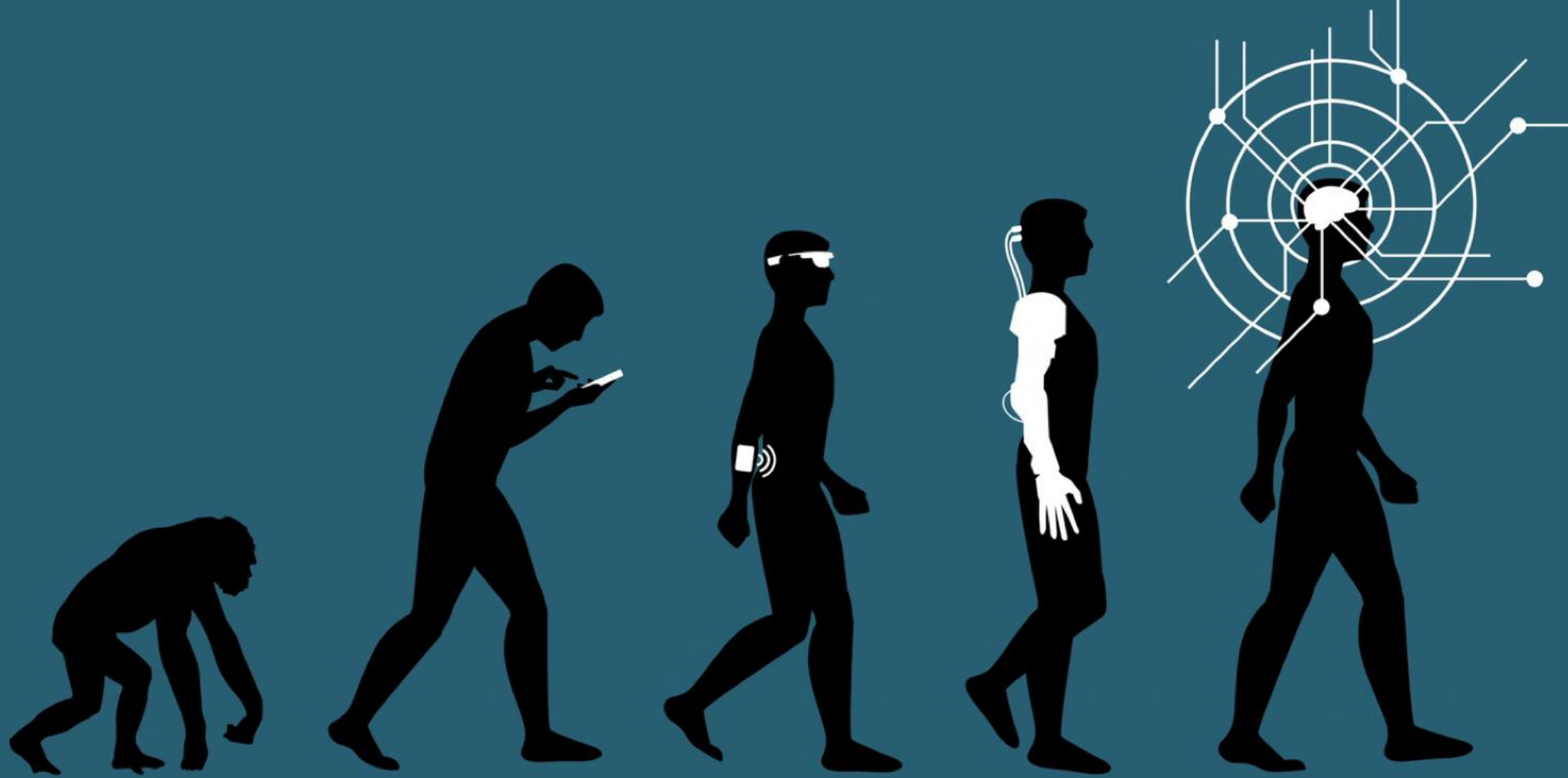


Today's Applications of AI in IA

Chrysostomos Kridiotis, Director

The Cyprus Internal Audit Forum – May 2018



**HUMANITY WILL CHANGE MORE IN THE NEXT 20 YEARS
THAN IN THE PREVIOUS 300 YEARS**

A glimpse into the future...10 years from now

3

First robot-assisted spinal surgery performed

THE MERCURY / 7 MAY 2018, 8:30PM / IANS



The robotic approach assisted with a three-part, two-day complex procedure for a rare chordoma tumour removal from a patients' neck, where the skull meets the spine. (Representative image: Reuters)

