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Gerd Leonhard

Futurist, CEO The Futures Agency,
Author of Technology vs. Humanity



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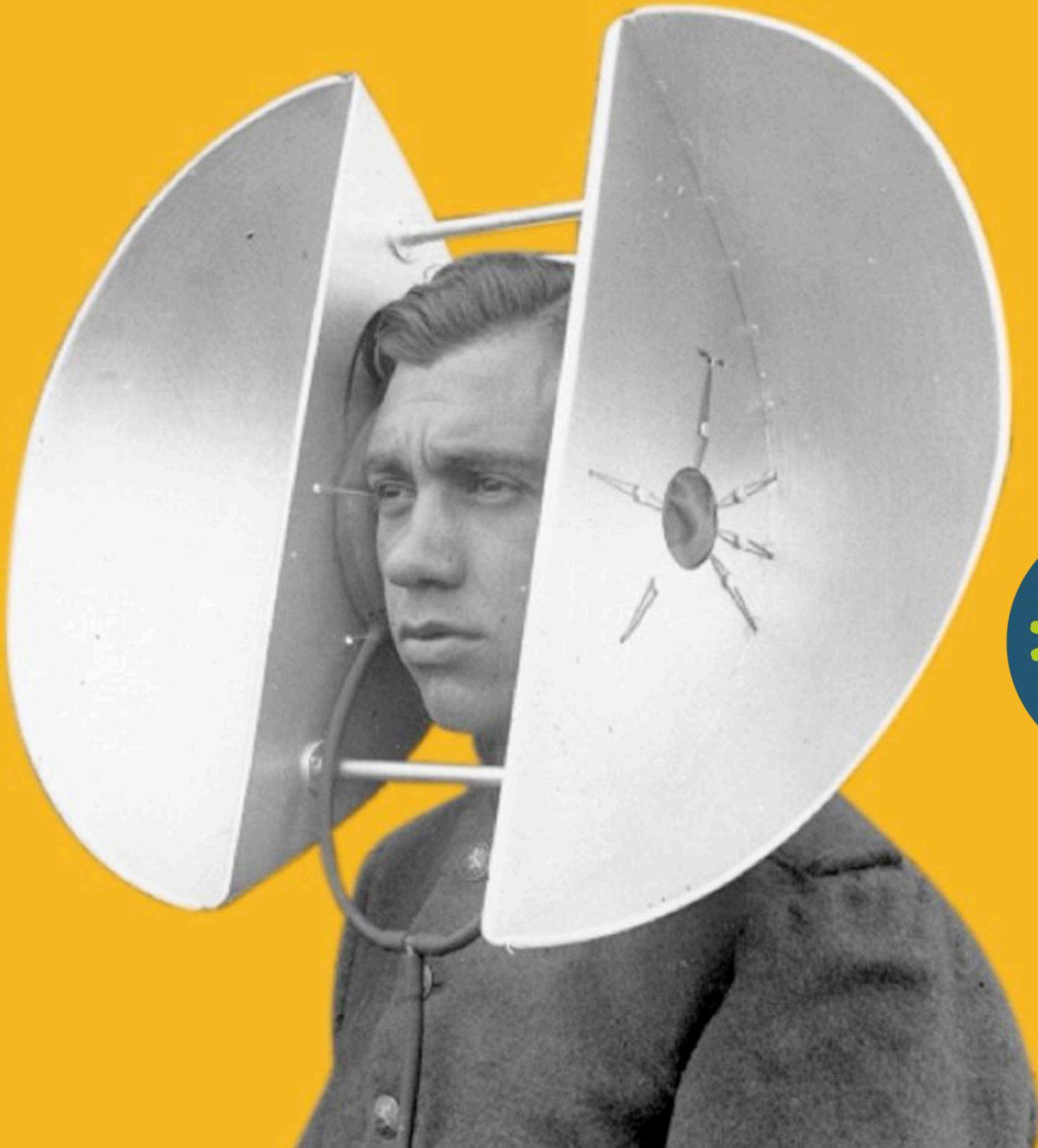
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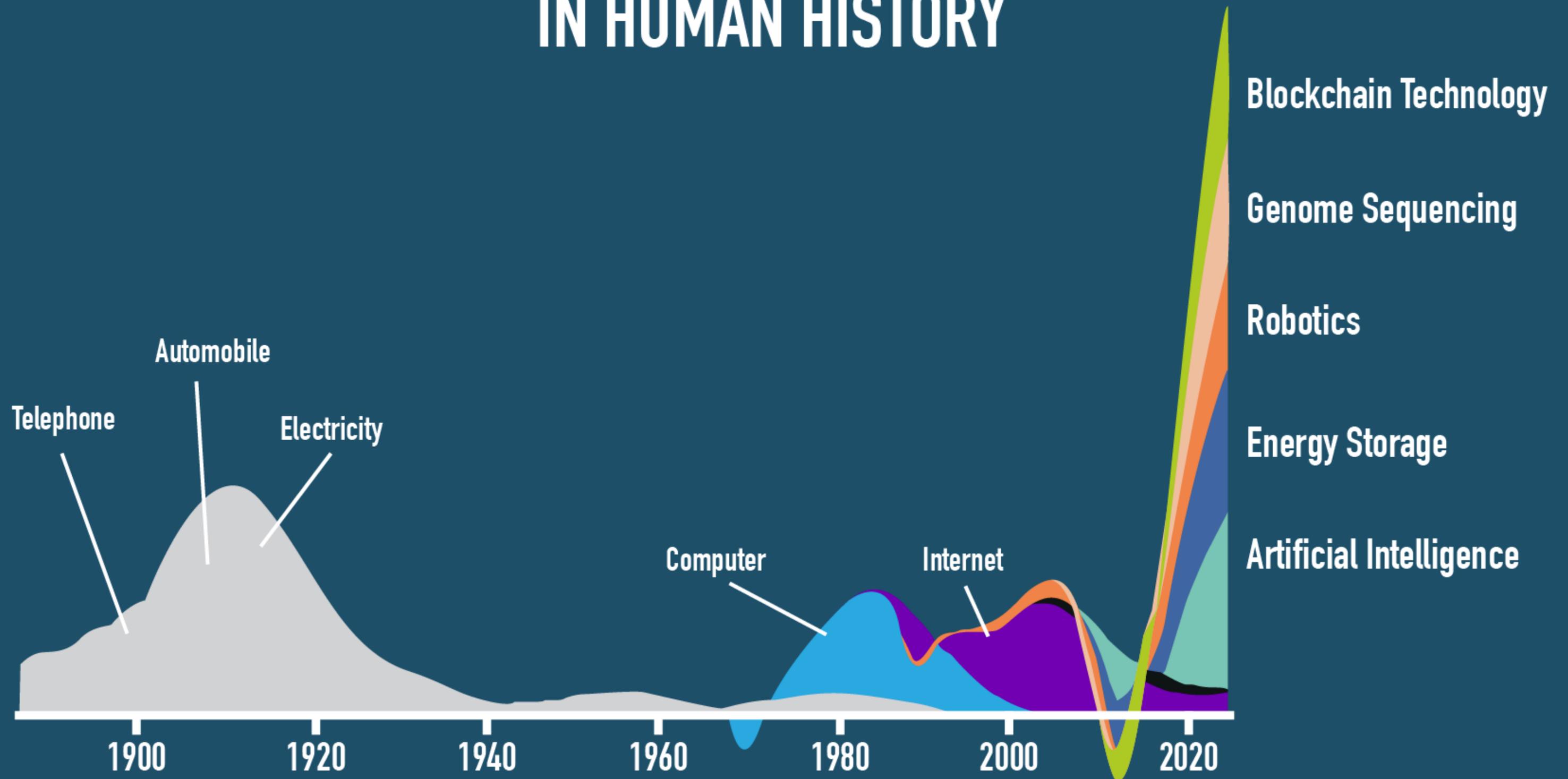
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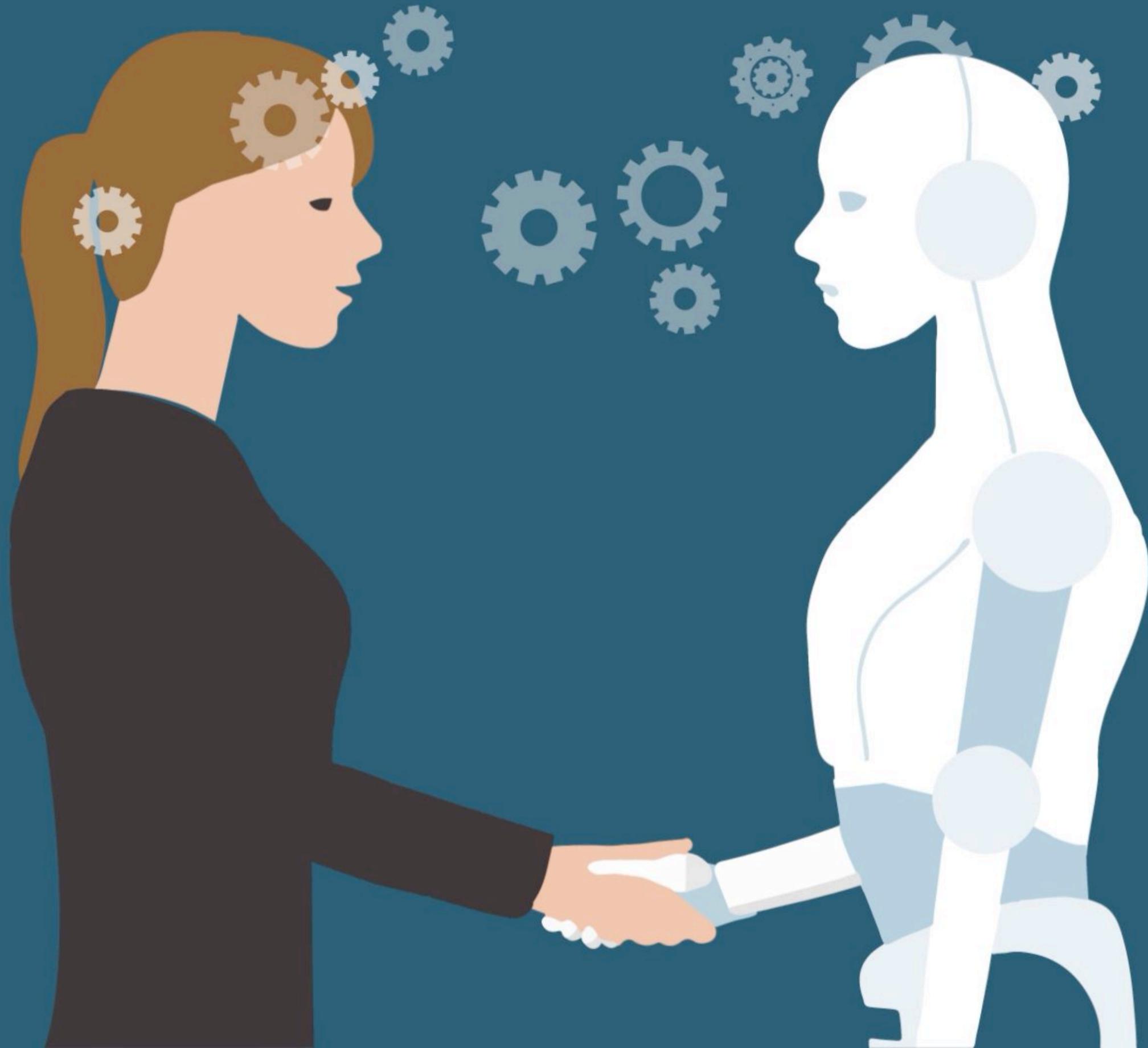


