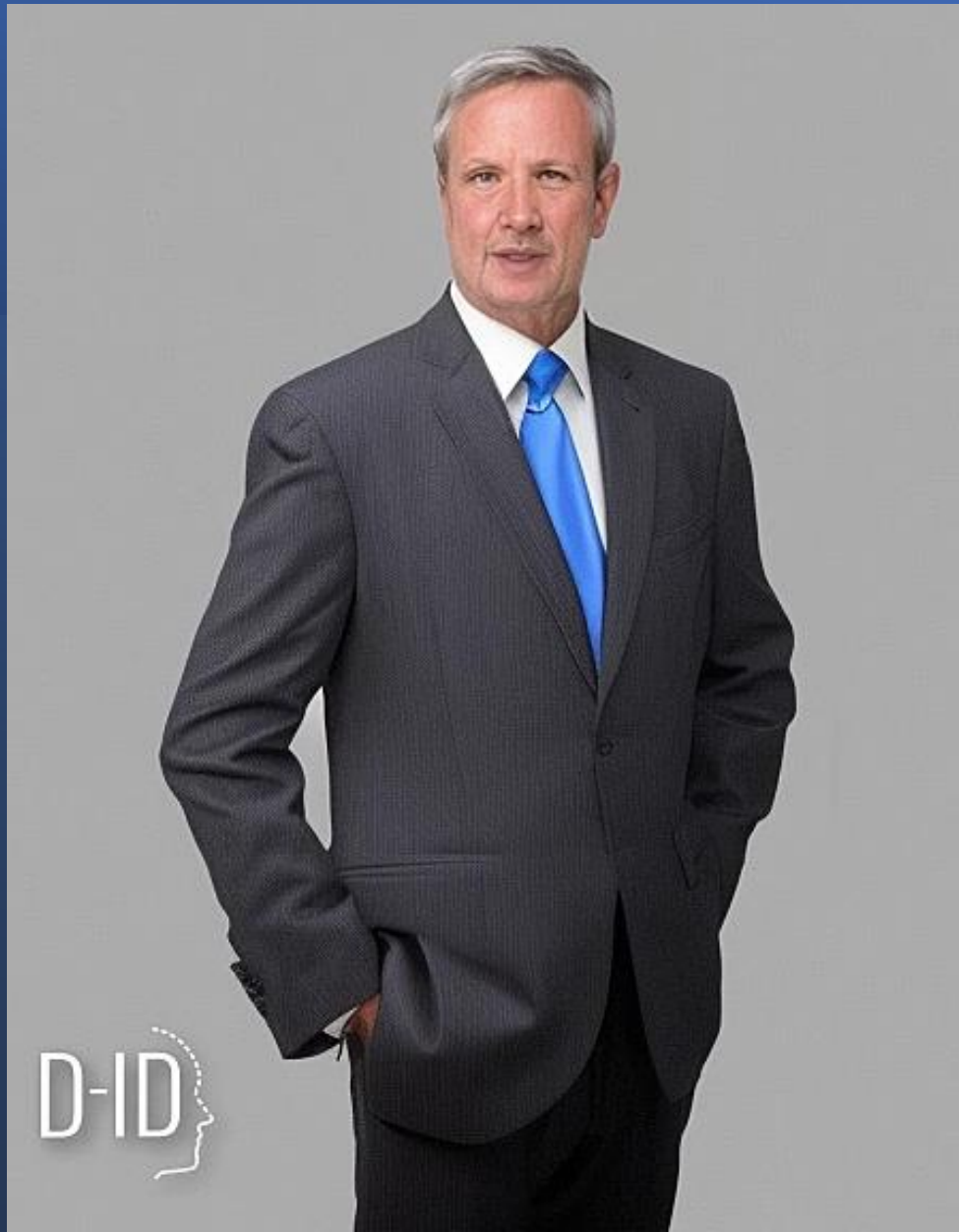


# Claim filed



# Corporate Representative Deposition

- Question by the Insured's Counsel:
  - "Would you please provide a background of your company's philosophy on how claims like this are handled and what the claim professional did after receiving first notice of the loss?"
  
- A: By Resilient's Corporate Representative.....



D-ID



## Generative Video & Audio

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### Video:

- [chat.D-ID](#): is a web app using real-time face animation and advanced text-to-speech to create an immersive and human-like appearance.

### Audio:

- [Elevenlabs.io](#): Generates high-quality spoken audio in any voice, style, and language. The text reader is powered by an AI model that renders human intonation and inflections, adjusting the delivery based on context.





