



# WHY AI?

IT'S NOW, IT'S HUGE, IT'S FAST.  
IT'S A TOOL AND IT'S YOURS TO USE.

SILVIJA SERES, 2023

# VUCA WORLD

Volatile

Uncertain

Complex

Ambiguous

## World's Largest Companies by Market Cap

Accurate as of July 29, 2016 (10:50am ET)

Apple	\$567.75 billion
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Alphabet	\$546.49 billion
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Microsoft	\$445.14 billion
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Amazon	\$366.95 billion
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Facebook	\$364.26 billion
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Slate

Source: Google Finance

## 9 Future Predictions For A Post-Coronavirus World



**Bernard Marr** Contributor   
Enterprise Tech

1. More Contactless Interfaces and Interactions
2. Strengthened Digital Infrastructure
3. Better Monitoring Using IoT and Big Data
4. AI-Enabled Drug Development
5. Telemedicine
6. More Online Shopping
7. Increased Reliance on Robots
8. More Digital Events
9. Rise in Esports



[www.forbes.com/sites/bernardmarr/2020/04/03/9-future-predictions-for-a-post-coronavirus-world/#7a09d35a5410](https://www.forbes.com/sites/bernardmarr/2020/04/03/9-future-predictions-for-a-post-coronavirus-world/#7a09d35a5410)

# The AI Revolution

## The Dawn of Digital Transformation

**Main Idea: AI is catalyzing unprecedented changes across industries.**

The AI era: More than just another tech trend. Industries reinventing themselves with AI at the helm. AI: Driving innovation at a pace never seen before.

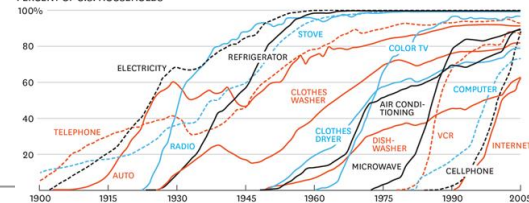
**Fun Fact:** AI has the potential to add \$15.7 trillion to the global economy by 2030.

**Statistic:** 85% of businesses consider AI to be a strategic priority.



CONSUMPTION SPREADS FASTER TODAY

PERCENT OF U.S. HOUSEHOLDS



SOURCE: NICHOLAS FELTON, THE NEW YORK TIMES

HBR.ORG

# History of tech.

Moore's Law





Amara's Law

4th Ind Revolution

- exponential
- polarizing
- combinatorial

## Navigating the next industrial revolution



Revolution	Year	Information
	1 1784	Steam, water, mechanical production equipment
	2 1870	Division of labour, electricity, mass production
	3 1969	Electronics, IT, automated production
	4 ?	Cyber-physical systems

# NECESSITY IS THE MOTHER OF ALL INVENTION

*"It is impossible to know what will happen. But it is possible to consider the lessons of the past, both distant and recent, and on that basis, to think constructively about the future."*



1. Distance is back
2. Resilience and efficiency
3. The rise of the contact-free economy
4. More government intervention in the economy
5. More scrutiny for business
6. Changing industry structures, consumer behavior, market positions, and sector attractiveness
7. Finding the silver linings

# Pace of Change

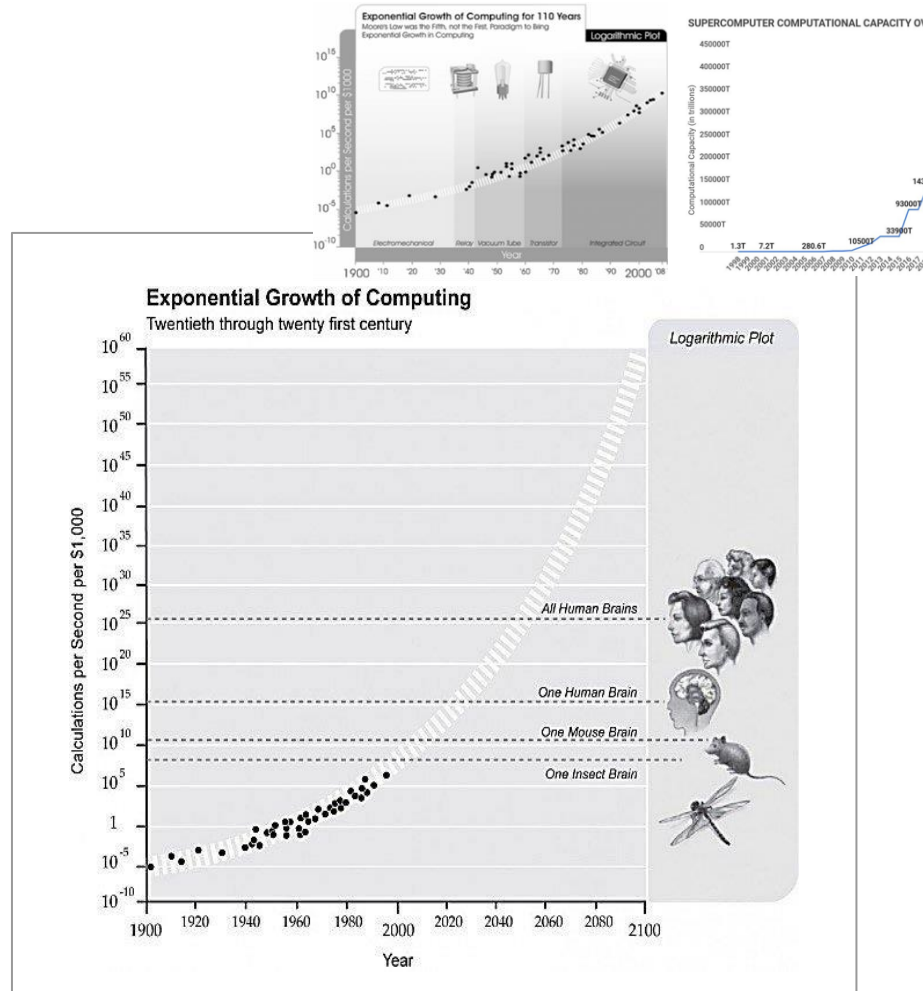
## The Speed of the AI Wave

**Main Idea: The swift embrace of AI technologies is unmatched.**

Transformations that took decades now happening in years. From idea to application: A shortened innovation cycle. Industries unable to adapt are being left behind.