Bloomberg

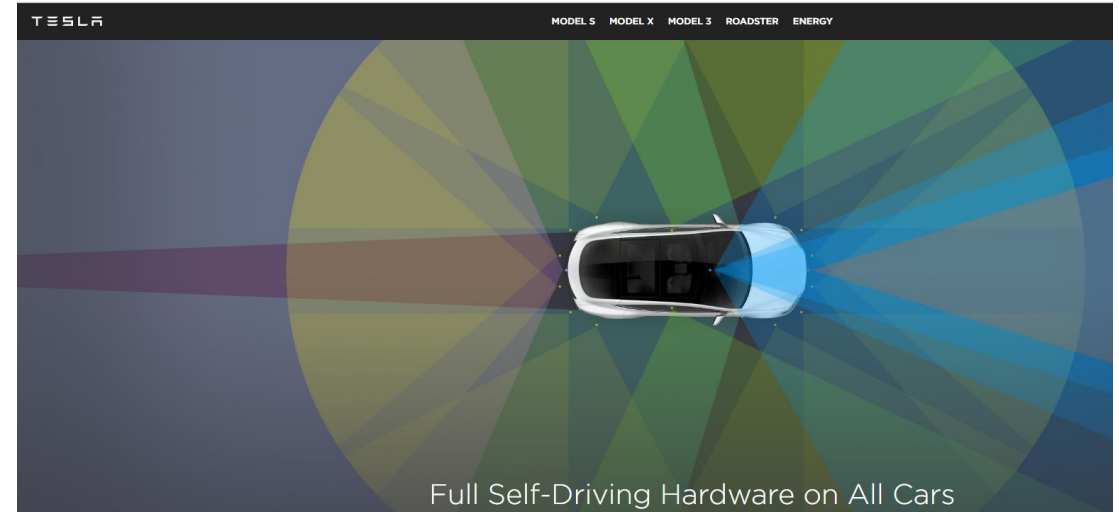
Technology

Uber Partners With NASA in Vision for Managing Flying Cars

By [Natalie Wong](#) and [Edward Ludlow](#)
November 8, 2017, 12:45 PM GMT+2

- ▶ Test vehicles will launch in Dallas, Los Angeles by 2020
- ▶ Collaboration will boost uberAIR's speed to market, Uber says

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TECHNOLOGY

The Blockchain Will Do to the Financial System What the Internet Did to Media

by [Joichi Ito](#), [Neha Narula](#), and [Robleh Ali](#)

MARCH 08, 2017 **UPDATED** MARCH 09, 2017



LogicomSolutions
Business Consulting Services

Artificial Intelligence is already in our Daily Lives through...

4

NETFLIX

facebook

Revolut



amazon



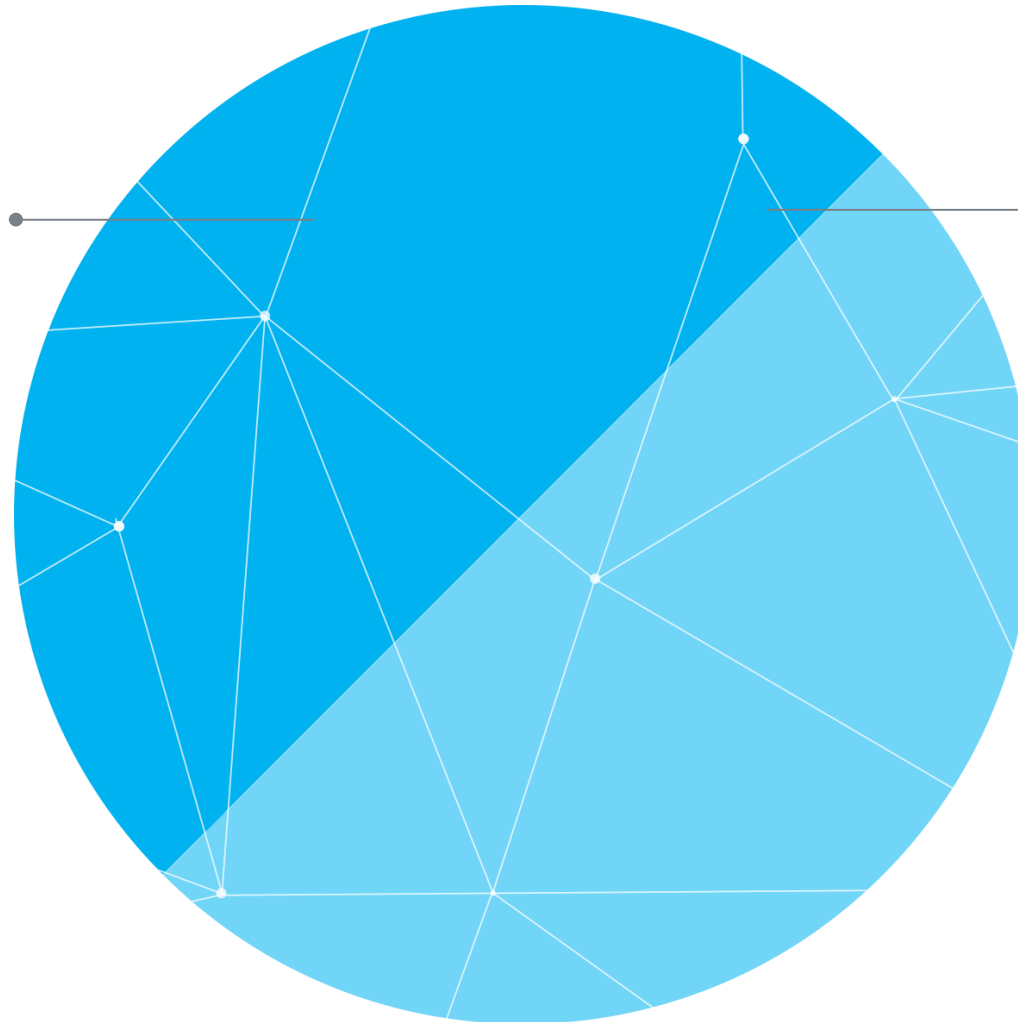
UBER



AI forges a new partnership between man and machine

Humans excel at:

