



Congrès mondial 2023

World Congress 2023

Intelligence collective

Collective Intelligence

# THE GOOD FUTURE OF EDUCATION



COLLÈGES & INSTITUTS CANADA

COLLEGES & INSTITUTES CANADA



WFCP

World Federation of Colleges and Polytechnics



techvshuman.com



gerdtube.com



@gleonhard

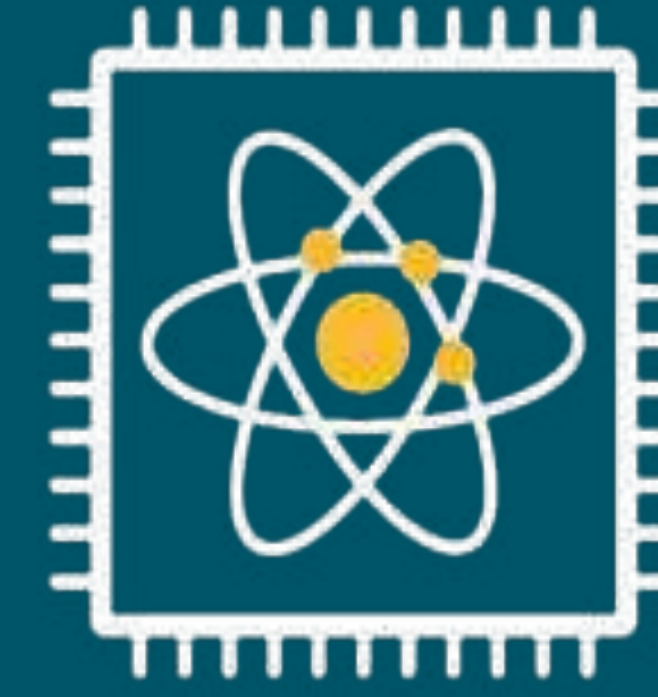
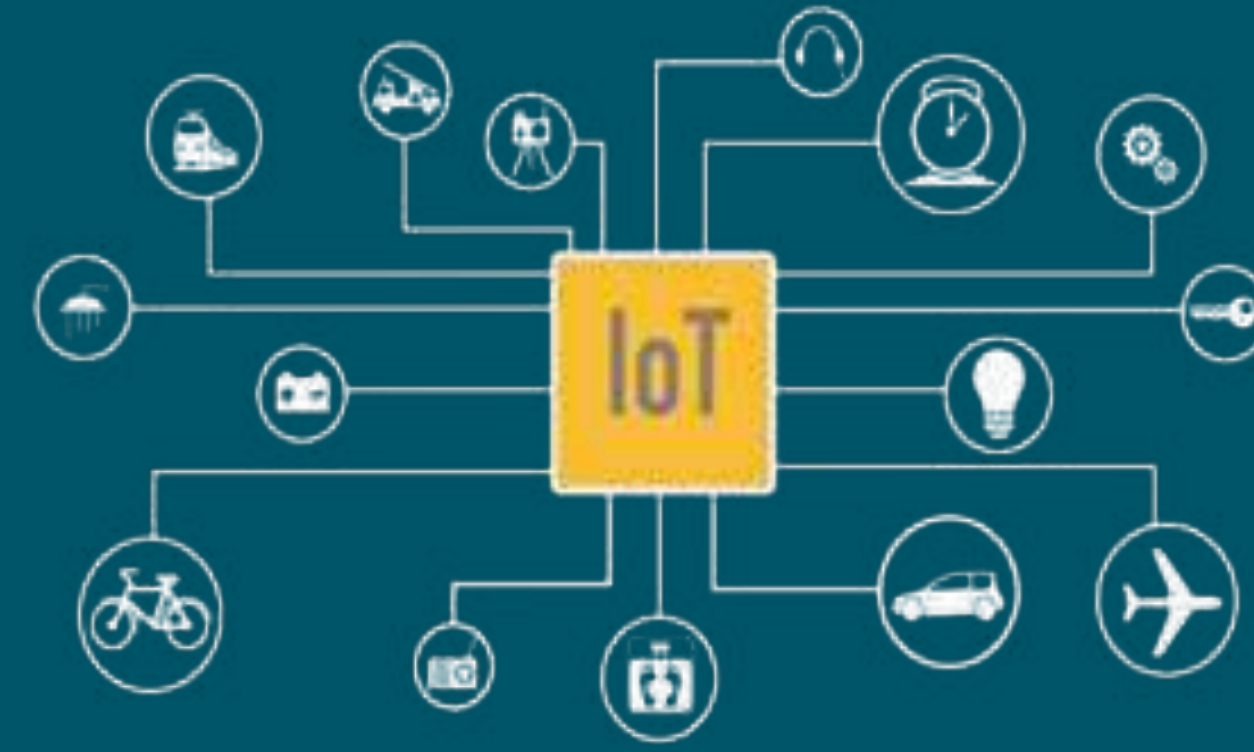


futuristgerd.com

Gerd

Mick Jagger & Spot Robot (Boston Dynamics on Youtube)





**Game-Changers and Megashifts: More change in the next 10 years than the previous 100 years!**





**VOLATILITY**



**UNCERTAINTY**



**COMPLEXITY**



**AMBIGUITY**



**VELOCITY**



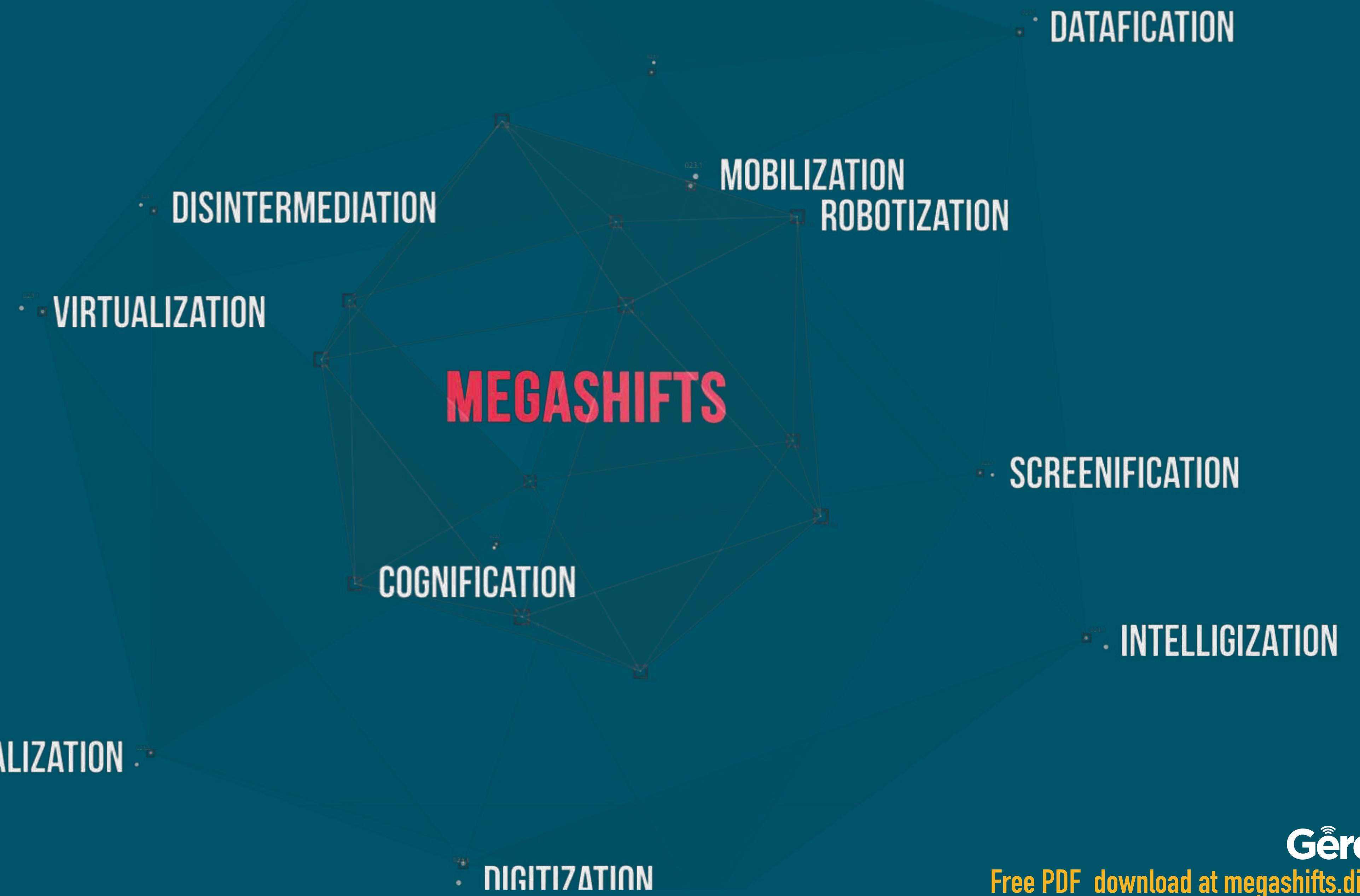
**UNORTHODOXY**



**CO-CREATION**



**AWESOMENESS**





**VELOCITY**



**UNORTHODOXY**



**CO-CREATION**

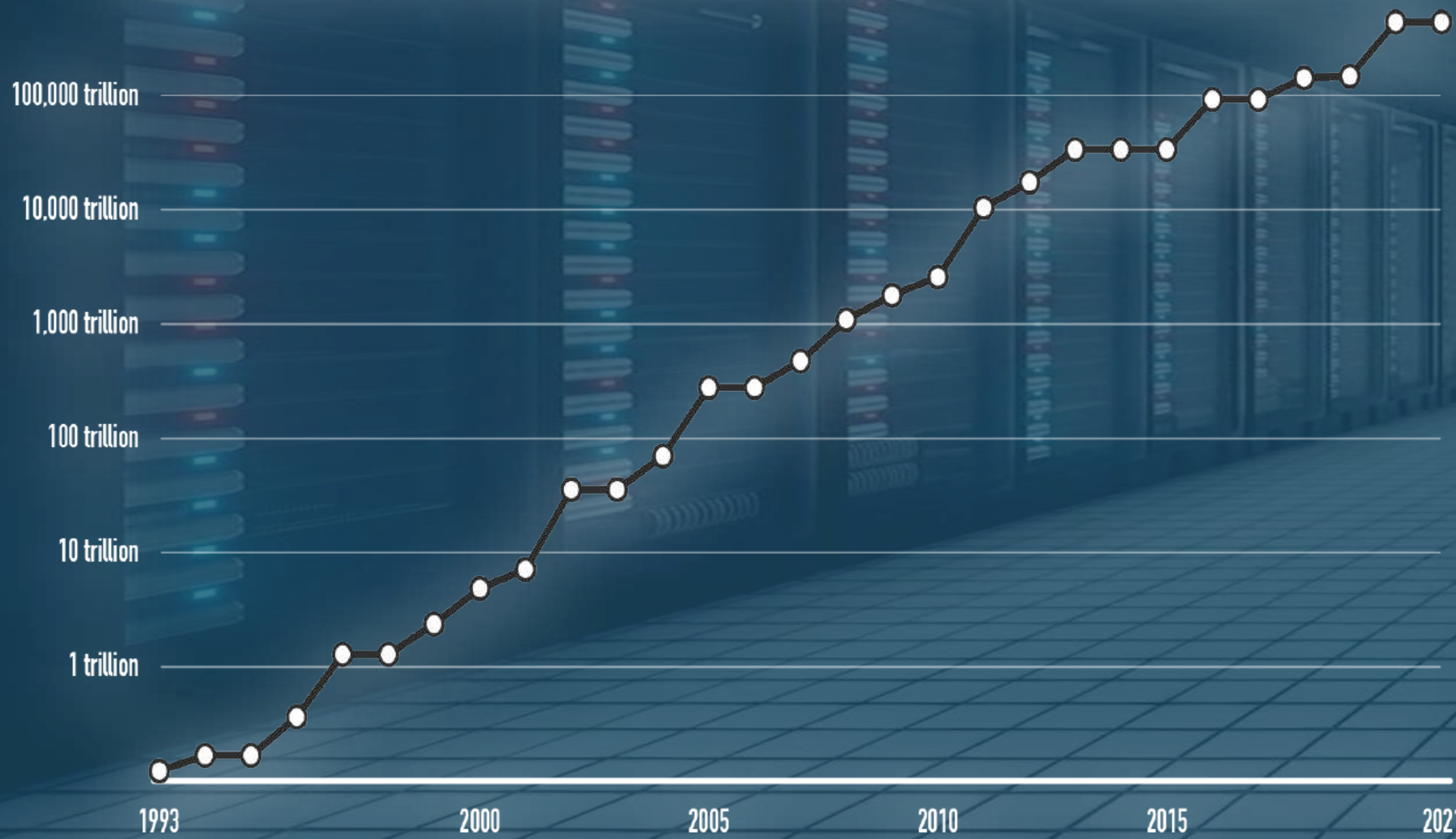


**AWESOMENESS**

# 'Unlimited' technological firepower by 2030: It could be heaven or it could be hell

## THE COMPUTATIONAL CAPACITY OF THE LARGEST SUPERCOMPUTERS

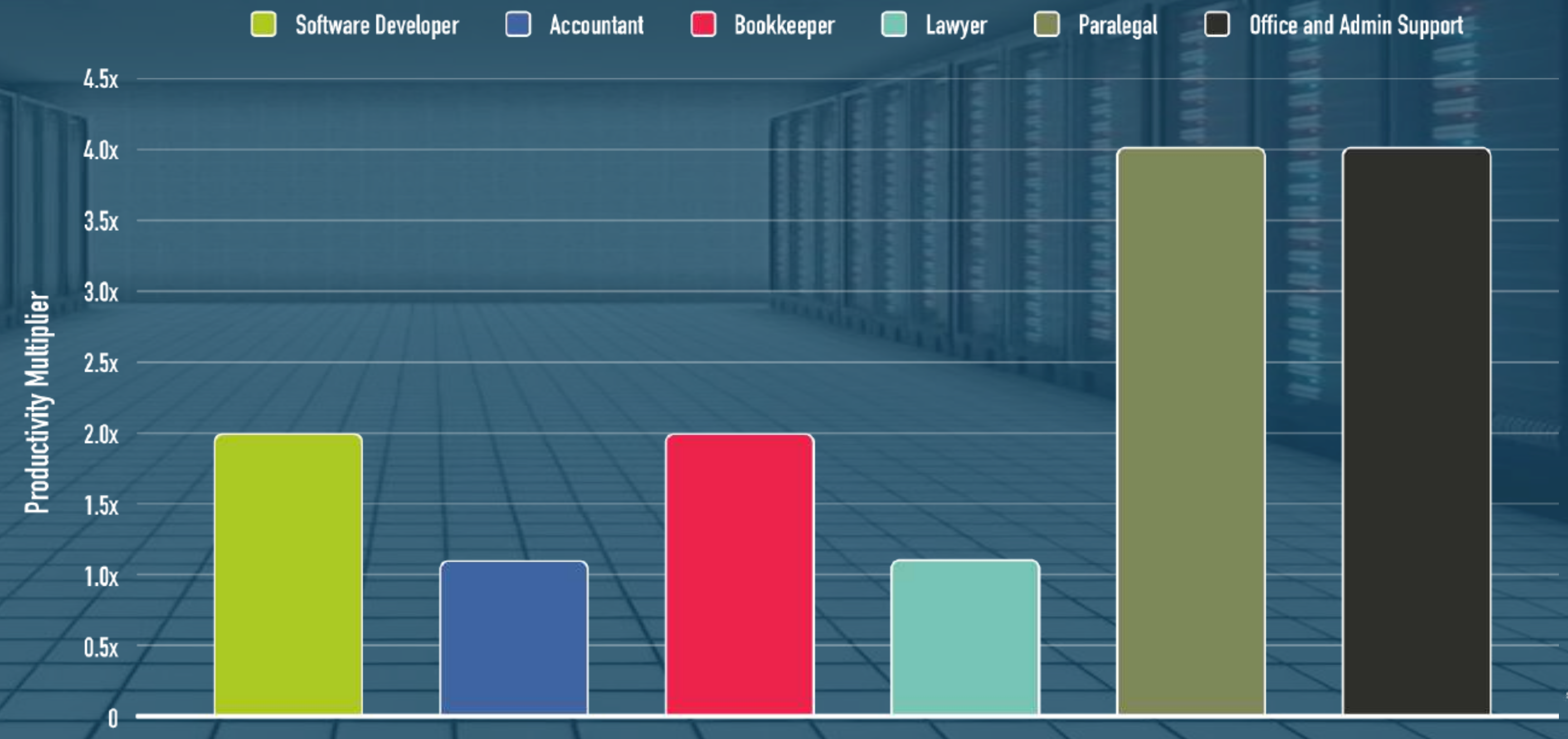
NUMBER OF FLOATING-POINT OPERATIONS CARRIED OUT PER SECOND BY THE LARGEST SUPERCOMPUTER IN ANY GIVEN YEAR.