Our world is going to change more in the next 20 years than in the previous 300 years



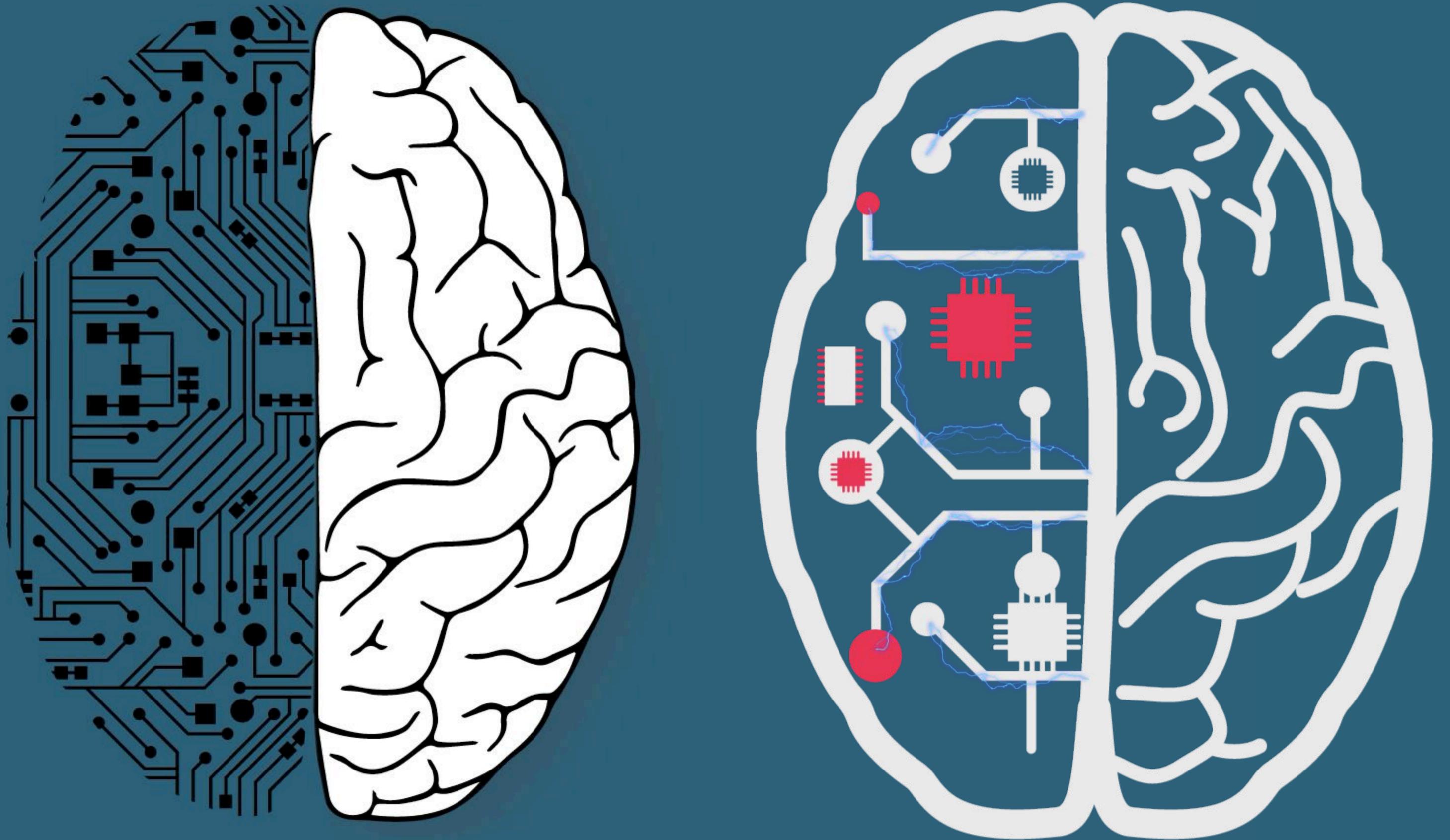
THE BIGGEST TECHNOLOGICAL TRANSFORMATION IN HUMAN HISTORY





A red, oval-shaped smart speaker with a textured fabric top and a smooth plastic bottom. Five small, glowing white dots are arranged in a slight arc on the top surface. The speaker is placed on a dark, reflective surface. In the background, a white rectangular object is partially visible.

This is a horse.



ELON MUSK BELIEVES HE CAN

MERGE OUR MINDS

WITH MACHINES

9920 8585.0333405

His new venture, Neuralink,
is a thin mesh device

THAT WILL BE

INSERTED INTO HUMAN SKULLS

TO CREATE AN INTERFACE WITH THE BRAIN

How far would YOU take this?