- Common Sense
- Morals
- Imagination
- Compassion
- Abstraction
- Dreaming
- Generalization

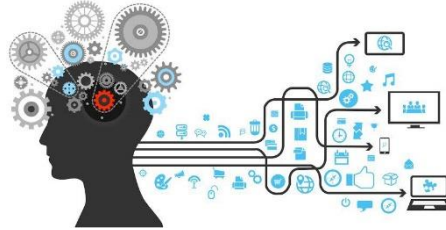


Cognitive Systems excel at:

- Locating Knowledge
- Pattern Identification
- Eliminating Human Bias
- Operating Endless Capacity

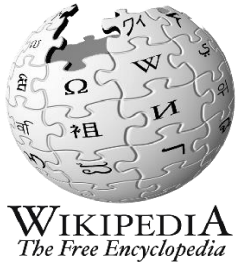
But what is AI...

6



Artificial Intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs.

John McCarthy (1955), father of AI



Artificial intelligence (AI) is intelligence exhibited by machines. In computer science, the field of AI research defines itself as the study of "intelligent agents".



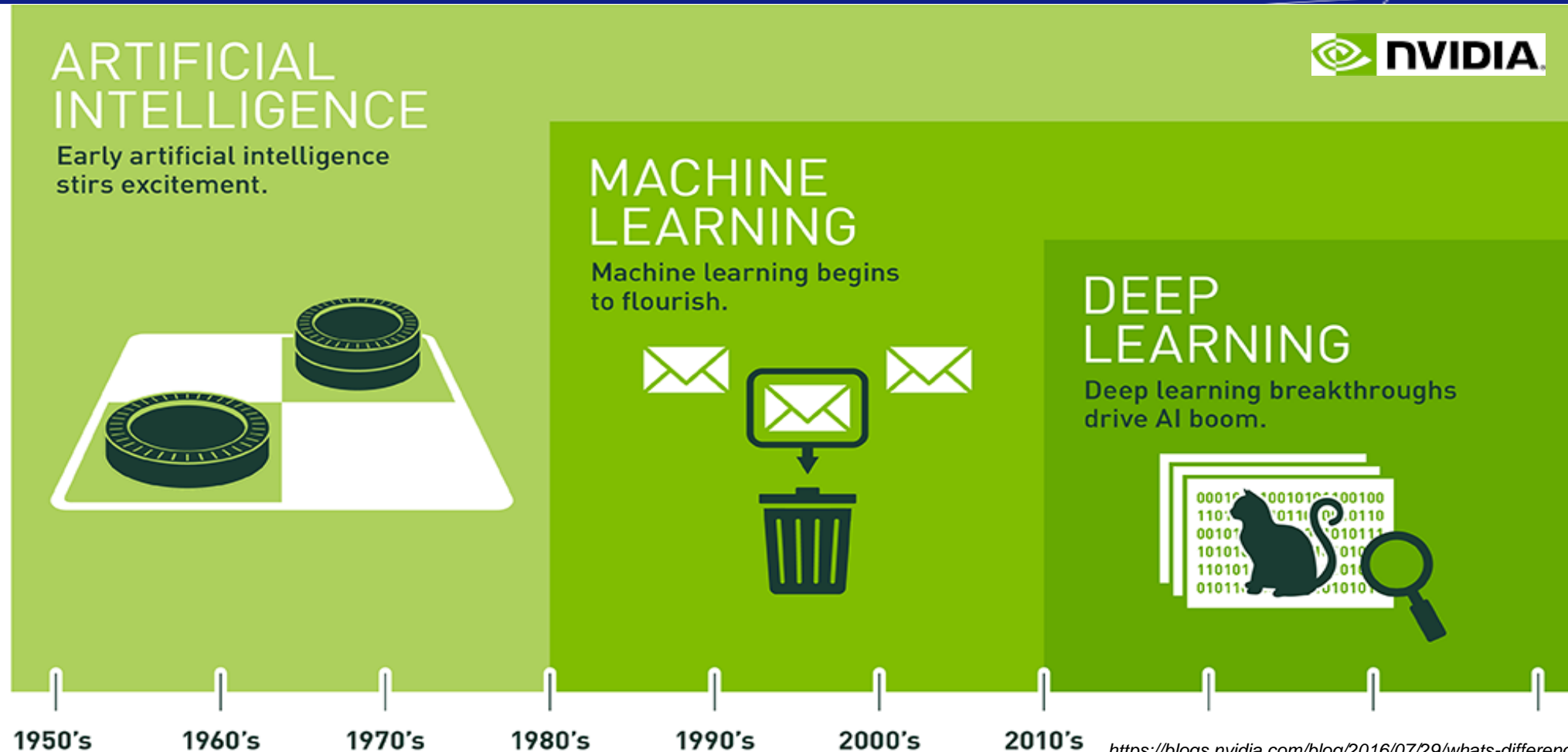
Artificial intelligence is technology that appears to emulate human performance typically by learning, coming to its own conclusions, appearing to understand complex content, engaging in natural dialogs with people.