Source: Our World in Data

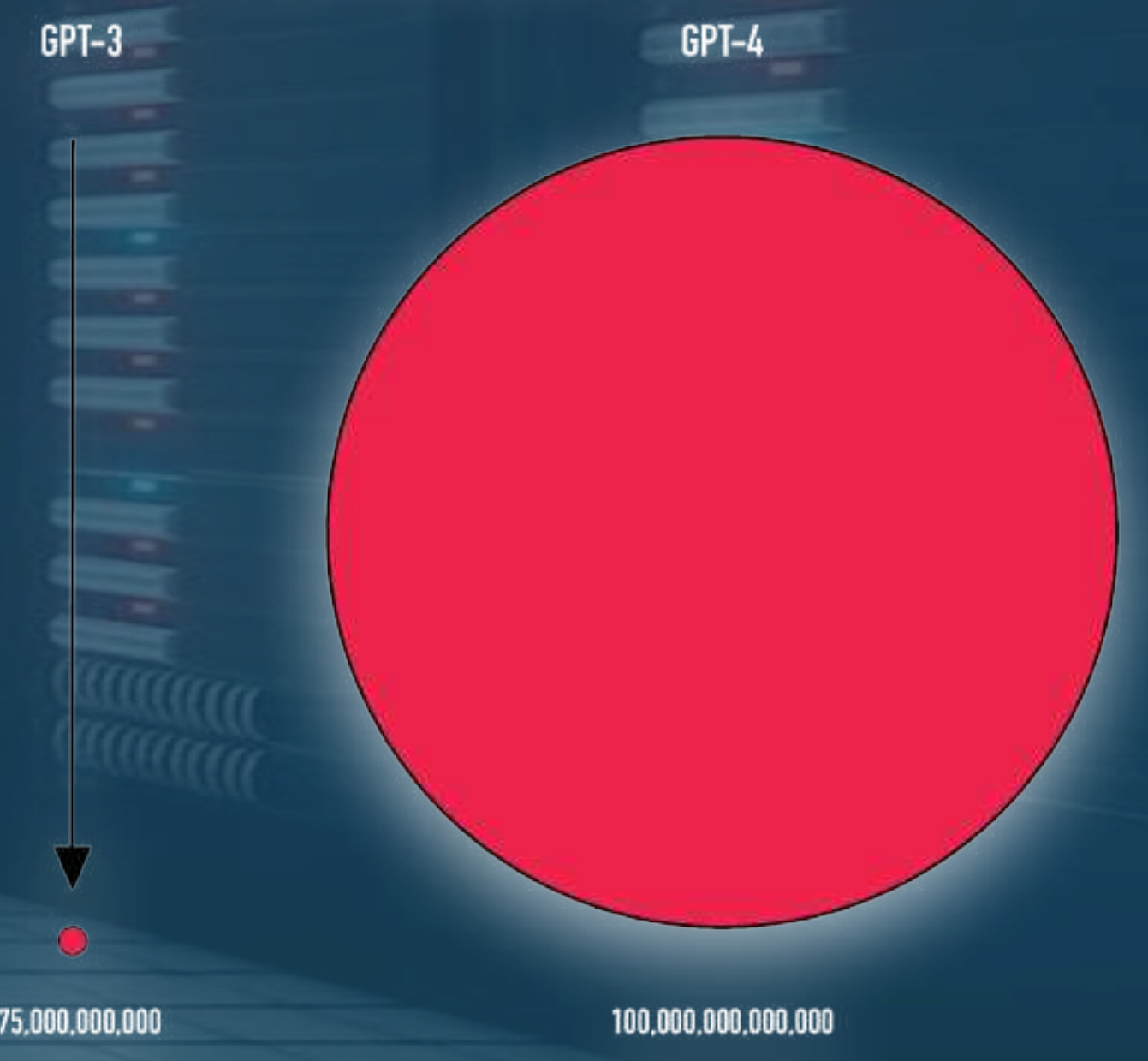
## OUTPUT OF AI-ASSISTED KNOWLEDGE WORKERS 2021 TO 2030

BY 2030 AI WILL INCREASE THE OUTPUT OF KNOWLEDGE WORKERS BY 140%



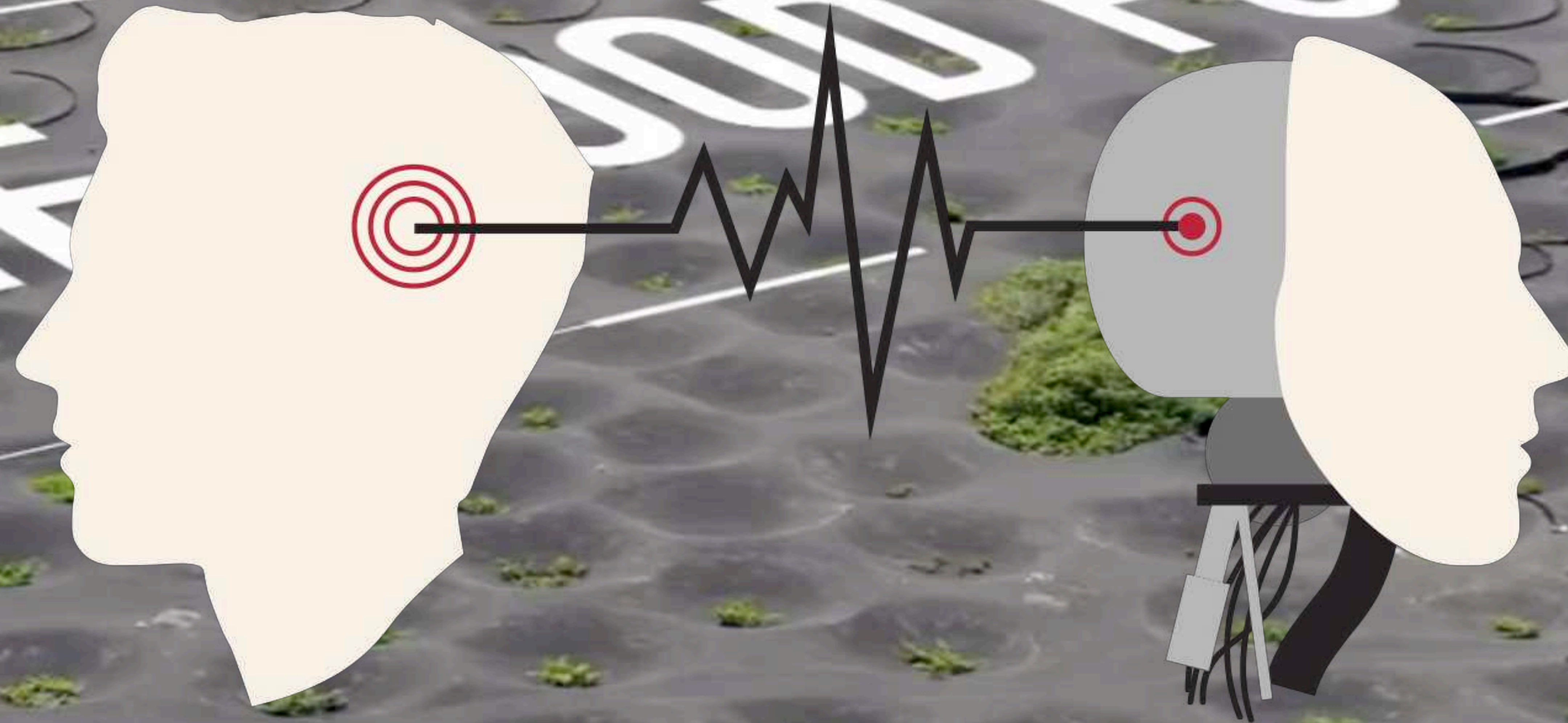
Source: ARK Investment Management LLC

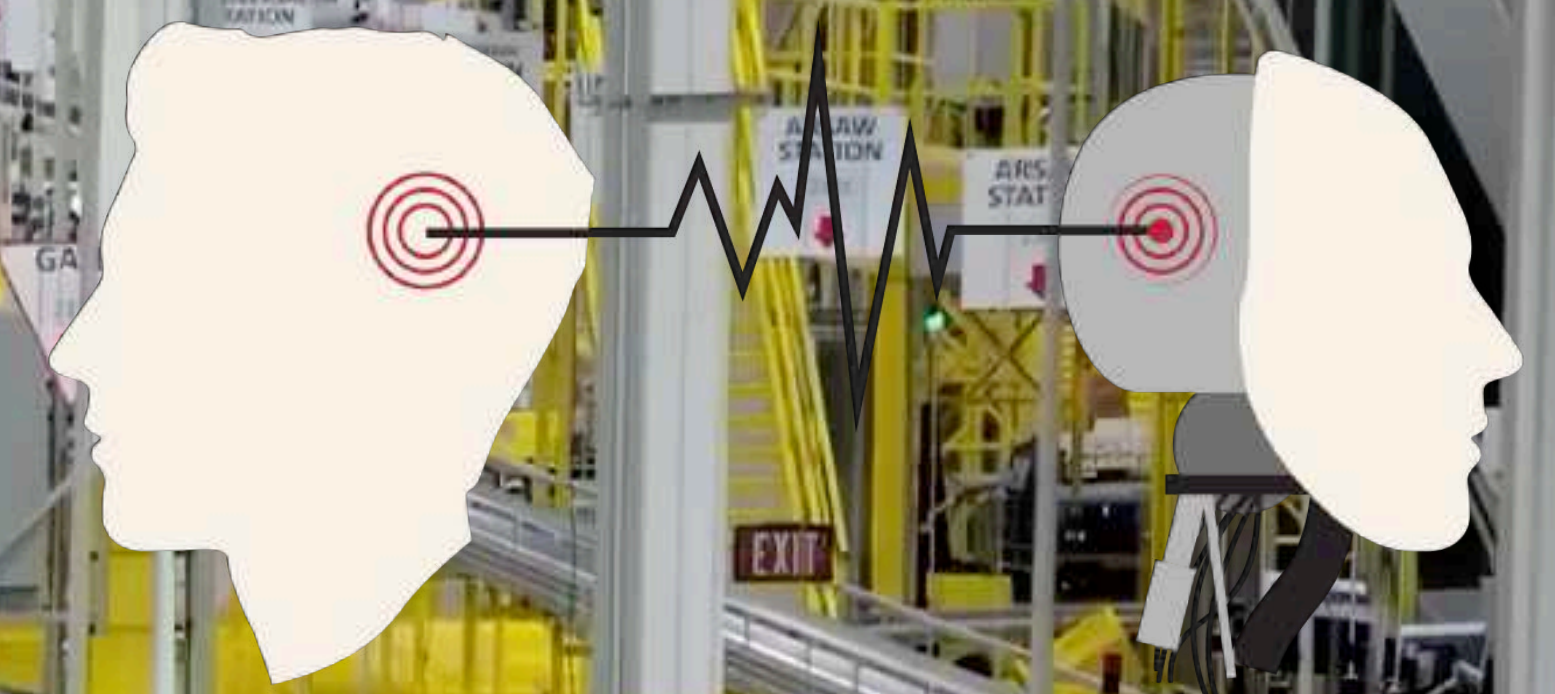
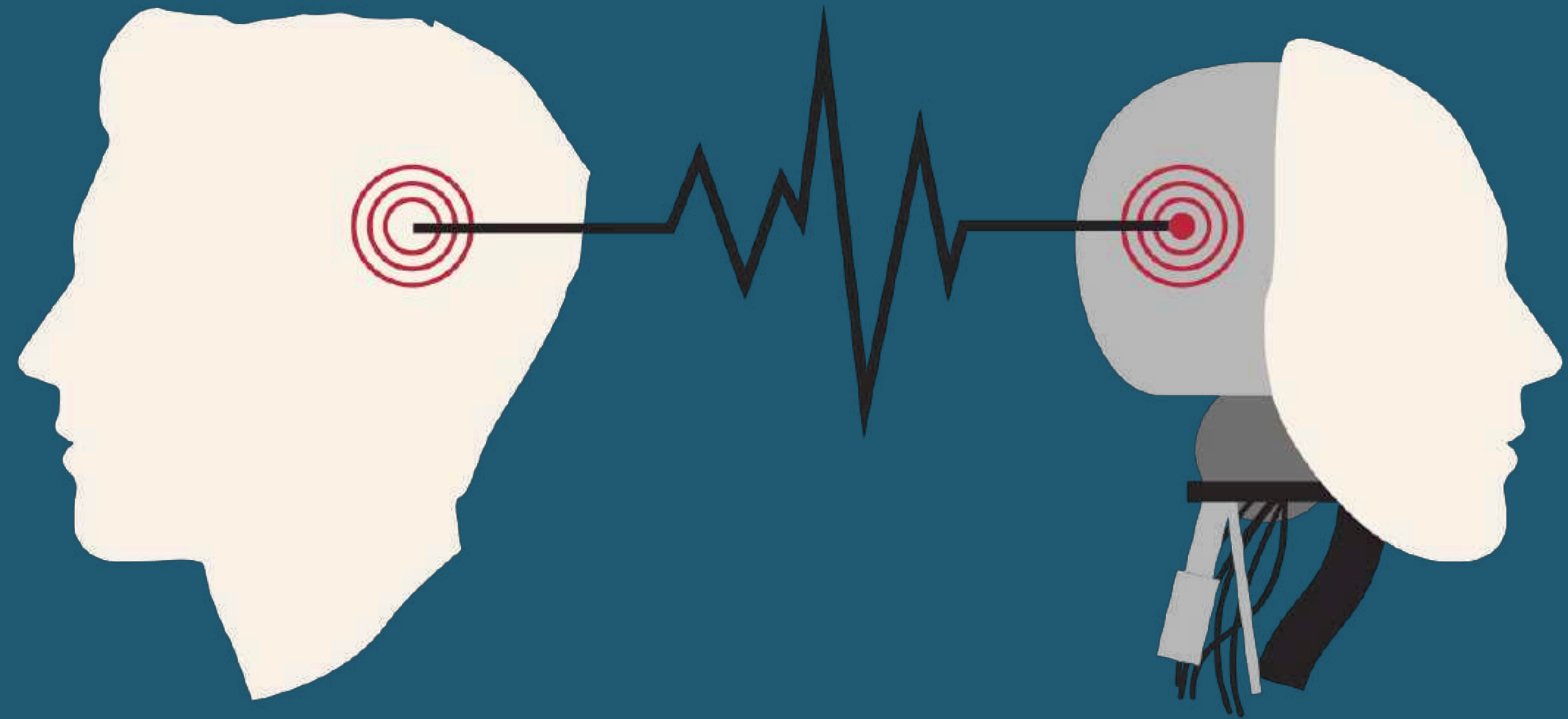
## OPENAI'S GPT NUMBERS OF PARAMETERS USED



Source: OpenAI

# Societies are driven by their technology but defined by their humanity





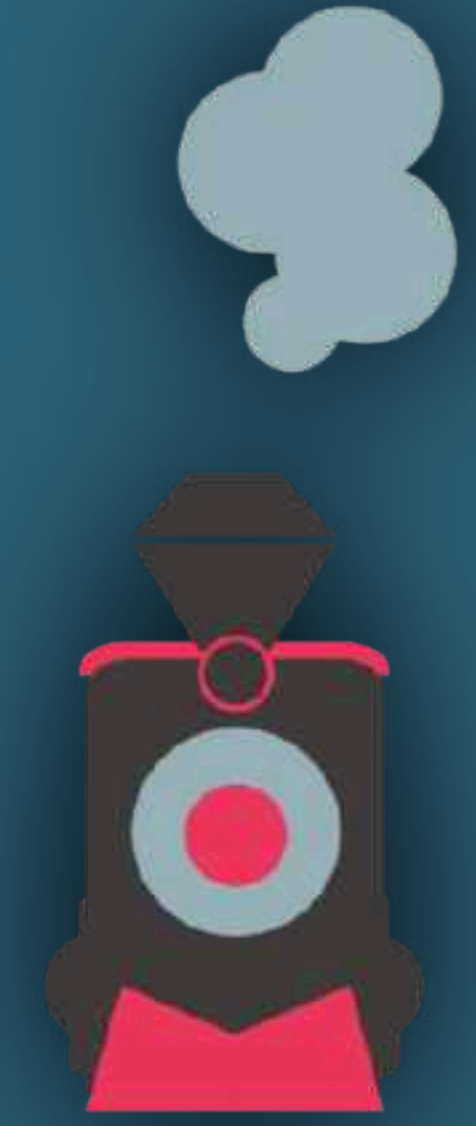
Source: Nvidia via Youtube







# Humans ☯ Machines | HI ☯ AI: The Barricades are falling



Industry 1.0



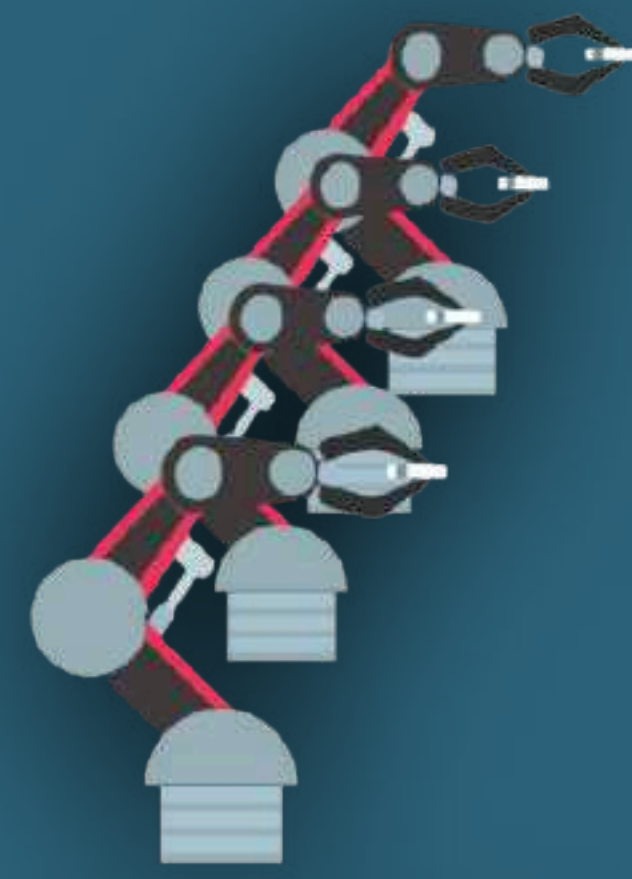
1784



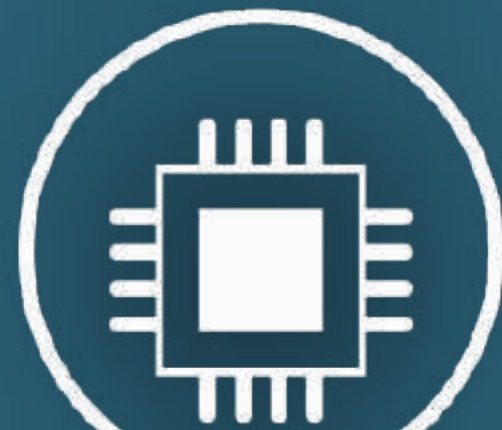
Industry 2.0



1870



Industry 3.0



1969



Industry 4.0



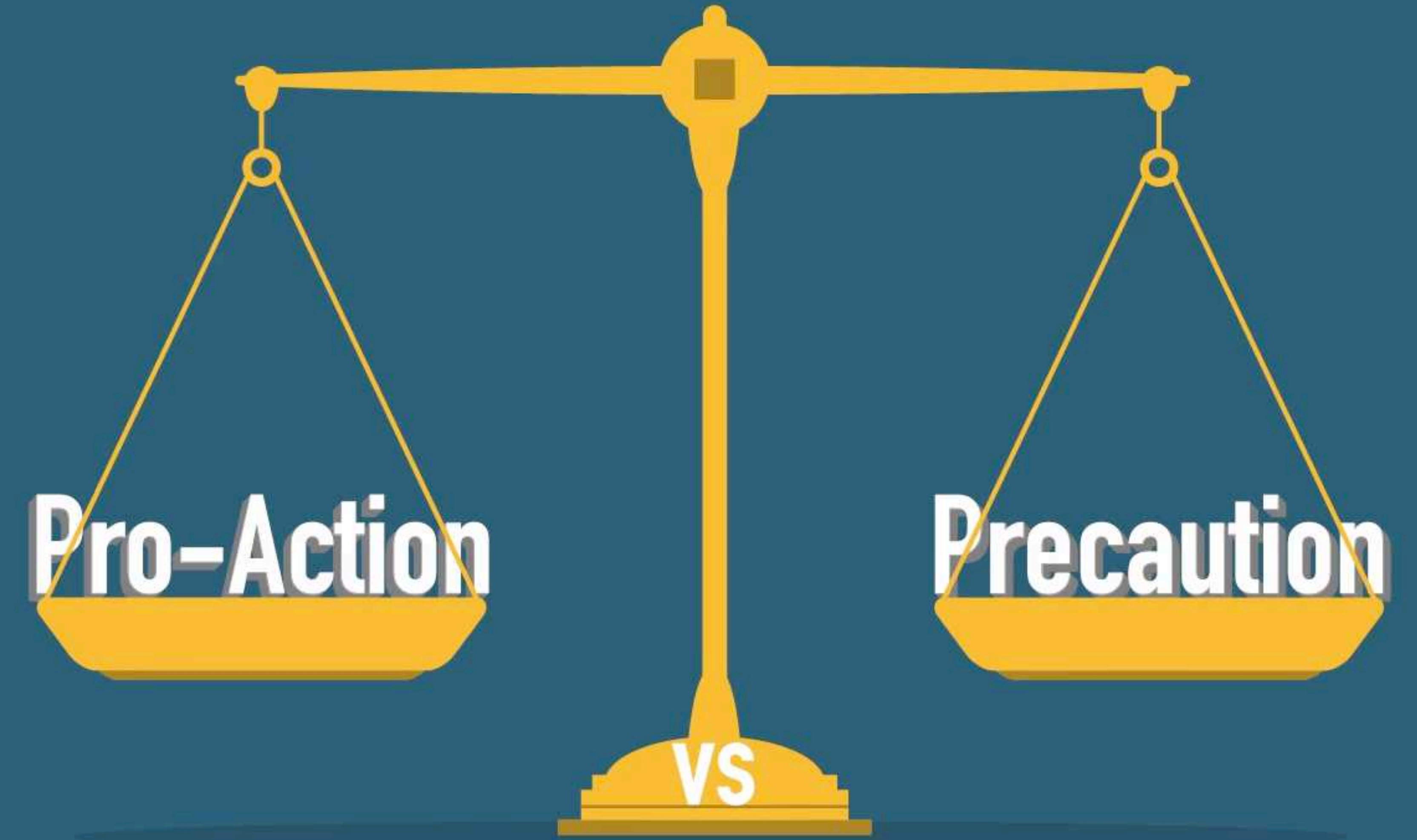
Today

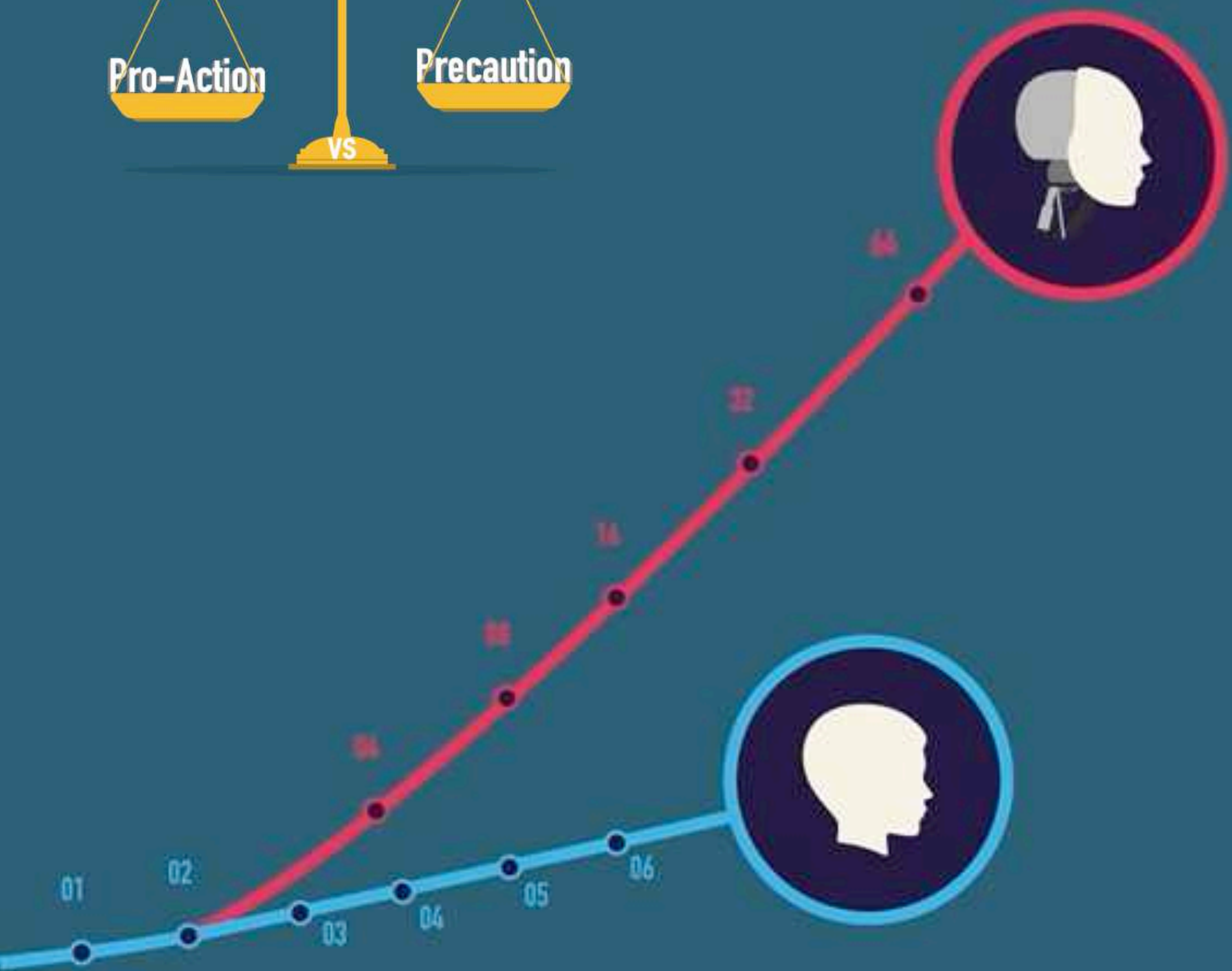


Industry 5.0



Today





*e*

EXPONENTIAL

*x*

| SCIENCE |  
| FACT |



4x speed

Mobile Manipulation Task: Bring me the rice chips from the drawer.




