

How Artificial Intelligence Is Reshaping the Accounting Industry



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Hello!

**How is
everyone?**

**Are you ready
to get started?**

What did we just do?

How did it make you feel?

**Do you typically get that
feeling when interacting
with your digital devices?**



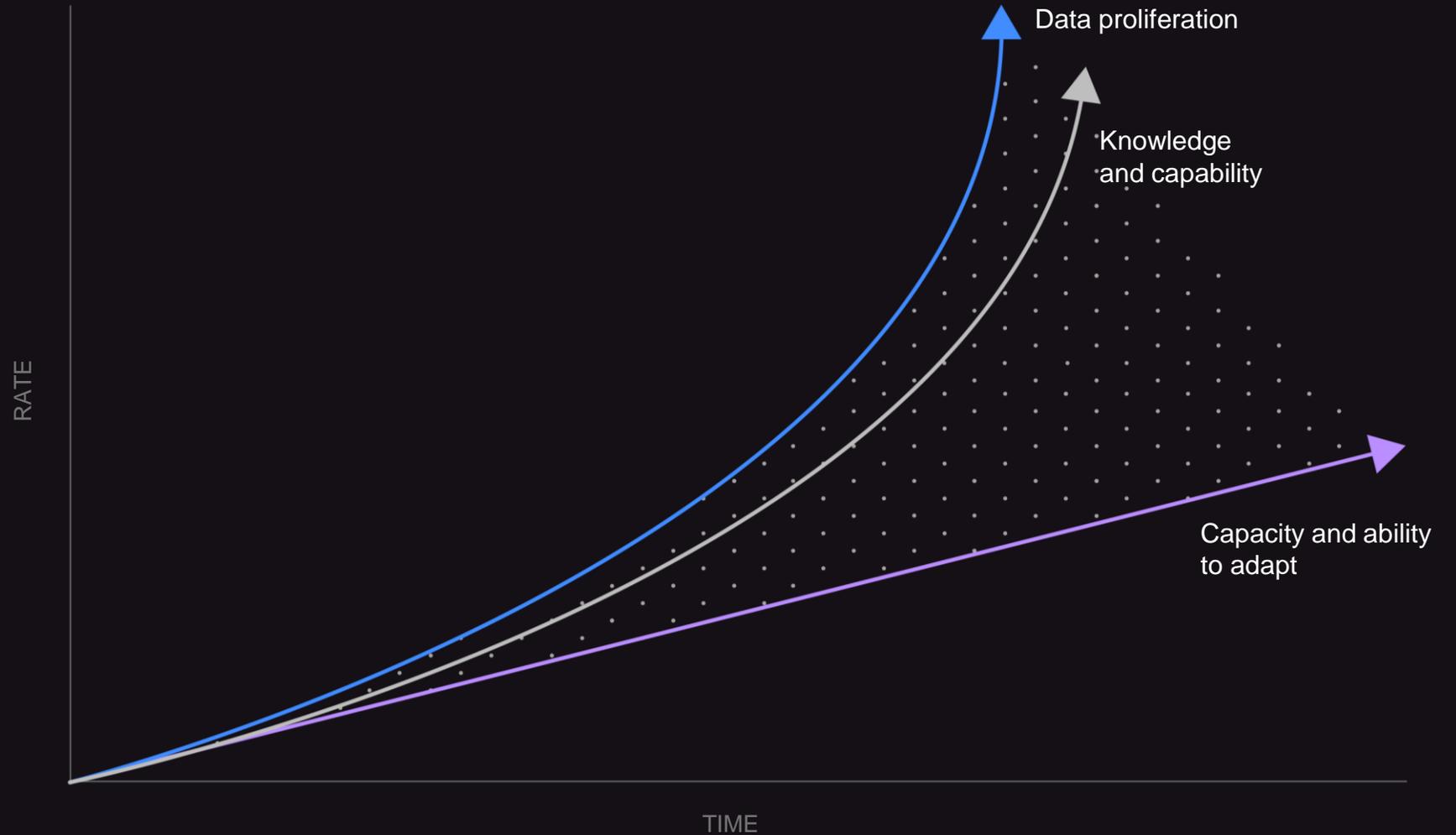
AI is the next disruptor

As the volume of data, digital transformation, and the pace of technological change accelerate, the ability of organizations and professionals to keep up and capitalize on the opportunity is becoming more challenging.



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AI provides an opportunity to help professionals close the gap and harness the full potential of data by creating new tools to improve their work and outcomes.





No Data
No AI

Cognitive systems are fundamentally different from what you have today

UNDERSTAND



Adapt and make sense of data; **read** text, **see** images with context **like humans do.**

REASON



Interpret information, organize it, and offer explanations as to what it means, with **rationale for the conclusions.**

LEARN



With each data point, interaction and outcome, they develop and sharpen their expertise, so **they never stop learning.**

INTERACT



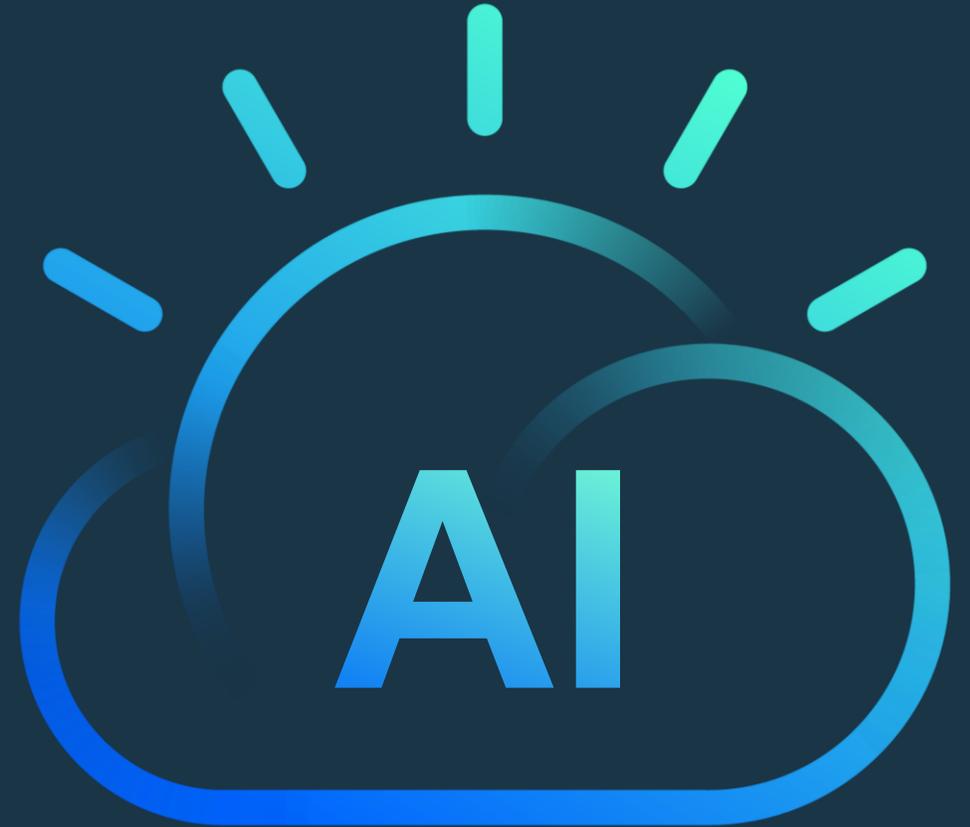
With abilities to see, talk and hear, Cognitive systems **interact with humans in a natural way.**

Cognitive businesses will redefine how decisions are made

AI is the system of the future.

People will define what is to be learned.
System will learn how to learn it.

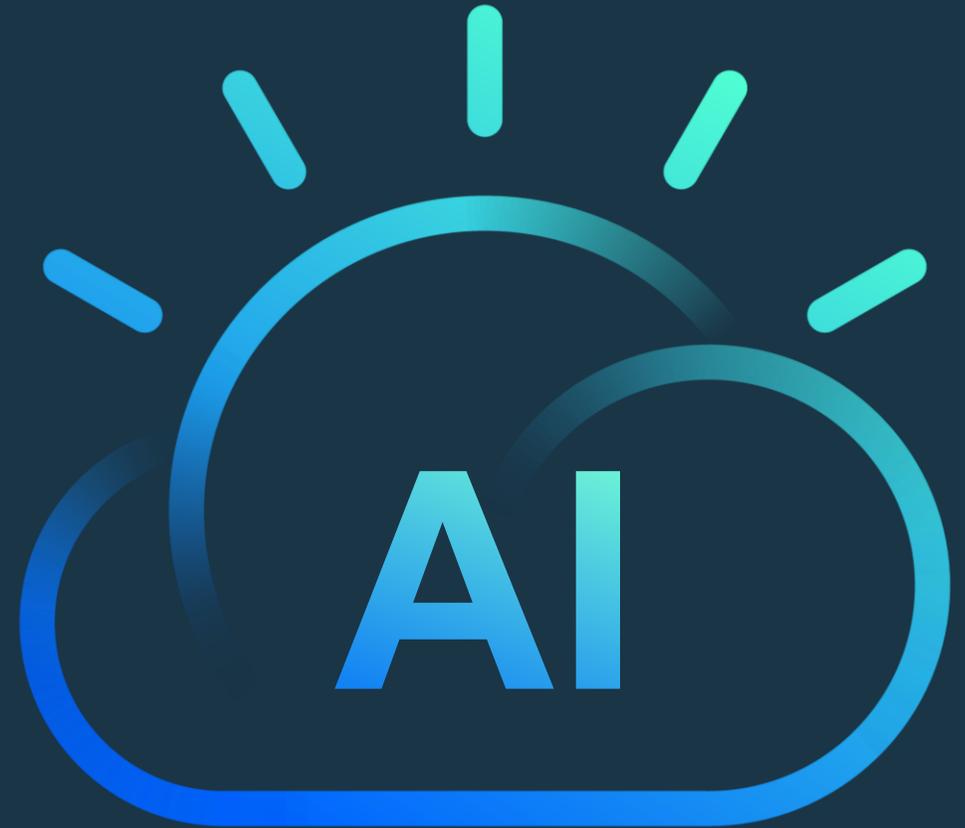
- Interactive decision making, learning and evidence-based explanations
- A range of techniques including natural language processing, knowledge and planning
- Statistical prediction analysis and pattern recognition to make highly data-driven decisions



Artificial Intelligence and the Future of Accounting

AI is the system of the future.

- Major accounting software vendors offering capabilities to automate data entry, reconciliations and more
- Expected that by 2020 accounting tasks, tax, payroll, audits, banking, etc. will be fully automated using AI technology
- Not an effort to eliminate accountants but a means to provide time to focus on decision making, problem solving, strategy development, etc.



**Humans
+
Machines** > **Humans
or
Machines**



**Not
all robots
are evil**



“Coping With Humans”



99% say their firms are trying to
become insights-driven, but only
one-third report succeeding

Your data has **outgrown** the
analytics **capacity** of your
average business user.