# Insurance consumers of the future







# The Six Principles of Value Exchange





Insurance consumer of the future

## Value Exchange

- Capital & risk management
  - Increased alignment and enhanced capabilities



Insurance  
consumer of the  
future

## **Value Exchange**

- Business Support & enhancement
  - Smarter
  - Leaner
  - Higher Value



# Insurance consumer of the future

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## Value Exchange

- Loss Resolution
  - End-to-end automation with very limited exceptions





# Insurance consumer of the future

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## **Value Exchange**

- Risk Transfer
  - Data driven and analytics-enabled



Insurance  
consumer of the  
future

## **Value Exchange**

- Loss Prevention
  - Bespoke and timely (proactive) advice for all customers

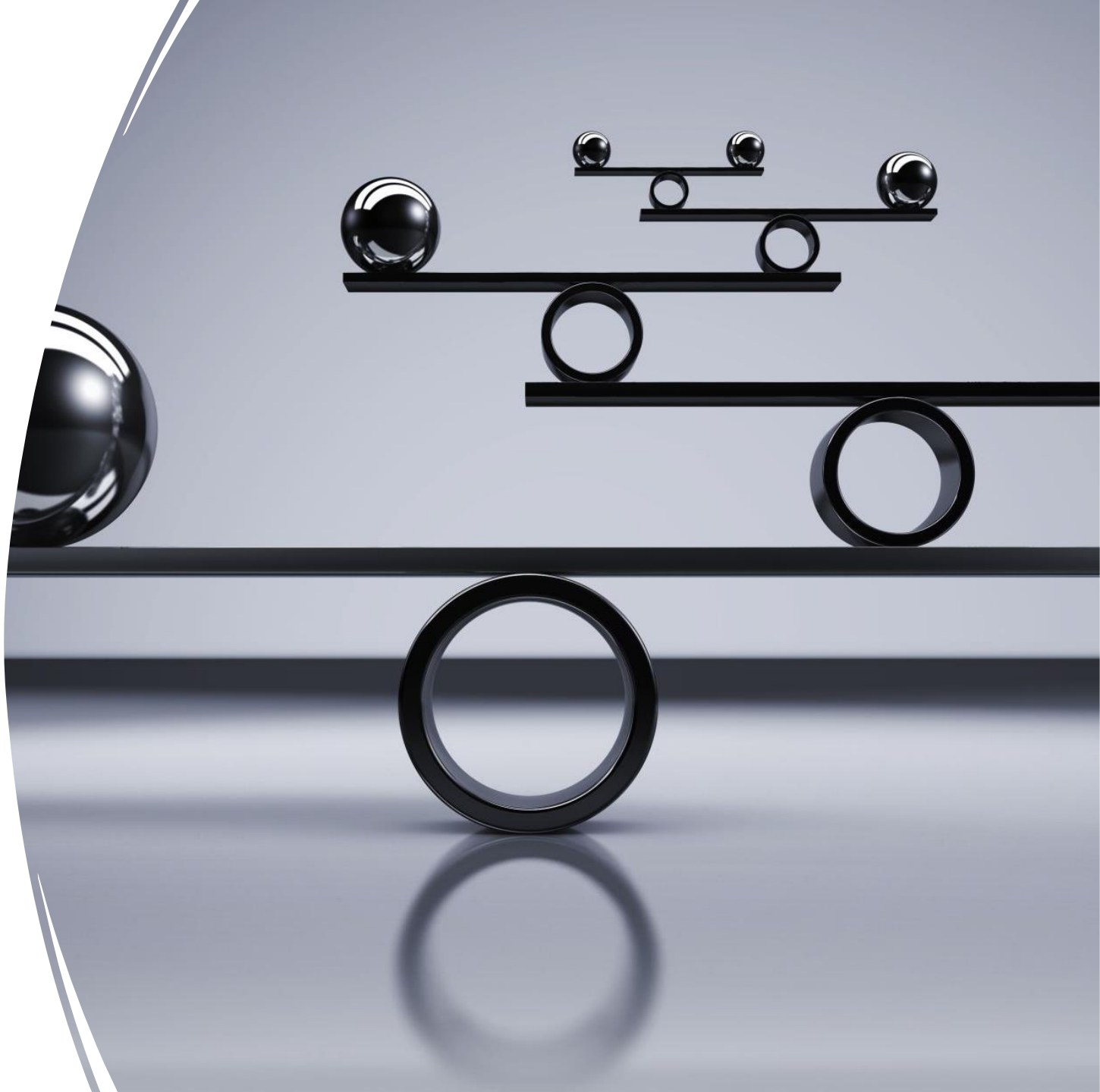


Insurance  
consumer of the  
future

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## Value Exchange

- Product Innovation and business origination
  - Designed for differentiation





A close-up photograph of a brass key inserted into a lock. The key is positioned horizontally, with its head on the left and its bit on the right. The lock is on the right side of the frame, and a bright, warm light shines through the keyhole, creating a strong glow. The background is dark and out of focus.

# Key Takeaways

## ABA AI Task Force

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- To explore issues with bias and inform lawyers about how AI can pose threats to private personal and confidential client data and risk the inadvertent waiver of attorney-client and attorney work-product privileges.
- How AI can increase access to justice
- How to develop resources to make the technology more accessible to lawyers and judges.

29 August 2023





## Key Takeaways

- At a time when both private and public sector organizations are moving rapidly to develop and use artificial intelligence, we are called again to lead to address both the promise and the peril of emerging technologies
- Need to retain “personal” side of underwriting and claim functions
- Cannot allow quality to succumb to the benefits of efficiency, speed and reduced costs
- Ethical and bias issues
- Get ahead of implementation now
  - Training & Education
  - Dedicated strategy & monitoring
- “Trust and confidence built through trusted collaboration”
  - Peggy Sharon



The image is a digital-themed composition. On the left, a portion of a blue-tinted Earth globe is visible. The right side features a bright, glowing light source that creates a lens flare and illuminates several curved, translucent digital planes. These planes are covered in binary code (0s and 1s) and other digital symbols, suggesting data flow and connectivity. The overall color palette is dominated by various shades of blue, from deep navy to bright cyan and white highlights.

**AIDA, AILA & THE FDCC:  
INSURANCE INNOVATIONS FOR THE WORLD TO COME**

FEDERATION OF DEFENSE & CORPORATE COUNSEL



**FDCC**

DEFENSE LAWYERS. DEFENSE LEADERS.

*Thank You*

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