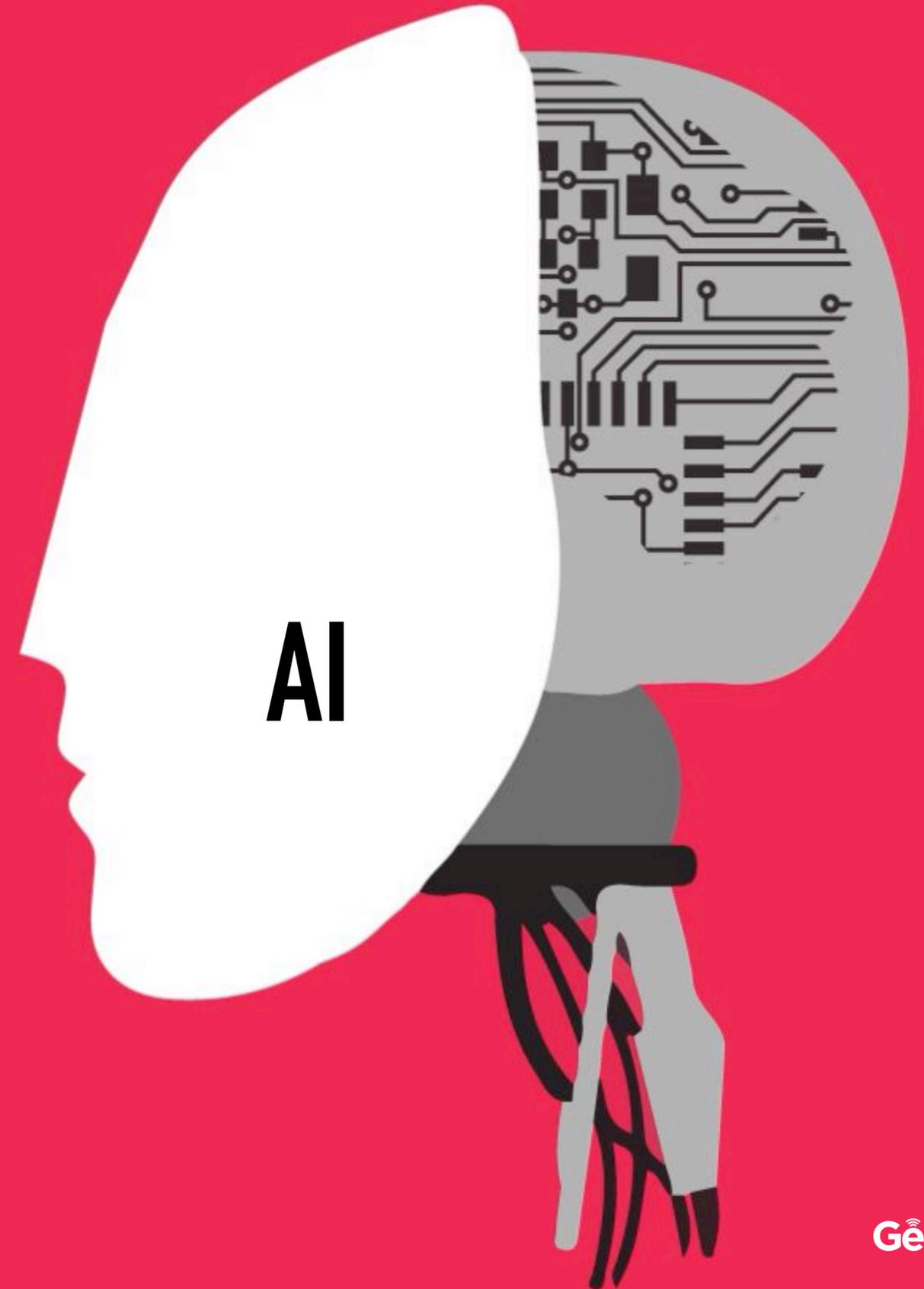


We think with the body not just with the brain! (Seligman, Feldenkrais et al)





HI



AI

Algorithms can outperform human intelligence when it is NOT about understanding emotions, intentions, interpretations, consciousness, self-awareness aka **#androrithms**





**Machines
don't do
relationships!**

**Today, the biggest danger is not that machines will eliminate us
but that we become too much like them!**



The Game Changers

“Gradually, then suddenly” is the new normal

e^x

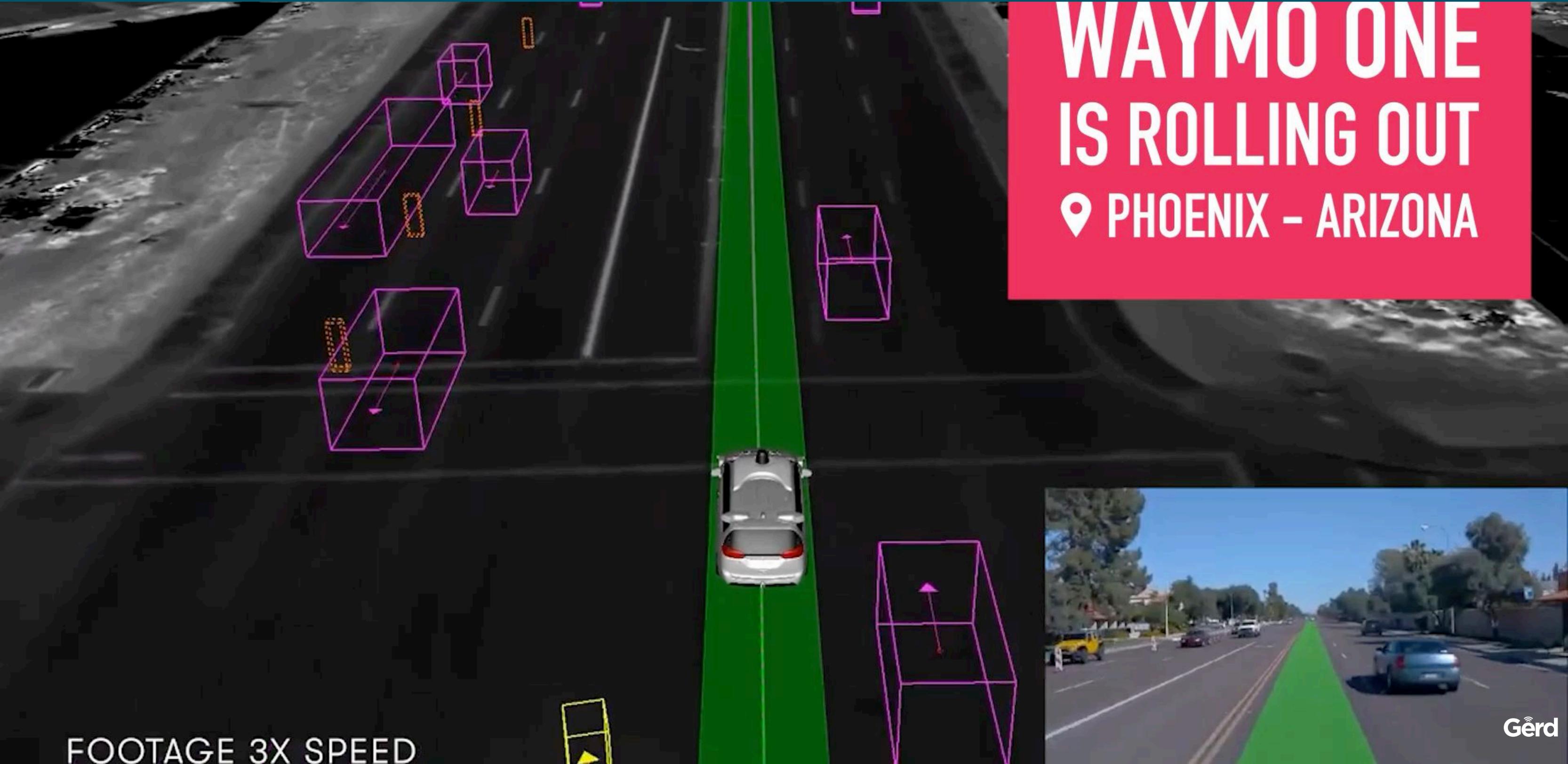
EXPONENTIAL



CONVERGENT

1 2 **4** 8 16 32 64 128 256 512

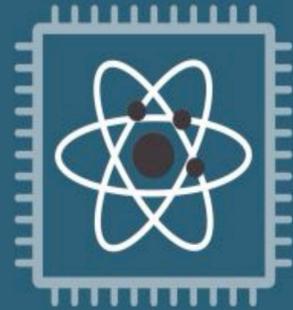
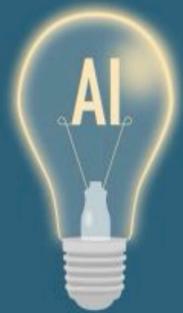
Science Fiction is becoming Science Fact