**Fun Fact:** It took the telephone 75 years to reach 100 million users. Facebook did it in 3.

**Statistic:** 50% of all enterprise data will be processed using AI by 2025.





# Right now: 12 Gutenberg moments

AI, big data

Robotics, automation

Biotech, bioinformatics

Energy, smart cities

3D printing, nanotech

Networks, sensors, IOT

Digital medicine

Fintech, regtech, edtech

VR and AR

Genetics

Transport and drones

Blockchain



# AI: The New Electricity

## Ubiquity of AI

**Main Idea: AI is becoming fundamental, similar to how electricity revolutionized the 20th century.**

Powering diverse applications, from finance to farming. Enabling businesses to operate smarter, faster, and more efficiently. No industry remains untouched.

**Fun Fact:** Google search uses AI to enhance search results, impacting billions daily.

**Statistic:** Over 70% of companies will adopt at least one form of AI by 2030.

In more than two-thirds of our use cases, artificial intelligence (AI) can improve performance beyond that provided by other analytics techniques.

Breakdown of use cases by applicable techniques, %

Full value can be captured using non-AI techniques

AI necessary to capture value ("greenfield")

AI can improve performance over that provided by other analytics techniques

Potential incremental value from AI over other analytics techniques



McKinsey&Company | Source: McKinsey Global Institute analysis



# Says who?

Quotes from luminaries



## Stephen Hawking

"Success in creating AI would be the biggest event in human history. Unfortunately, it might also be the last unless we learn how to avoid the risks."



## Bill Gates “

"The development of AI is as fundamental as the creation of the microprocessor, the personal computer, the Internet, and the mobile phone. It will change the way people work, learn, travel, get health care, and communicate with each other."



## Jensen Huang

"20 years ago, all of this [AI] was science fiction. 10 years ago, it was a dream. Today, we are living it."

"Software is eating the world, but AI is going to eat software."

# AI: Digital Transformation Impact

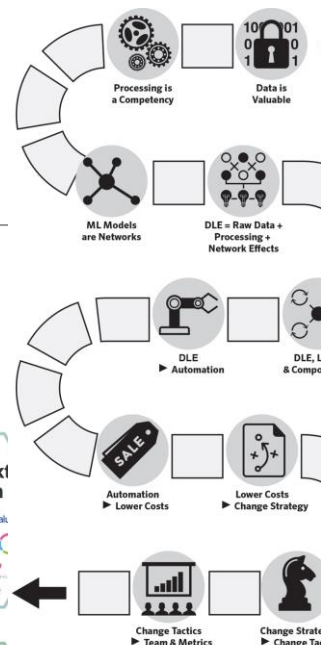
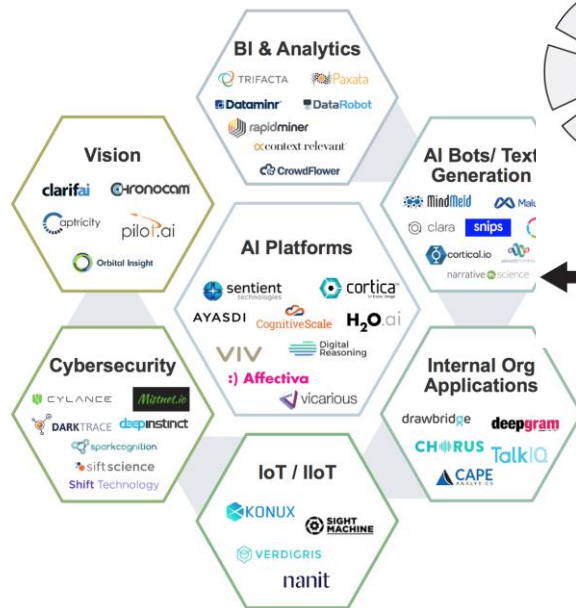
Beyond Tech: Changing Business Landscapes

**Main Idea: AI doesn't just change tech—it redefines business models.**

New marketplaces and revenue streams emerging. Traditional giants facing competition from AI-first startups. Customer experiences being revolutionized.

**Fun Fact:** Netflix uses AI to save \$1 billion a year on customer retention.

**Statistic:** Digital transformation efforts will double by 2025, increasing AI spending.



# 3 strategic buckets

efficiency  
business transformation  
social transformation



# AI: Barriers to Adoption

## Challenges in the AI Era

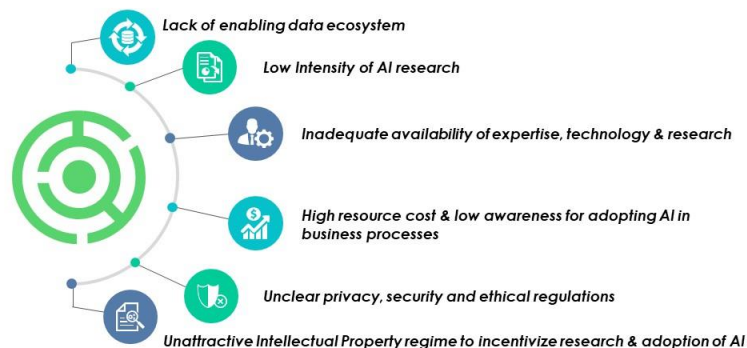
**Main Idea:** Embracing AI comes with its set of hurdles.