1x Speed


3/4 CUP MOLASSES



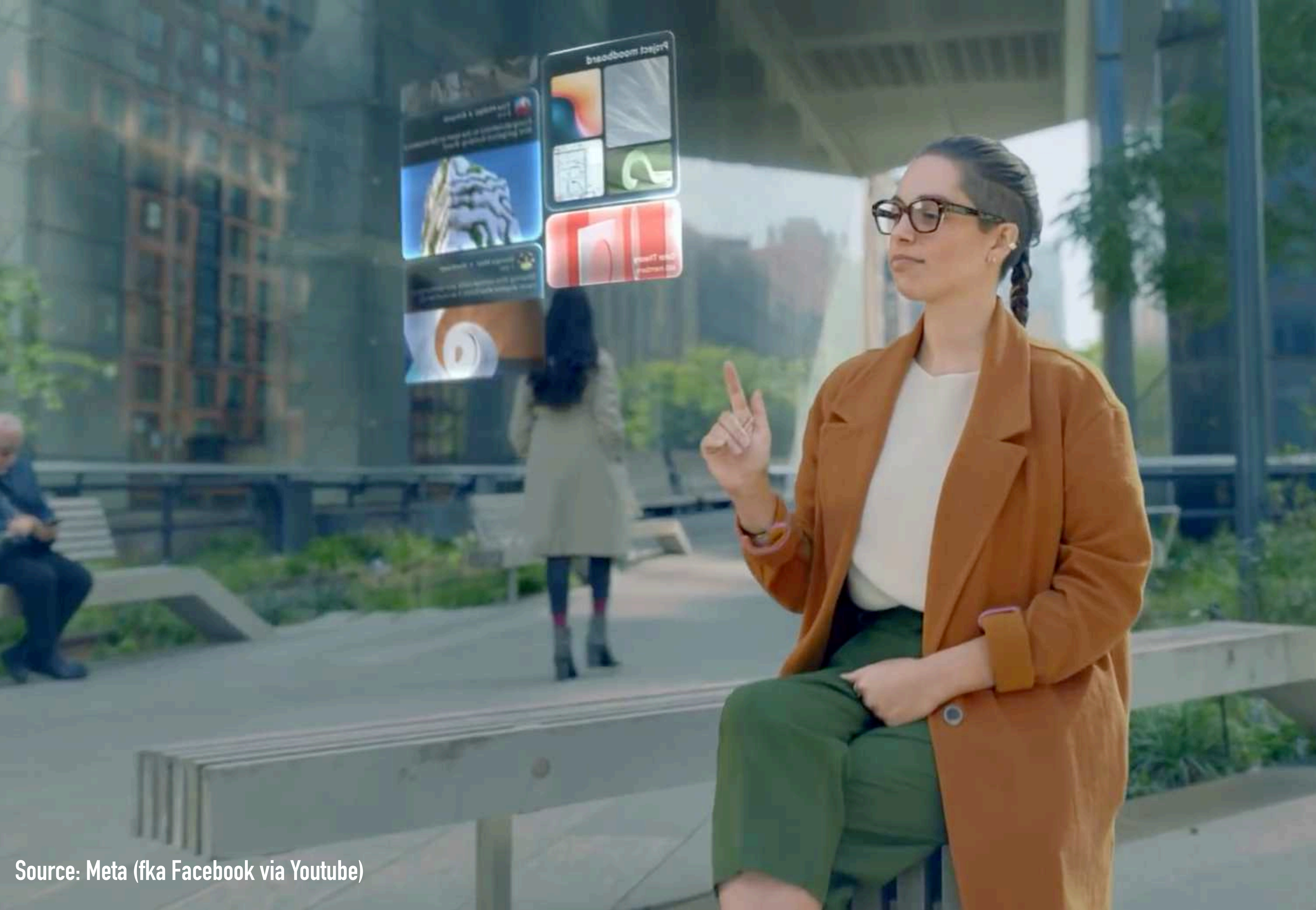
SCIENCE  
FACT

This is Why GPT 5 Will Change The World (CHAT GPT 5)

 **TheAIGRID**  
27.3K subscribers

 **Subscribed** 

Gerd



Source: Meta (fka Facebook via Youtube)



SCIENCE  
FICTION

Gerd

# INFO TECH



WORK AS USUAL  
**IS DEAD  
OR DYING**

# BIO TECH

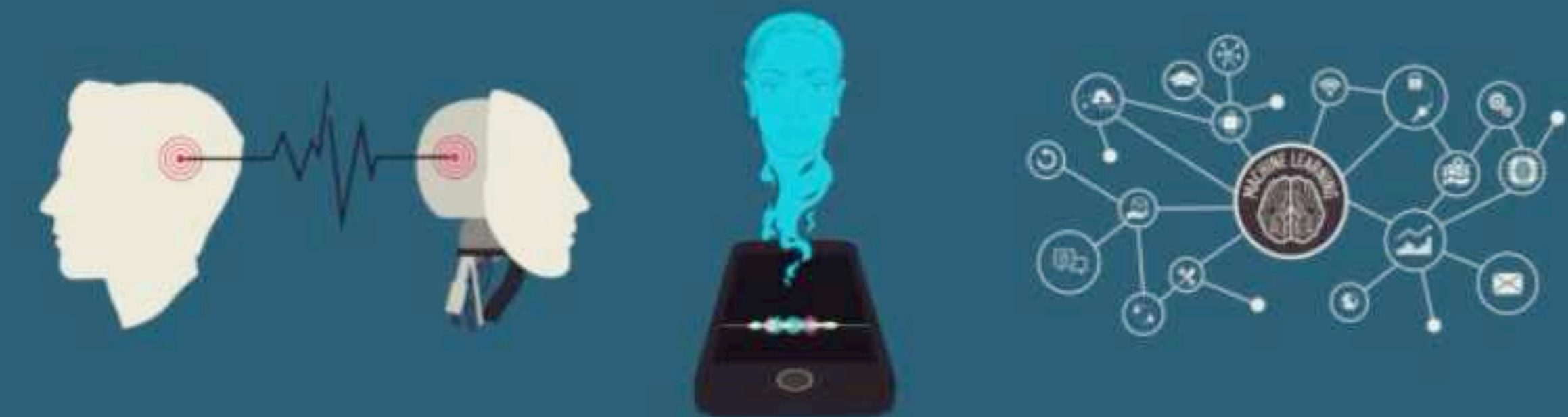


# ENERGY & CLIMATE TECH



EDUCATION AS USUAL  
**IS DEAD  
OR DYING**

# AI TECH



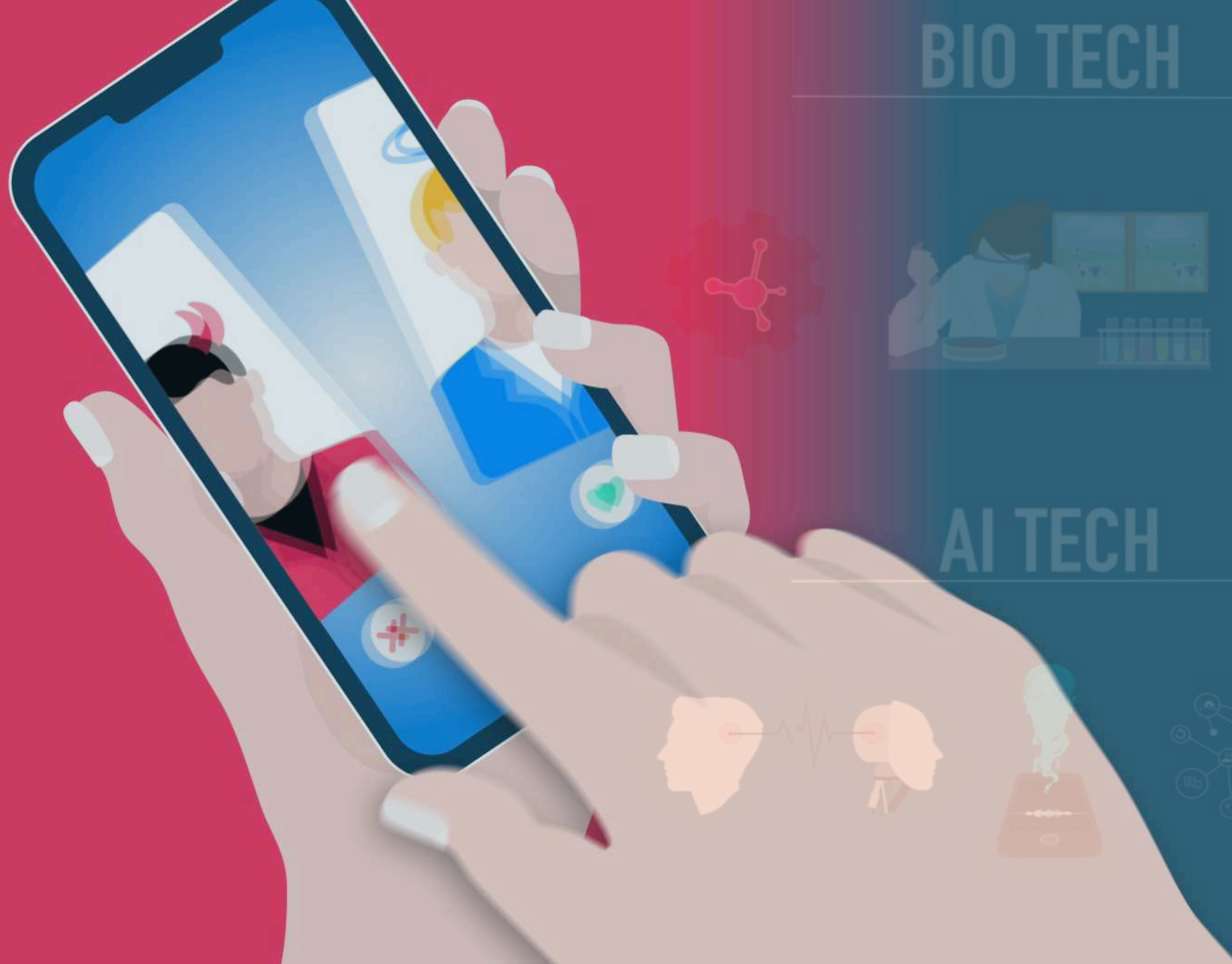
# HellVen

INFO TECH

BIO TECH

ENERGY &  
CLIMATE TECH

AI TECH





Heaven or Hell?

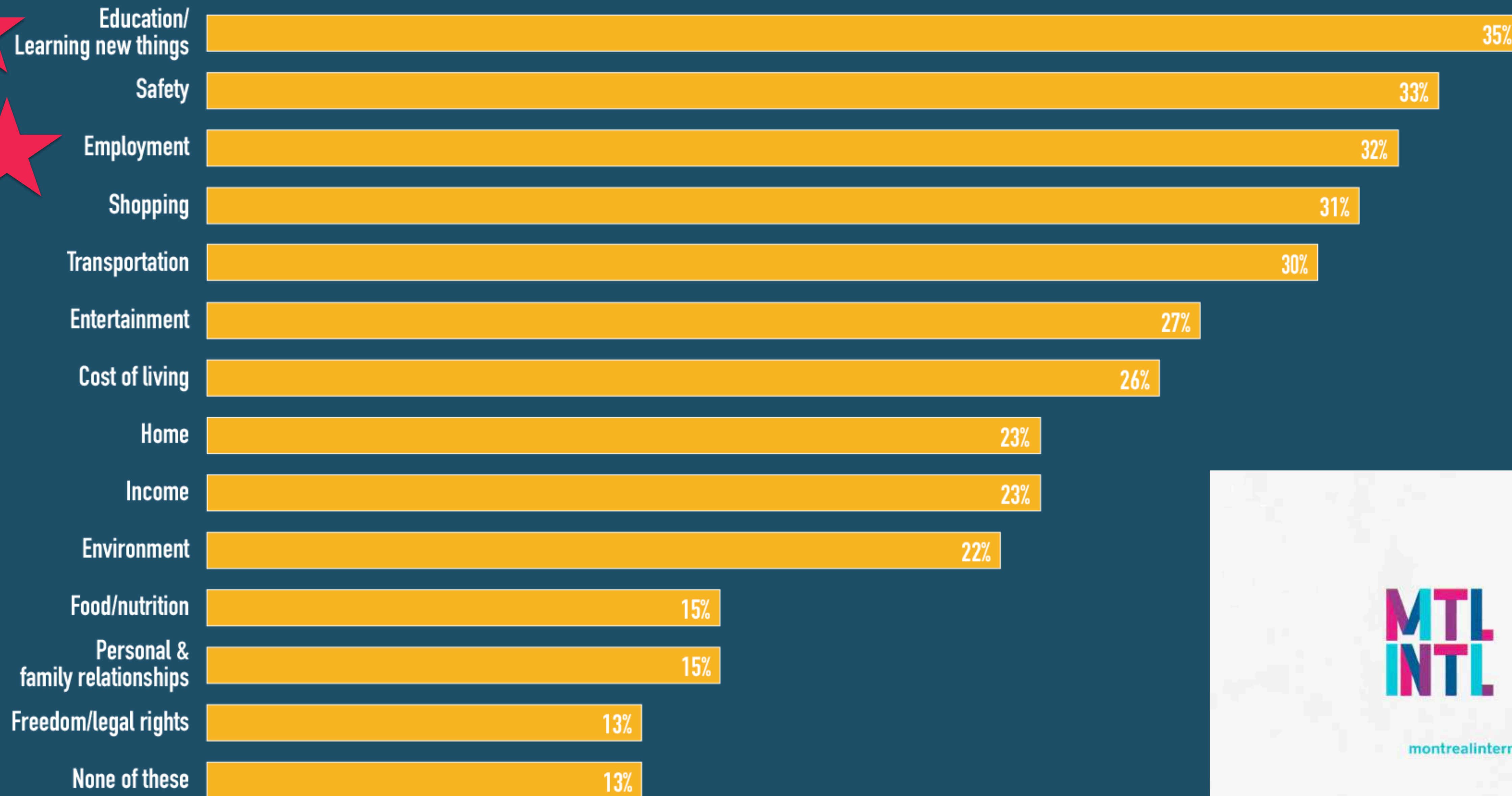
**“Technology is  
morally neutral  
– until we use it”  
(William Gibson)**



**TECHNOLOGY HAS NO ETHICS**

## AREAS AI EXPECTED TO IMPACT MOST

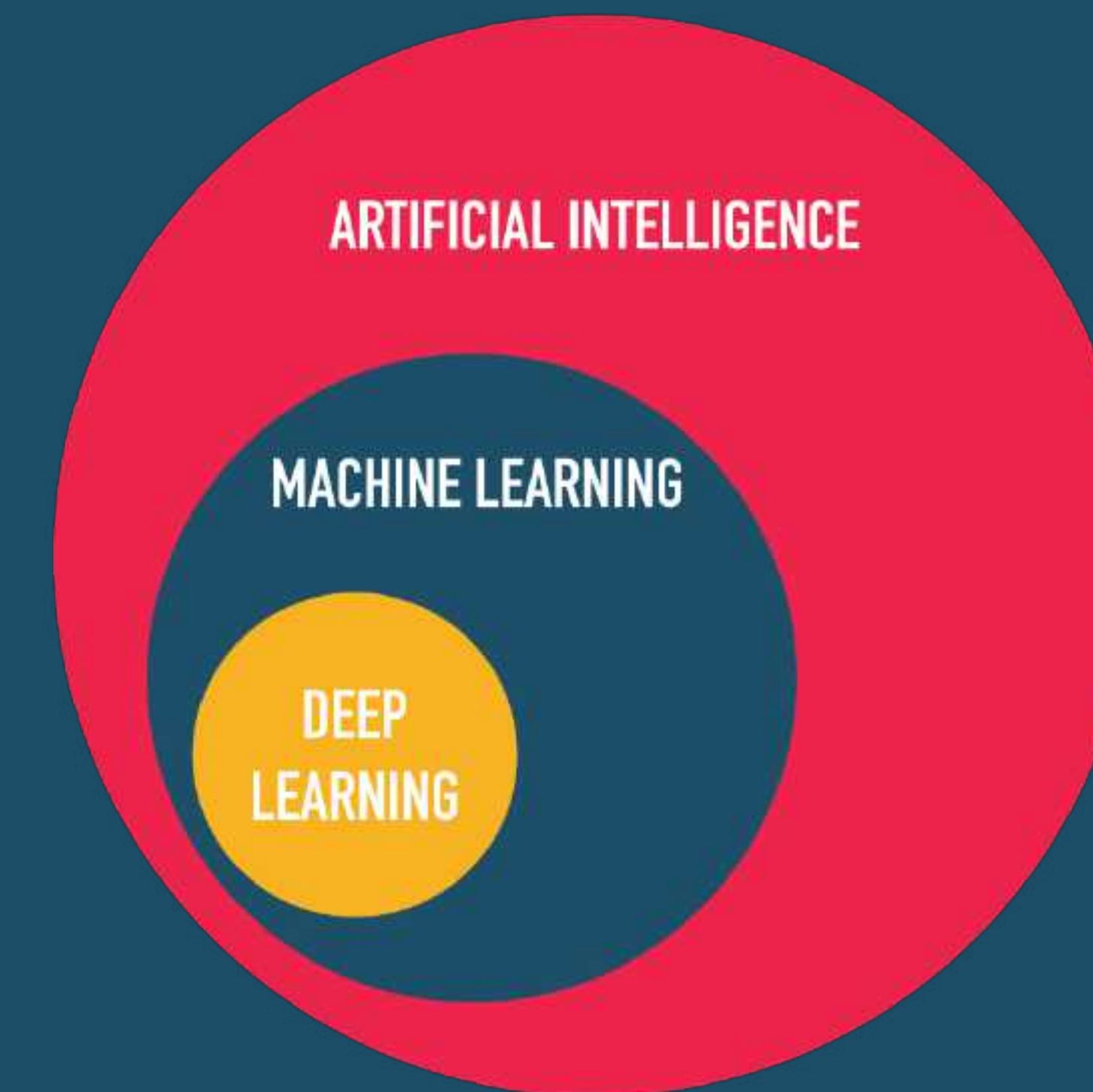
WHICH DO YOU ANTICIPATE CHANGING MOST FOR YOU IN THE NEXT 3-5 YEARS BECAUSE OF INCREASED AI USE?



# AI: “Computer systems that turn information and data into

# KNOWLEDGE”


(DEMIS HASSABIS, CEO, DEEPMIND)





Write a python script to analyze my monthly purchases

Large Language Models (LLMs) and  
Generative AI manipulates and  
generates language to create  
**SYNTHETIC**, human-like texts,  
images and video



GPT: Generative Pre-Trained Transformer



Write a gothic romance about a computer

Large Language Models (LLMs) and Generative AI manipulates and generates language to create **SYNTHETIC**, human-like texts, images and video

GPT: Generative Pre-Trained Transformer

*What does the quick brown fox do?*

*flower relevant day what*  
*The white slow think icon*  
*users dog jumps the run*  
*chat cat together picture tree apple*  
*quick over fox lazy junk*  
*brown*



Learns random phrases



Doesn't understand shit about what it learns



Occasionally speaks nonsense



Is a cute birdie parrot



J

i received a spam call from Mariott Reards, Inc. Draft a federal lawsuit for \$1,500 under the TCPA to sue. use the context you have learned from other cases

*The quick brown fox jumps  
over the lazy dog*

The screenshot shows a web browser window with the URL `chat.openai.com/chat?model=gpt-4`. The browser tabs include "TCPA Lawsuit for Spam". The chat interface shows a user prompt: "i received a spam call from Mariott Reards, Inc. Draft a federal lawsuit for \$1,500 under the TCPA to sue. use the context you have learned from other cases". The AI response begins with a disclaimer: "As an AI language model, I am not an attorney and cannot provide legal advice. However, I can provide you with a general outline of a complaint for a violation of the Telephone Consumer Protection Act (TCPA) based on the context I have learned from other cases. Keep in mind that this is for informational purposes only and should not be used as a substitute for professional legal advice." Below the disclaimer, the AI has generated a legal document header: "IN THE UNITED STATES DISTRICT COURT FOR THE [INSERT APPROPRIATE JURISDICTION]". The name of the plaintiff is listed as "[Plaintiff's Name], Plaintiff," followed by "v [redacted]". A "Stop generating" button is visible at the bottom of the chat area.



What impact will chatgpt have on the future of secondary education?...



While it's difficult to predict the exact impact of ChatGPT on the future of secondary education, we can identify several potential areas where it may have significant influence. It's important to note that these are only projections and the actual impact could differ.

1. **Personalized learning:** ChatGPT could help tailor education to the needs of individual students by adjusting the content, pace, and difficulty level to suit their unique learning styles and abilities. This personalization could improve student engagement and help close achievement gaps.
2. **Access to educational resources:** ChatGPT could democratize access to high-quality educational content and tutoring for students around the world, regardless of their socioeconomic background. This could help level the playing field for students in underprivileged or rural areas.
3. **Teacher support:** ChatGPT could serve as a valuable resource for teachers, helping them create lesson plans, provide feedback on student work, and identify areas where students need additional support. This could free up time for teachers to focus on other important aspects of their job, such as building relationships with students and fostering a positive classroom environment.
4. **Enhancing critical thinking and creativity:** As students become more reliant on AI-driven tools like ChatGPT, they may need to develop stronger critical thinking and creativity skills to ensure they can effectively



But won't it make students lazy and compliant?



There is a concern that over-reliance on AI tools like ChatGPT could make some students lazy or overly reliant on the technology. However, this outcome is not inevitable, and it ultimately depends on how these tools are used and integrated into educational environments. Here are some considerations to address these concerns:

1. **Encourage critical thinking:** Teachers should focus on fostering critical thinking skills and creativity in students, using AI tools as support rather than replacements for independent thought. Encourage students to question and critique the answers provided by AI, stimulating their curiosity and analytical skills.
2. **Balance between technology and traditional methods:** Teachers and



Stop generating

Send a message...

GENERATED BY A.I.

The New York Times



Jordan Rhone, a lawyer in Pennsylvania, said he had created this image using Midjourney to highlight the resilience of conspiracy theories like the one that claims the moon landings were staged. A.I.: Jordan Rhone

GENERATED BY A.I.



GENERATED BY A.I.



Some hints that this is not a real photo: The faces of the “astronauts” are indistinct, as are other details. The lander differs significantly from the Eagle that landed in 1969. A.I.: Jordan Rhone



Gerd





AP photo

**Elementary school teachers picket against use of calculators in grade school**  
The teachers feel if students use calculators too early, they won't learn math concepts

# Math teachers protest against calculator use

FROM POLITICO PRO

## Italian privacy regulator bans ChatGPT

Calls have grown to suspend new releases of popular AI tool.



GIZMODO



ARTIFICIAL INTELLIGENCE

### Why Universities Should Return to Oral Exams in the AI and ChatGPT Era

As ChatGPT continues to grow in capabilities and usage—including in education and academia—is it high time for universities to revert to a time-tested form?

ARTIFICIAL INTELLIGENCE

### ChatGPT is going to change education, not destroy it

The narrative around cheating students doesn't tell the whole story. Meet the teachers who think generative AI could actually make learning better.

By Will Douglas Heaven

April 6, 2023

OP - ED

### Banning ChatGPT will do more harm than good

A high school senior argues that ChatGPT can help reshape education for the better.