WAYMO ONE
IS ROLLING OUT
📍 **PHOENIX - ARIZONA**

FOOTAGE 3X SPEED





NOW

**DATA EVERYTHING
CONNECTED EVERYTHING**

CLOUD EVERYTHING

COMPUTE ANYTHING

SMART EVERYTHING

TRANSACT ANYTHING

SEE EVERYTHING

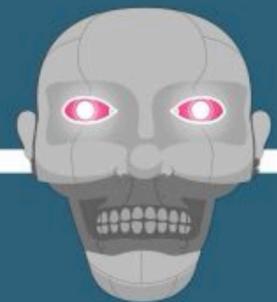
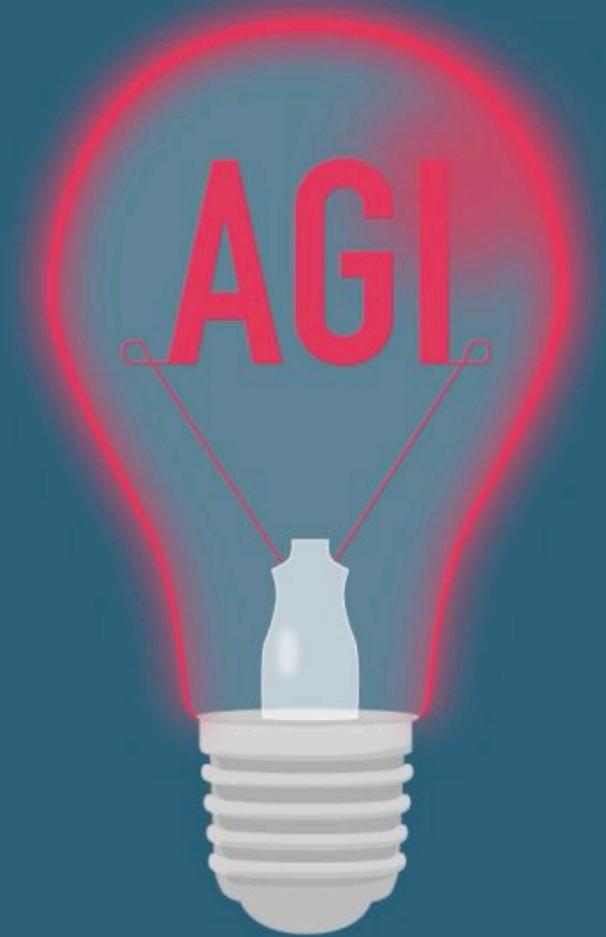
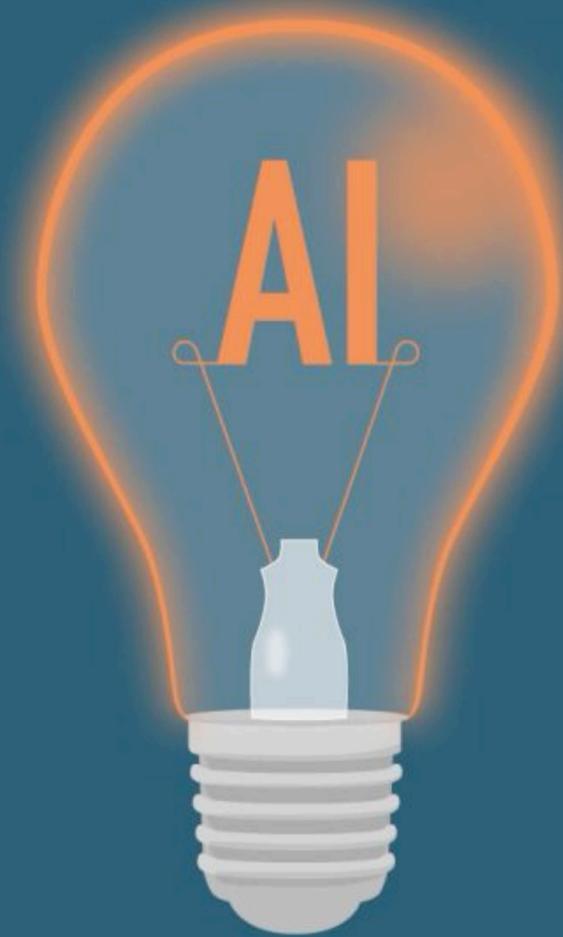
MAKE (BE) ANYTHING

DATA is the new oil. The CLOUD is where we store it. AI is how we make sense of it. But: HUMAN BENEFIT must remain at the core.

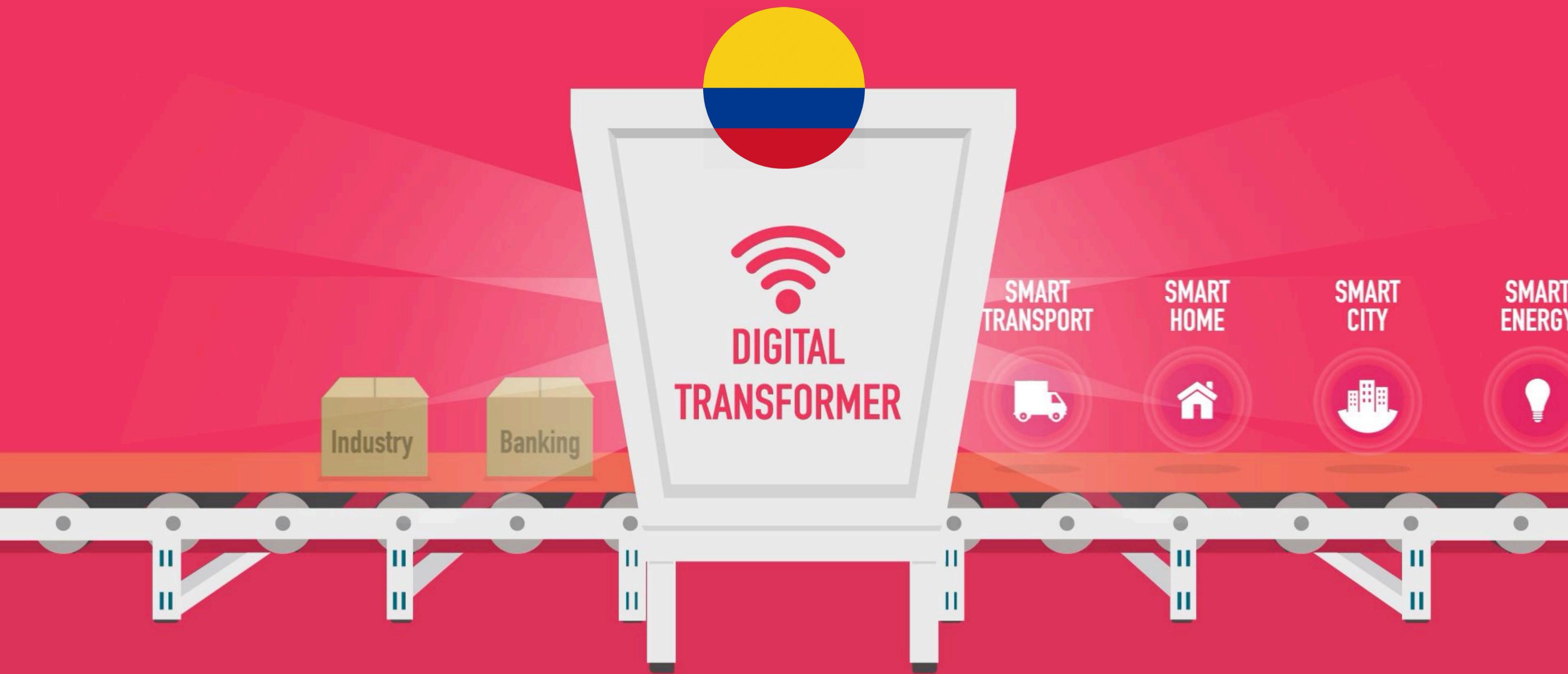




Thinking machines: Be careful what you wish for!



Smart Everything: Industry, Cities, Agriculture, Banking, Energy, Government, Transportation*



Smart **AND** Trusted & Human





Responsibility | Accountability | Ethics: TRUST

CNN BUSINESS

Marc Benioff
Founder, Co-CEO Salesforce

Salesforce bans companies that sell certain types of guns from using its software

Lauren Feiner • Published Thu, May 30 2019 12:26 PM EDT



Salesforce has updated its policy to turn away customers that sell a wide range of firearms to private citizens online, including a small number of existing clients.

Protesters call on Salesforce to end contract with border patrol agency

'They are profiting off the suffering of immigrants,' one protester said

Salesforce hires its first chief ethical and humane use officer following Benioff's criticism of Facebook

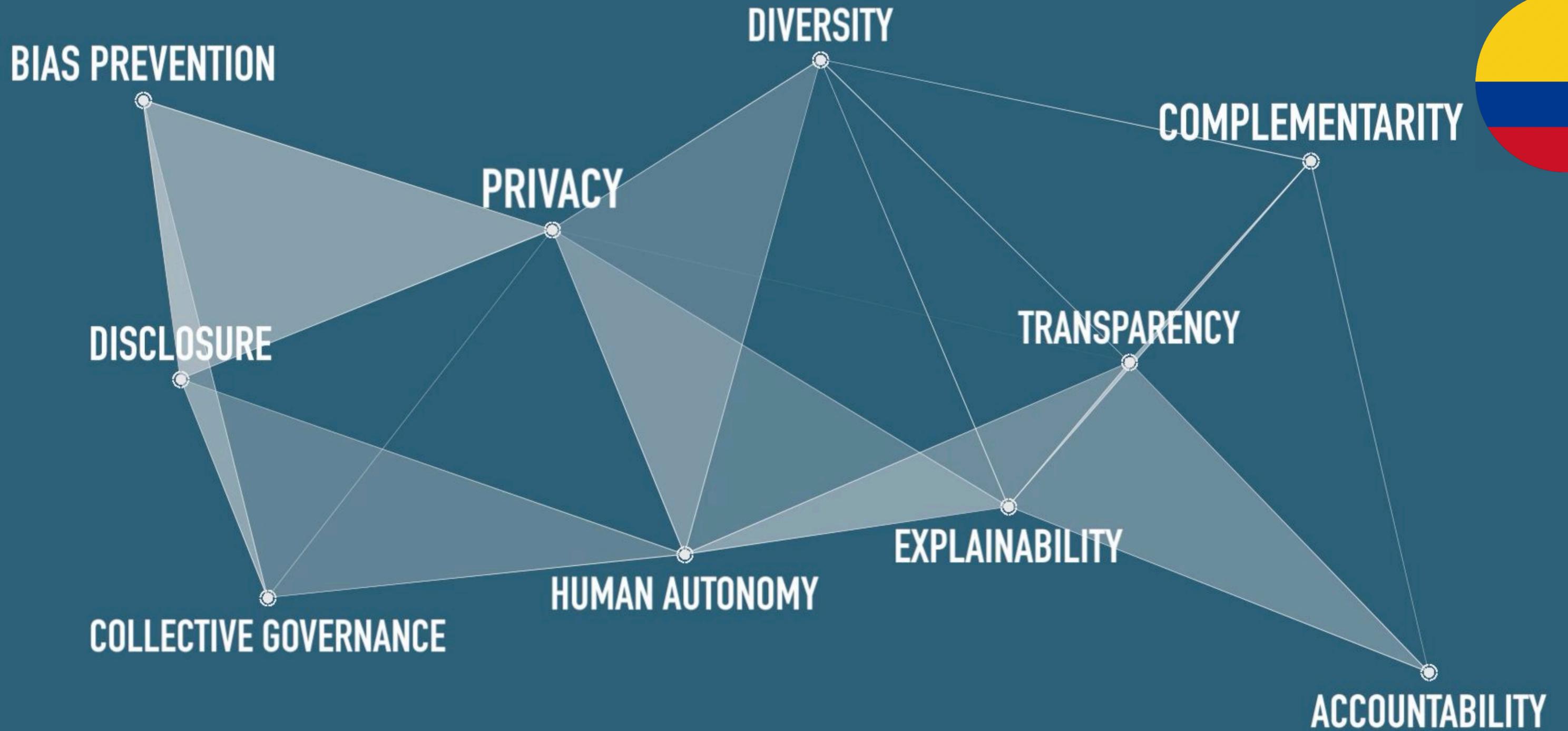
Lauren Feiner
Published Mon, Dec 10 2018 1:11 PM EST
Updated Mon, Dec 24 2018 3:31 PM EST