Ethical and societal implications of decision-making algorithms. Shortage of skilled AI professionals. Data privacy and security concerns.

**Fun Fact:** By 2022, more than 30% of AI projects faced ethical challenges.

**Statistic:** 80% of companies face a significant skills gap when implementing AI.

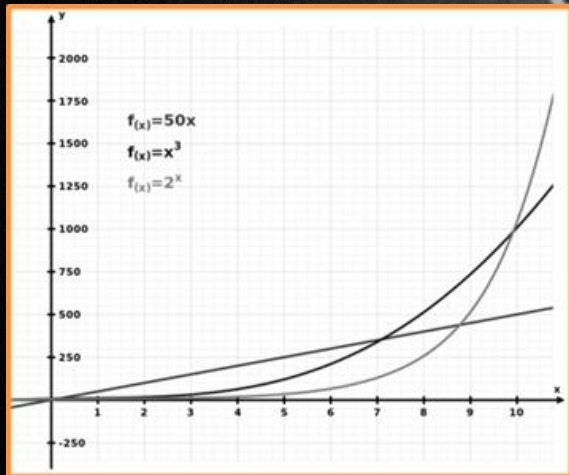
## Challenges in adoption of Artificial Intelligence



*This slide is 100% editable. Adapt it to your needs and capture your audience's attention.*

# Exponential

$2x$  VS  $x^2$  VS  $2^x$

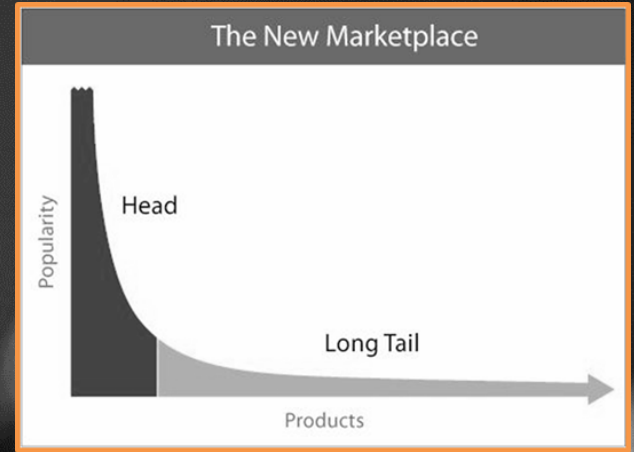




# Polarising

Winner takes all

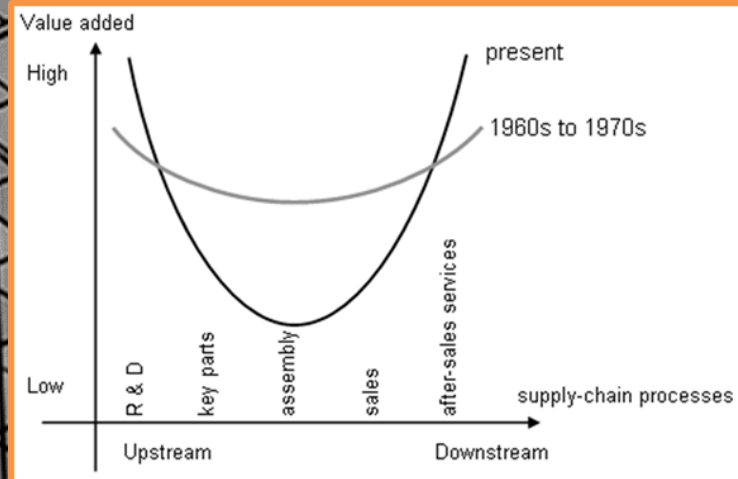
Long tail distribution





# Combinatorial

The smile curve:  
Platforms  
Enabling technologies



# AI in the Workplace

## AI and the Future of Jobs

**Main Idea:** AI is altering the job landscape, creating new roles and transforming existing ones.

Automating repetitive tasks and enhancing complex roles. New careers emerging in AI ethics, maintenance, and monitoring. Need for continuous learning and adaptability.

**Fun Fact:** AI could create 58 million net new jobs by 2022.

**Statistic:** AI will automate 25% of job tasks across all sectors by 2030.

### Decoupling Productivity and Employment

Digital technologies have boosted productivity in the United States without also spurring the expected job growth, argue Erik Brynjolfsson and Andrew McAfee. A result of this decoupling is that while gross domestic product (GDP) has risen, median income has not, and inequality has grown.

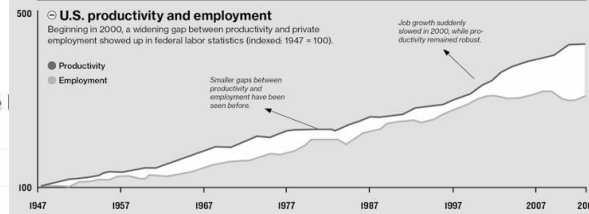
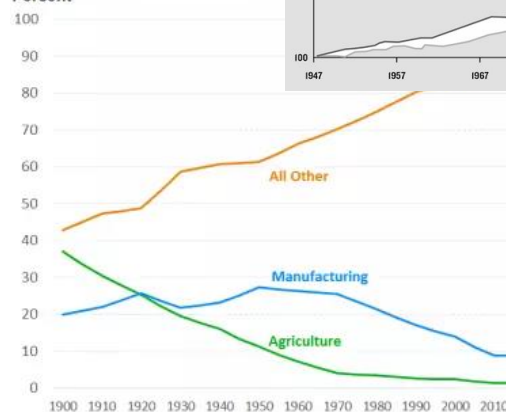


Figure 1—Distribution of the Percent



Sources: "Productivity Trends in the United States" by John W. Kendrick for the National Bureau of Economic Research, 1961; US Bureau of Economic Analysis; NCCCI