There is a growing population of Professionals hungry to put data to work

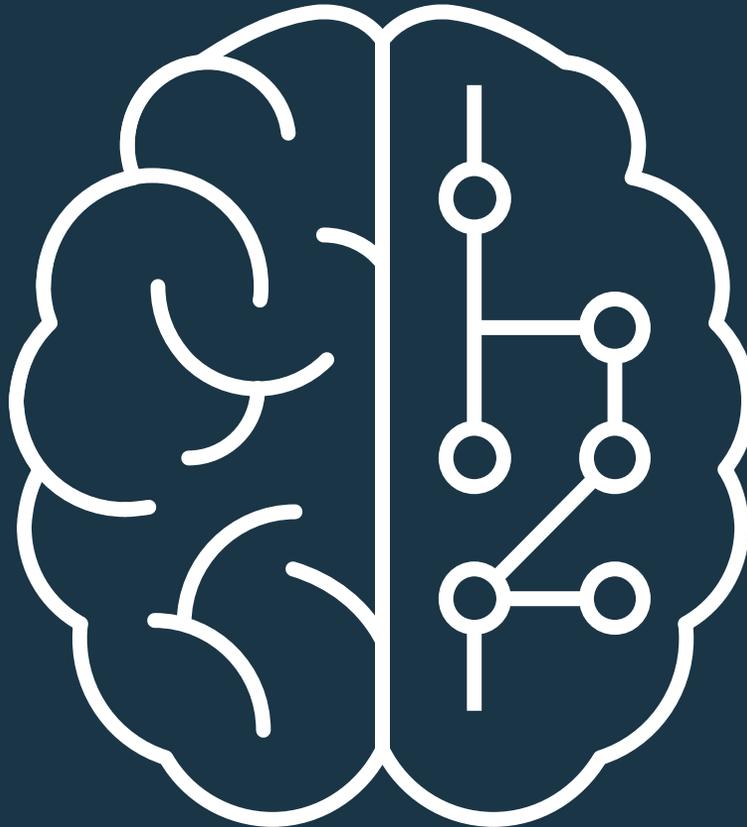


Business users with only **basic** analytics skills could conduct analysis yielding **misleading** or **incorrect** insight

Bringing together **man and machine** to help us make better, smarter decisions.

Humans excel at

Common Sense
Dilemmas
Morals
Compassion
Imagination
Dreaming
Abstraction
Generalization



AI Systems excel at:

Pattern Identification
Locating Knowledge
Machine Learning
Eliminate Bias
Endless Capacity
Natural Language Understanding

Data Science and Business Analytics makes data simple, accessible and actionable

Descriptive, Diagnostic, Predictive, Prescriptive to plan a course, monitor the business, predict the future, and change the outcome