Marc Benioff, CEO of SalesForce at DreamForce in San Francisco on Sept. 25th, 2018. CNBC



Every leading organisation will hire a Chief Ethics Officer within the next 3 years



"Ethics is knowing the difference between what you have a right (or the power) to do and what is the right thing to do"

adapted from Potter Stewart

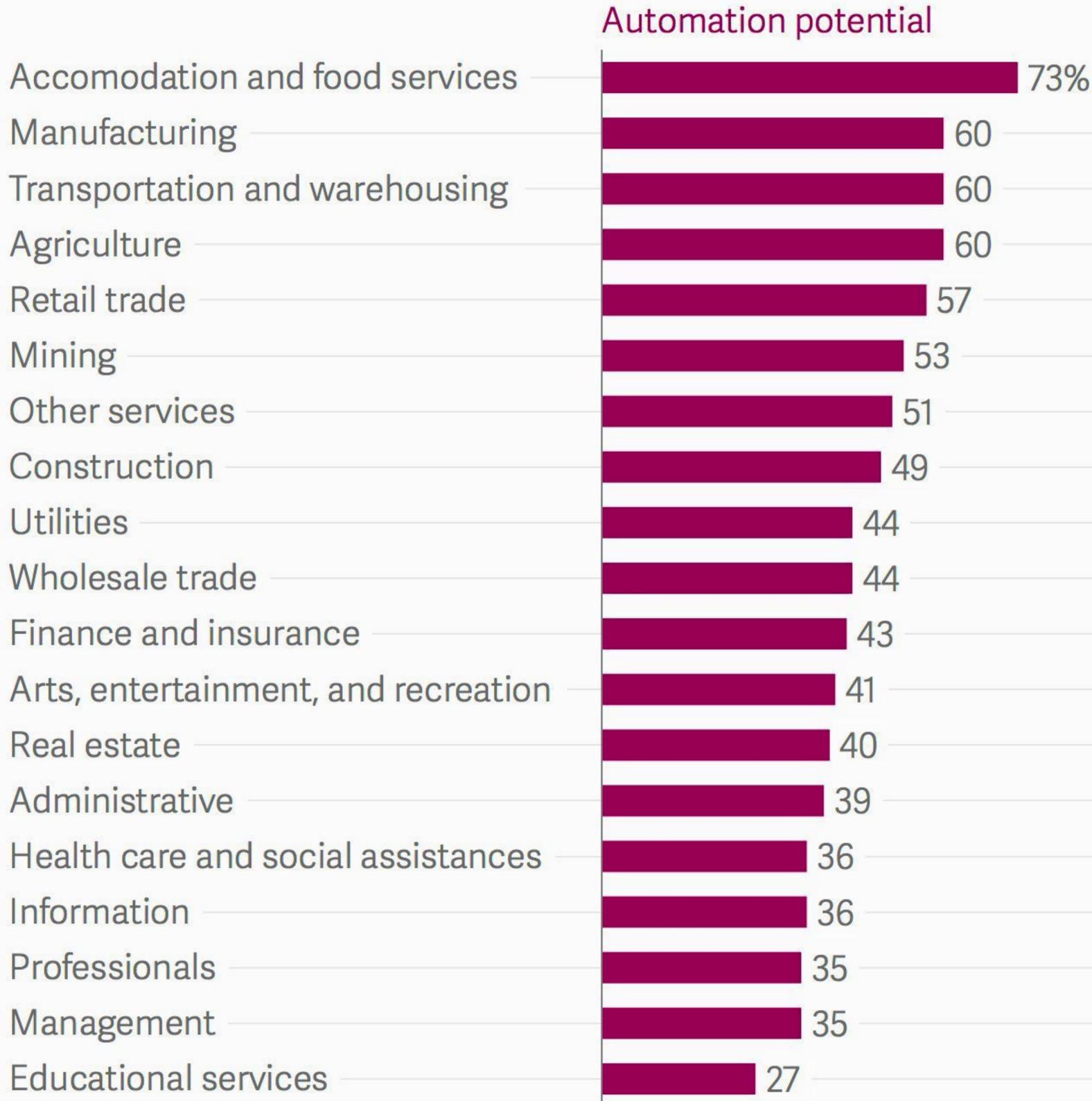


Anything that can be digitized, automated or virtualized, will be . . .





Automation can replace at least some work in almost all job sectors

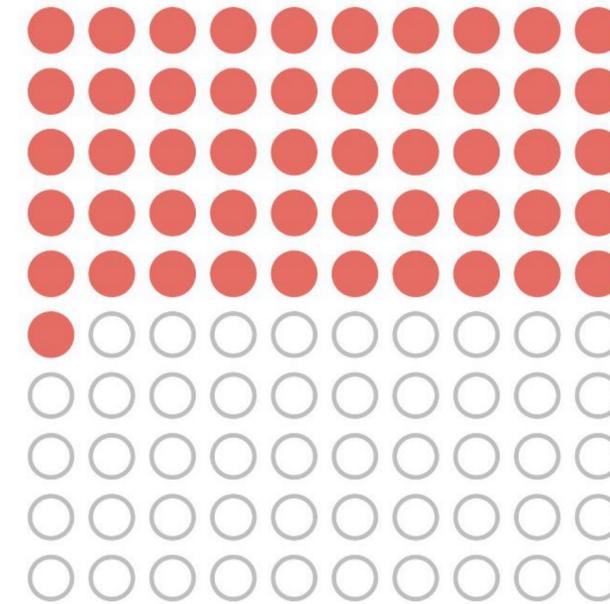


△ T L △ S | Data: US Bureau of Labor Statistics; McKinsey Global Institute analysis