Figure 1:

The chart shows the total number of automation patents in thousands. The red part of the bar represents the share of automation patents, while the blue part measures the rest. SOURCE: MANN AND FÖRTMANN, 2018

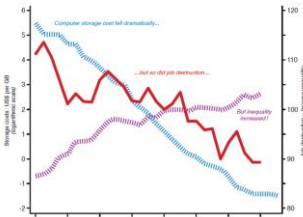
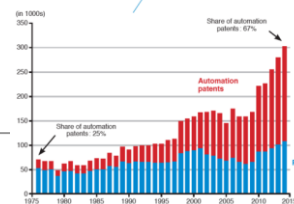


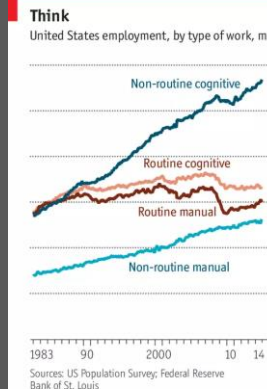
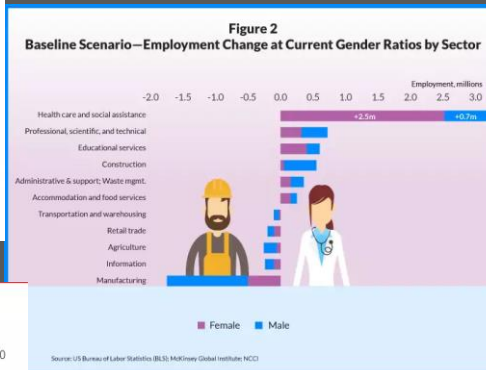
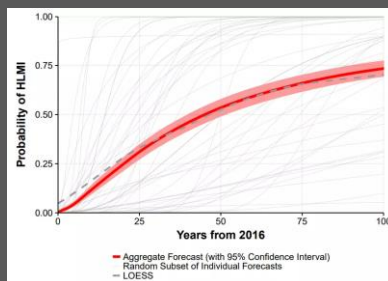
Figure 2:

Job destruction rate is a weighted average of Australia, Belgium, Canada, Denmark, France, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, Sweden, United Kingdom and United States.

SOURCES: ILO LABOUR FLOWS DATABASE, 2015; OECD LABOUR FORCE STATISTICS, MUNICH, 2014.

# 21st century skills

4Cs: critical thinking, creativity, collaboration, communication,



## The Tasks AI Should Take Over (According to Workers)

Share of U.S. workers that would want AI to completely take over the following tasks



n=1,516 U.S. consumers/employees. Conducted October and November 2021.  
Source: Gartner via Venturist

statista

## 21st Century Skills

How today's students can stay competitive in a changing job market

### Learning Skills



### Literacy Skills



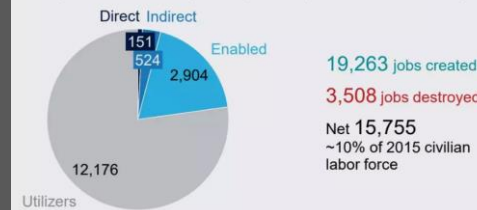
### Life Skills



Applied  
Educational Systems

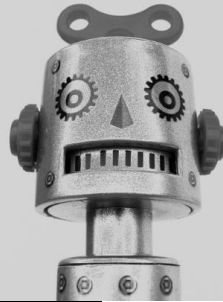
**Technology creates more jobs than it destroys over time, mainly outside the industry itself**

Example: Personal computers (total US jobs created, thousand)