The capability of a functional unit to perform functions that are generally associated with human intelligence such as reasoning and learning. (ISO/IEC 2382-28:1995)

AI is not new!

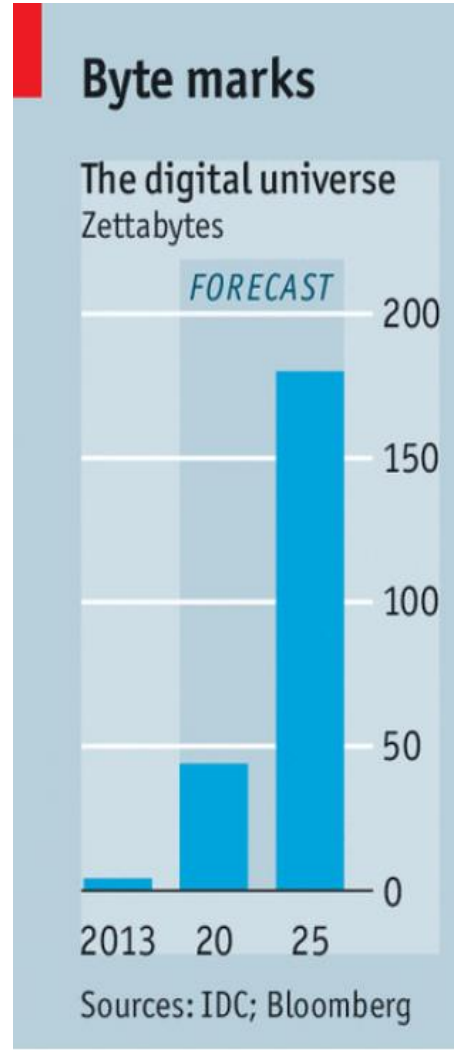
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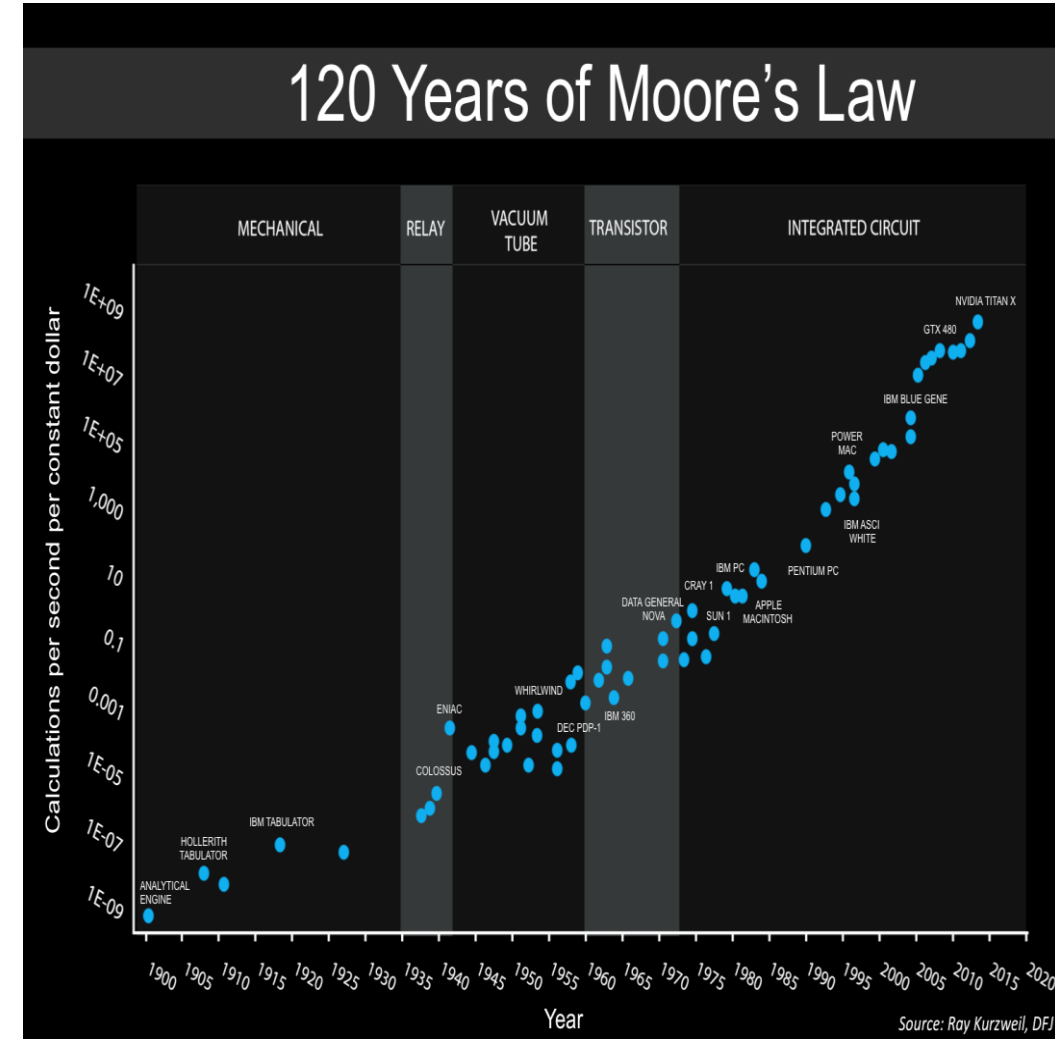
<https://blogs.nvidia.com/blog/2016/07/29/whats-difference-artificial-intelligence-machine-learning-deep-learning-ai/>