Public Speaker

Arts Professionals



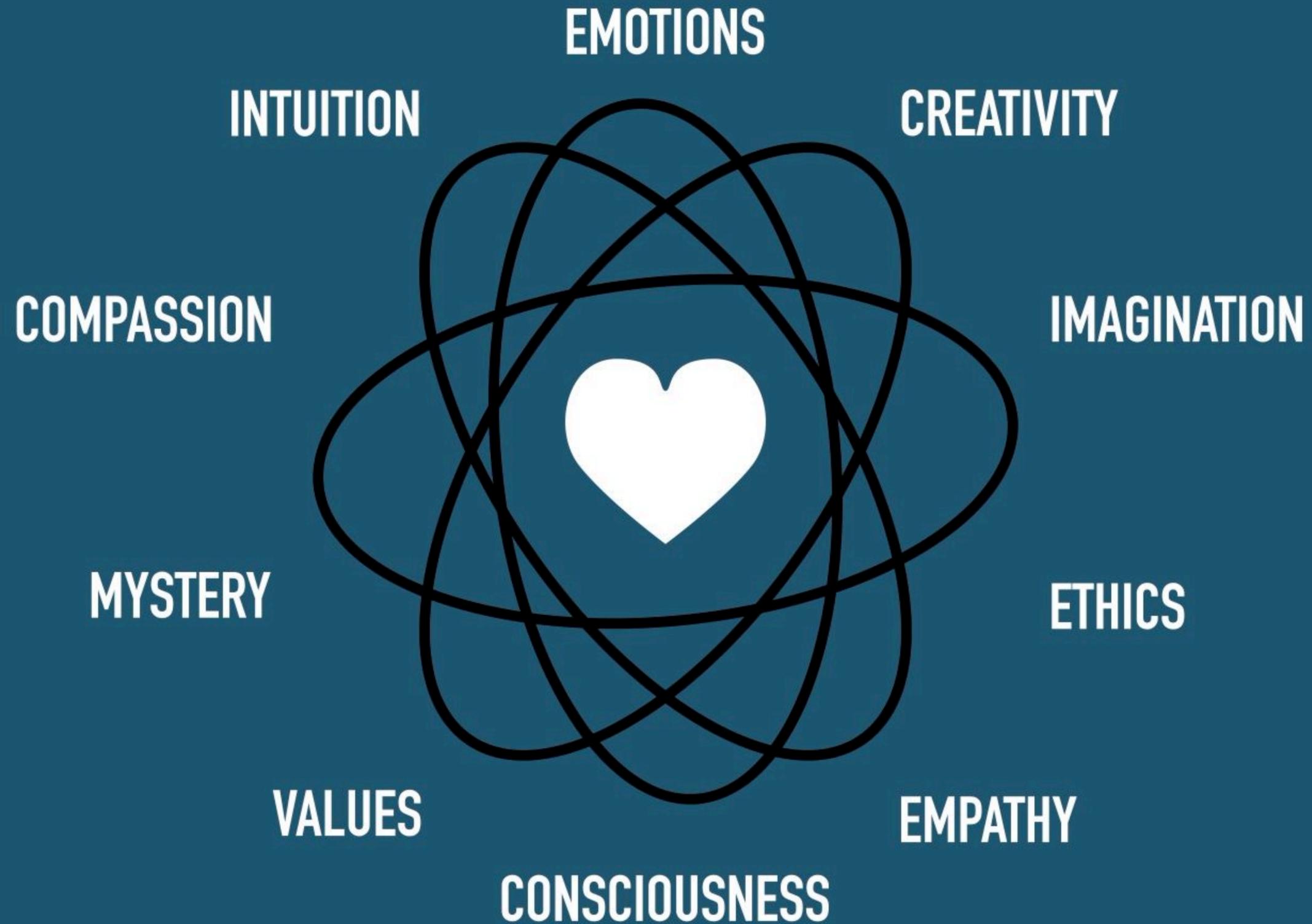
Hmm,
51%

of your job is more susceptible to automation.

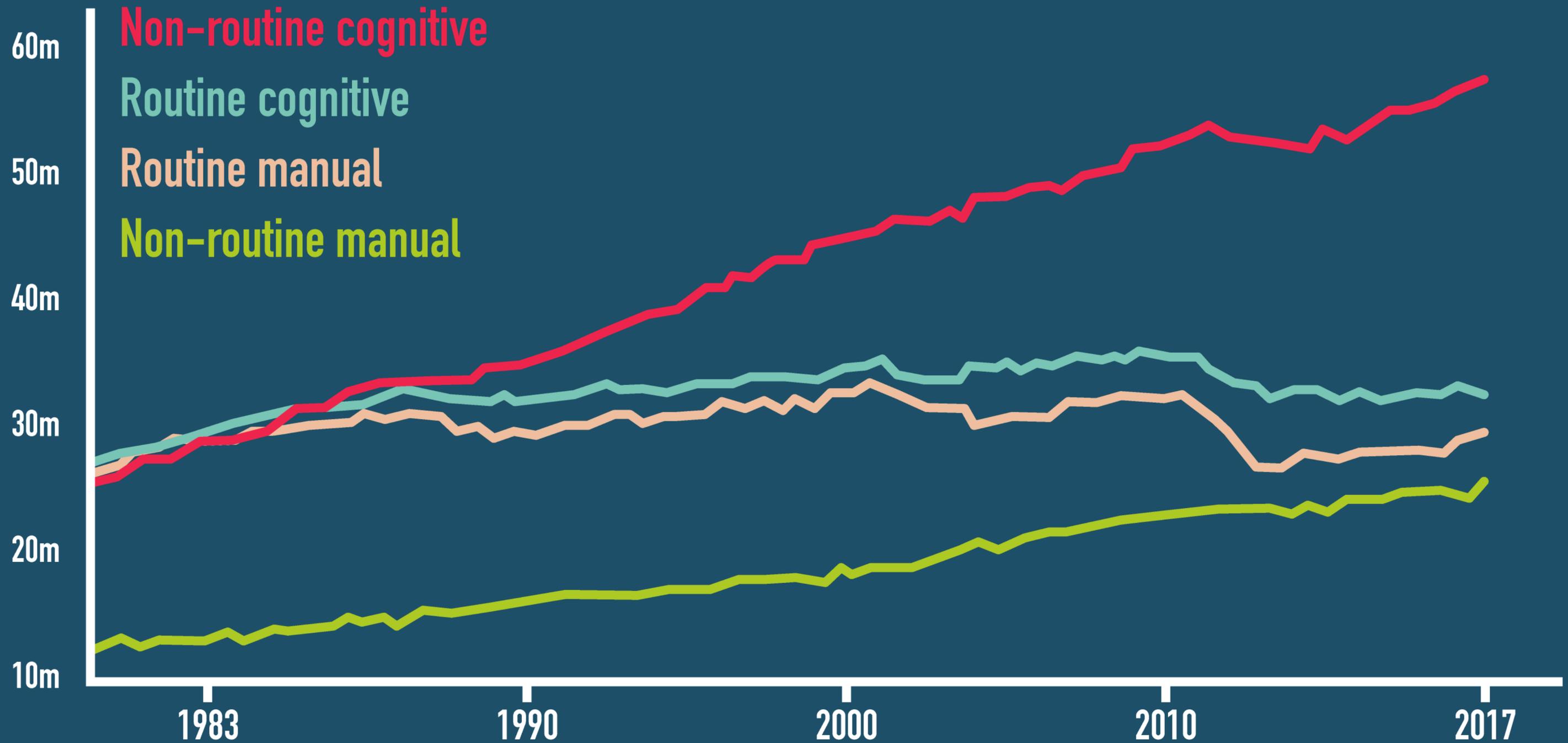
Some of your tasks that are easier to automate are...

- Review art or design materials.
- Study details of musical compositions.
- Review production information to determine costume or makeup requirements.
- Read work orders or other instructions to determine product specifications or materials requirements.

But anything that **CANNOT** be digitised or automated, becomes extremely valuable



NON-ROUTINE WORK IS THE FUTURE!



PURPOSE

PASSION

CURIOSITY



IMAGINATION

FORESIGHT

CRITICAL THINKING

2015

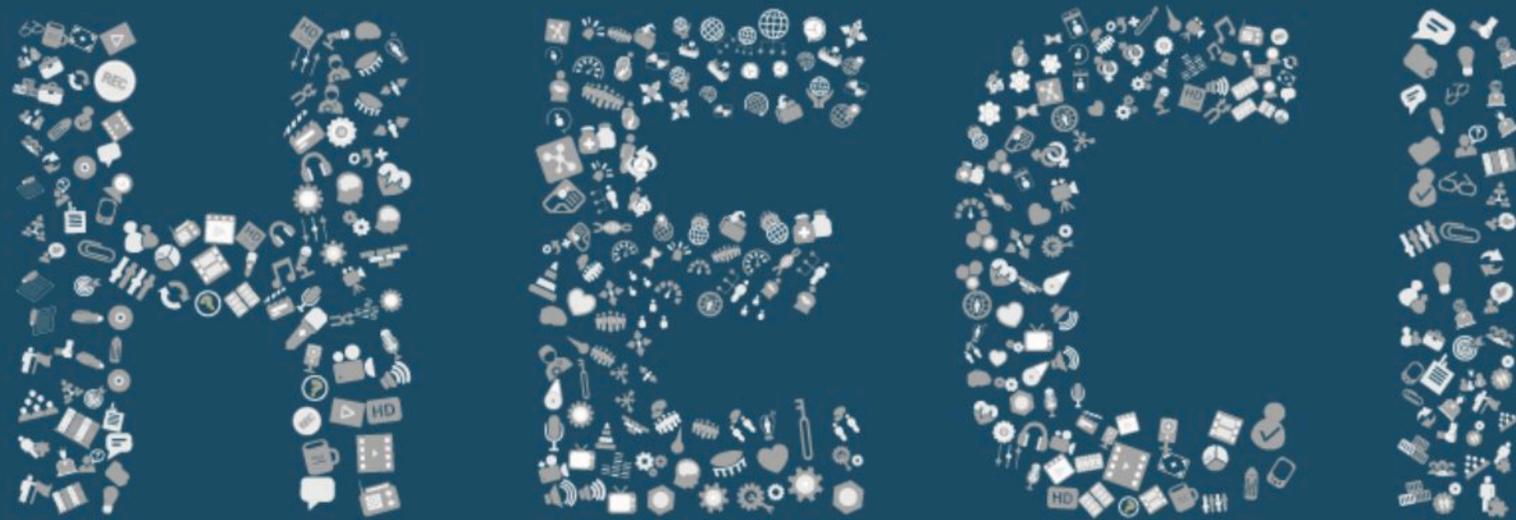
- 1 Complex Problem Solving
- 2 Coordinating with Others
- 3 People Management
- 4 Critical Thinking
- 5 Negotiation
- 6 Quality Control
- 7 Service Orientation
- 8 Judgement and Decision Making
- 9 Active Listening
- 10 Creativity

2020

- 1 Complex Problem Solving
- 2 **Critical Thinking**
- 3 **Creativity**
- 4 People Management
- 5 Coordinating with Others
- 6 **Emotional Intelligence**
- 7 Judgement and Decision Making
- 8 Service Orientation
- 9 Negotiation
- 10 **Cognitive Flexibility**



Science
Technology
Engineering
Mathematics



Humanity
Ethics
Creativity
Imagination

Automation will have vastly more impact than globalisation: Time to prepare!