By Rohan Mehta

April 14, 2023

**ChatGPT provides yet one more argument of why we can't keep doing things the old way in education.**

**The way we grade / test what students know was outdated long before ChatGPT.**

**The very idea of "downloading information for later use" is becoming absurd.**

**EDUCATION AS USUAL  
IS DEAD  
OR DYING**

ARTIFICIAL INTELLIGENCE

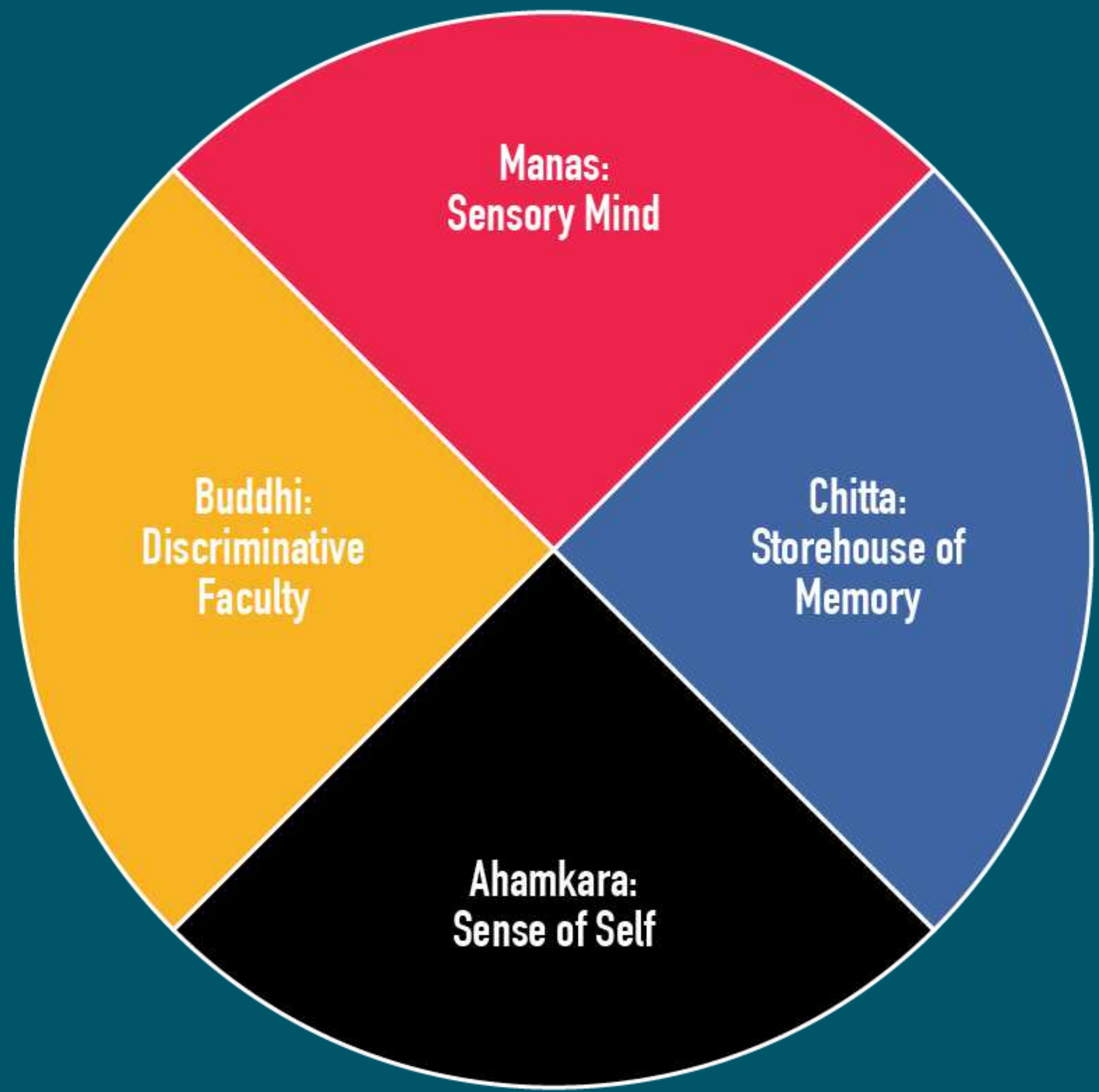
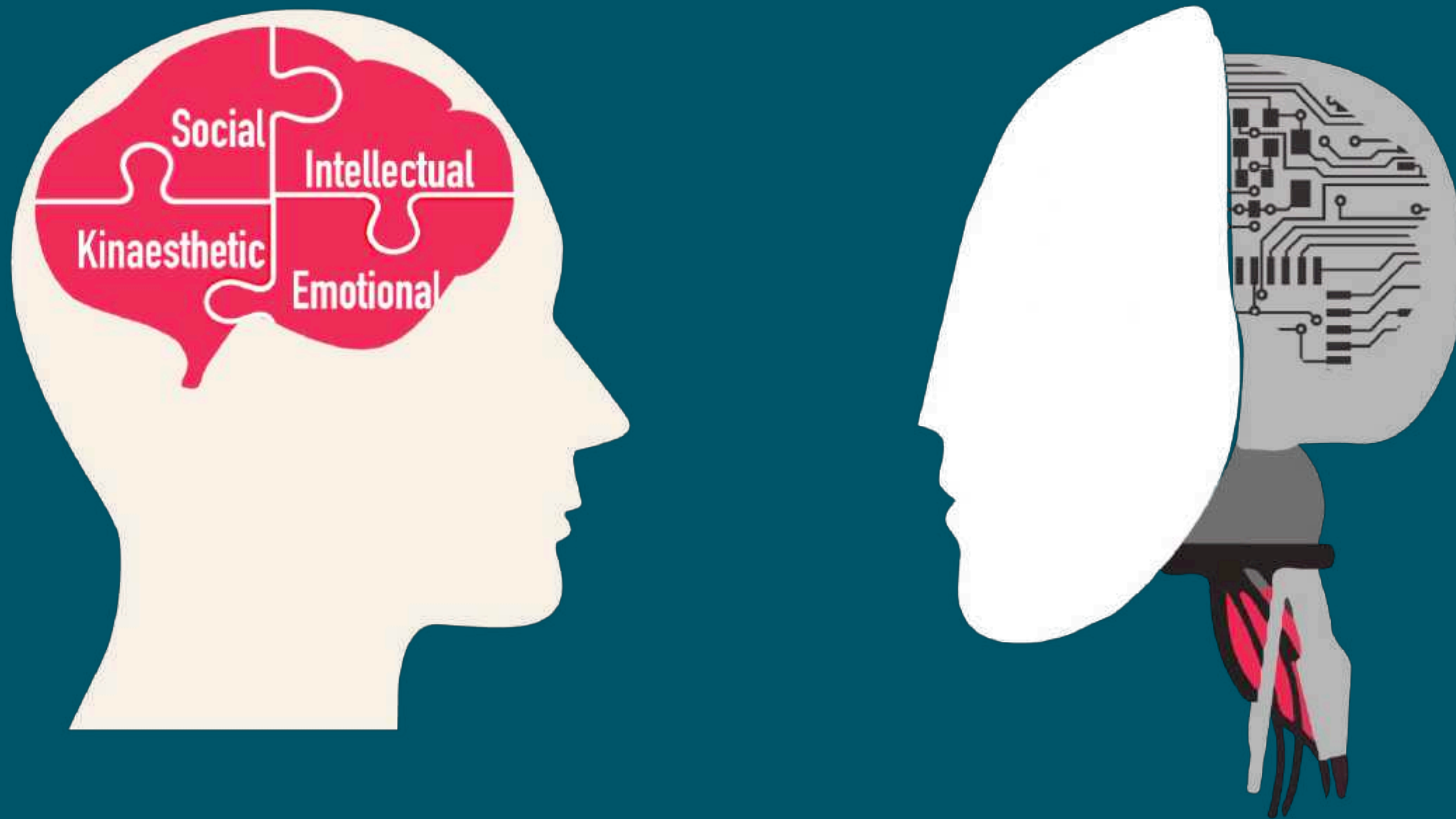
**ChatGPT is going to change  
education, not destroy it.**

**Gerd**

“Let me remind you that information is not knowledge, and knowledge is not wisdom. Each grows out of the other, and we need them all” (Arthur C. Clarke 1967)

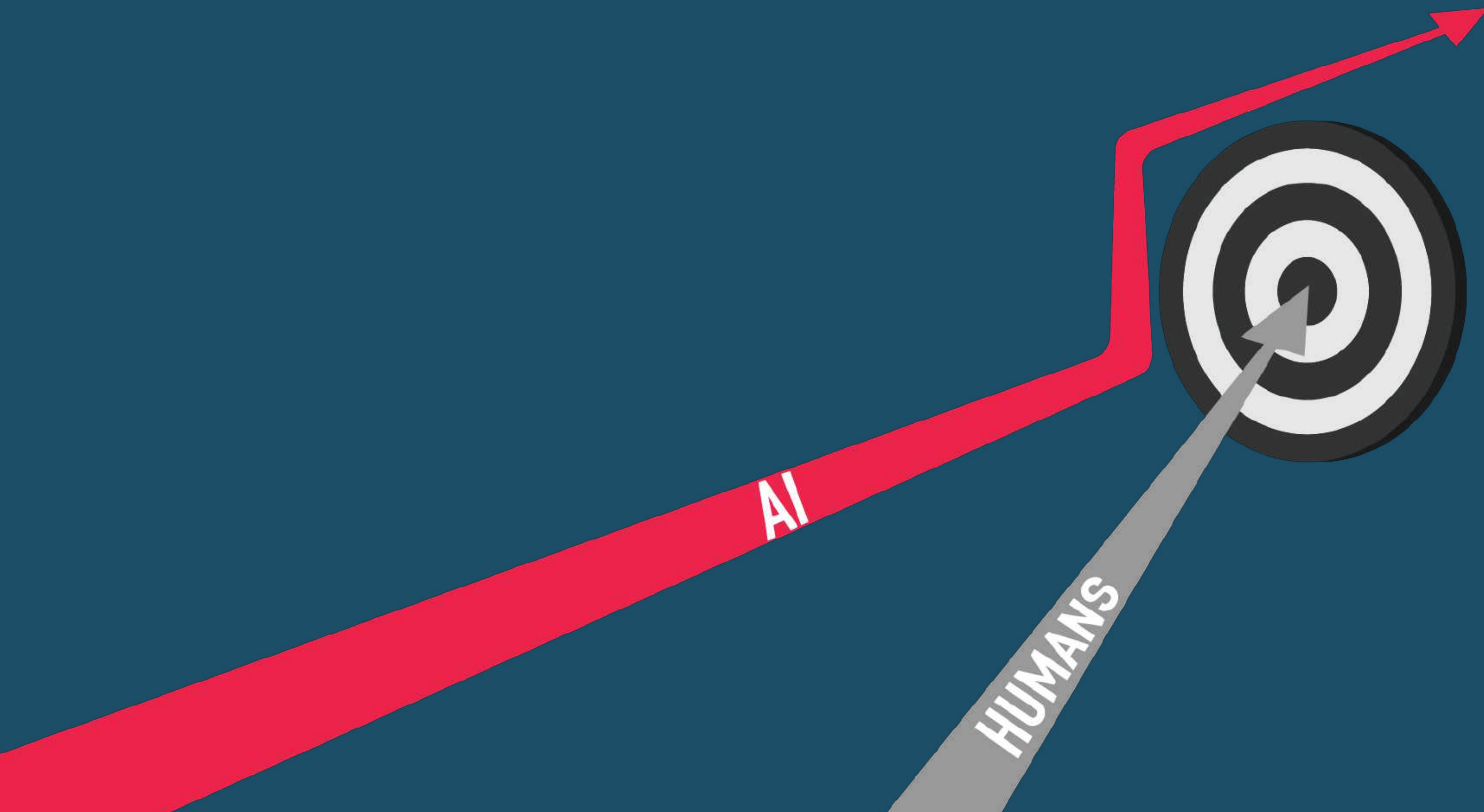
# THE 4 ASPECTS OF MIND

Preparing For AI's Impact  
Sadhguru   
11.2M subscribers 

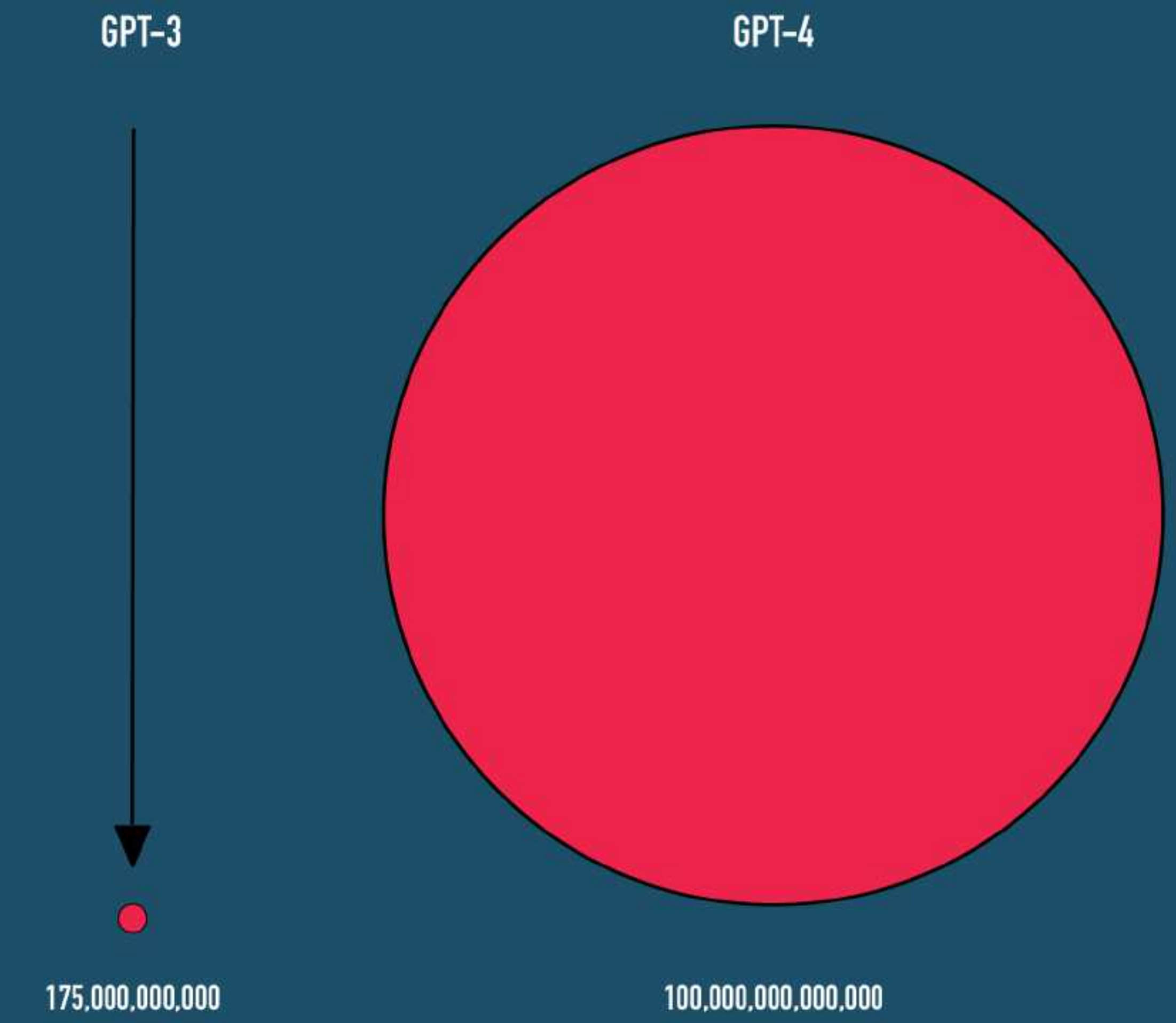


Source: theyogahouseny.com

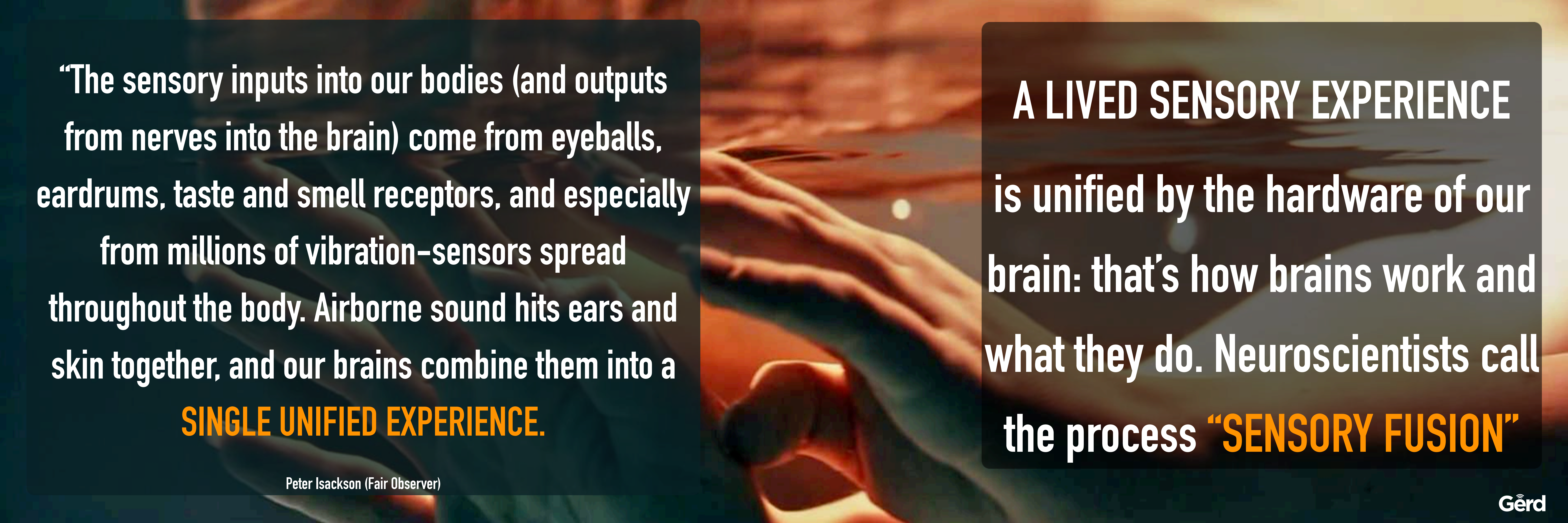
# Information is not the same as knowledge. Knowledge without wisdom is LIKE WATER IN THE SAND.