Since an early flush of optimism in the 1950s, smaller subsets of artificial intelligence – first machine learning, then deep learning, a subset of machine learning – have created ever larger disruptions.

Why the hype now?



Economist.com





AI in IA

Artificial Intelligence has the potential to transform audit, but it will never replace the auditor.

Jeanne Boillet, EY Global Assurance Innovation Leader

Leveraging IA skills to develop AI

10

Expert domain knowledge in Finance, Audit, Taxation etc.



Excellent understanding of business processes



In-depth knowledge of Risks & Control



Forensic experience in identifying suspicious transactions through audit

Leveraging AI to enhance IA

11

Utilize
computing
power with
endless
operating
capacity

Incorporate all
forms of data,
structured and
unstructured,
text and rich
media

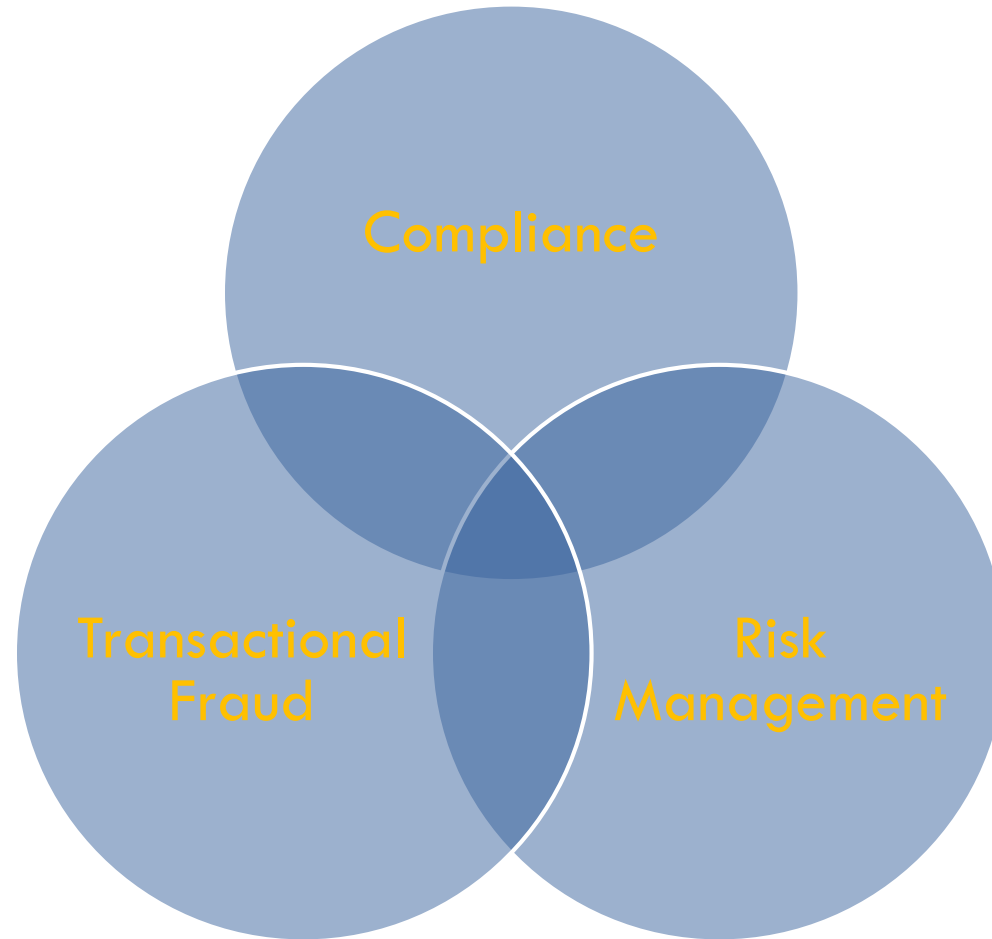
Make evidence-
and confidence-
based decisions