**“Automation is good for growth and bad for equality”
(Christine Lagarde, the IMF)**



Hyper-collaborate don't hyper-compete. Grow TOGETHER.

EGO

ECO



2 major 'environmental' challenges



Unsustainable and outmoded 'industrial society' logic is destroying our environment

GLOBAL ENERGY USE

A TWENTY-FOLD INCREASE



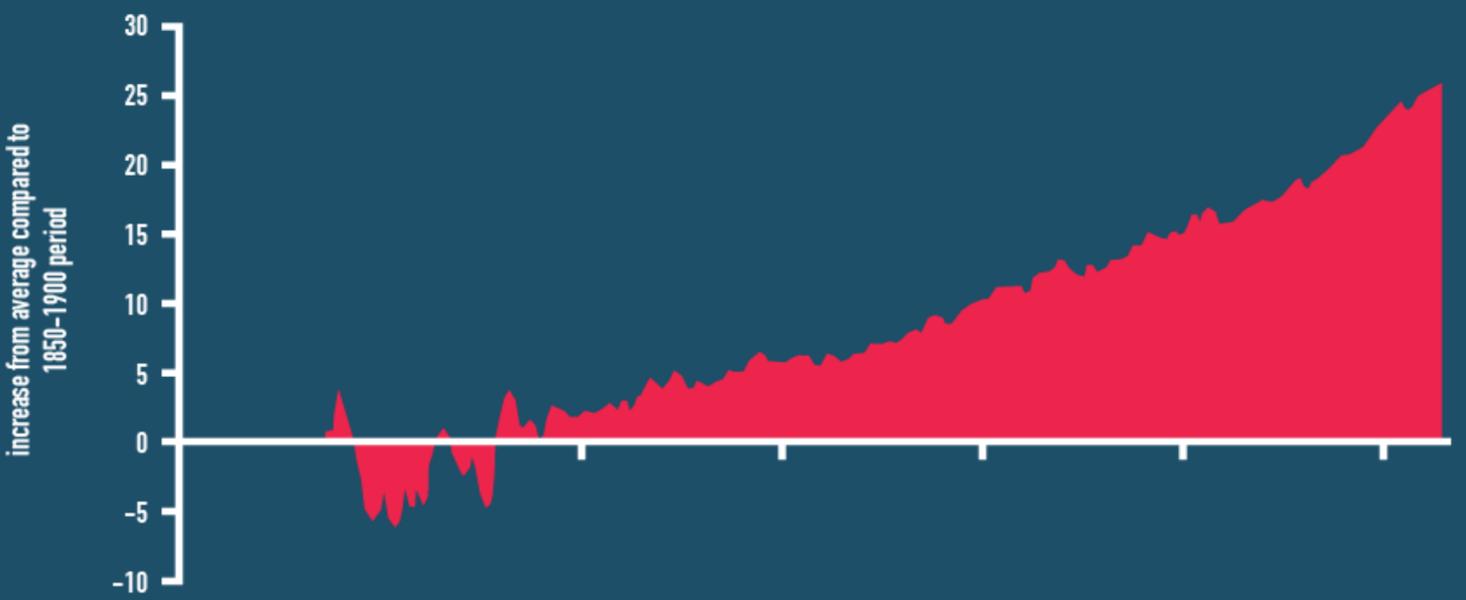
GLOBAL GDP

A HUNDRED-FOLD INCREASE



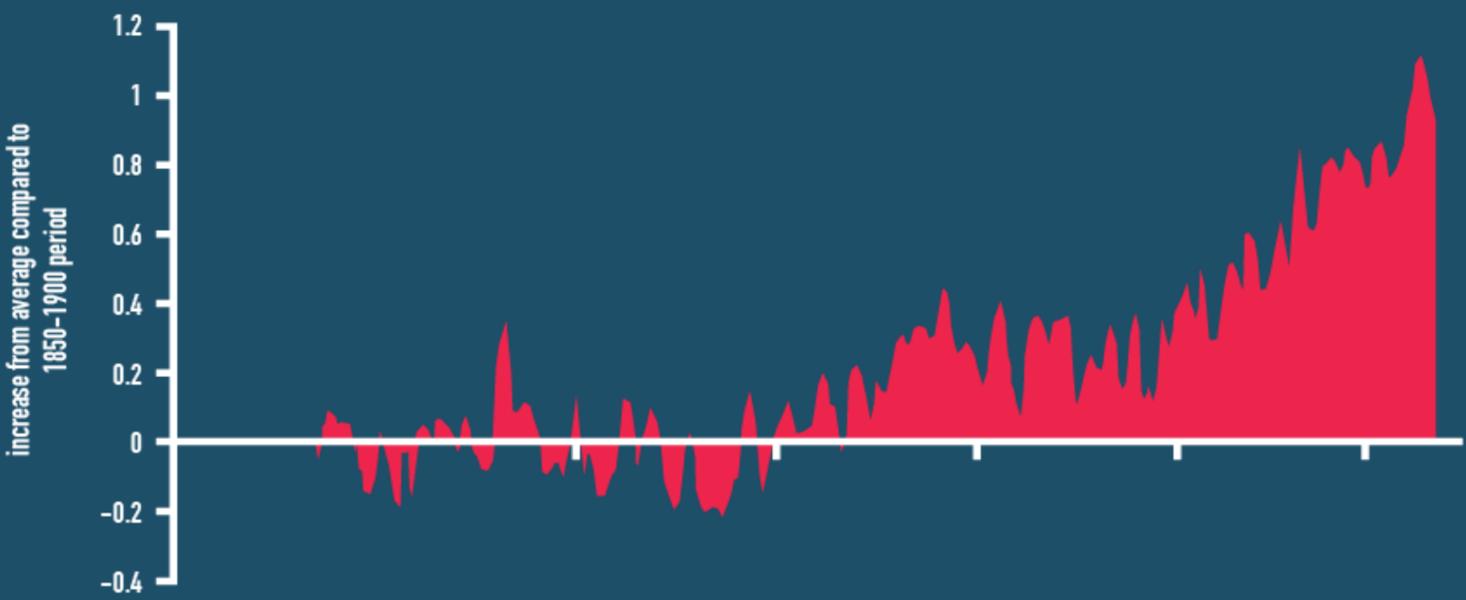
GLOBAL SEA LEVEL

A 25CM INCREASE



GLOBAL SURFACE TEMPERATURE

A 1°C INCREASE



Source: Exponential View Scale: last 150 years

Unrestrained 'technology & information society' – logic will destroy our societal fabric



Too much of a good thing can be a very bad thing (surveillance & platform capitalism)



GOVERNMENT must monitor, supervise and regulate.

INDUSTRY LEADERS must be accountable.

USERS must make informed choices.



Sustainable Capitalism



“GNP (GDP) measures everything except that which makes life worthwhile”

Senator Robert F. Kennedy

March 18 1968



The 6 Future-Principles

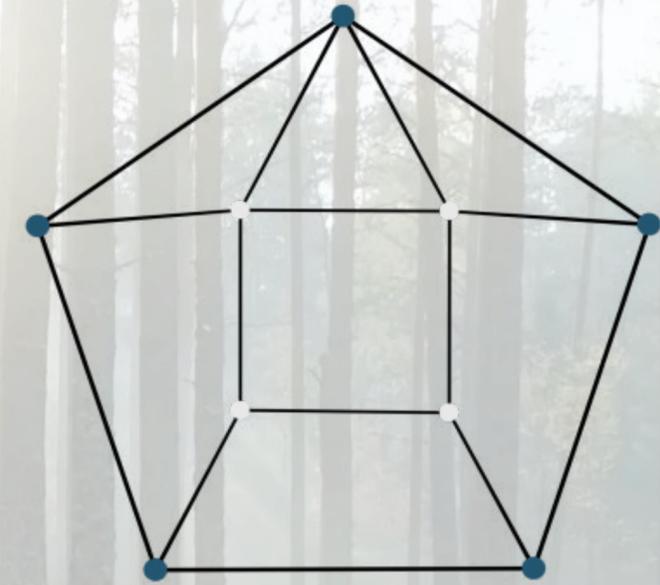
TODAY ...