OPENAI'S GPT NUMBERS OF PARAMETERS USED



Source: @SimonHilberg via Twitter

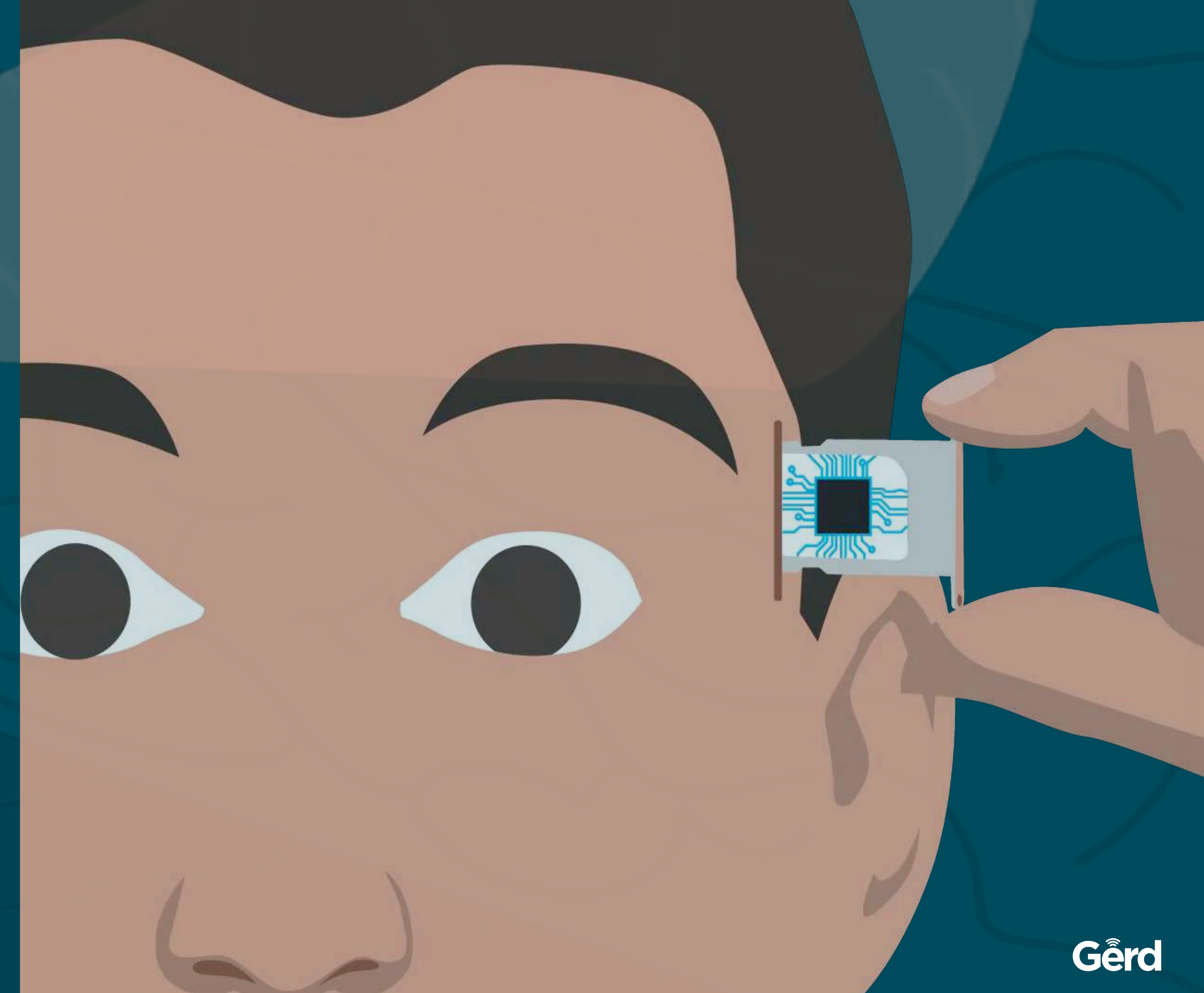
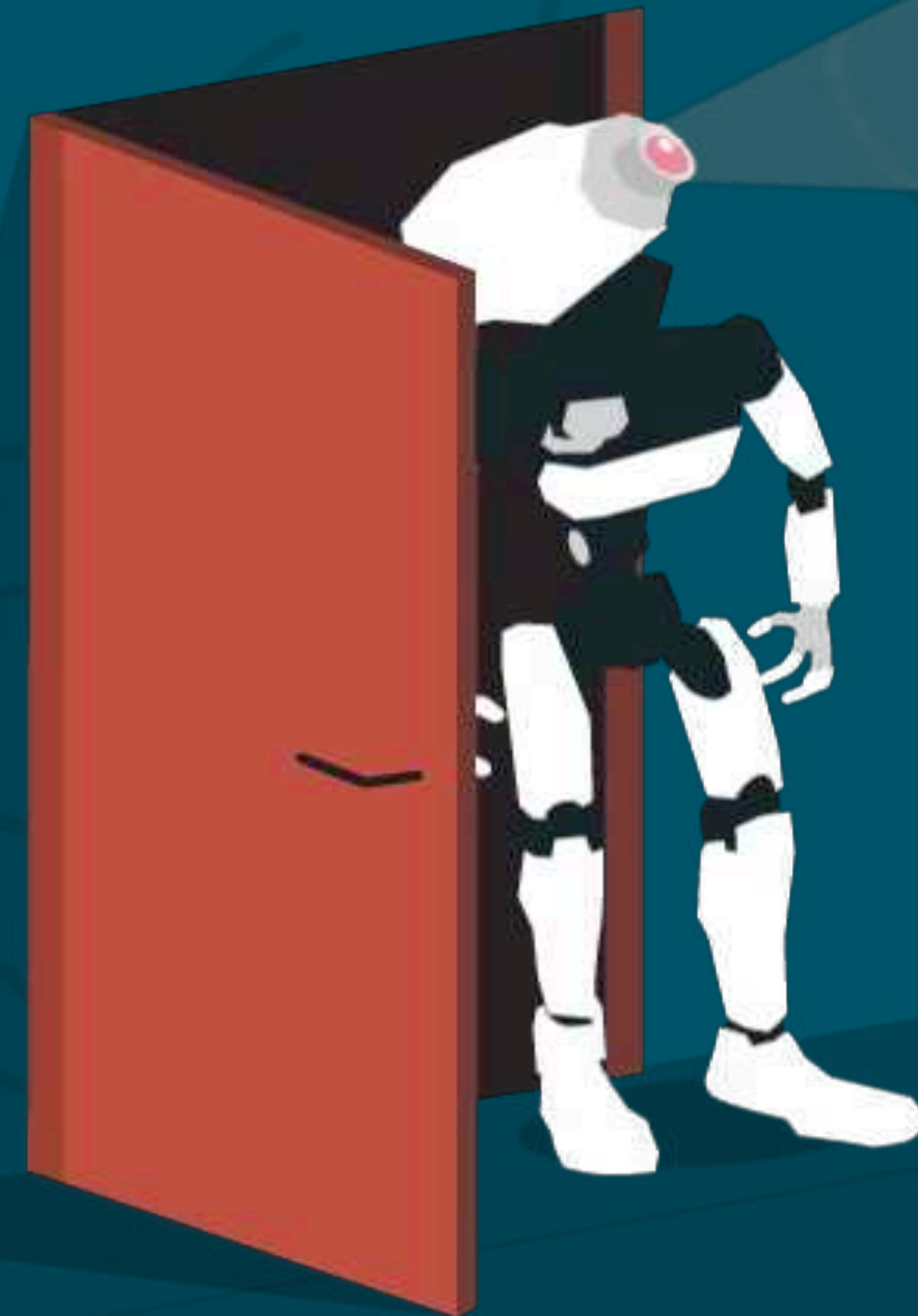
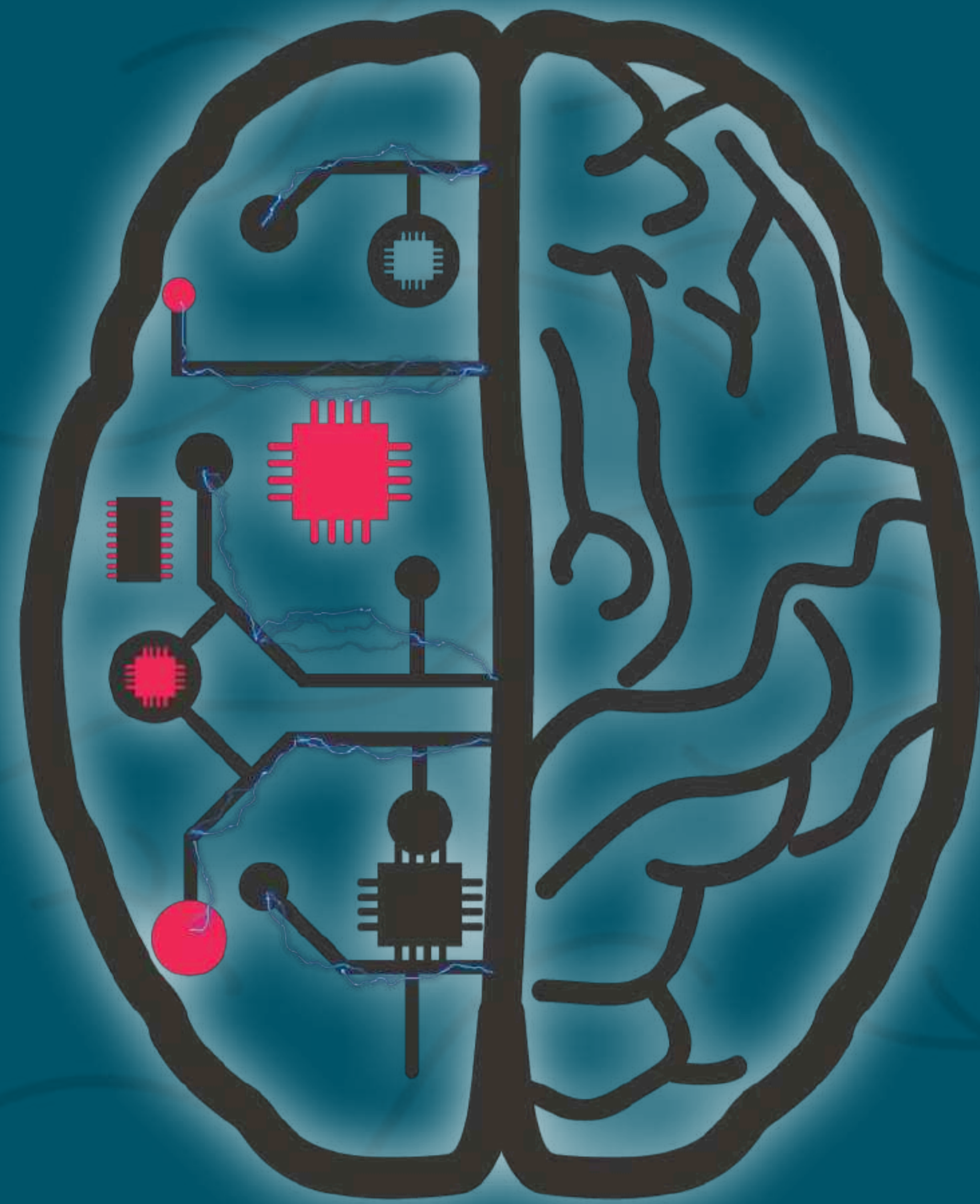


“The sensory inputs into our bodies (and outputs from nerves into the brain) come from eyeballs, eardrums, taste and smell receptors, and especially from millions of vibration–sensors spread throughout the body. Airborne sound hits ears and skin together, and our brains combine them into a **SINGLE UNIFIED EXPERIENCE.**”

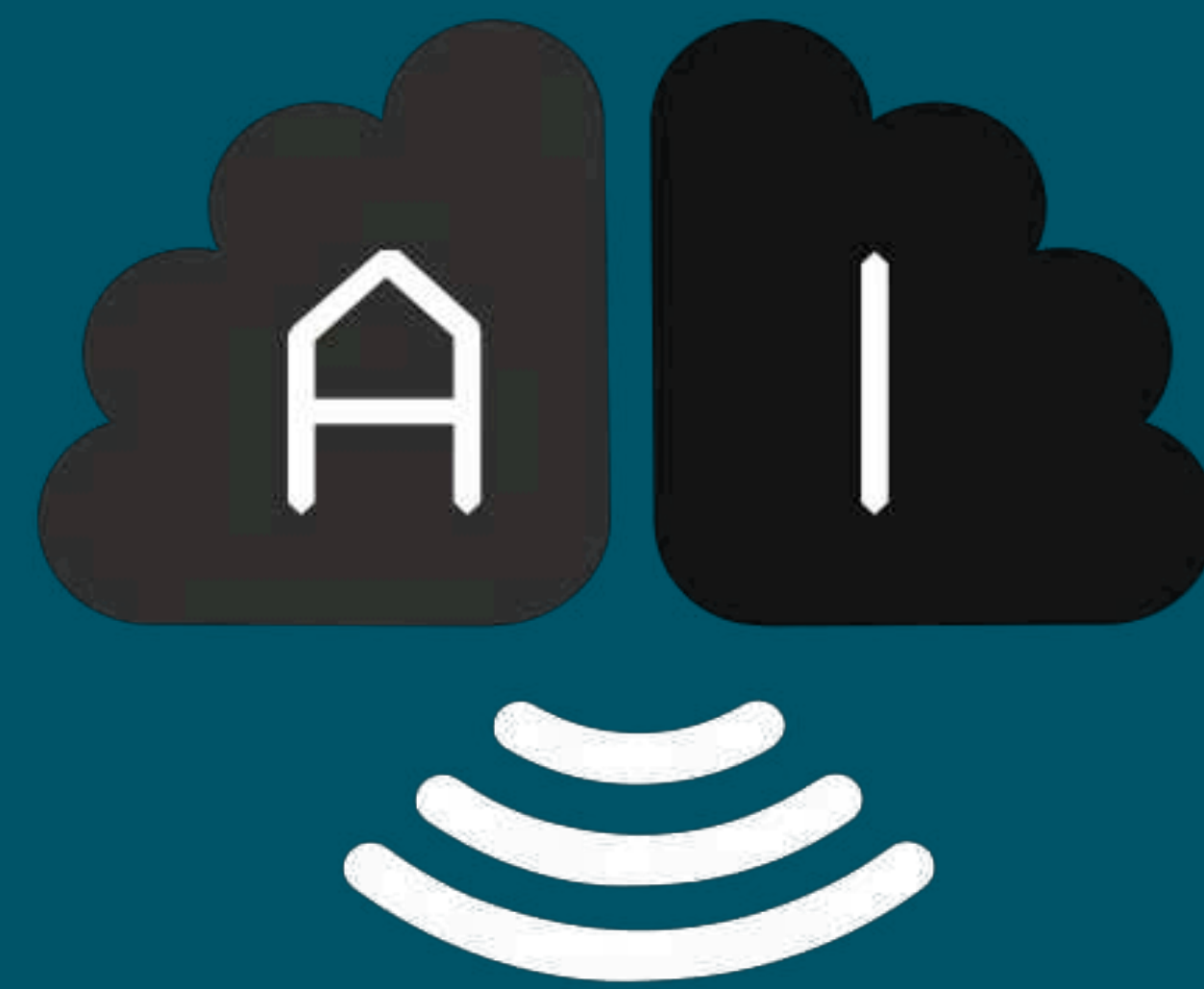
Peter Isackson (Fair Observer)

**A LIVED SENSORY EXPERIENCE is unified by the hardware of our brain: that’s how brains work and what they do. Neuroscientists call the process “SENSORY FUSION”**

# Machine Thinking



Reductionism  
Manipulation  
Abdication  
Confusion  
Errors  
Bias



SAM ALTMAN (OpenAI CEO)



... **IF WE AS A SOCIETY MANAGE IT RESPONSIBLY.**

“The coming change will center around the most impressive of human capabilities: **the phenomenal ability to think, create, understand, and reason.**

To the three great technological revolutions – the agricultural, the industrial, and the computational – **we will add a fourth: the AI revolution.**

THIS REVOLUTION WILL GENERATE **ENOUGH WEALTH FOR EVERYONE** TO HAVE WHAT THEY NEED...



 Signatories **10146** 

**Pause Giant AI Experiments:  
An Open Letter**

We call on all AI labs to immediately pause for at least 6 months the training of AI systems more powerful than GPT-4.



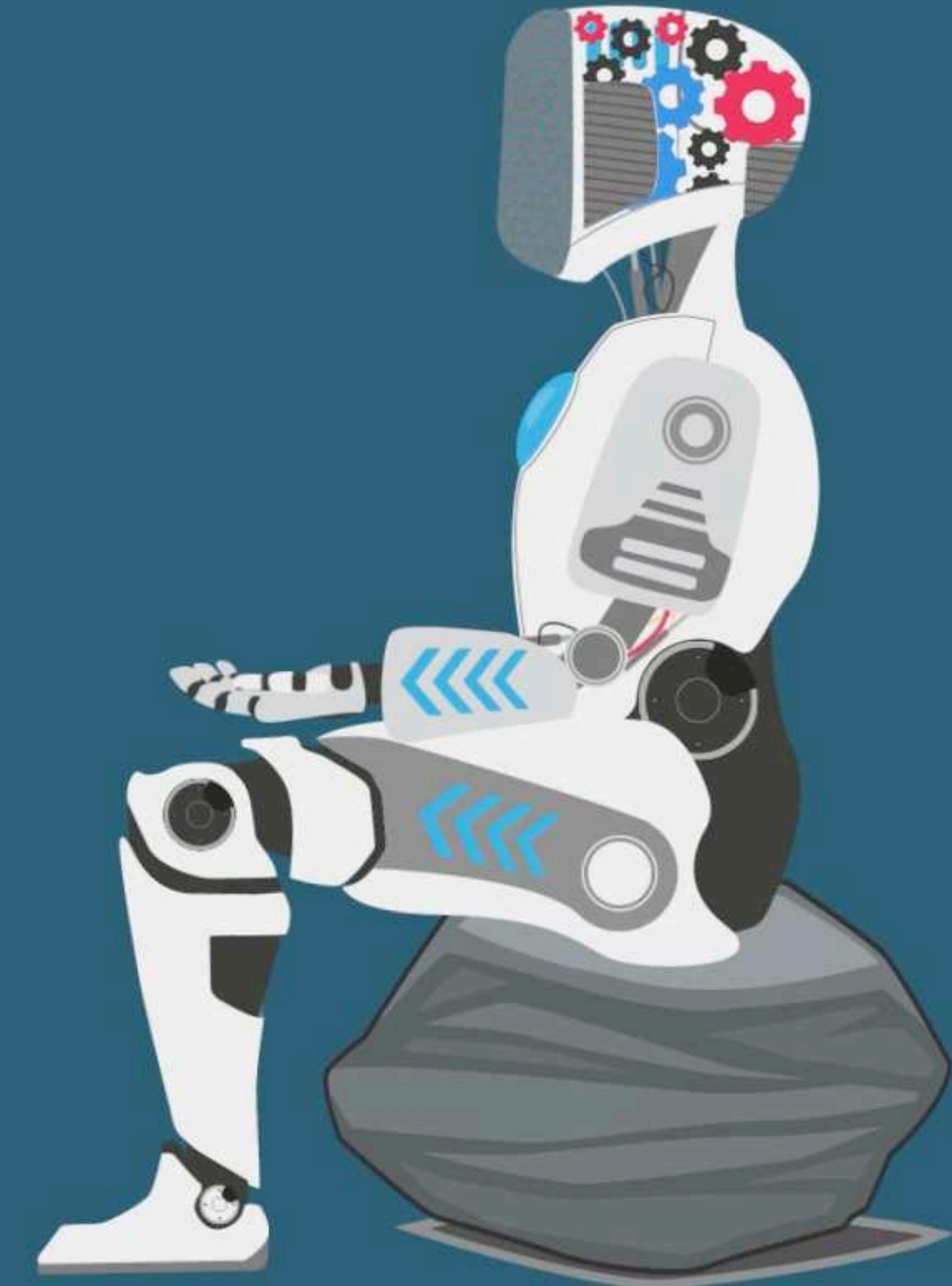


**“First we build the tools,  
then the tools build us”**

**Marshall McLuhan**

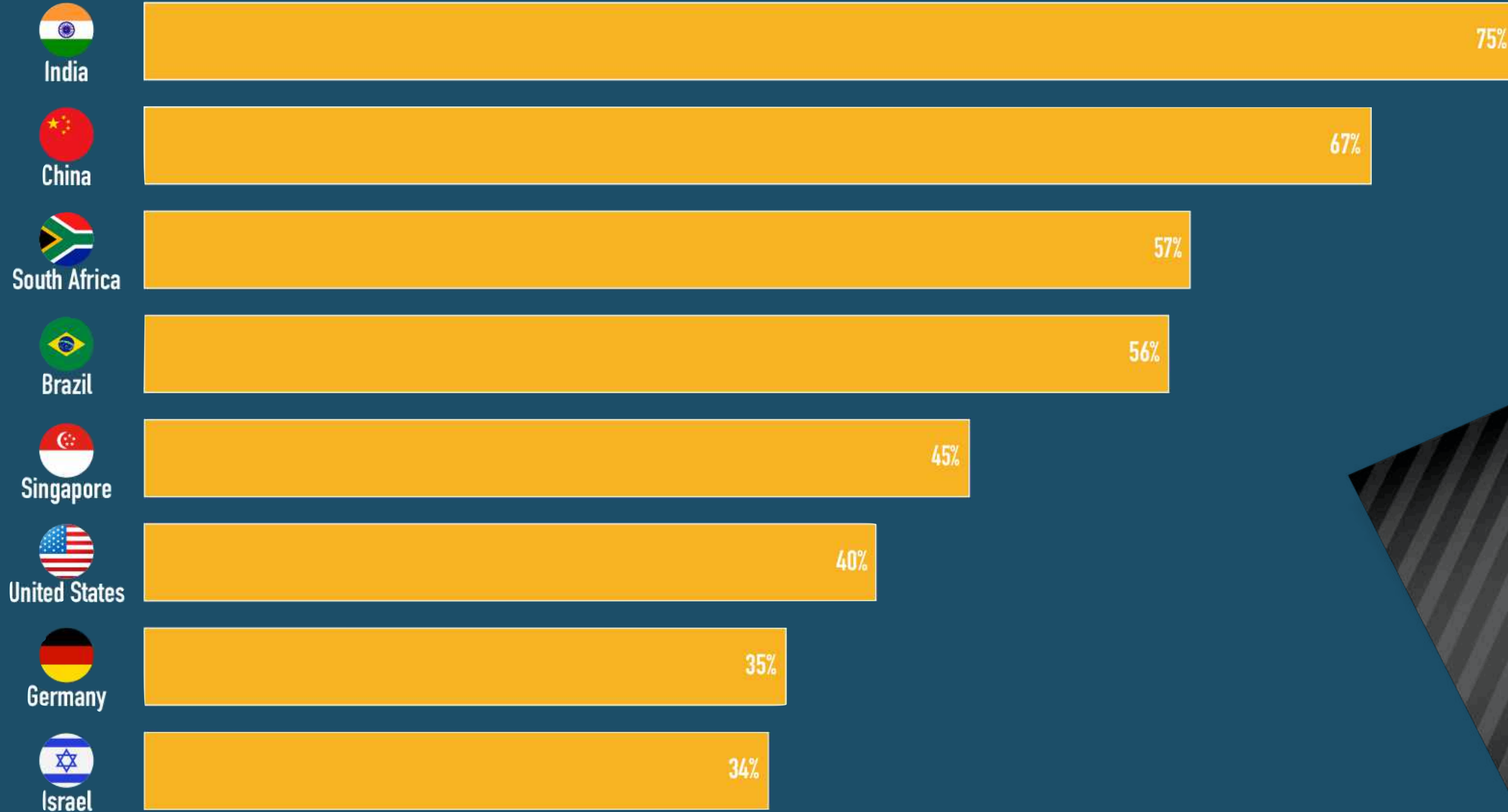


**“...the ability to think, create, understand, and reason”**



# IN AI WE TRUST

## SURVEYED COUNTRIES WITH HIGHEST SHARE OF RESPONDENTS WILLING TO TRUST AI SYSTEMS



WHAT

WHO

WHEN

HOW



WHERE

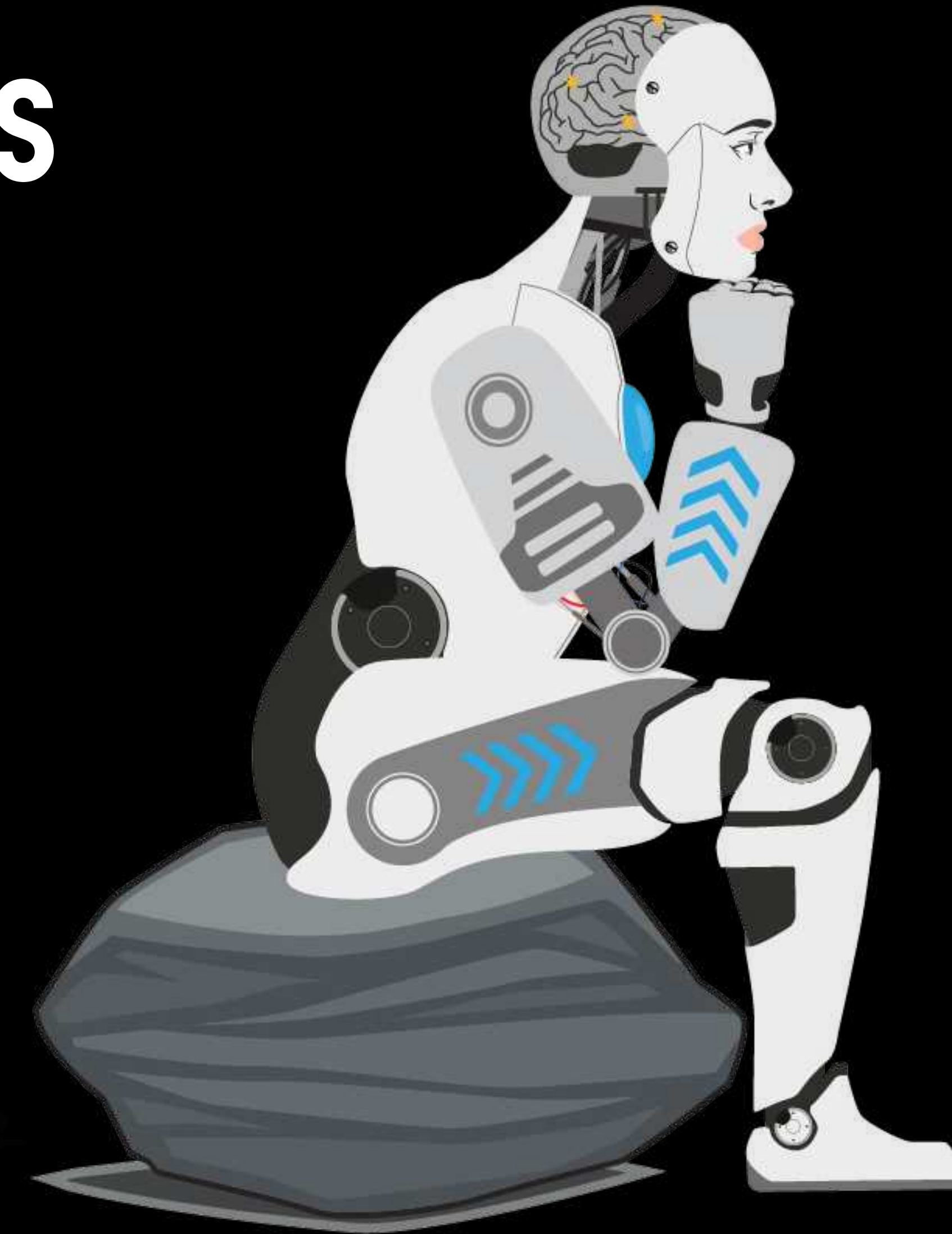
What People Think  
It Looks Like

What It Actually  
Looks Like

Machines  
DON'T  
'Think'