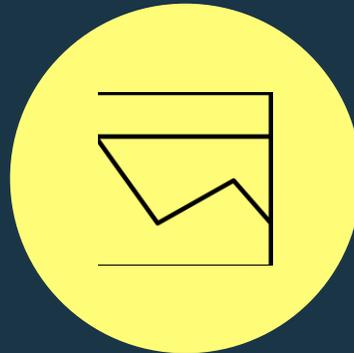
Grow
Revenue



Grow, Retain, and
Satisfy Customers

*Better understand customer
behavior*

Reduce
Cost



Increase Operational
Efficiency

Streamline operations

Mitigate
Risk



Mitigate and Manage
Risks

Identify high risk signals

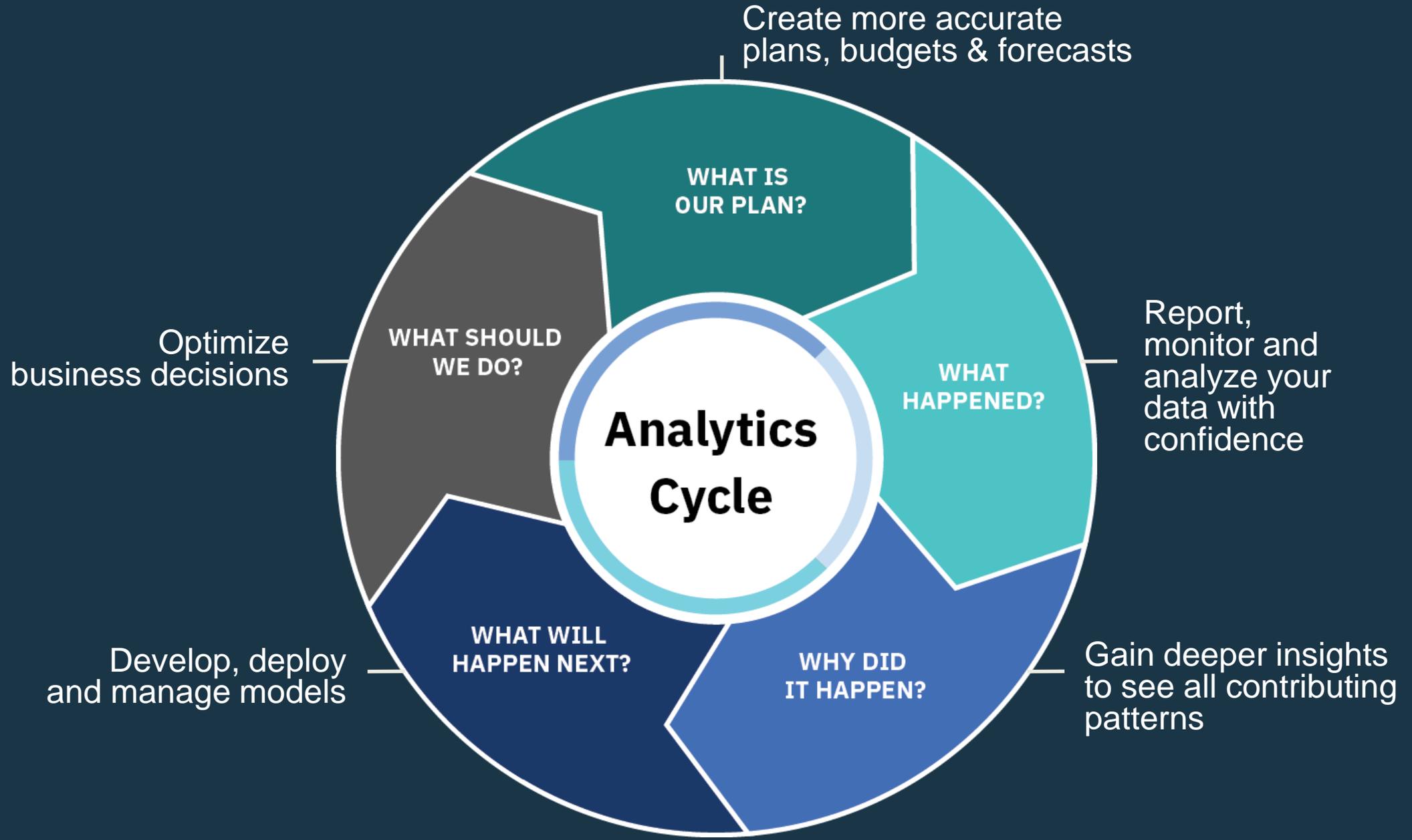
Drive
Innovation



Drive Innovation with
Analytics

*Validate business
decisions with data*

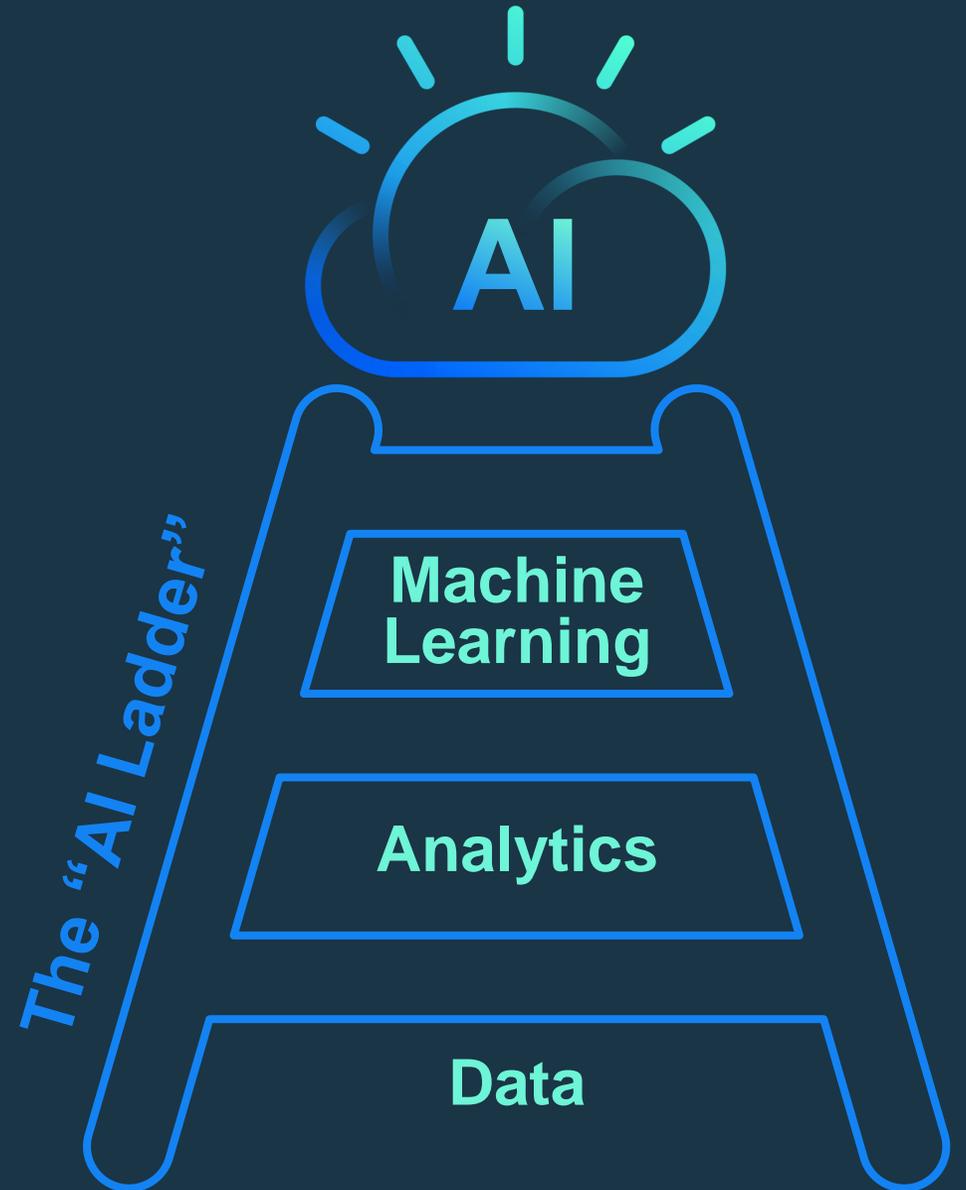
Analytics Lifecycle



We make data
simple and
accessible

We deliver data
insights for better
business decisions

We help our
clients climb
the AI Ladder



Live Transcript

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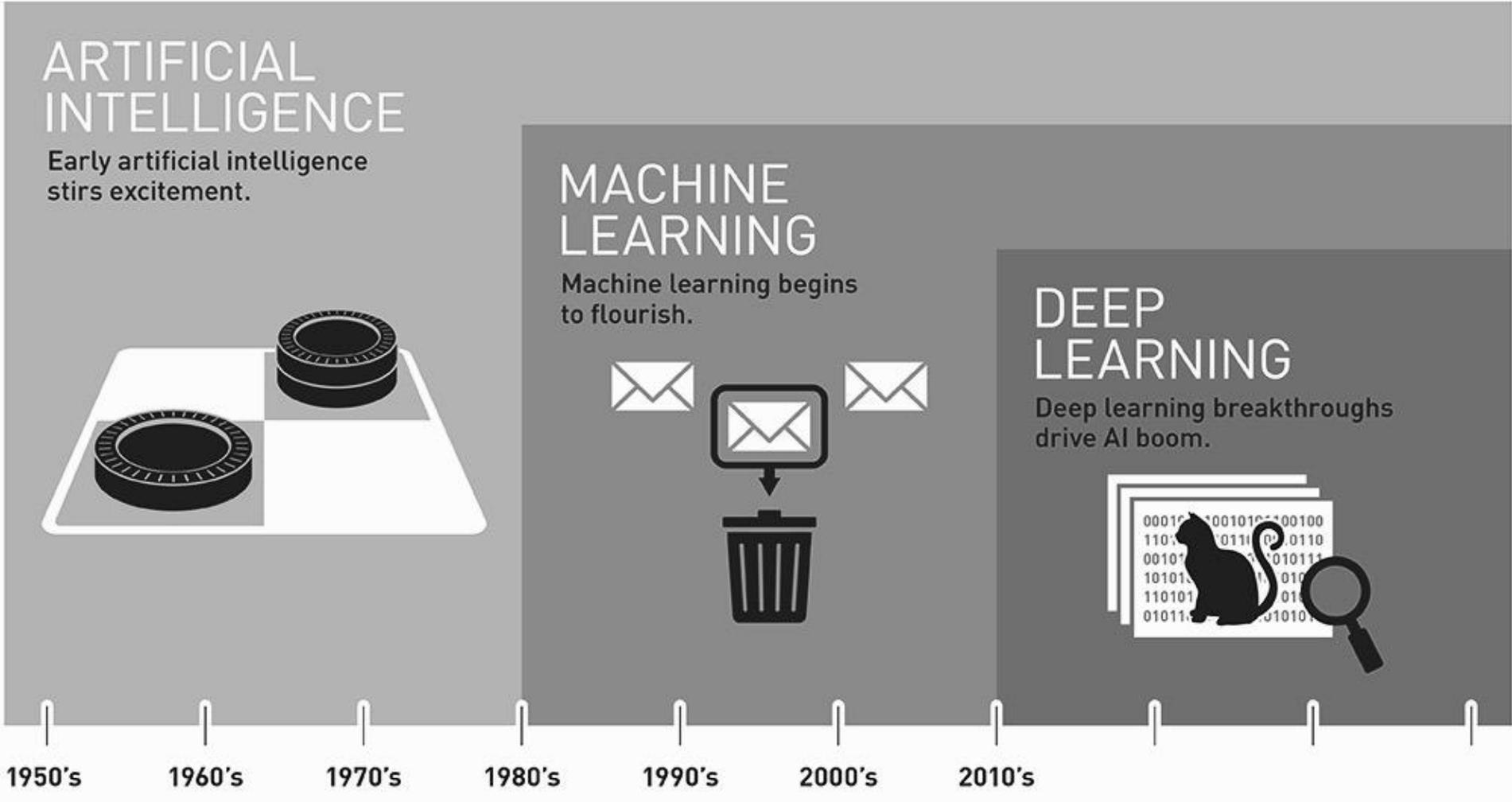
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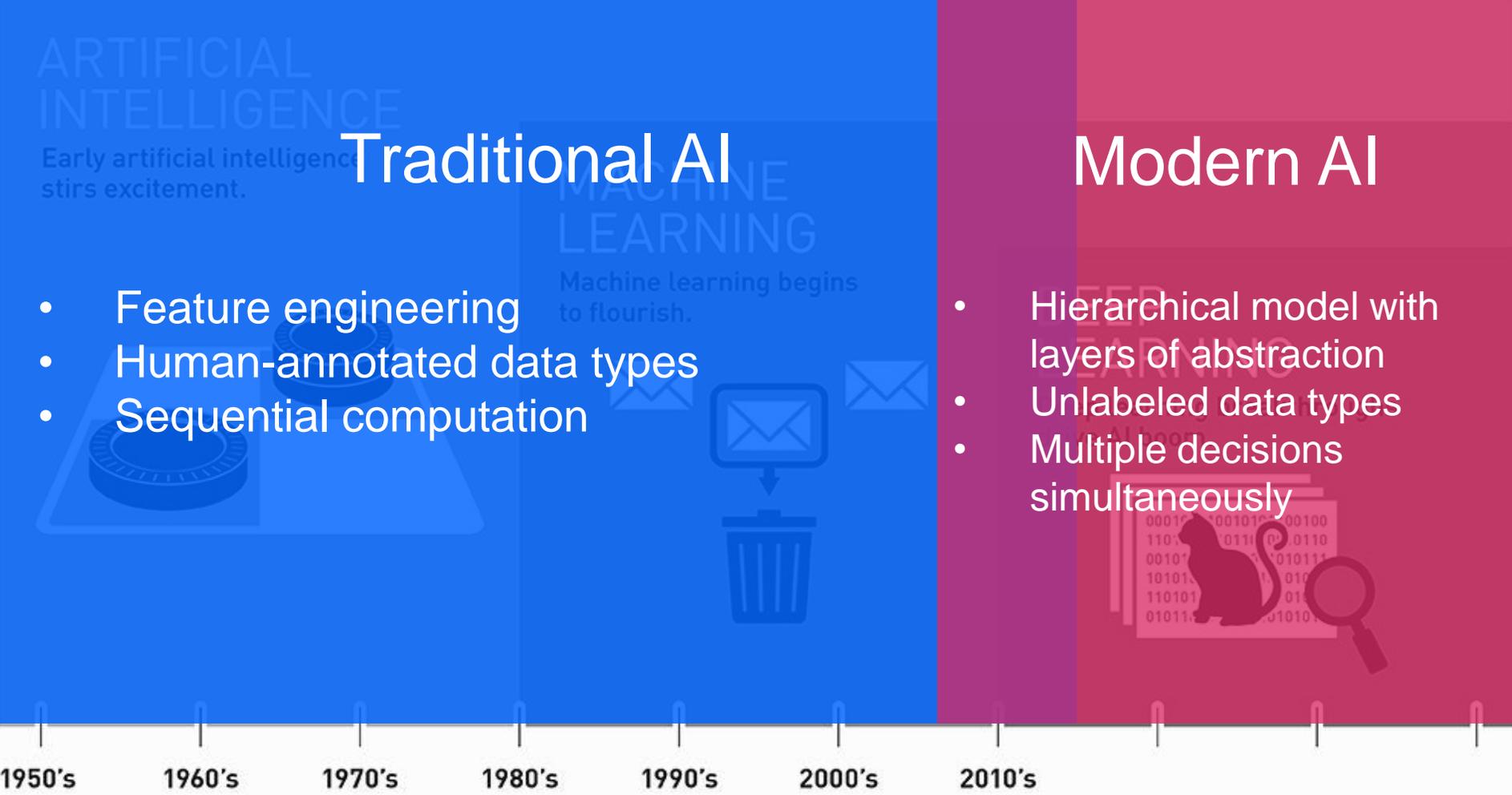
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One perspective to view AI, ML, and DL

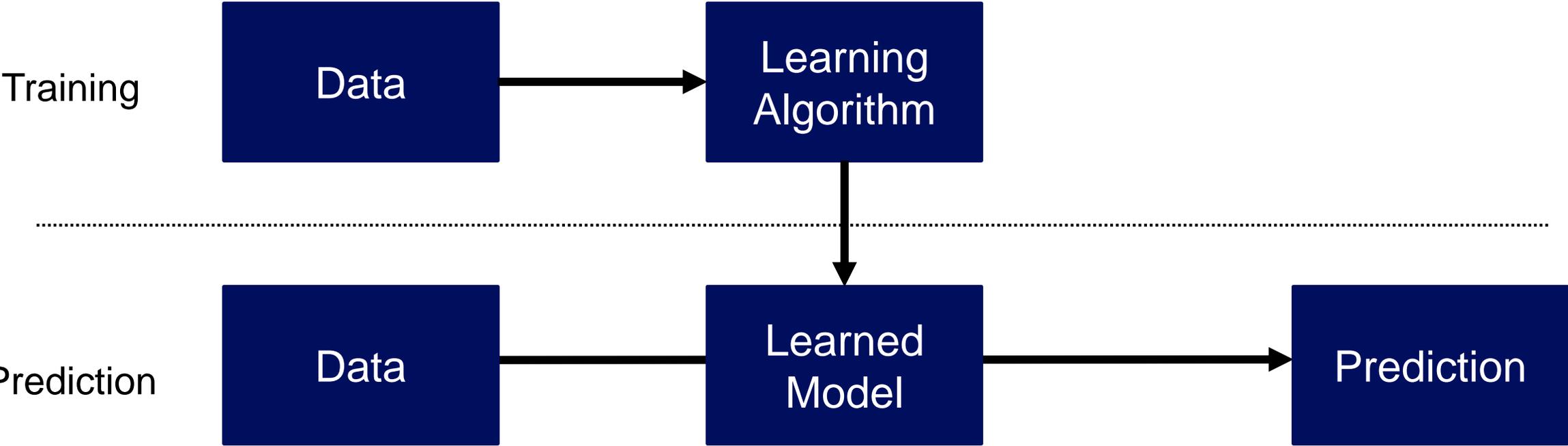


One perspective to view AI, ML, and DL



What is Machine Learning?

Machine Learning is a type of AI that provides computers with the ability to learn **without being explicitly programmed**

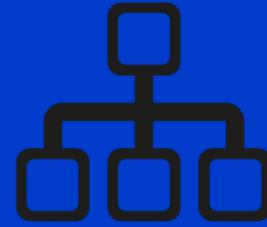


What is Deep Learning?