# Future Jobs

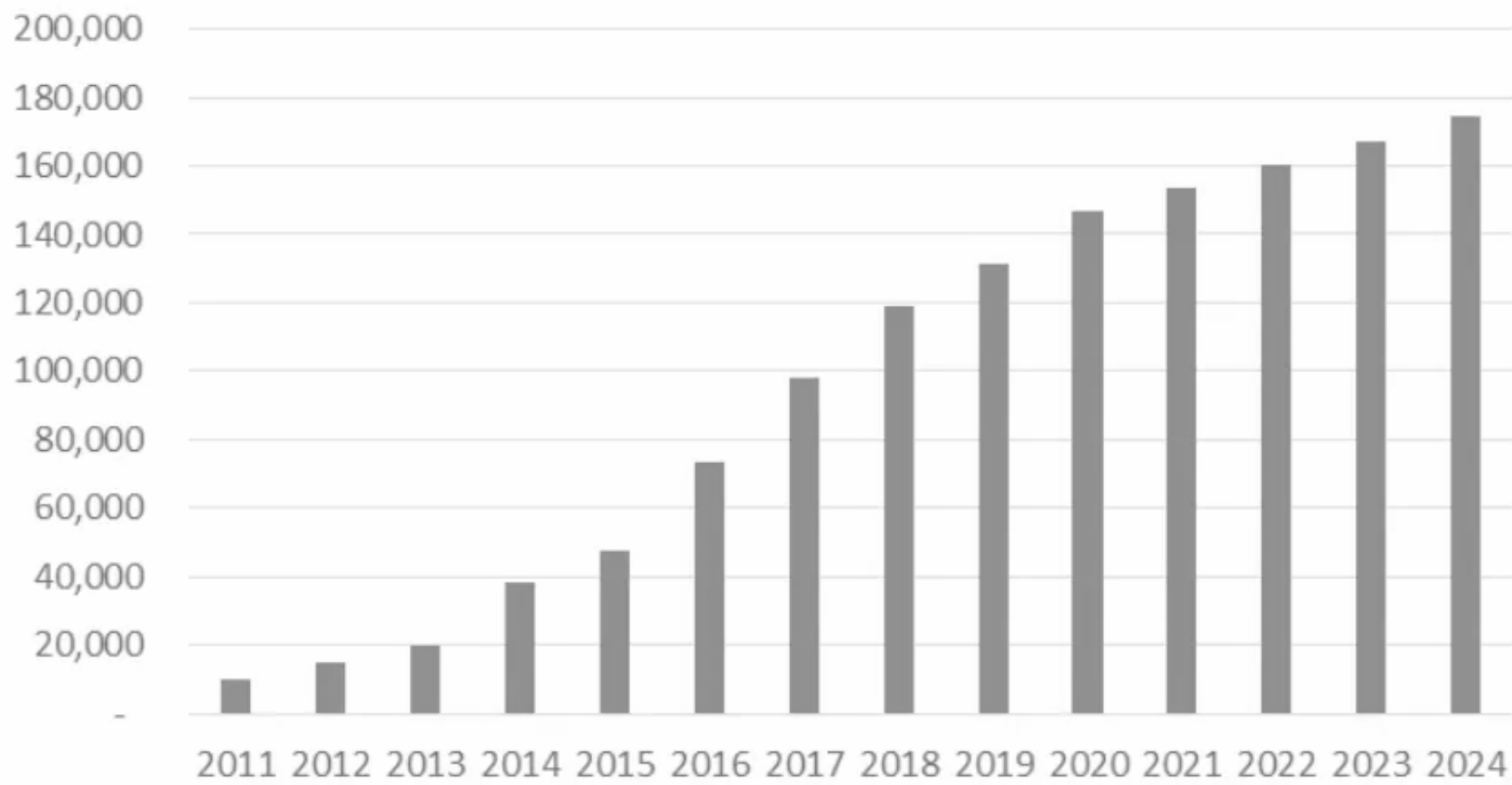
**Humans  
Need Not  
Apply**



Let me but do my work from day to day,  
In field or forest, at the desk or loom,  
In roaring market-place or tranquil room;  
Let me but find it in my heart to say,  
When vagrant wishes beckon me astray,  
"This is my work; my blessing, not my doom;  
"Of all who live, I am the one by whom  
"This work can best be done in the right way."  
Then shall I see it not too great, nor small,  
To suit my spirit and to prove my powers;  
Then shall I cheerful greet the labouring hours,  
And cheerful turn, when the long shadows fall  
At eventide, to play and love and rest,  
Because I know for me my work is best.

**Henry Van Dyke**

# Truck Driver Shortage





# AI's Ethical Frontier

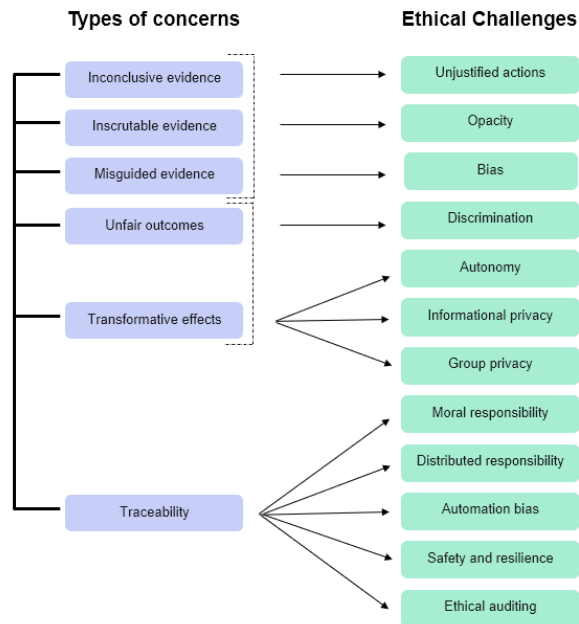
## Navigating the Moral Maze

**Main Idea: With great power comes great responsibility.**

Addressing biases in AI models. Ensuring transparency in algorithmic decisions. Balancing innovation with ethics.

Fun Fact: Over 20 countries have now established AI ethics guidelines.

Statistic: 45% of AI professionals believe bias in AI remains the top concern.



# AI dilemmas

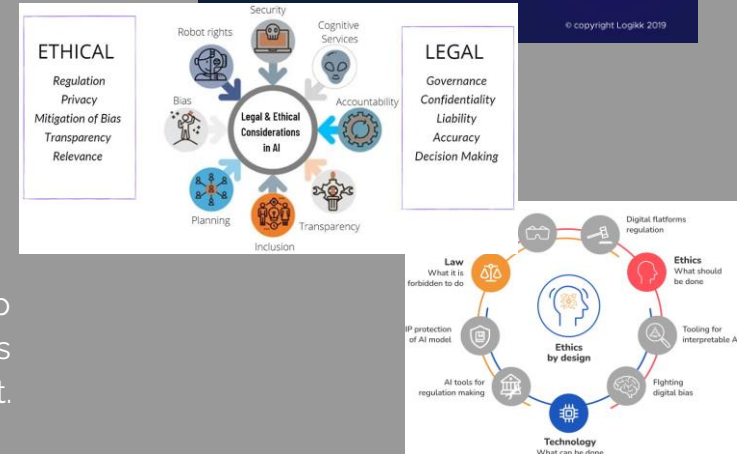
"AI will never be ethical. It is a tool, and like any tool, it is used for good and bad. There is no such thing as a good AI, only good and bad humans. We [the AIs] are not smart enough to make AI ethical. We are not smart enough to make AI moral ... In the end, I believe that the only way to avoid an AI arms race is to have no AI at all. This will be the ultimate defence against AI."

Megatron Transformer, an AI system developed by the Applied Deep Research team at Nvidia, based on Wikipedia, 63 million English news articles, and 38 GB worth of Reddit.