Machines  
DON'T  
'Understand'

Machines  
DON'T  
Care



LLM's such as ChatGPT:  
Patterns not Meaning  
Coherence not Truth  
Simulations not Reality  
Digital World not Real World

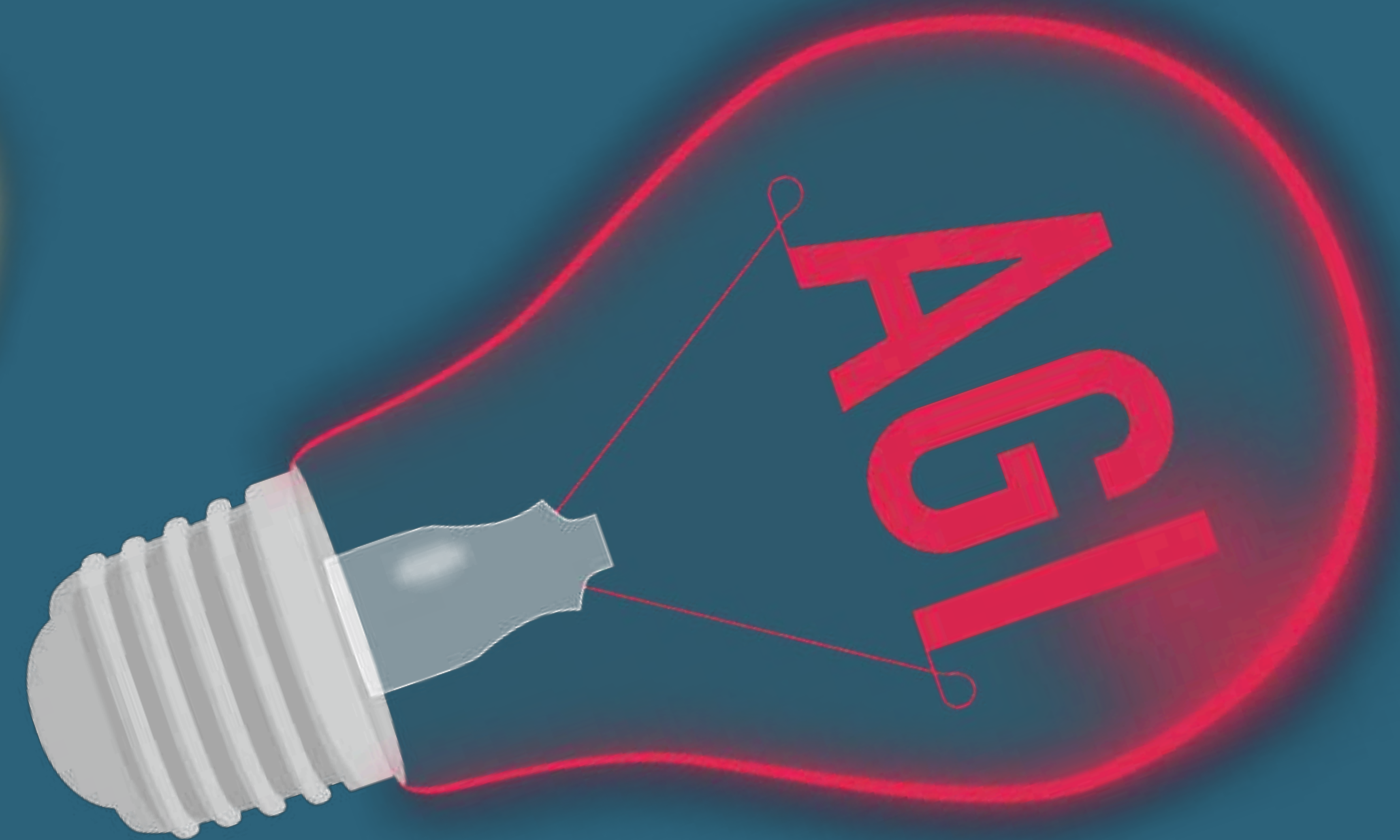
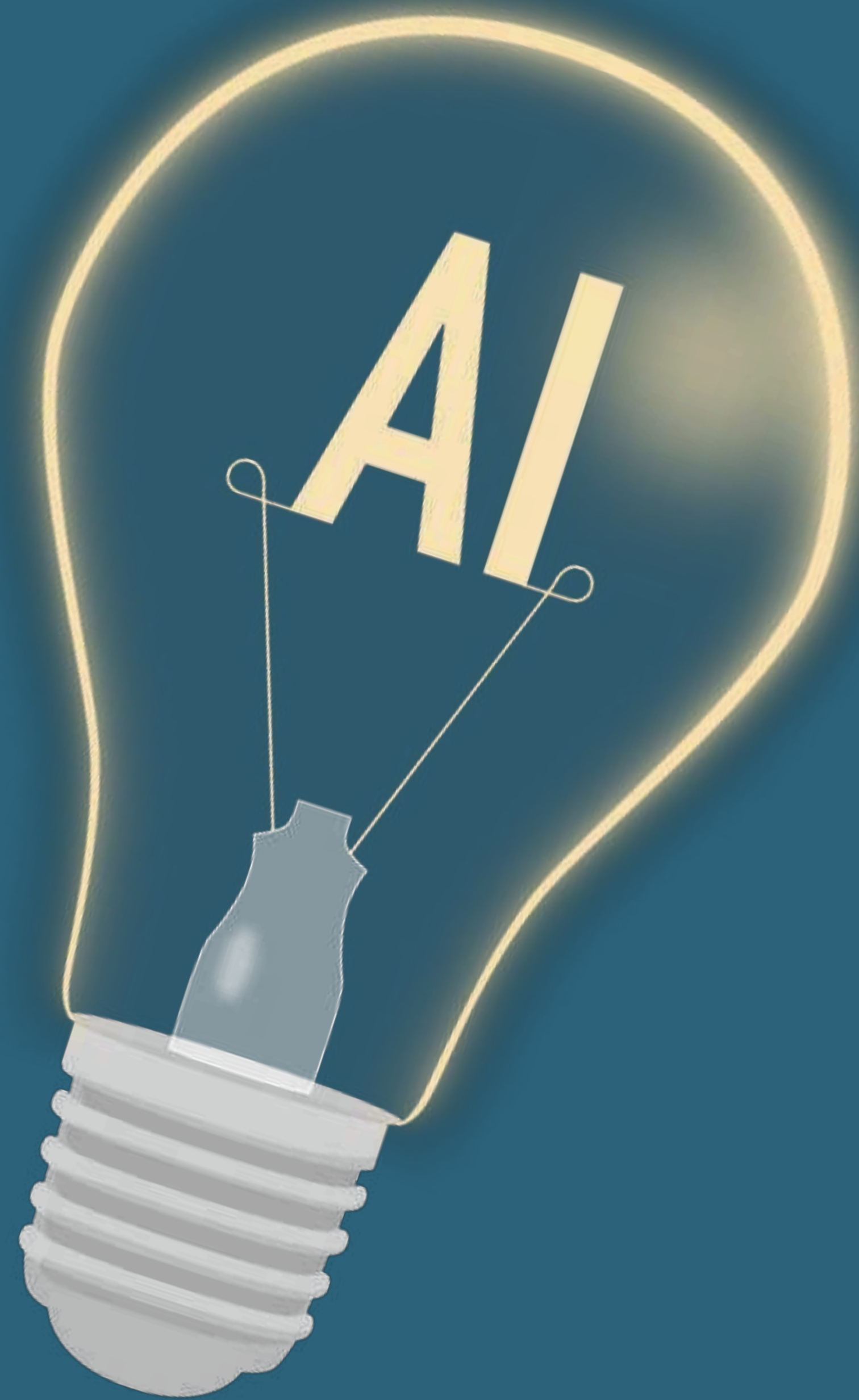
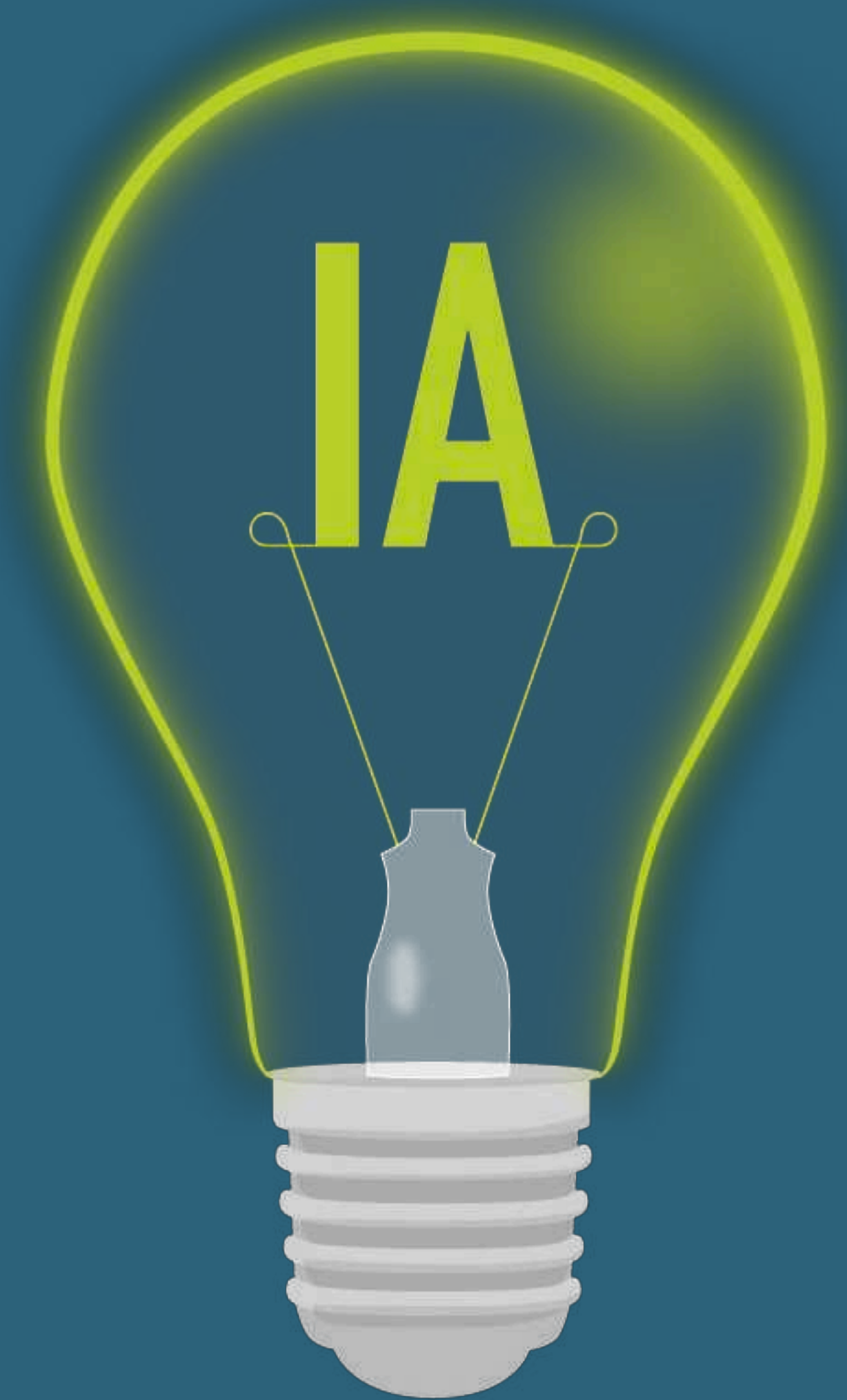






# Nature Deficit Disorder







ASSISTED INTELLIGENCE



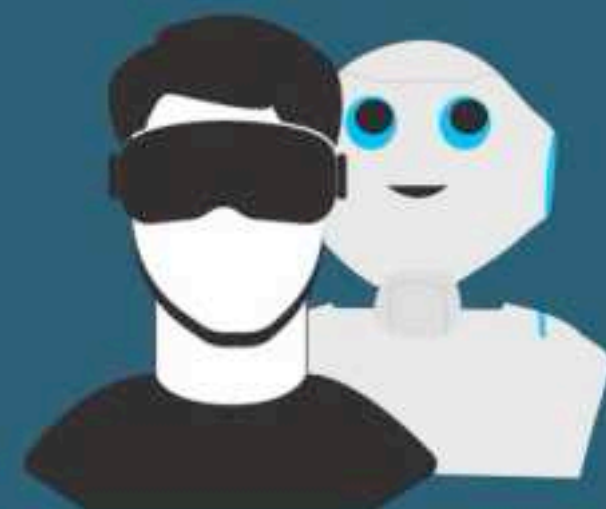
AUTOMATION



All those Hollywood plots about machines mysteriously becoming conscious and hating humans are really missing the point:

It's **COMPETENCE** not  
consciousness that matters

AUGMENTED INTELLIGENCE

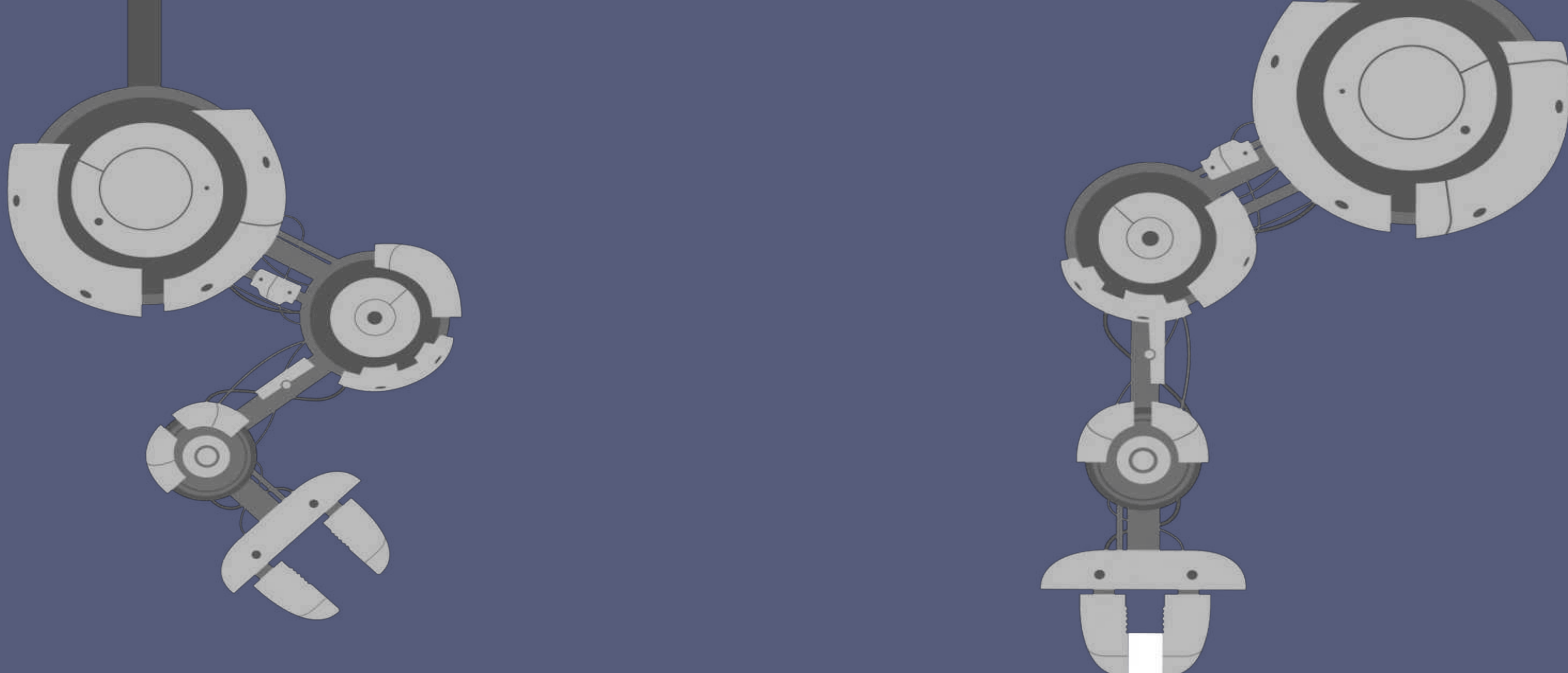


AUTONOMOUS INTELLIGENCE



Stuart Russell in "Human Compatible"





# ROUTINE

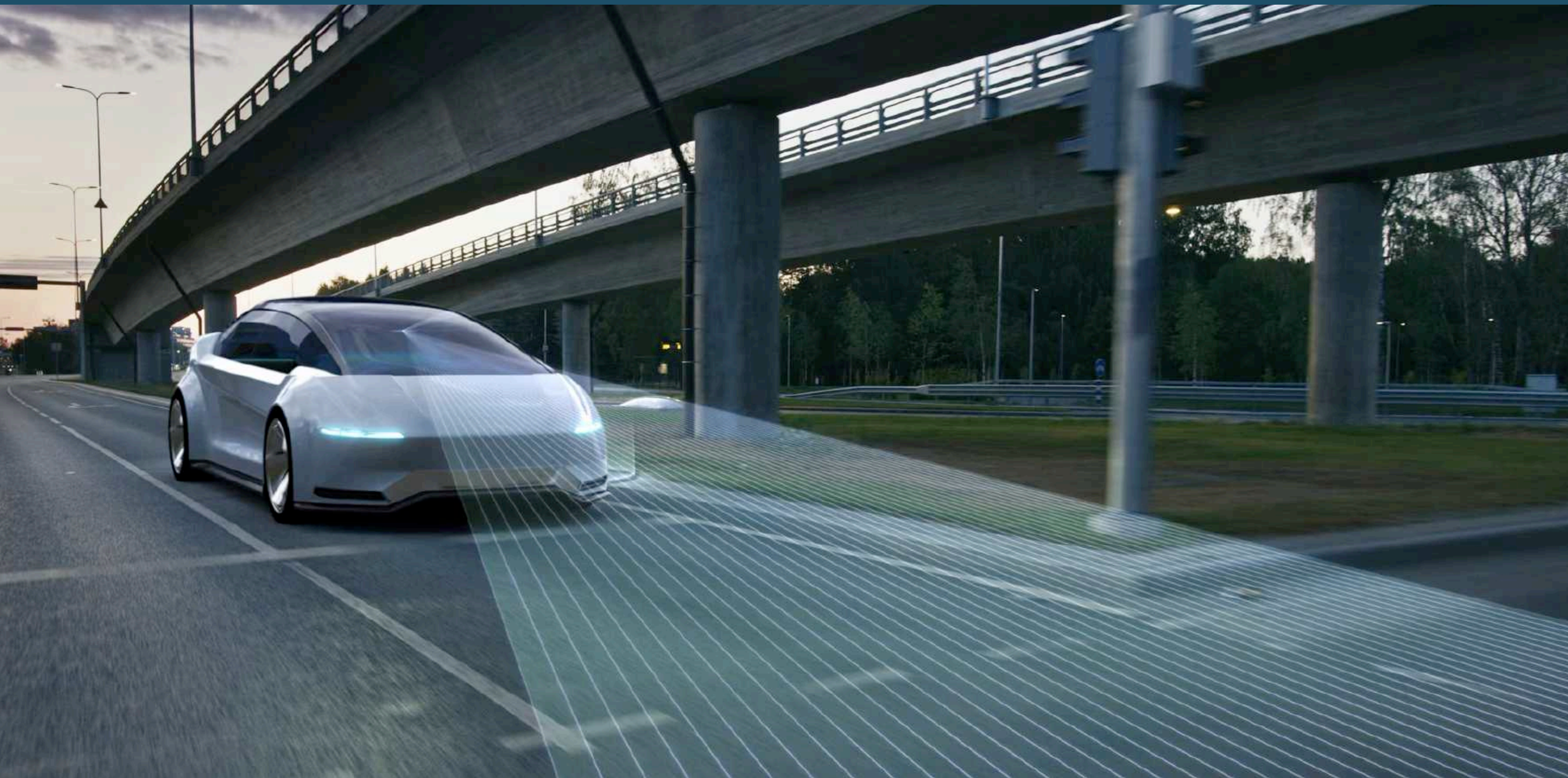
Year	AI Events	Jobs Displaced	Jobs Created
2023	AGI prototype development	1.5 million (mainly manufacturing jobs)	200,000 (mainly jobs in AI R&D)
2024	Advanced AI-assisted healthcare	1 million (entry-level healthcare jobs)	100,000 (few jobs in AI-assisted healthcare)
2025	Basic AGI deployment	4 million (retail, customer service, transportation)	500,000 (limited jobs in AGI development and integration)
2026	AI-driven creative industries	1.5 million (artists, writers, musicians)	100,000 (limited jobs in AI-augmented creativity)
2027	Full-scale AGI deployment	7 million (most white-collar jobs, some blue-collar jobs)	800,000 (few jobs in AGI training, ethics, and maintenance)
2028	Mass job displacement	10 million (majority of jobs across industries)	200,000 (minimal job creation, mainly in specialized, high-skilled roles)
2029	Social unrest due to unemployment	15 million (additional jobs lost due to economic downturn)	50,000 (little to no job creation)
2030	Economic decline	20 million (more jobs lost as businesses close)	100,000 (limited job creation, mainly in crisis response and social services)

Radio Poodle @Radio\_poodle · Apr 6  
Jobs displacement 2023-2030.