Part of machine learning field of learning representations of data

Exceptional effective at learning patterns



Utilizes learning algorithms that derive meaning out of data by using hierarchy of multiple layers that mimic the neural networks of our brain



If you provide the system tons of information, it begins to understand it and respond in useful ways

No feature engineering required!

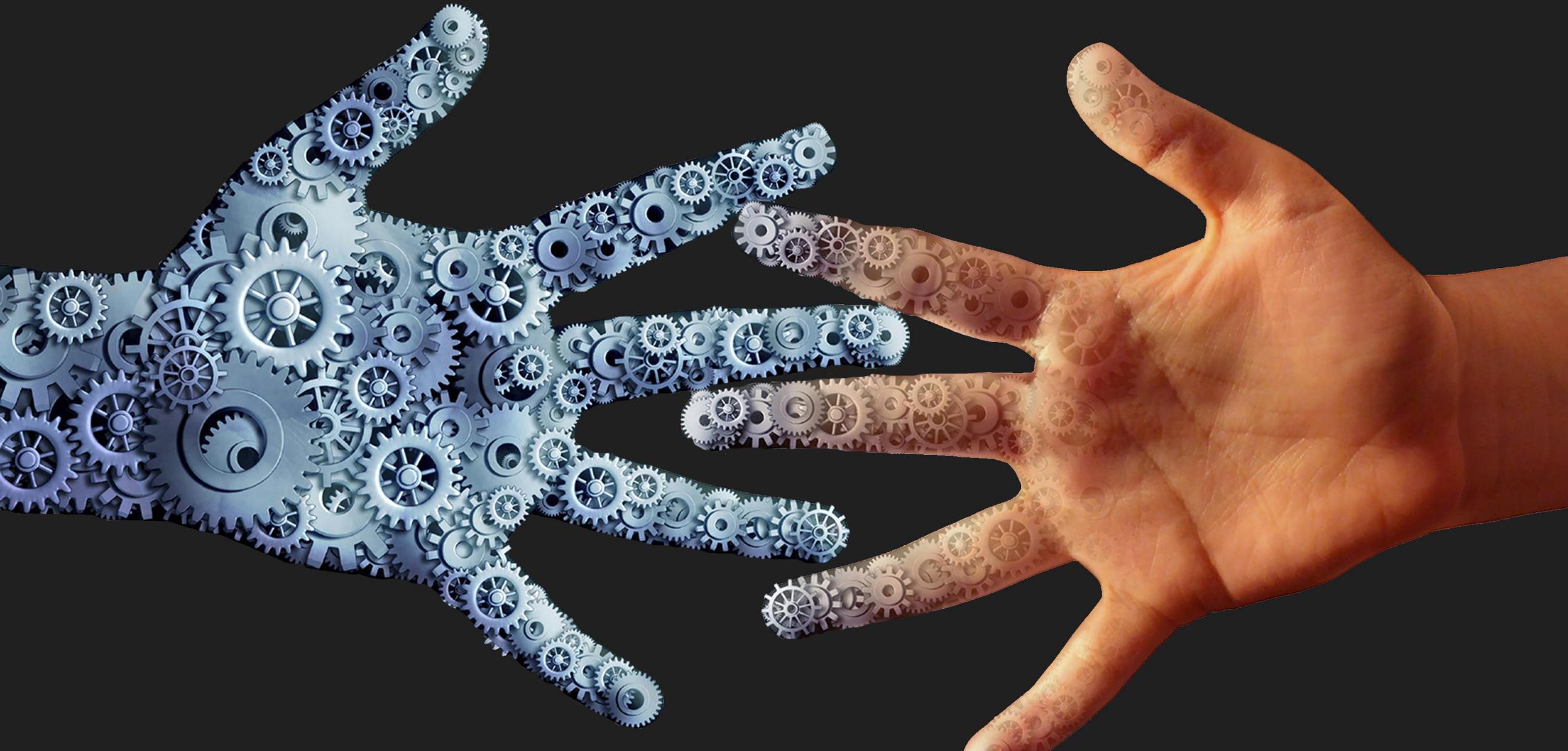


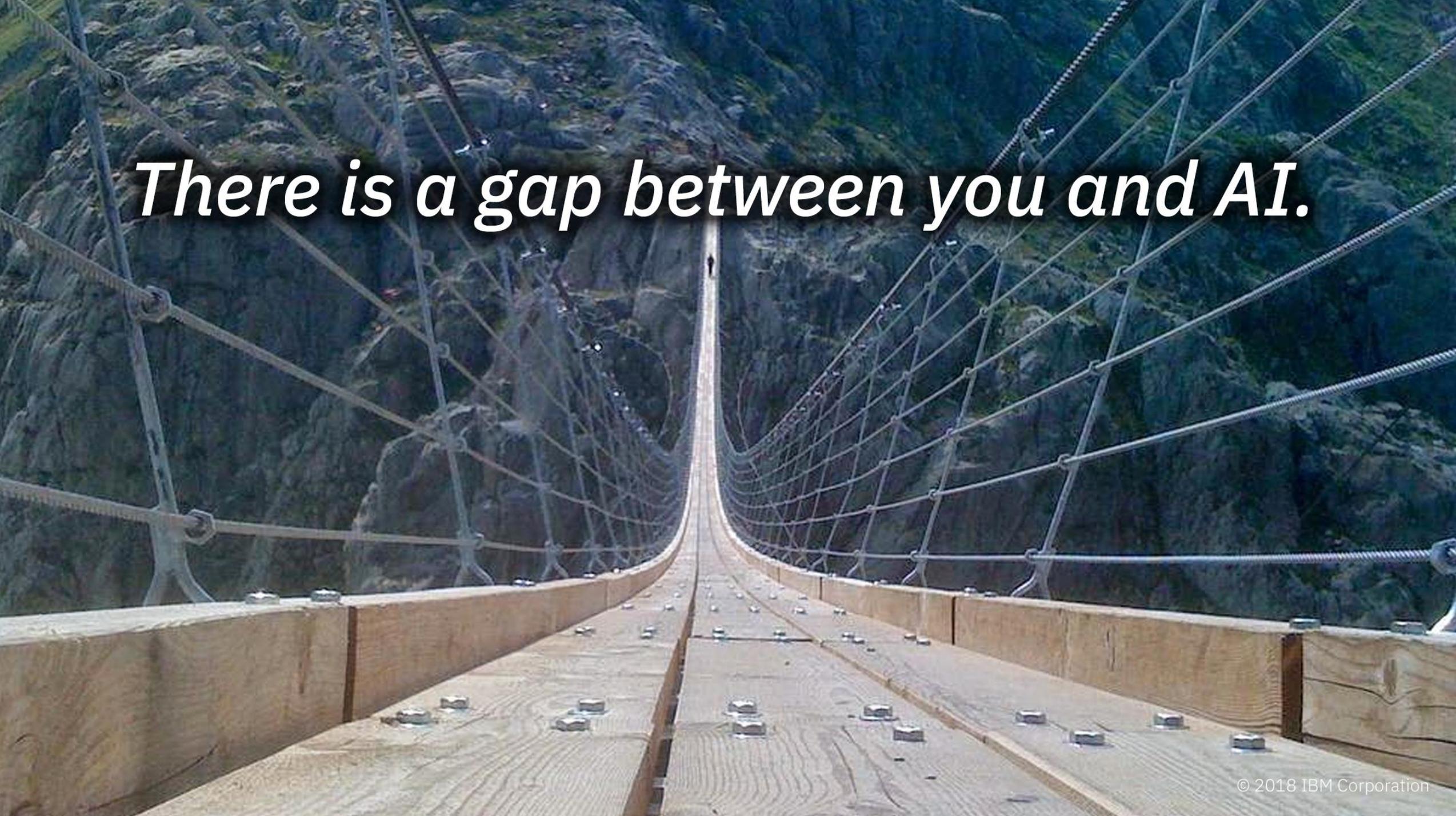
THIS ISN'T ABOUT
SEARCHING FOR
BETTER
ANSWERS

IT'S ALL ABOUT
SEARCHING FOR
BETTER
QUESTIONS

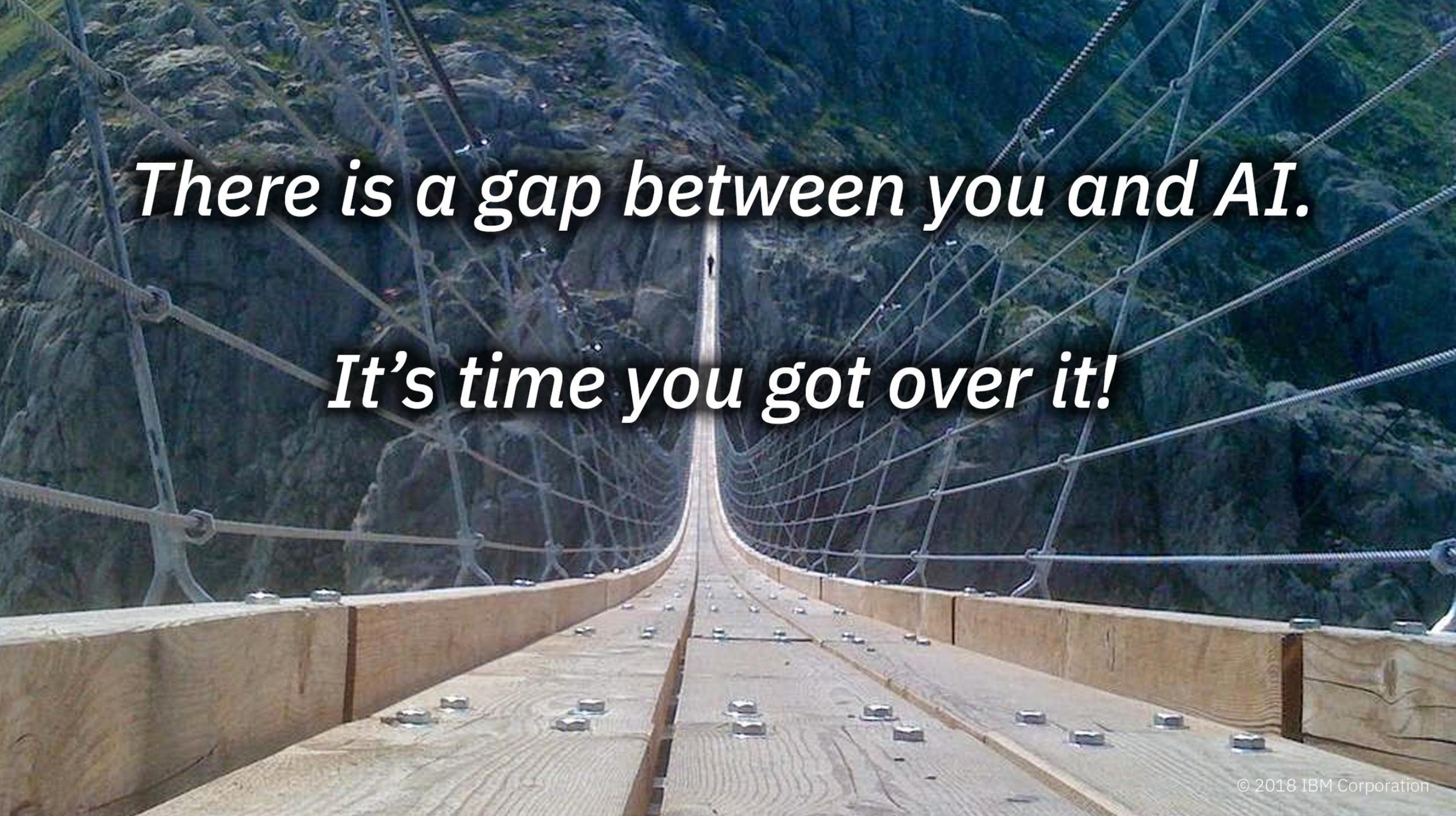


AI: Augmented Intelligence



A long suspension bridge with a wooden deck and metal railings spans a deep, rocky valley. A person is visible walking on the bridge in the distance. The bridge's cables and structure are prominent in the foreground and middle ground.