Discover insight
and patterns in
data previously
not visible

Learn and
evolve with
experience to
constantly stay
up-to-date

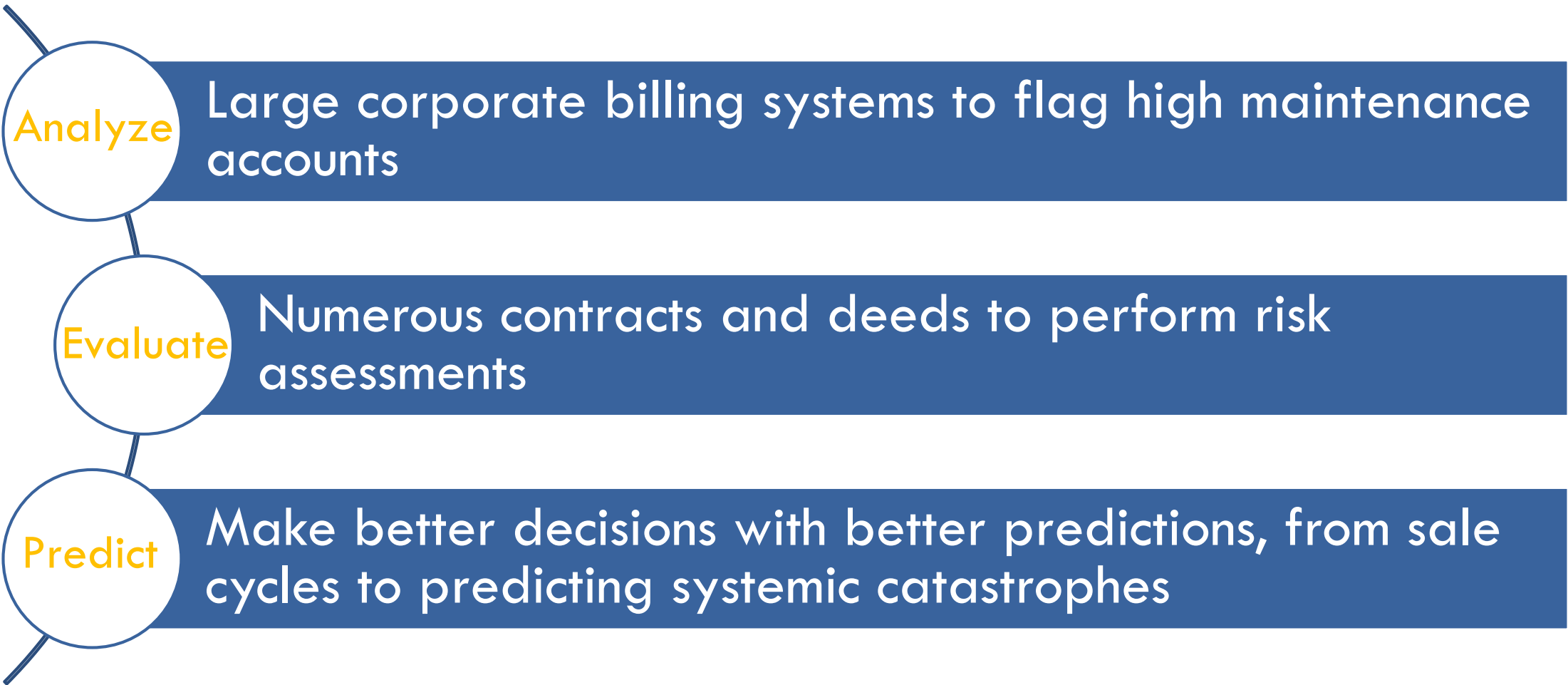
AI applications in Internal Audit

12



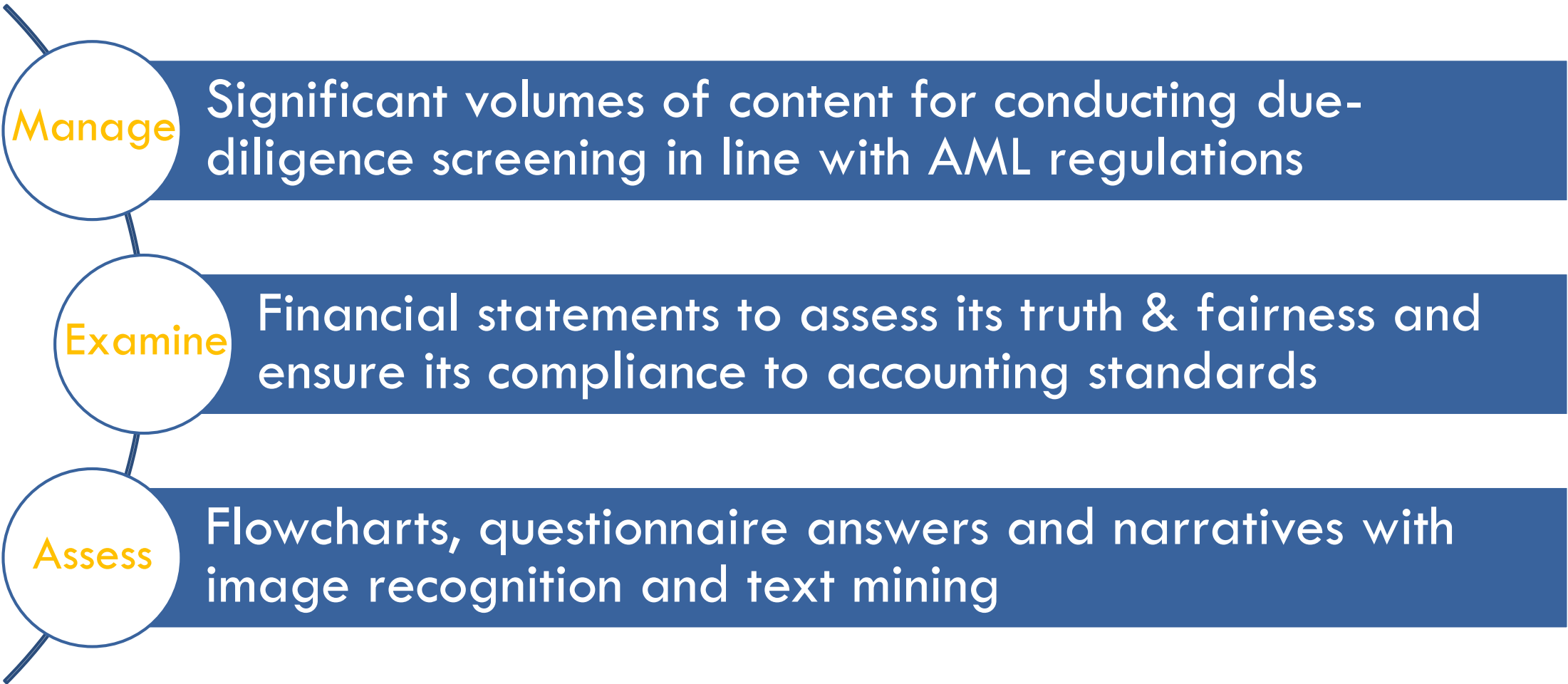
AI for Risk Management Auditing

13



AI for Compliance Auditing

14

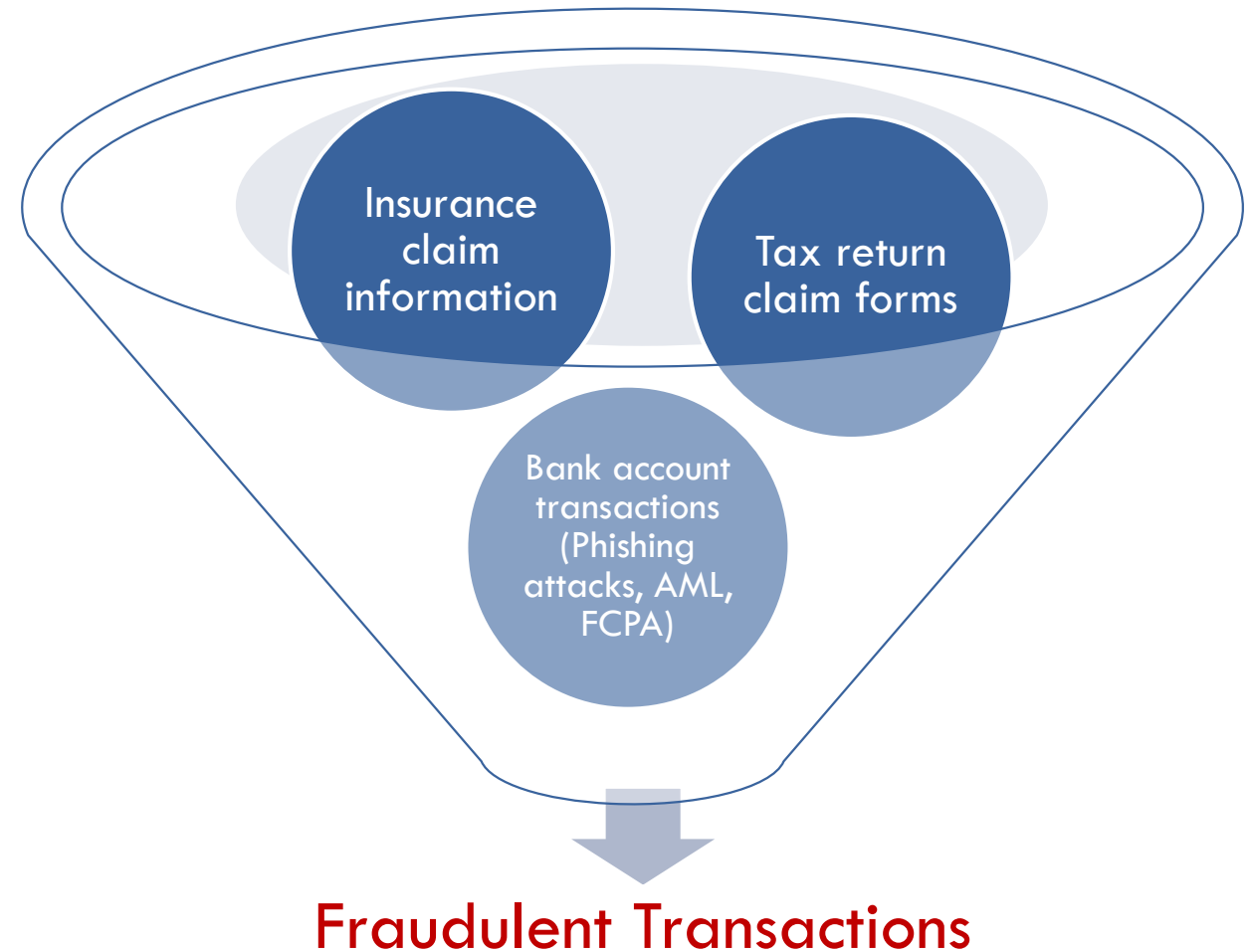


AI for Transaction Auditing

15

An event in isolation may not be suspicious, but a series of events that follow a pattern may be suspicious.

- **Anomaly Detection**: NLP can scan millions of invoices each year to filter faulty/fraudulent invoices that lead to false tax returns