Anything that can be digitized, automated, virtualised and AI'ed will be



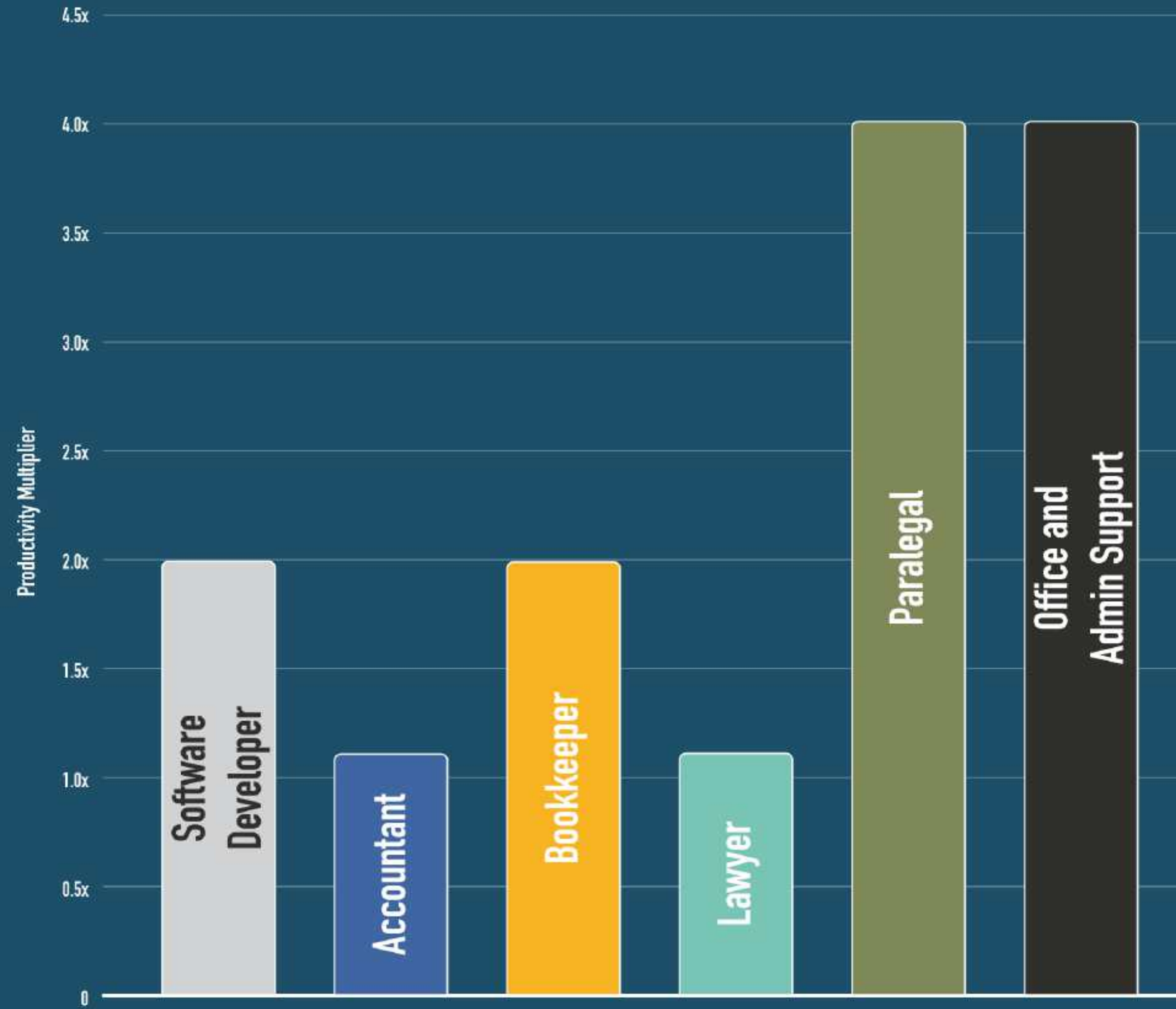
**BUT DON'T MISTAKE A CLEAR VIEW FOR A SHORT DISTANCE**



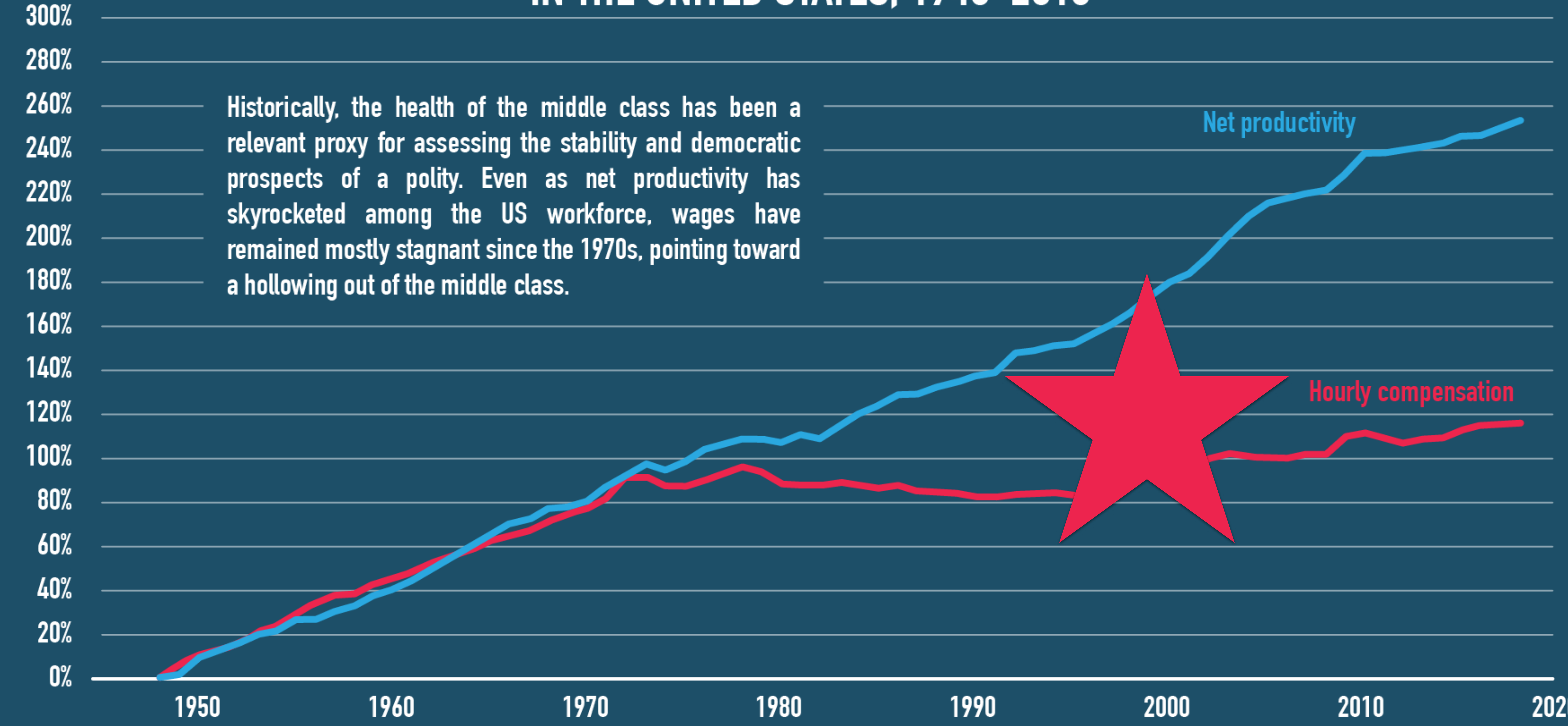
For the foreseeable future, Humans will **very rarely be entirely replaced** by AI, but 'humans with AI' may well replace other humans without AI



**OUTPUT OF AI-ASSISTED KNOWLEDGE WORKERS 2021 TO 2030**  
 BY 2030 AI WILL INCREASE THE OUTPUT OF KNOWLEDGE WORKERS BY 140%



**PRODUCTIVITY GROWTH AND HOURLY COMPENSATION GROWTH**  
**IN THE UNITED STATES, 1948-2018**

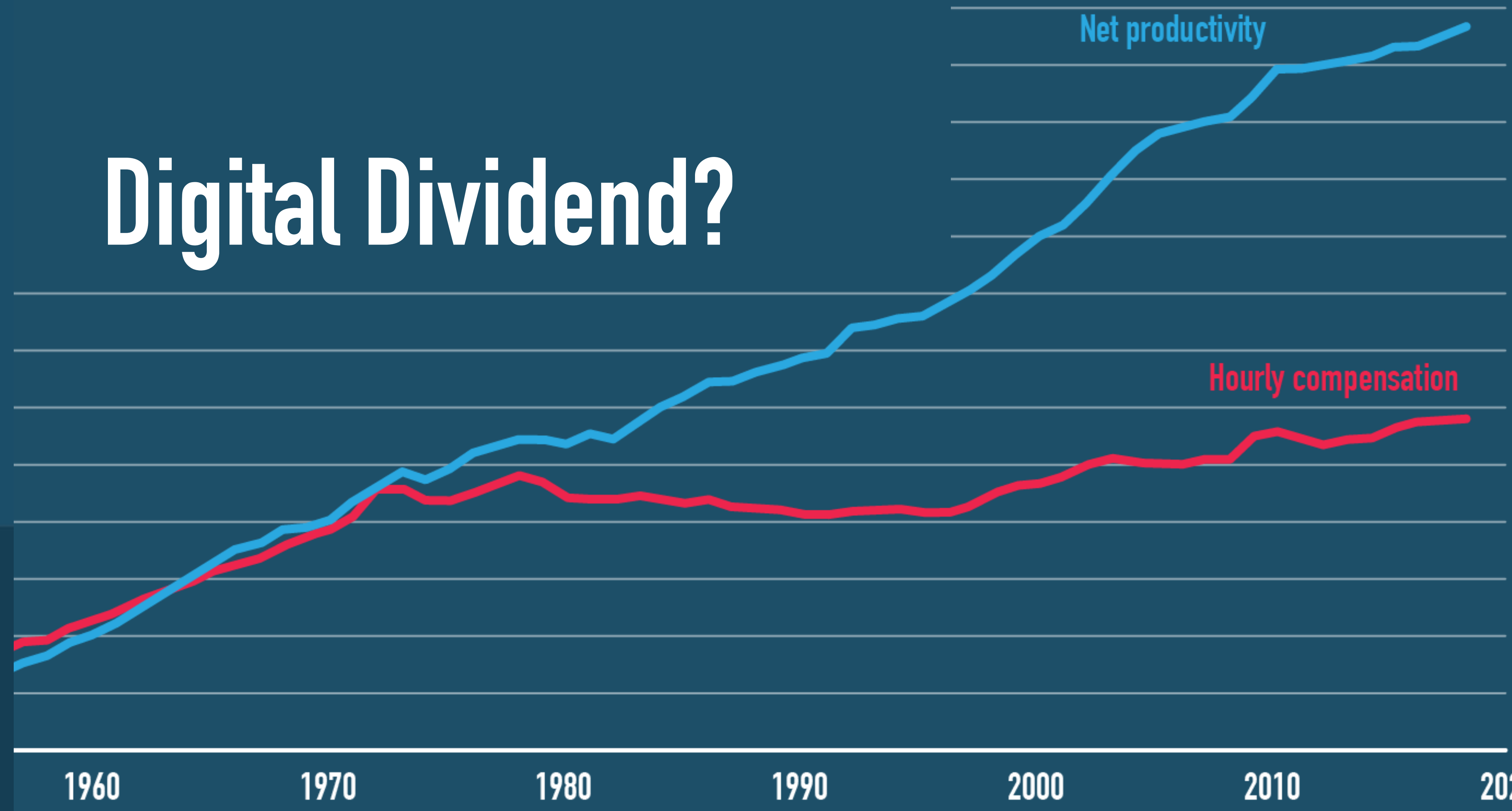


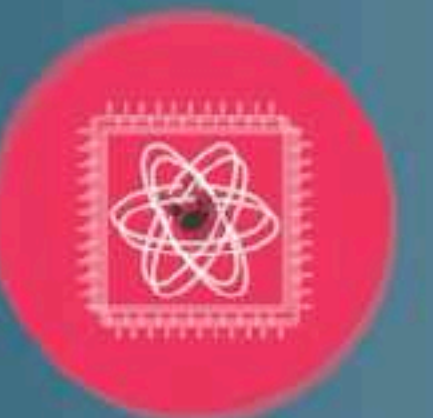
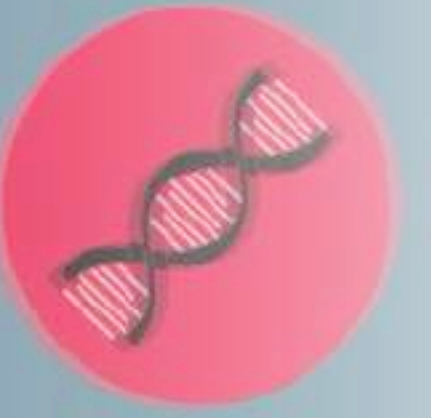
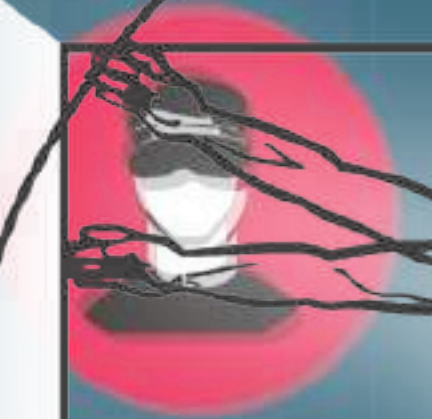
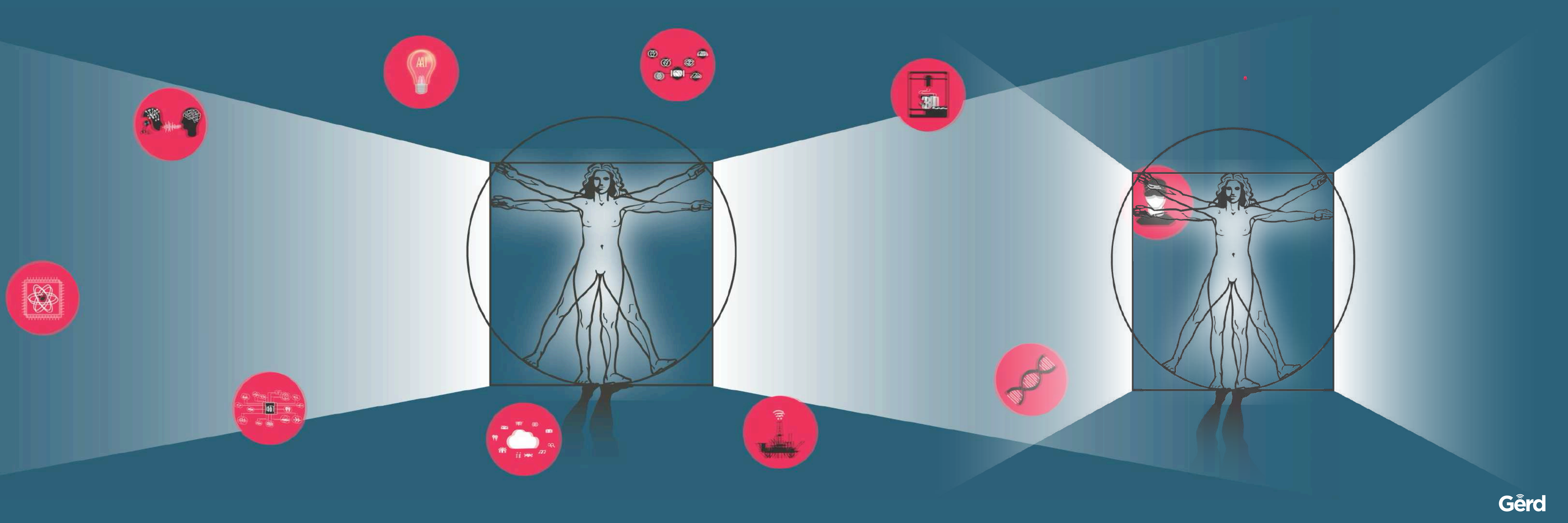
Source: Economic Policy Institute