There is a gap between you and AI.

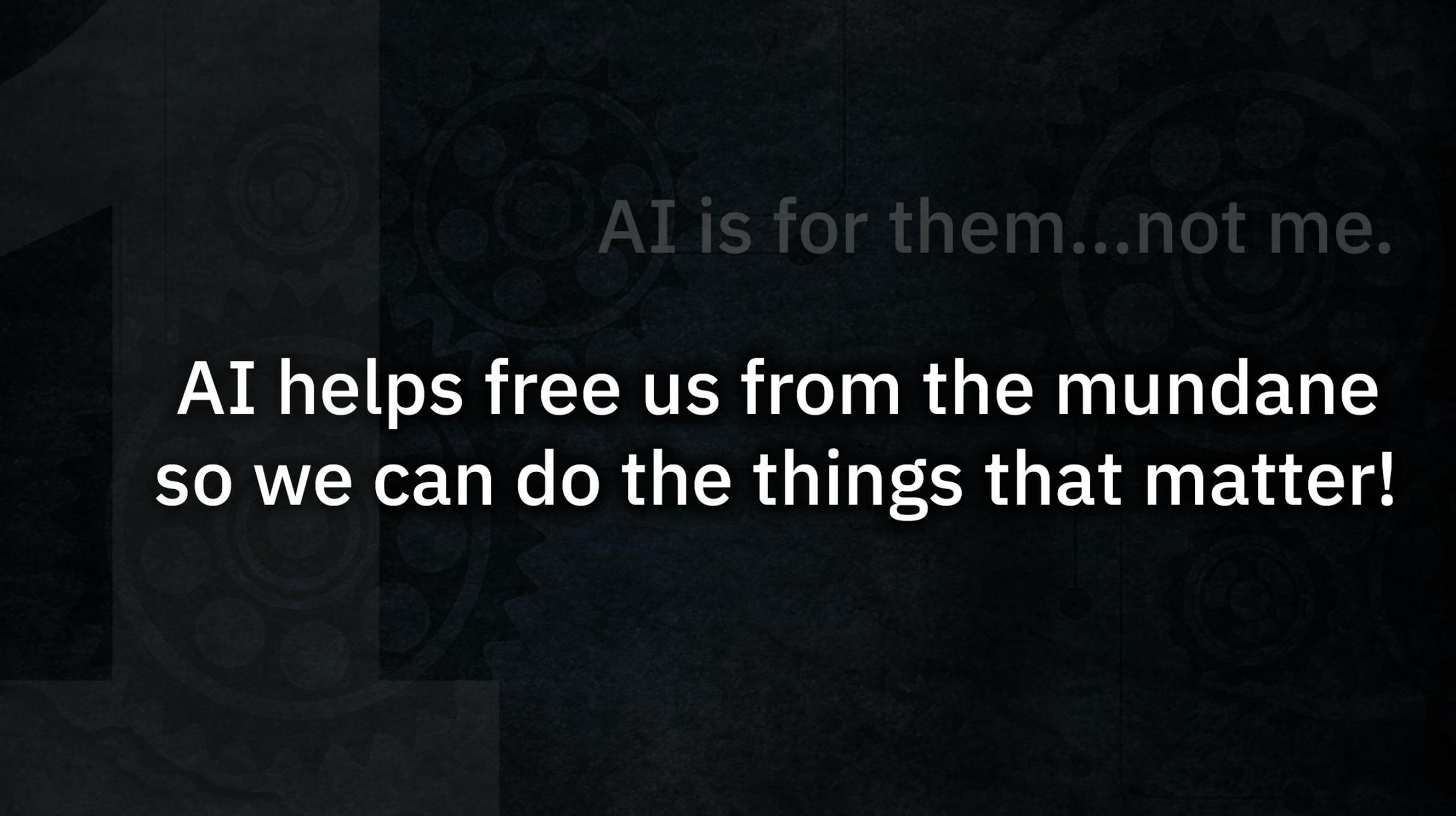
A perspective view of a suspension bridge with wooden planks and metal cables, stretching across a deep, rocky canyon. A small figure of a person is visible in the distance on the bridge deck.

There is a gap between you and AI.

It's time you got over it!

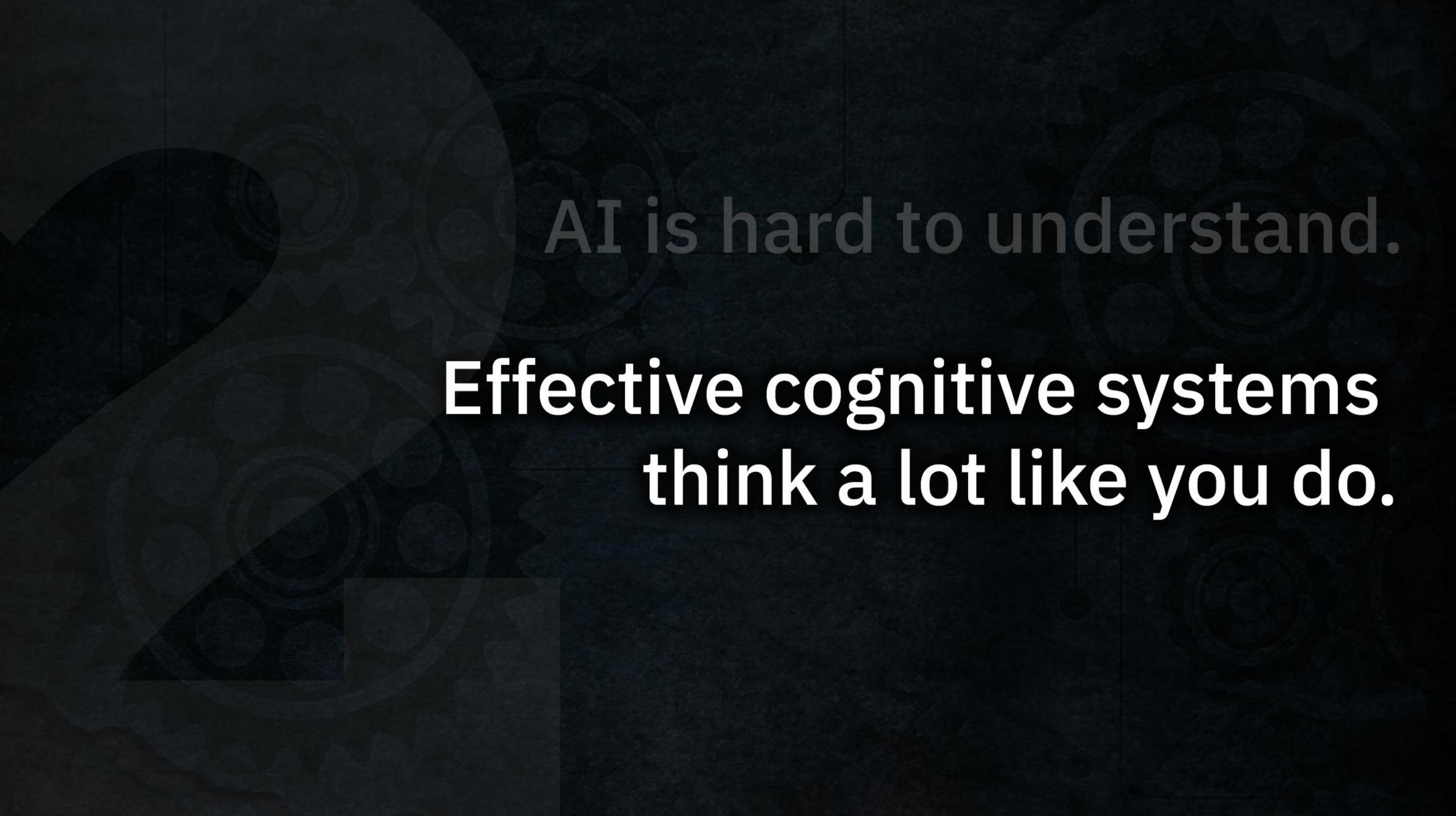
Four misconceptions



The background of the slide is a dark, textured surface with a pattern of interlocking gears. The gears are rendered in a slightly lighter shade of the background, creating a subtle, mechanical aesthetic. The text is overlaid on this background.