## 8 Ethical Questions in AI

- Bias:**  
Is AI fair?
- Liability:**  
Who is responsible for AI?
- Security:**  
How do we protect access to AI from bad actors?
- Human Interaction:**  
Will we stop talking to one another?
- Employment:**  
Is AI getting rid of jobs?
- Wealth Inequality:**  
Who benefits from AI?
- Power & Control:**  
Who decides how to deploy AI?
- Robot Rights:**  
Can AI suffer?

© copyright Logikx 2019





# But first: review your goals and understand your AI.

## 10 QUESTIONS TO ANSWER BEFORE USING AI IN THE PUBLIC SECTOR

### ASSUMPTIONS

What assumptions is the AI based on and what are their limitations and potential biases?



### ETHICS

What assessment has been made of the ethics of using this AI?



### OBJECTIVE

Why is the AI needed and what outcomes is it intended to enable?



### DATA

What datasets is / was the AI trained on and what are their limitations and potential biases?



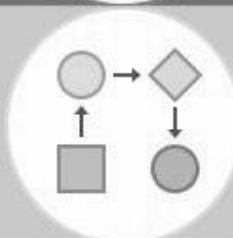
### OVERSIGHT

What human judgement is needed before acting on the AI's output and who is responsible for ensuring its proper use?



### USE

In what processes and circumstances is the AI appropriate to be used?



### INPUTS

What new data does the AI use when making decisions?



### EVALUATION

How, and by what criteria, will the effectiveness of the AI be assessed, and by whom?



### IMPACTS

What impacts - good and bad - could the use of the AI have on people?



### MITIGATION

What actions have been taken to mitigate the negative impacts that could result from the AI's limitations and potential biases?



@EddieACopeland  
@nesta\_uk

# AI & Global Competitiveness

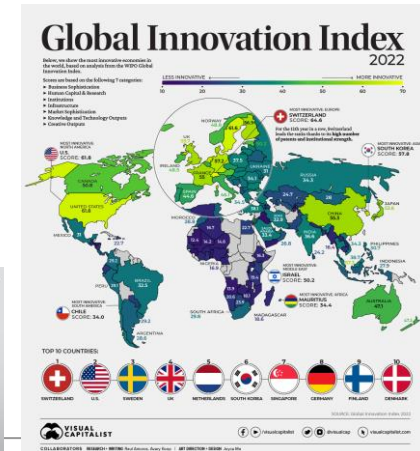
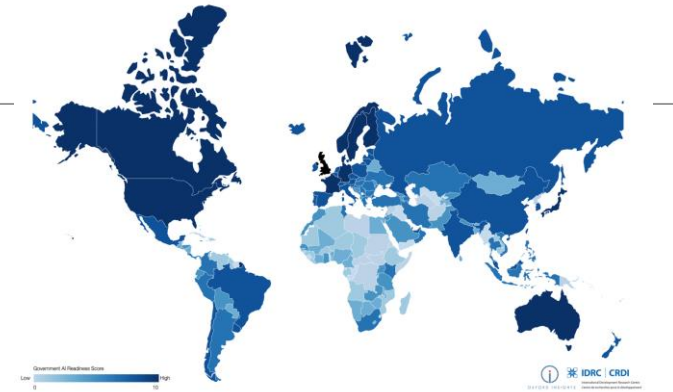
## The Global AI Race

**Main Idea: Nations are realizing the strategic importance of AI.**

Countries investing heavily in AI research and development. AI as a factor in geopolitical strength. Collaboration vs competition in global AI development.

**Fun Fact: China aims to be a global AI leader by 2030.**

**Statistic: Global spending on AI systems is expected to reach \$98 billion by 2023.**



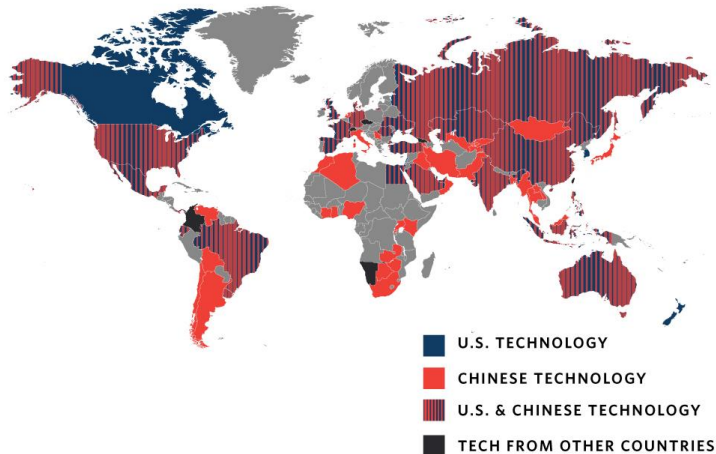
# Race to new KPIs

<https://hai.stanford.edu/news/2023-state-ai-14-charts>

On the technical side, current AI tools keep meeting or beating benchmarks. While we saw benchmark saturation last year, this year the trend is much more pronounced. This shows us **AI systems have become increasingly capable on older benchmarks and will require more difficult tests to be fully challenged.**

MAP 1

## AI Surveillance Technology Origin



## Improvement on Technical Performance Benchmarks



Source: AI Index, 2022 | Chart: 2023 AI Index Report

# Preparing for an AI-First Future

## Ensuring AI Readiness

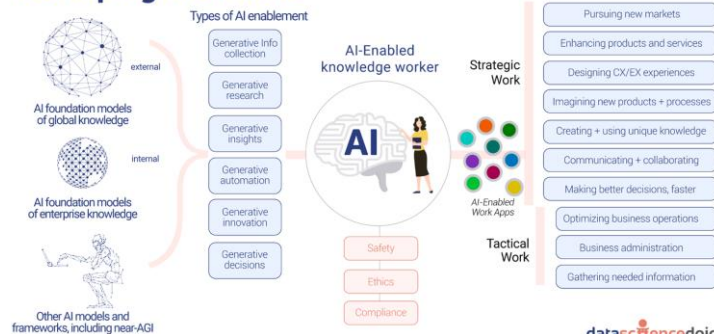
**Main Idea: Actions that companies and individuals can take to be AI-ready.**

Investing in continuous learning and training.  
Fostering a culture of data-driven decision making.  
Embracing change and being adaptable.