- **Text Recognition**: Transaction narrative can reveal inconsistent insurance claim facts
- **Predictive Modeling**: A bank customer changing his address followed up by a change of beneficiary could be a pattern of identity theft



Transforming IA to incorporate AI

16

Adopt a culture of innovation that embraces new technologies

Identify and articulate business problems where AI can manage risk

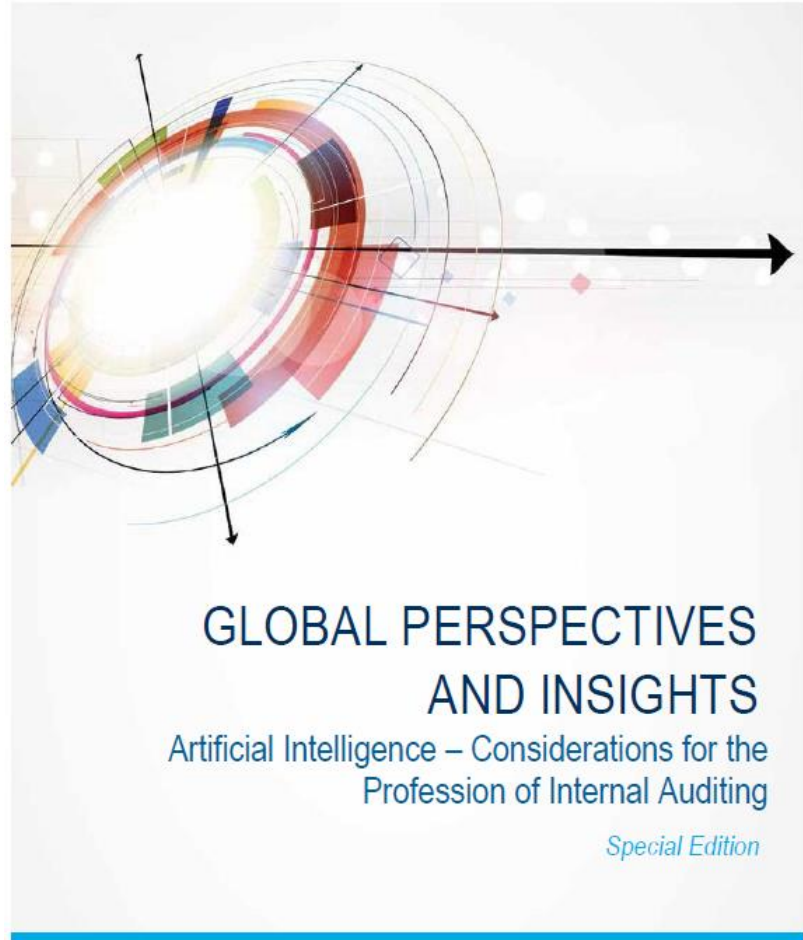
Define the value associated with adopting AI for each of the identified areas of risk

Develop a specialized team to build awareness, skills and best practices around AI

Monitor and constantly improve the value generated from applying AI within a robust risk management framework

New challenges, new opportunities...

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AI challenges and complexities do not fit into existing governance frameworks

AI accountability is opaque. Undefined ethical standards and social norms

Policy-makers lack expertise

Thank You

Chrysostomos Kridiotis

Director, Business Consulting Services

c.kridiotis@logicom.net

logicomsolutions.com.cy

T: 22 55 12 51

M: 99 62 35 26