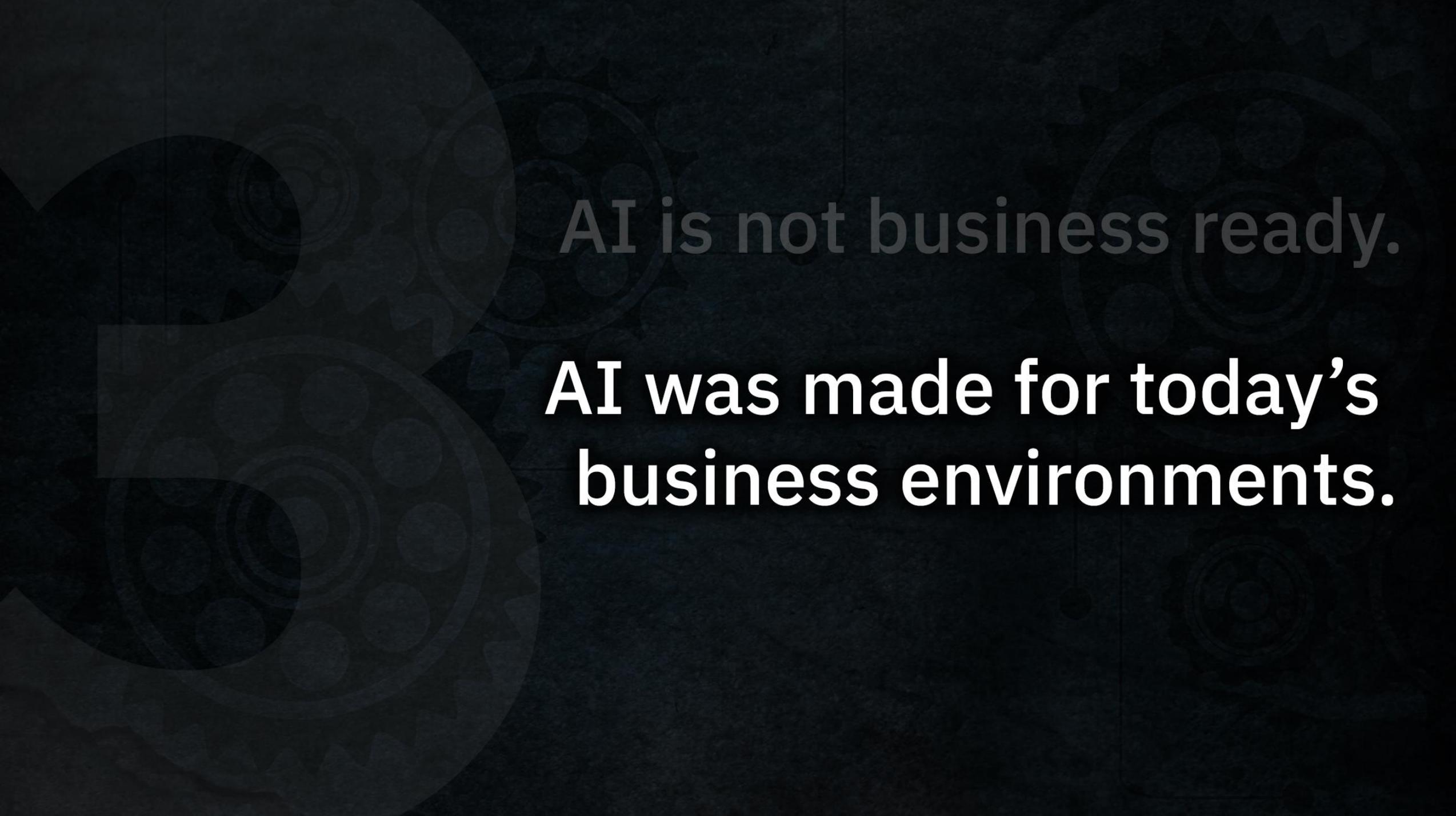
AI is for them...not me.

**AI helps free us from the mundane
so we can do the things that matter!**

The background is dark with a pattern of faint, overlapping gears. On the left side, there is a large, semi-transparent silhouette of a human brain.

AI is hard to understand.

**Effective cognitive systems
think a lot like you do.**

The background of the slide features a dark, monochromatic pattern of interlocking gears of various sizes, creating a mechanical and industrial aesthetic. The gears are rendered in shades of dark gray and black, with some appearing more prominent than others, giving a sense of depth and complexity.

AI is not business ready.

**AI was made for today's
business environments.**

I should wait to see what happens.

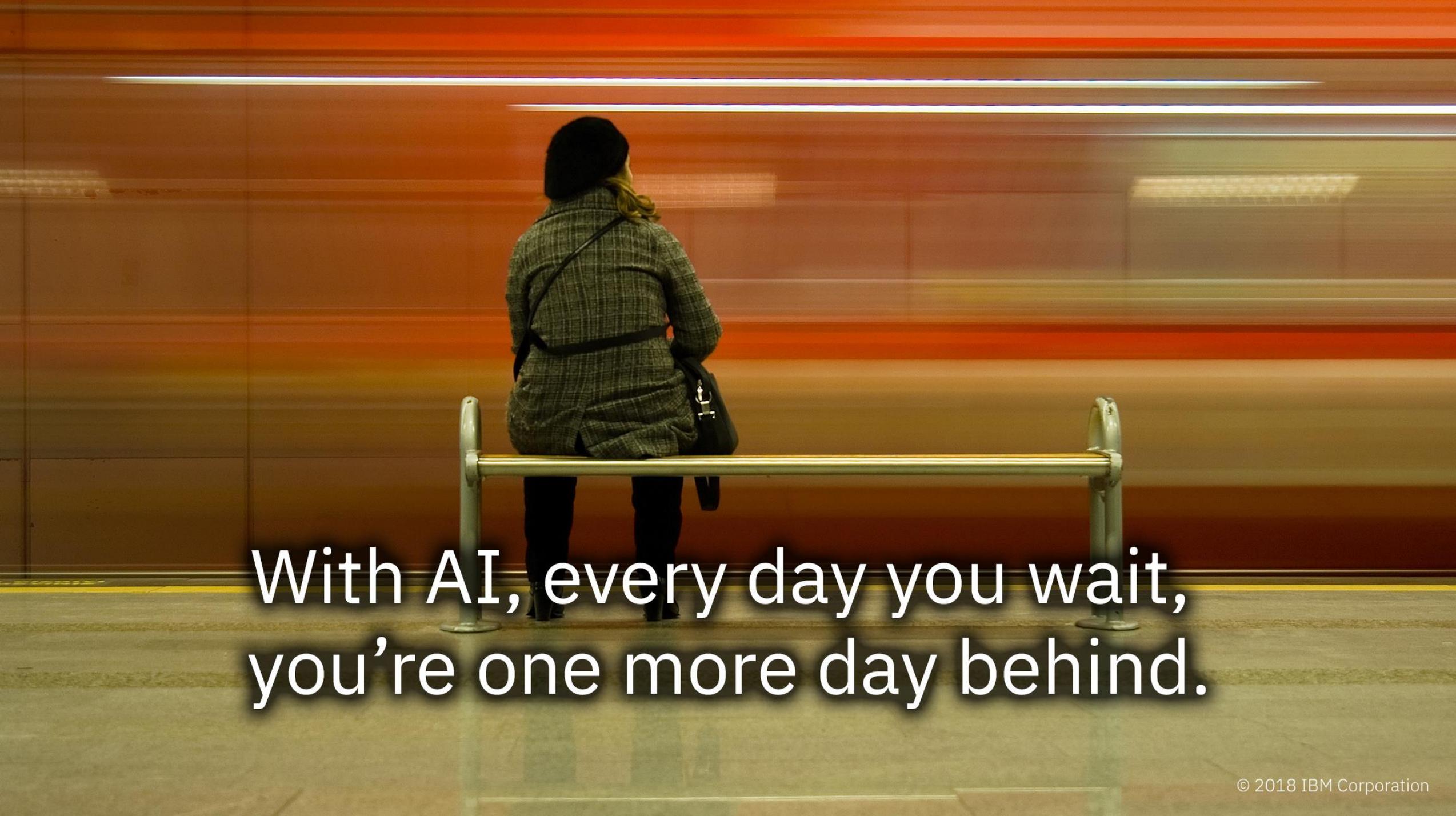
**If you're not moving forward
you're backing up.**

All learners begin at day one.

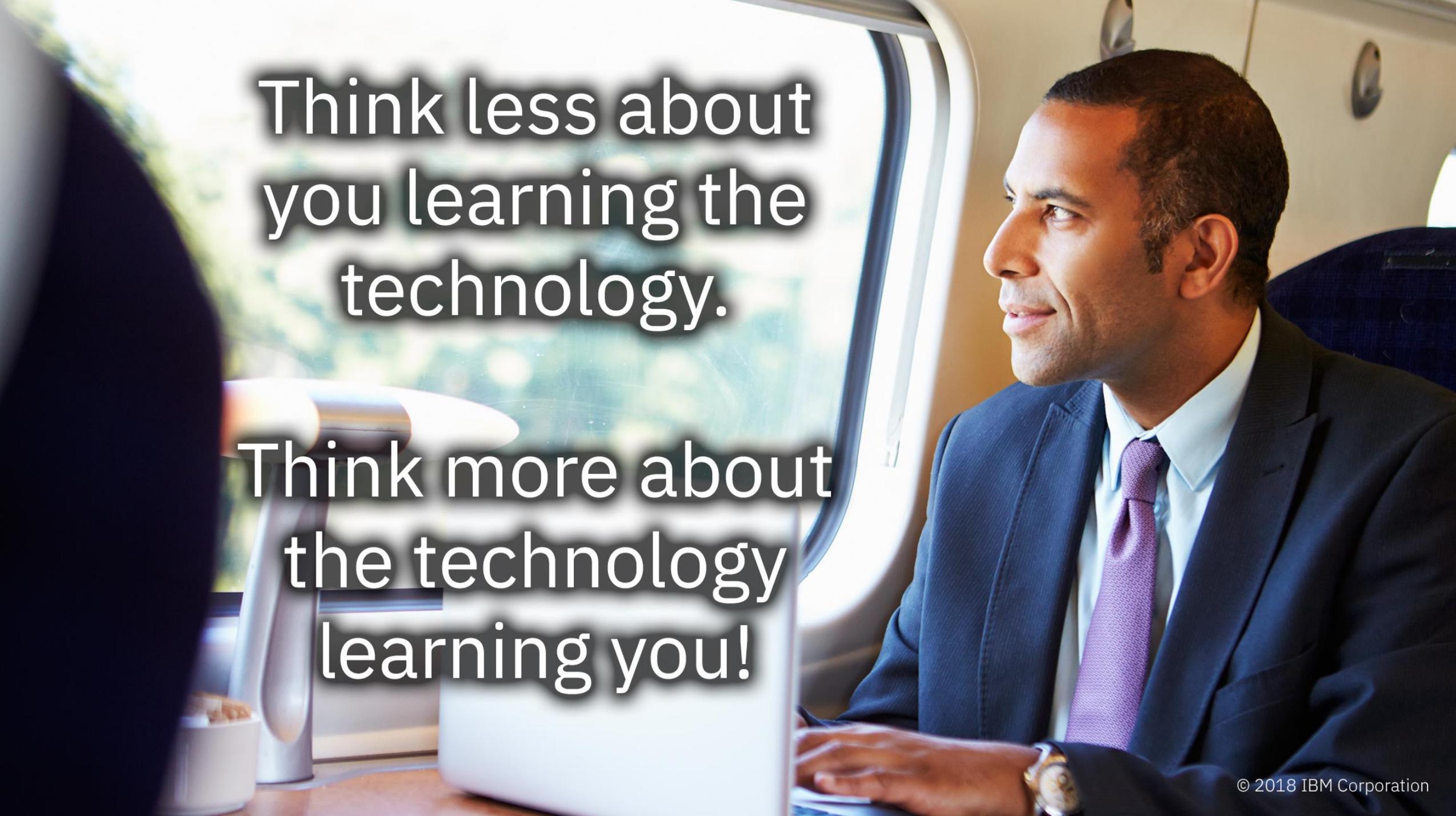


With earlier technologies you might
have waited to start your journey.



A woman in a grey plaid coat and black hat sits on a metal bench in a subway station. She is looking towards a train that is blurred due to motion, passing by her. The background is a wall of orange and red panels with horizontal light strips.