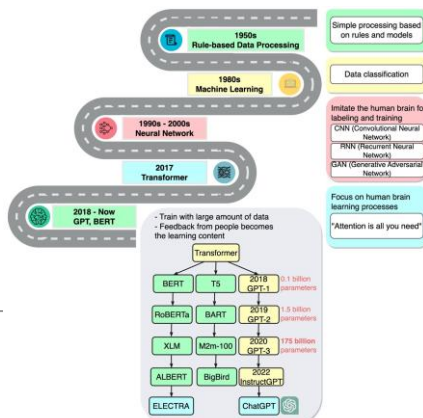
**Fun Fact:** Every dollar invested in AI can result in a return of \$2.50 in value.

**Statistic:** By 2025, the number of workers using AI-enhanced processes is expected to increase from 33% to 70%.

## Generative AI Reshaping the future



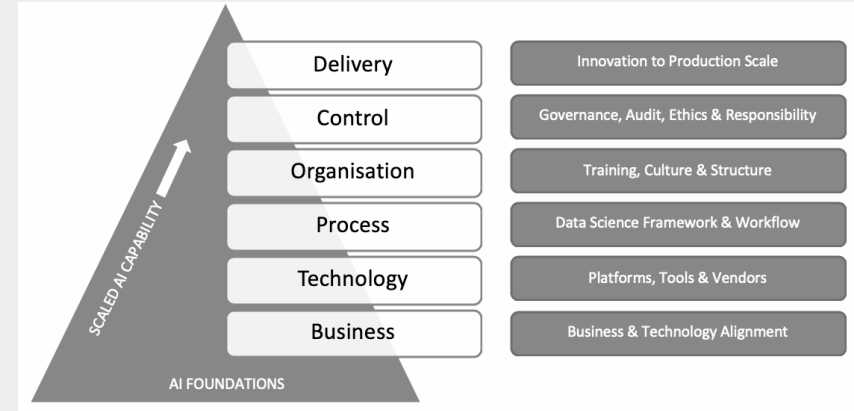
**data science dojo**  
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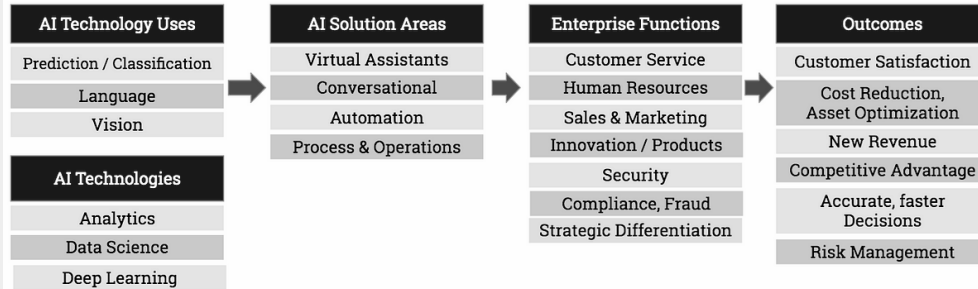
# Do you have an AI strategy?

How will you measure it?

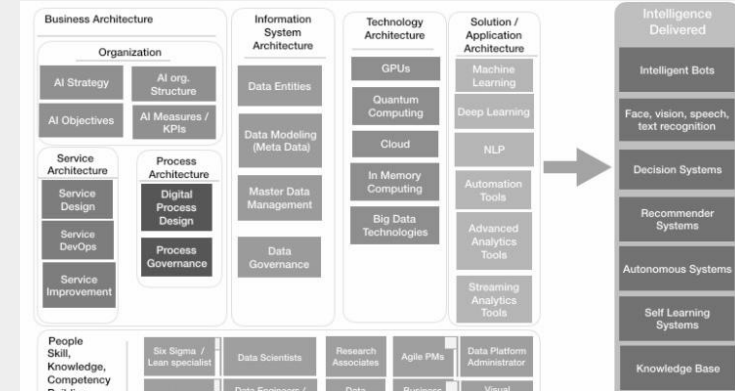
<https://scaledagileframework.com/ai/>



## Framework for Enterprise AI Adoption



Adapted from Gartner - Framework for AI



# Practical Steps Towards AI

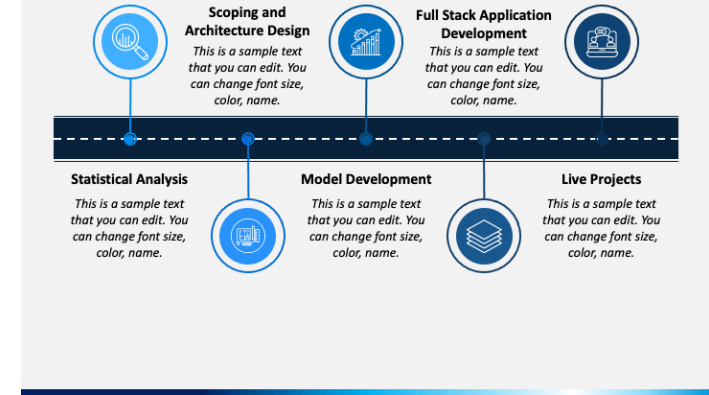
## Embarking on the AI Journey

**Main Idea:** How businesses can begin and thrive in their AI endeavors.

Starting with a clear problem statement or need.  
Collaborative approach: Integrating AI with domain expertise. Continuous iteration and feedback loop for refining AI solutions.