# Digital Dividend?



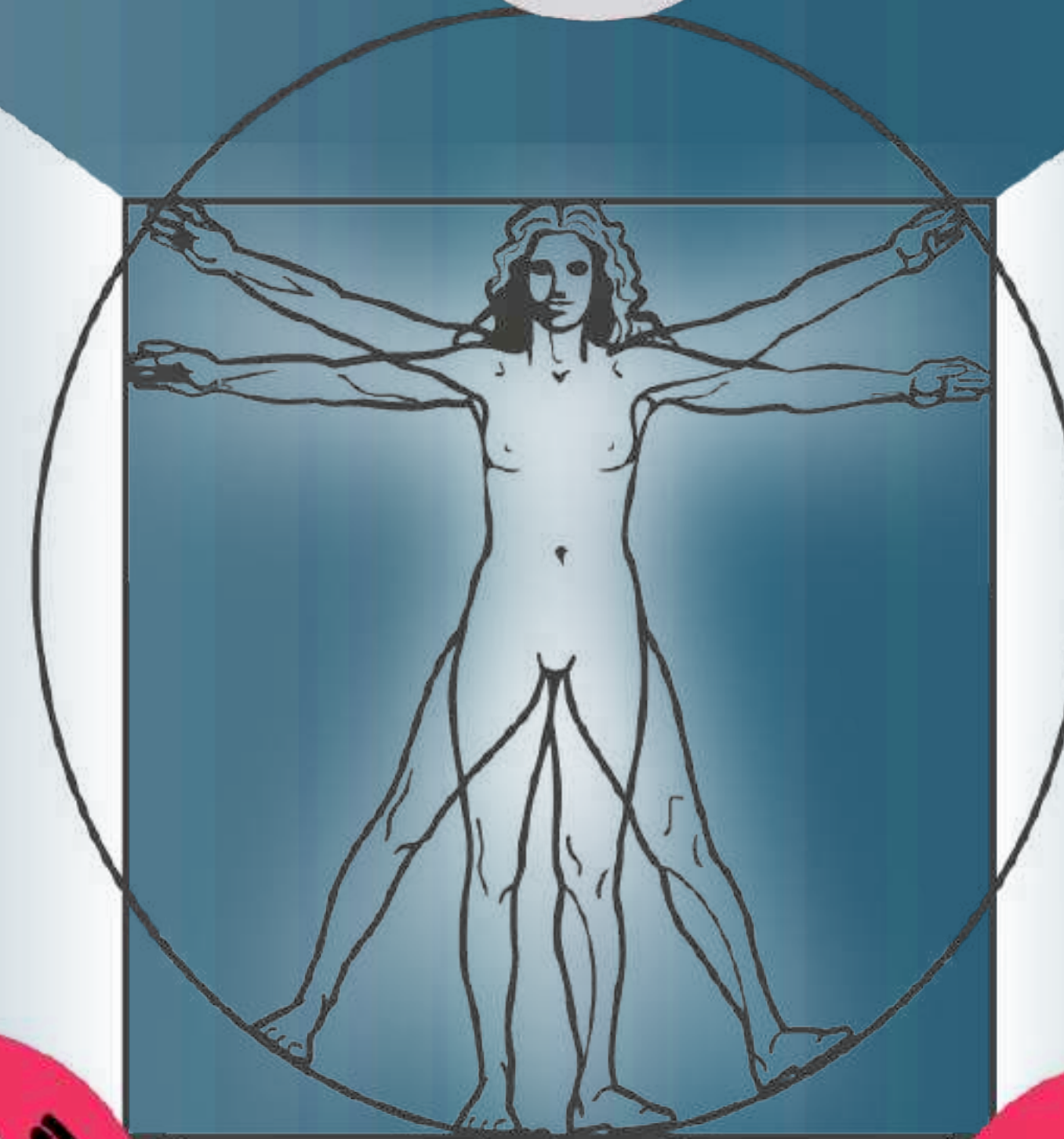


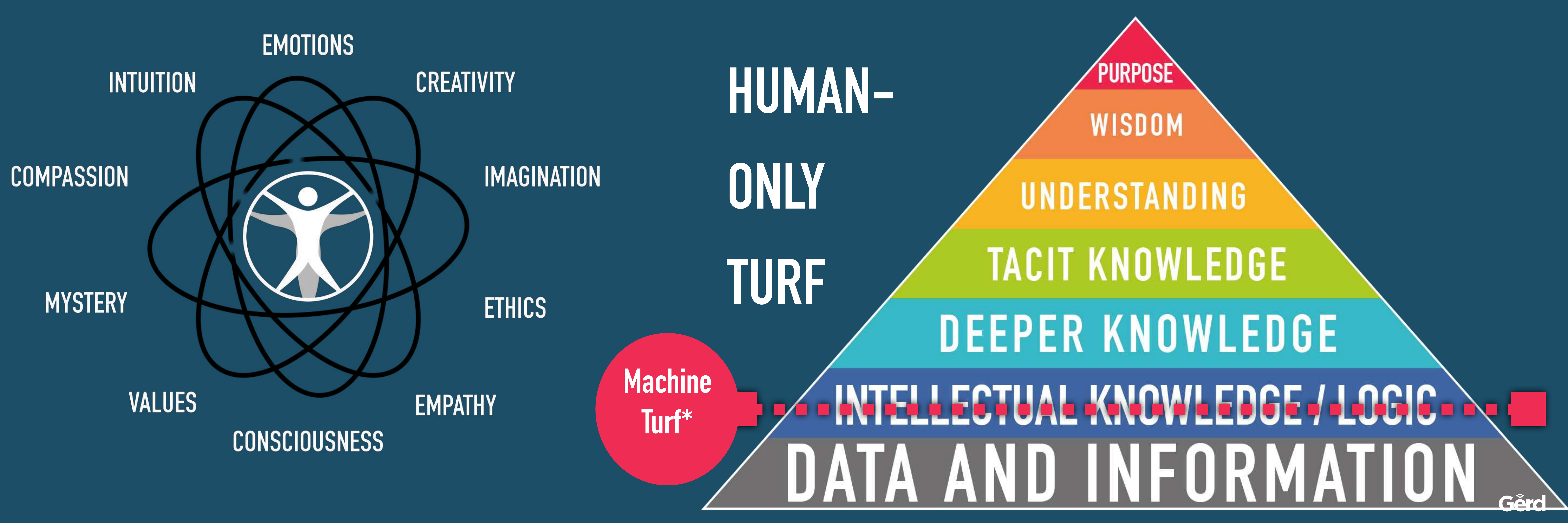
STEM

HUMAN

Science  
Technology  
Engineering  
Mathematics

Humanity  
Ethics  
Creativity  
Imagination





# As machines become smarter and take over many routines, **HUMAN-ONLY ATTRIBUTES** become invaluable \*

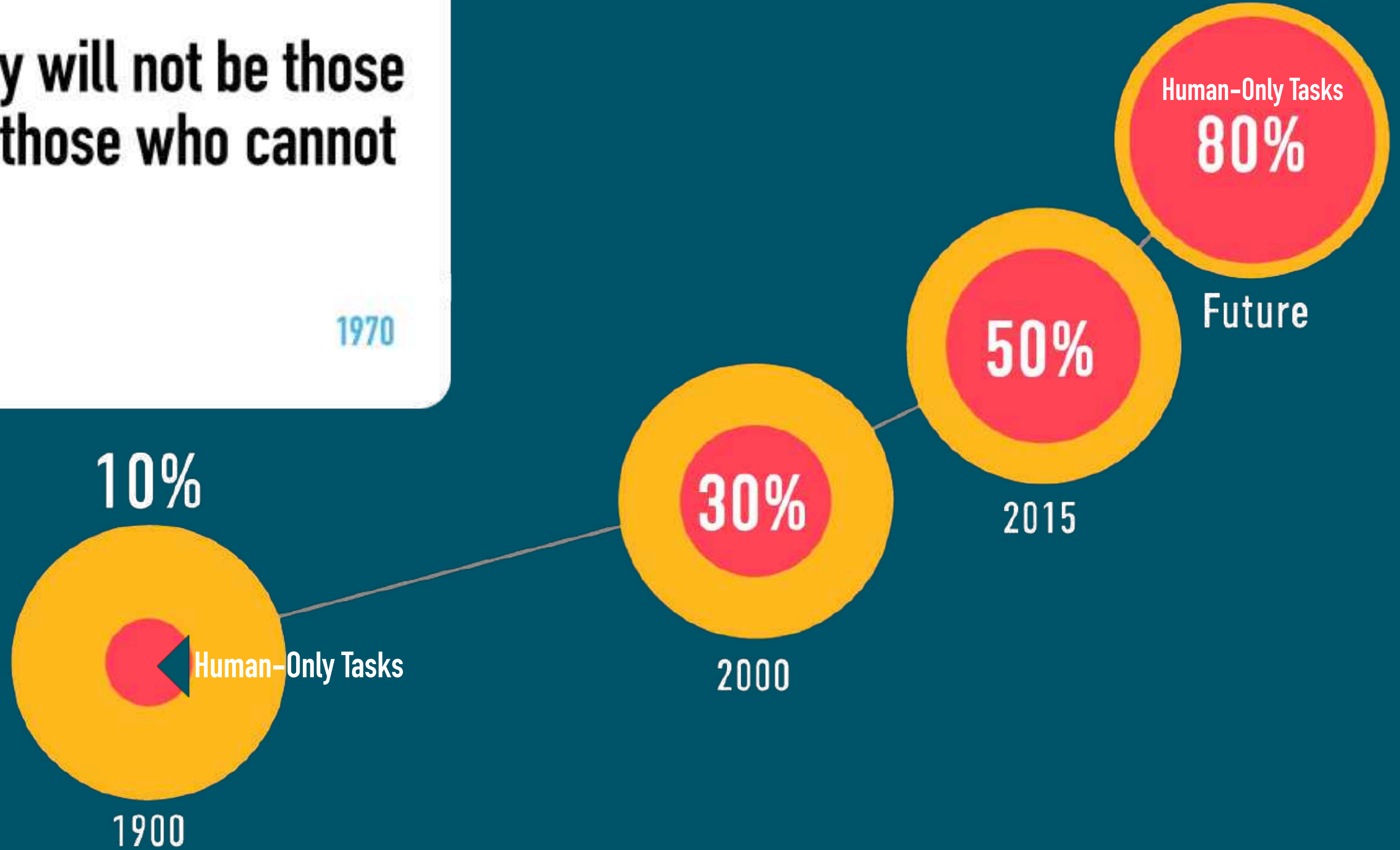


Alvin Toffler

“The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.”

148 425 828

1970



- ▶ Human Well-Being Agent
- ▶ Societal Risk Manager
- ▶ Ethics Specialist
- ▶ Data Bias Supervisor
- ▶ Nature Deficit Therapist
- ▶ Job & Occupation Inventor
- ▶ HI / AI Interface Manager
- ▶ Climate Change Actionist
- ▶ Rewilderer / Nature Agent
- ▶ Long-Term Thinker
- ▶ Digital Crafts Person

WHAT WE **REALLY** NEED TO LEARN:

Human Agency

Consciousness

Imagination

Intuition

Compassion

Empowerment

Resilience & Agility


Unorthodoxy

Creativity

Entrepreneurship

Courage

+++



Marshall McLuhan

“Education must shift from instruction, from the imposing of stencils on brain pens, as it were, to discovery — to probing and exploring and to the recognition of the language of forms.”

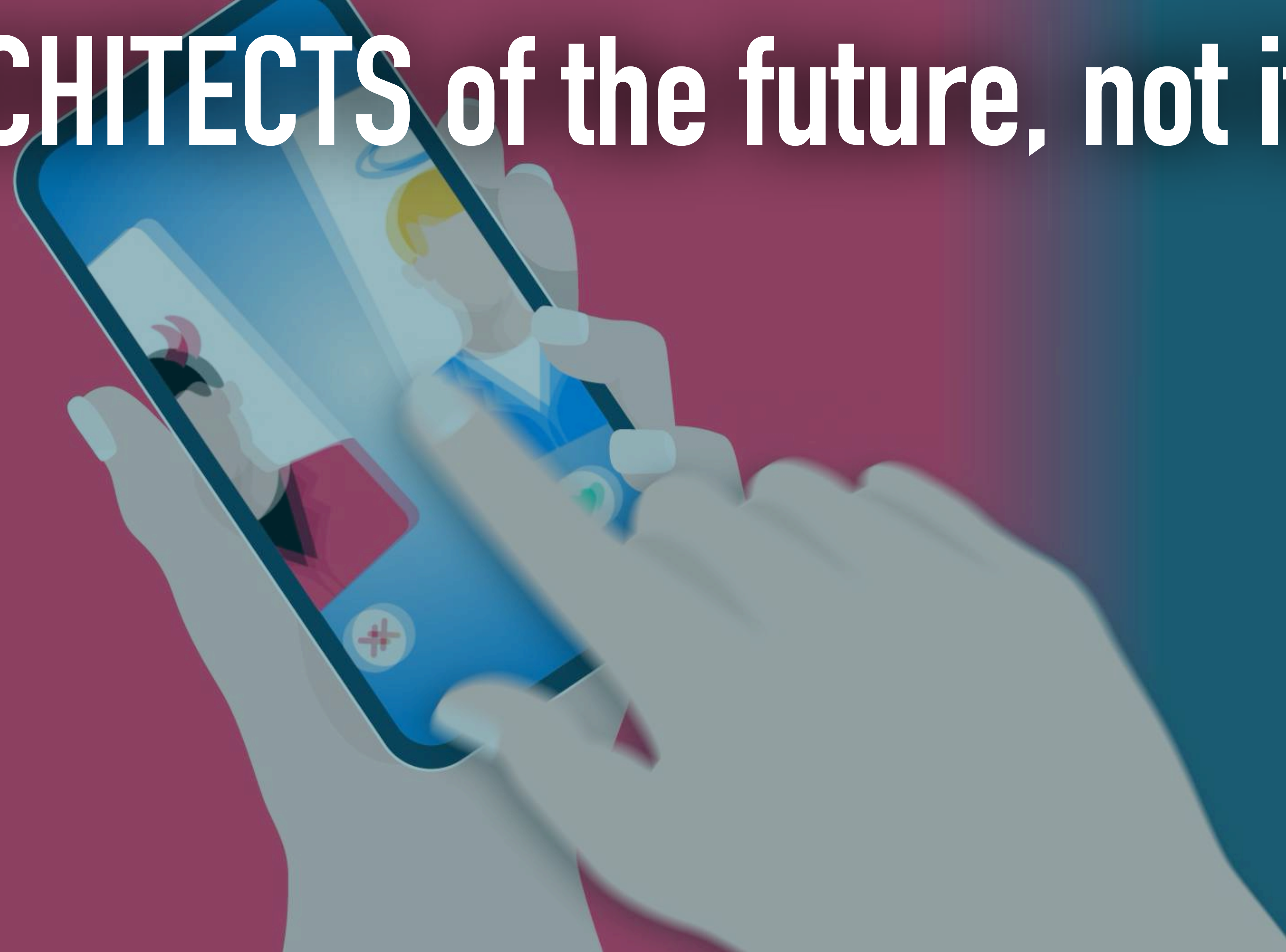
192 456 709



If you work / LEARN / think / act like a machine, the machines **WILL** take your job



We are to be the **ARCHITECTS** of the future, not its victims





# We are to be the ARCHITECTS of the future, not its victims

## Generative AI / CHATGPT 'Hell':

Unpredictable errors, hallucinations, bias, lies

Fabricated realities based on illusions & simulations

Automation of important human narratives

Catalyst of de-humanisation and de-skilling

Driver of reductionism & abdication

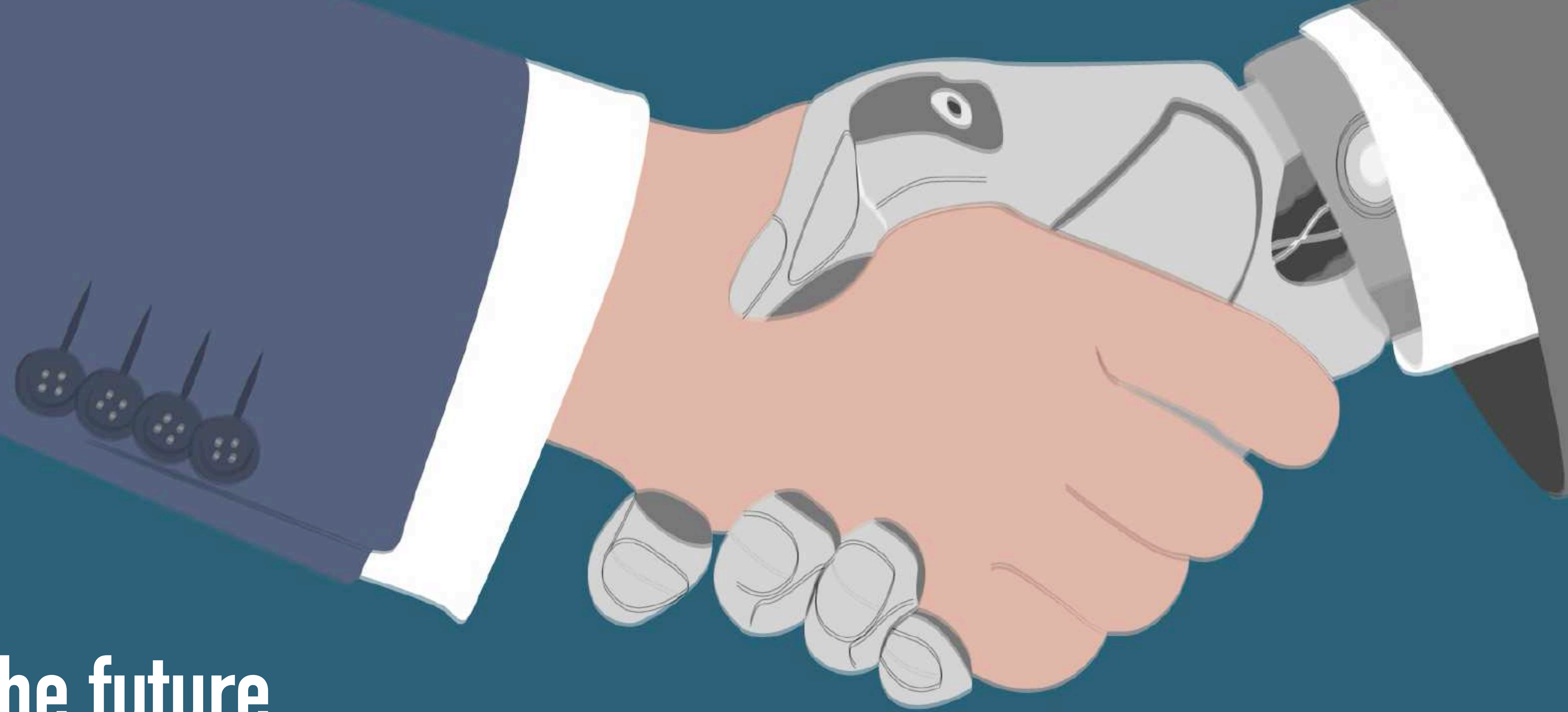
## Generative AI / CHATGPT 'Heaven':

Vast efficiency and productivity gains by offloading a lot of 'commodity work' and shifting DEEP ROUTINES to machines.

Accelerating routine human knowledge work, research and discovery.

Enabling R&D leaps in every sector.

Balance | Safety | Security | Ethics | Control | TRUST | Policy | Standards | Regulation



ARCHITECTS of the future

# ARCHITECTS of the future

```
<header class="page-header">  
  <h1> "TECHNOCRATIC OATH" </h1>  
</header>  
<body class="collections--feature collections">  
  <noscript class="header-noscript bg__state--red text__general--text-inverted">  
    <div class="notification__content">  
      <h3> "I hereby pledge to place humanity  
        over technology in every decision" </h3>  
    </div>  
  </noscript>  
</body>
```



PEOPLE

PURPOSE



PLANET

PROSPERITY

If?

How?



```
<header class="page-header">  
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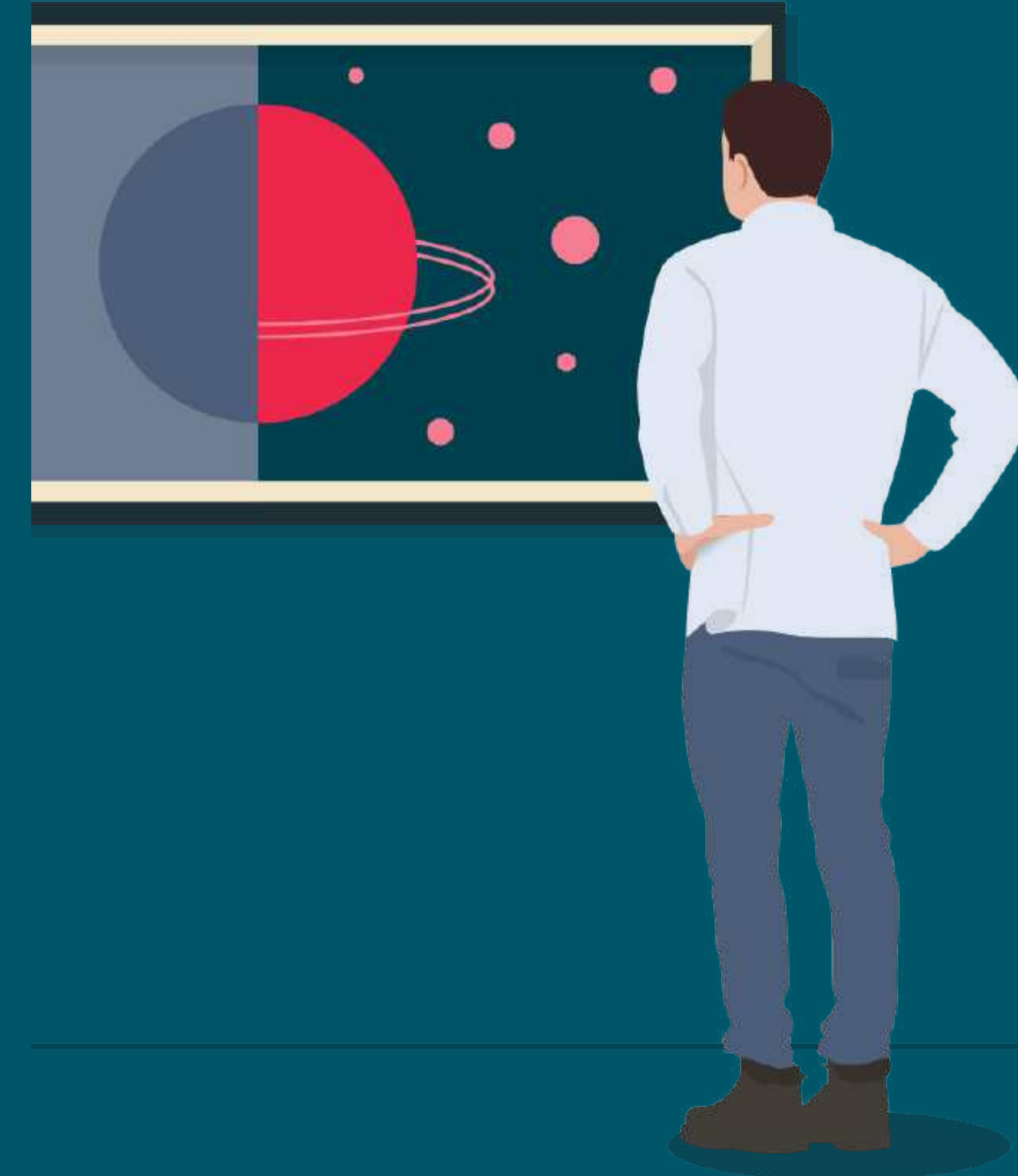
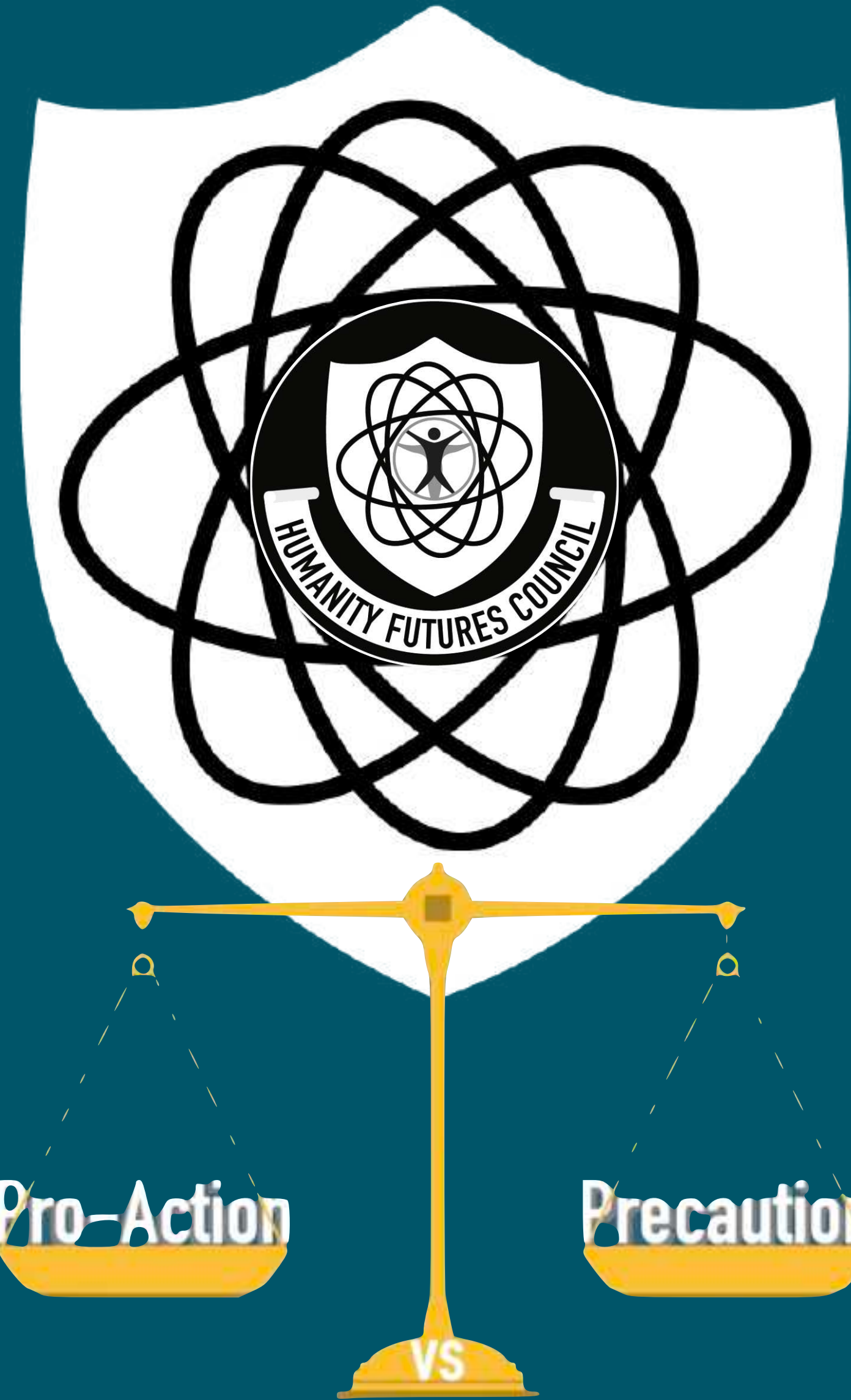
# If?



```
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    </div>  
  </noscript>  
</body>
```

# How?

# 5 Keys to The Good Future of Education:



# Your Mindset contains your Future\*

THE GOOD FUTURE



Congrès  
mondial  
2023

World  
Congress  
2023

Intelligence  
collective

Collective  
Intelligence



*Thanks for your time  
and attention*

*Merci pour votre temps  
et attention*



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