With AI, every day you wait,
you're one more day behind.

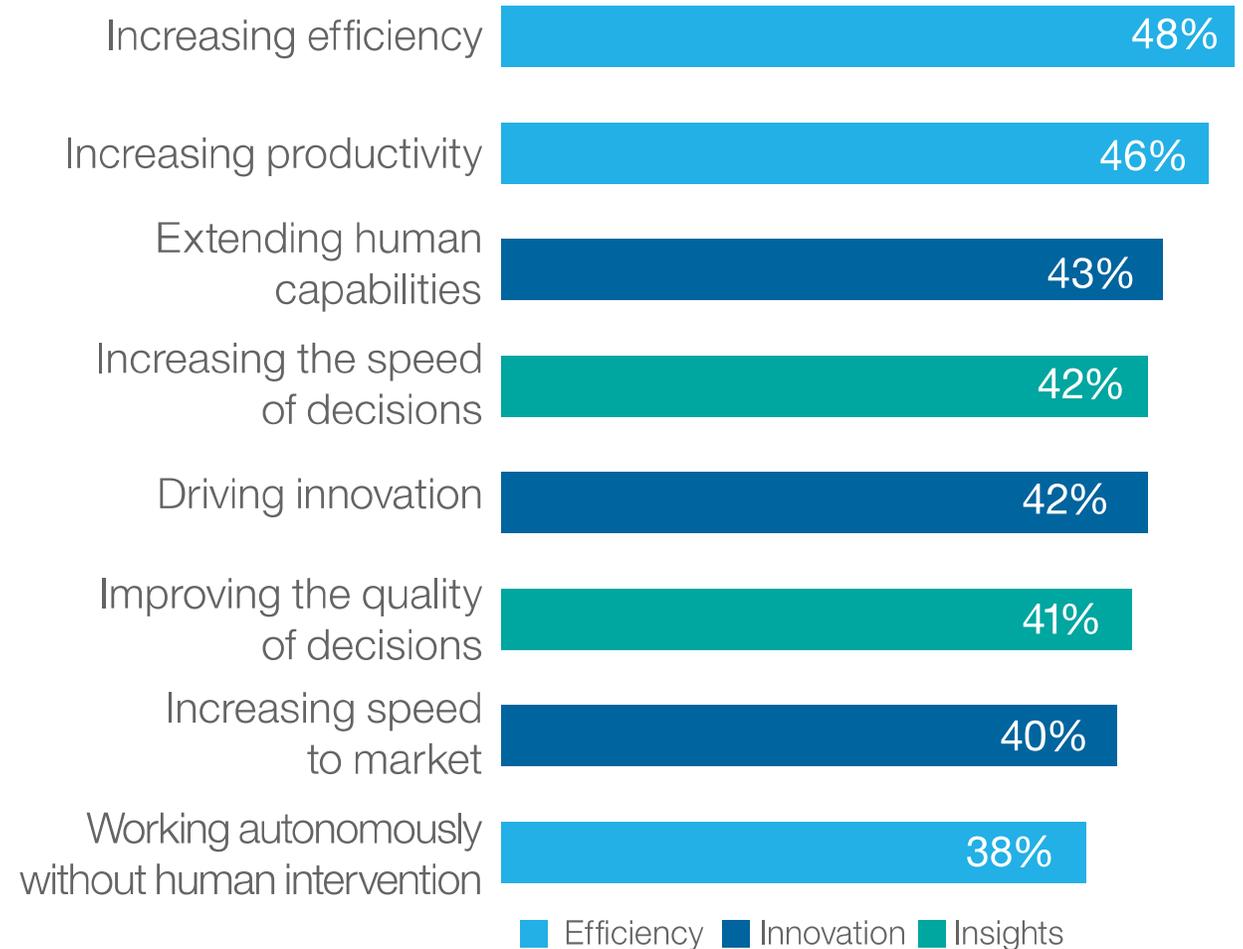
A man in a dark blue suit, white shirt, and purple tie is sitting at a desk in an office. He is looking out a window to his left. On the desk in front of him is a silver laptop. To the left of the laptop is a white desk lamp and a small white container. The background is a bright window showing a blurred outdoor scene.

Think less about
you learning the
technology.

Think more about
the technology
learning you!

Early benefits of intelligent machines include efficiency, innovation and insights

- Automotive firms are realizing substantially more value than others across industries in nearly every area; Industrial, Electronics, and Banking firms also report more value in a range of areas.
- The largest companies in our survey (more than \$10 billion in revenue) are more likely to report value from robots and intelligent machines in a range of areas, including increasing efficiency (76%), increasing productivity (67%), and extending human capabilities (67%).
- Organizations that are using machine learning in some or all parts of the business are more likely to have realized value in a range of areas, including increasing the quality and speed of decisions.



Source: Intelligent Automation Study. Question: To what extent has your organization realized value from robots and other intelligent machines? “Some positive impact” and “substantial positive impact” responses.



Executives are seeing the positive impact intelligent machines can have on their businesses

Increasing automation will have a positive impact on operational efficiency



Intelligent machines will have a meaningful impact on my business performance in the next three years



Intelligent machines will provide new categories of insight that enhance decision-making



Increasing automation will have a positive impact on quality



Natural language processing will allow human-to-device and device-to-human understanding



Increasing automation will reduce financial risk

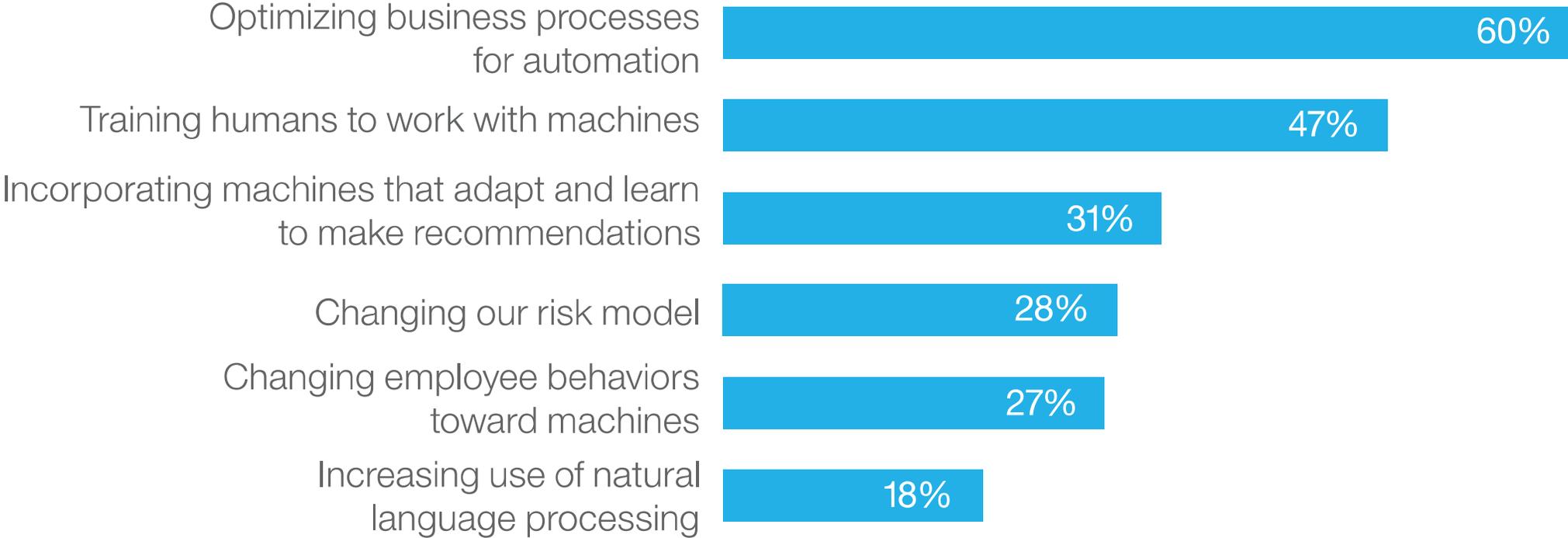


Source: Intelligent Automation Study. Question: To what extent do you agree with the following statements about human-machine interactions? “agree” and “strongly agree” responses.



Process optimization precedes cutting-edge technology

AI/Machine learning requires process optimization



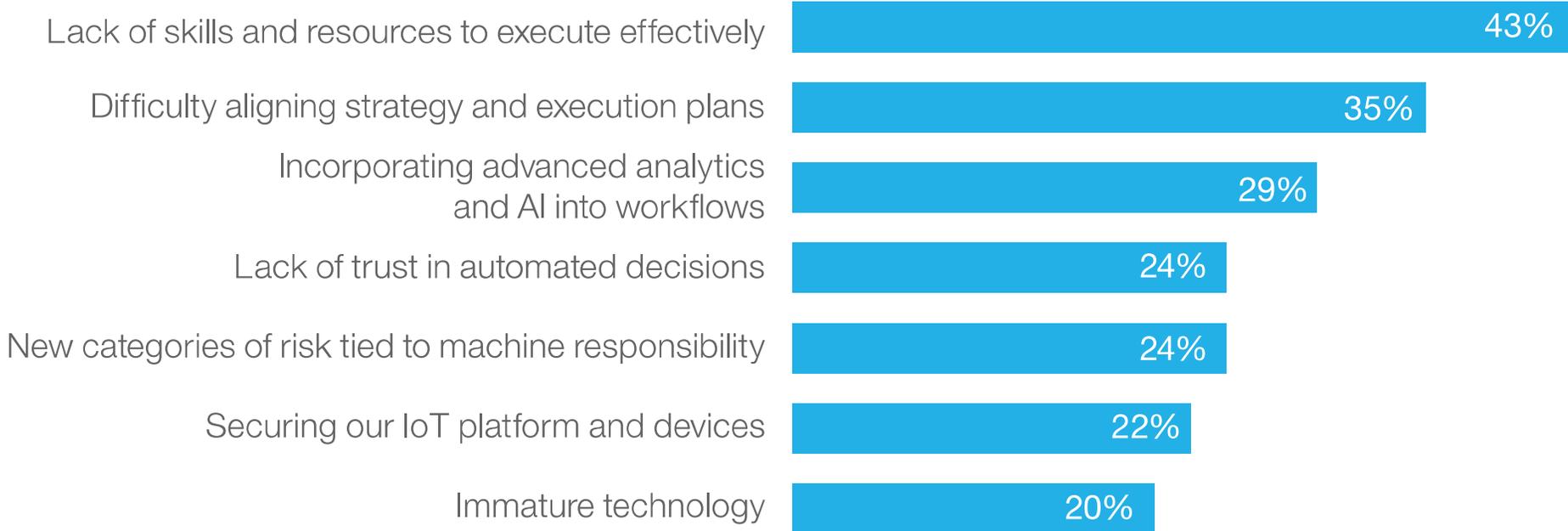
Source: Intelligent Automation Study. Question: How has your organization changed processes and workflows, if at all, to reflect the involvement of artificial intelligence/machine learning/adaptive robotics? Select all that apply.