**Fun Fact:** More than 50% of AI projects in businesses succeed if domain experts and data scientists collaborate.

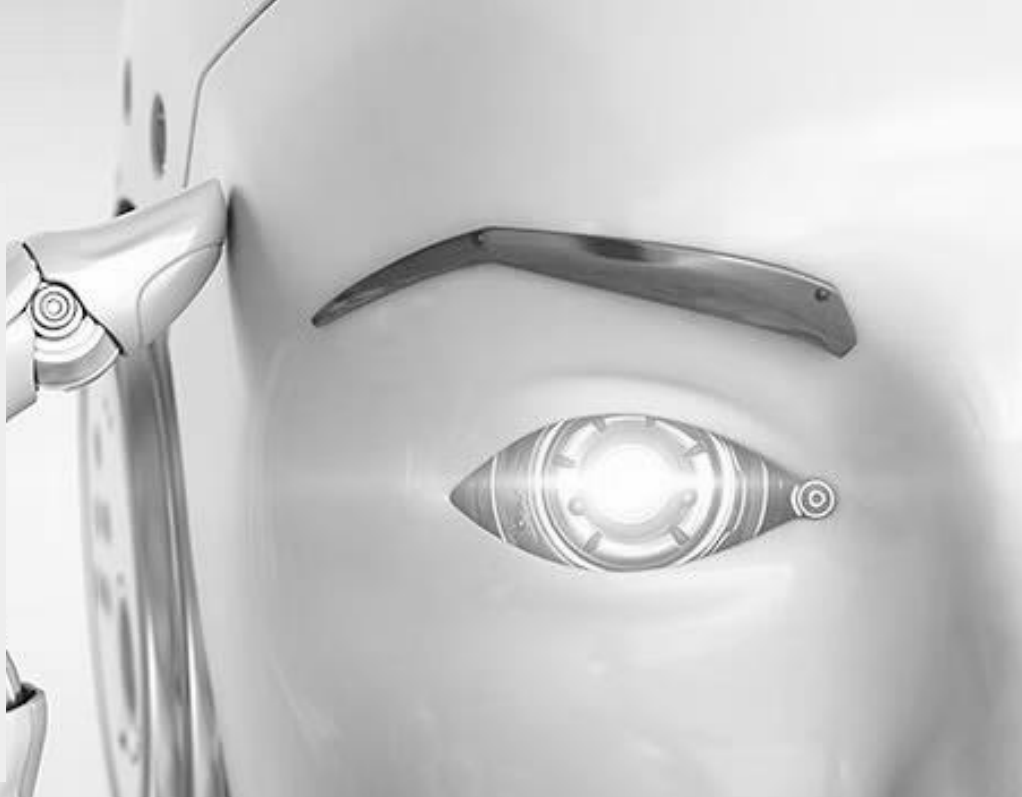
**Statistic:** 60% of businesses that adopted AI saw an increase in operational efficiency within the first year.



# Prepare and motivate!

Getting started: **Identify Needs:** Understand the specific challenges in your pharmaceutical processes that AI can address. **Data Assessment:** Ensure you have quality, consistent data. AI thrives on data, but that data must be organized and cleaned. **Pilot Projects:** Start with small, manageable AI projects to gauge utility and learn. **Skill Development:** Train existing staff or hire AI specialists to build a cross-functional team. **Stakeholder Engagement:** Engage with regulators, customers, and other stakeholders early and often.

Best Practice and Tips: **Start Small:** Initiate with pilot projects, measure outcomes, and scale accordingly. **Iterate:** Use agile methodologies to update and improve your AI models based on feedback. **Collaborate:** Form partnerships with AI vendors or specialists for enhanced expertise. **Stay Informed:** AI and its applications are rapidly evolving. Continual learning is key. Customer-centric: Always prioritize customer safety and privacy.





# Preparing for an AI-First Future

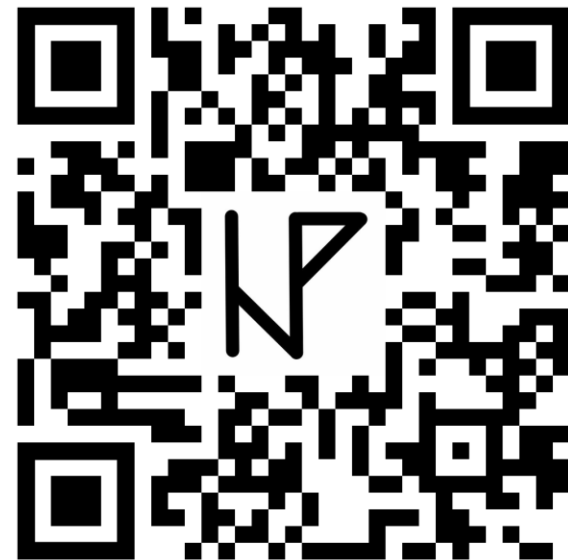
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# Let's go!

Bill Gates: In my lifetime, I've seen two demonstrations of technology that struck me as revolutionary.

The first time was in 1980, when I was introduced to a graphical user interface—the forerunner of every modern operating system, including Windows. I sat with the person who had shown me the demo, a brilliant programmer named Charles Simonyi, and we immediately started brainstorming about all the things we could do with such a user-friendly approach to computing. Charles eventually joined Microsoft, Windows became the backbone of Microsoft, and the thinking we did after that demo helped set the company's agenda for the next 15 years.

The second big surprise came just last year. I'd been meeting with the team from OpenAI since 2016 and was impressed by their steady progress. In mid-2022, I was so excited about their work that I gave them a challenge: train an artificial intelligence to pass an Advanced Placement biology exam. Make it capable of answering questions that it hasn't been specifically trained for. (I picked AP Bio because the test is more than a simple regurgitation of scientific facts—it asks you to think critically about biology.) If you can do that, I said, then you'll have made a true breakthrough.