But, most have not taken steps to make this happen - people are the biggest hurdle to cognitive adoption

People skills and resources are the biggest hurdles to cognitive adoption

Greatest challenge to your organization's use of artificial intelligence

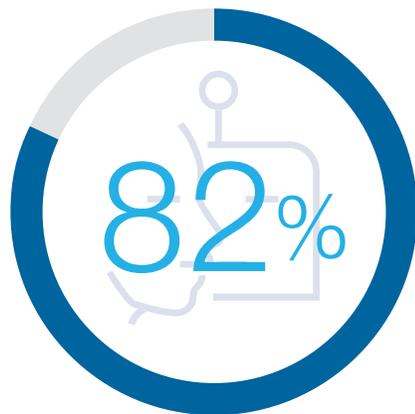


Source: Intelligent Automation Study. Question: Which of the following present the greatest challenges to your organization's use of artificial intelligence/machine learning/adaptive robotics and automation? Select up to three.

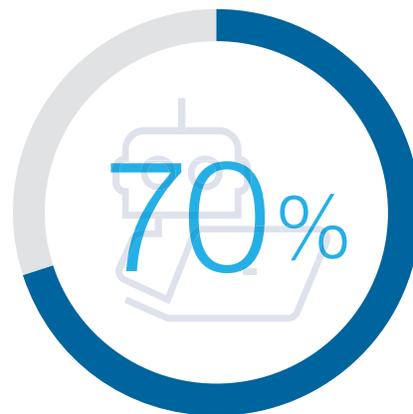


Teaching humans to work with machines begins with “feeling” comfortable

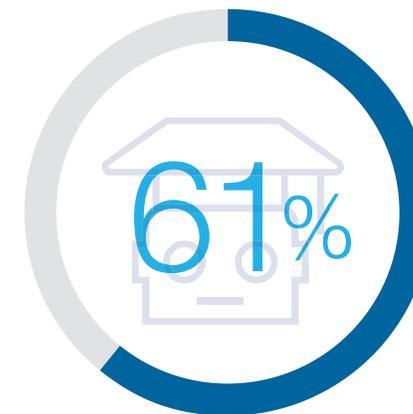
Teaching humans to work with machines begins with “feeling” comfortable



Employees need training and encouragement to feel comfortable working with intelligent machines



Intelligent machines will lead to higher-value work for our employees



Intelligent machines will have a meaningful impact on job descriptions and activities in the next three years

Source: Intelligent Automation Study. Question: To what extent do you agree with the following statements about human-machine interactions? “Agree” and “Strongly agree” responses.



Staying competitive in the cognitive era will demand an effective use of Intelligent Automation

Invest with intention

- Prioritize the landscape of emerging technologies
- Always align technology with business strategies and goals
- Investing intentionally requires detailed execution plans
 - ✓ Impact analysis
 - ✓ Communication plans
 - ✓ Change management

Rebuild the business for automation

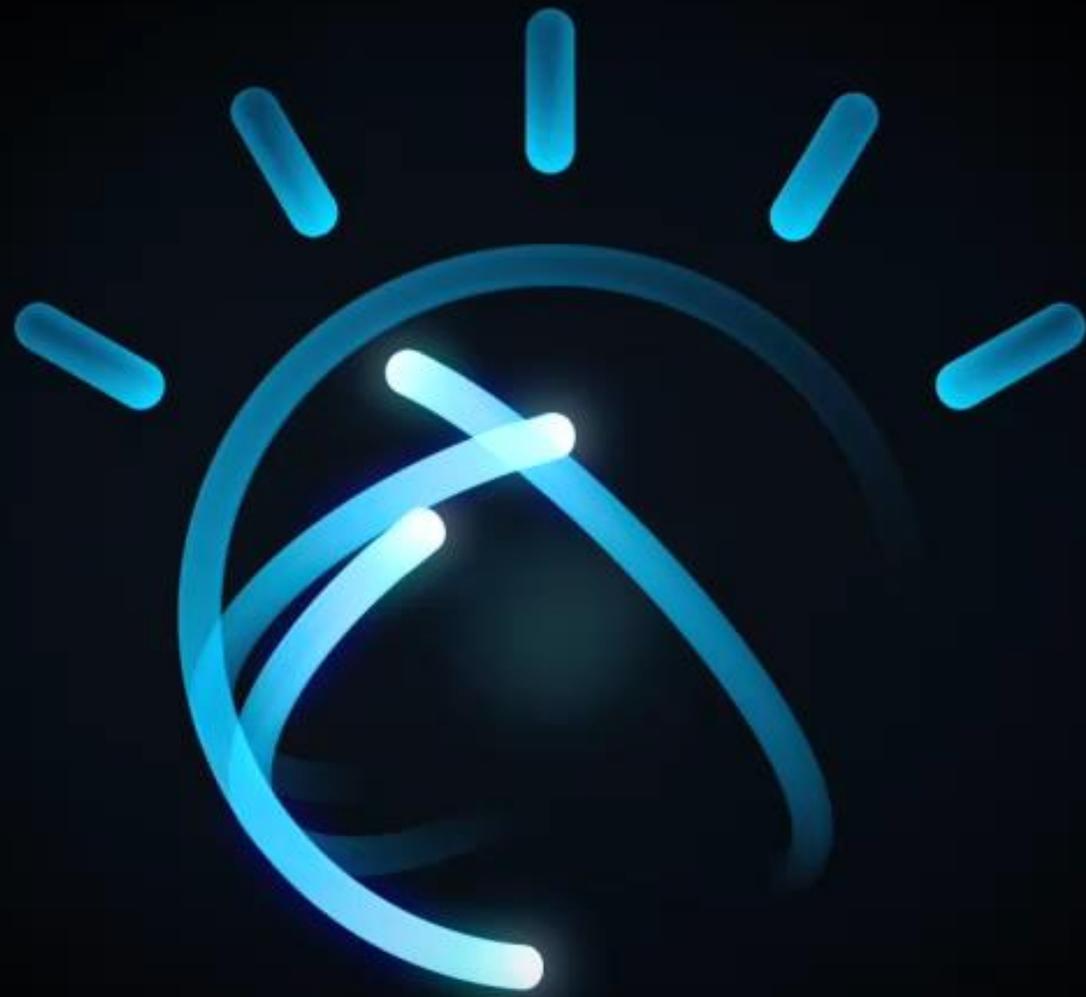
- Layering new technologies on top of old business processes is not productive
- Rethink processes for the cognitive age – optimize workflows for automation
- Envision the end; enable through prototyping; repair and scale

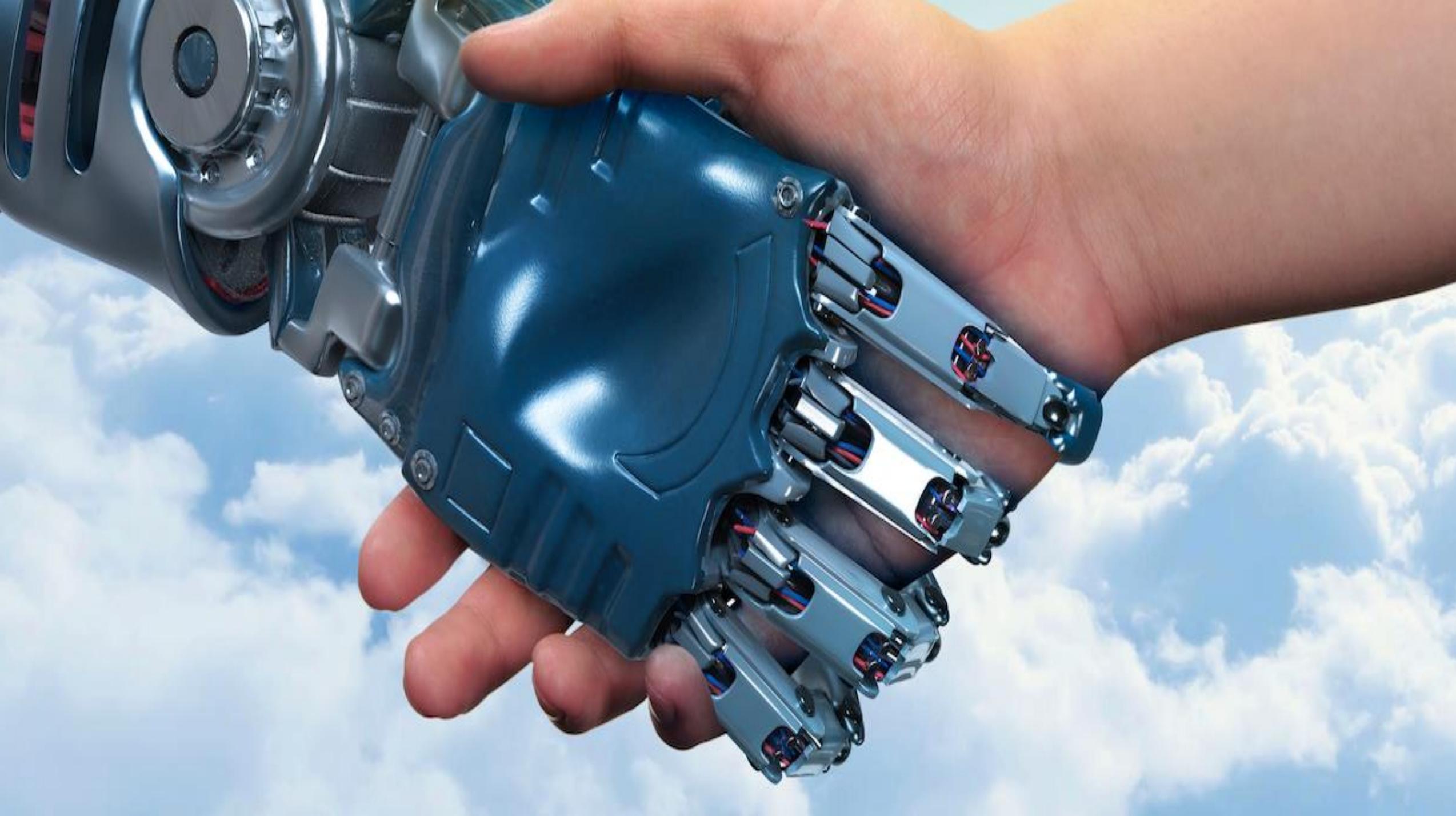
Educate to automate

- Build agile, innovative workforces
- Encourage employees to think “big”, focus on higher-level tasks
- Participate in broader ecosystems to expand new ways of thinking and working



The Future of Finance and Accounting and
the Changing Role of the CFO Includes
Transformation through Cognitive
Technologies and Artificial Intelligence





IBM