EXPONENTIAL

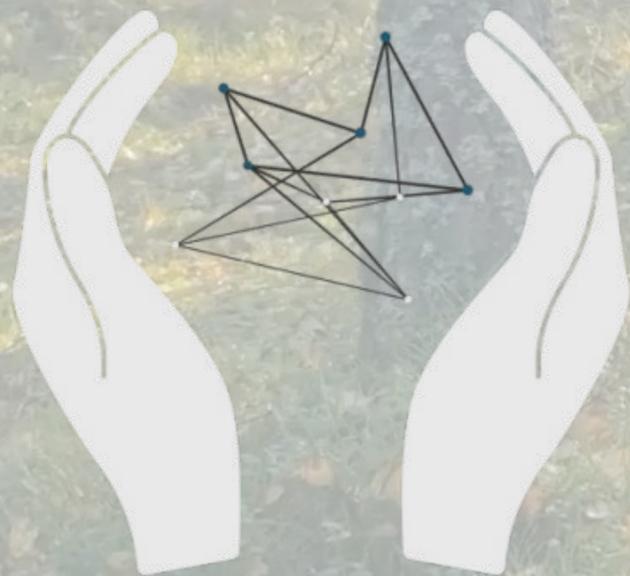


CONVERGENT



COMBINATORIAL

...TOMORROW



HOLISTIC



CIRCULAR



HUMAN

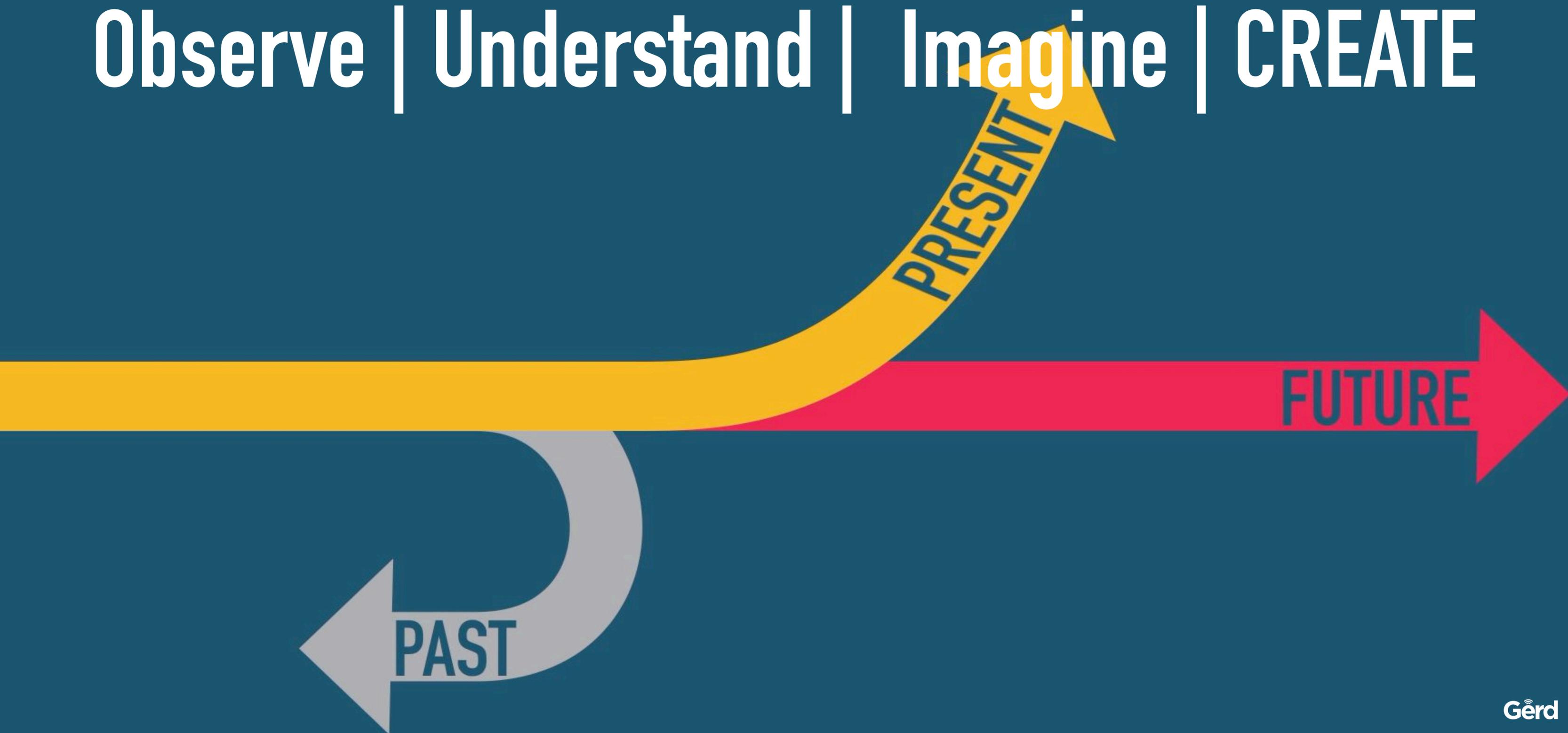
The future is better than we think – we just need to GOVERN PROGRESS WISELY!



The future is a MINDSET, not a time-frame!



Observe | Understand | Imagine | CREATE



PURPOSE

PASSION

CURIOSITY

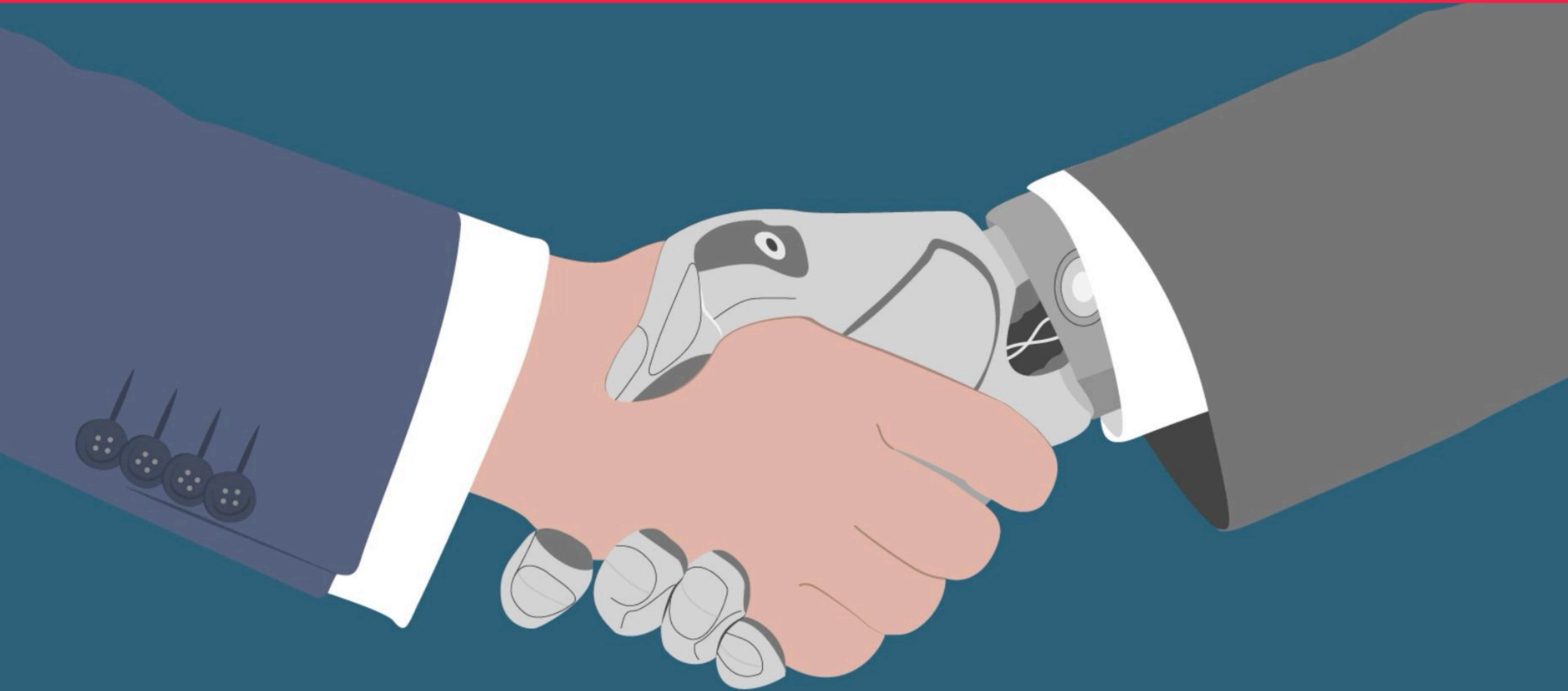
IMAGINATION

FORESIGHT

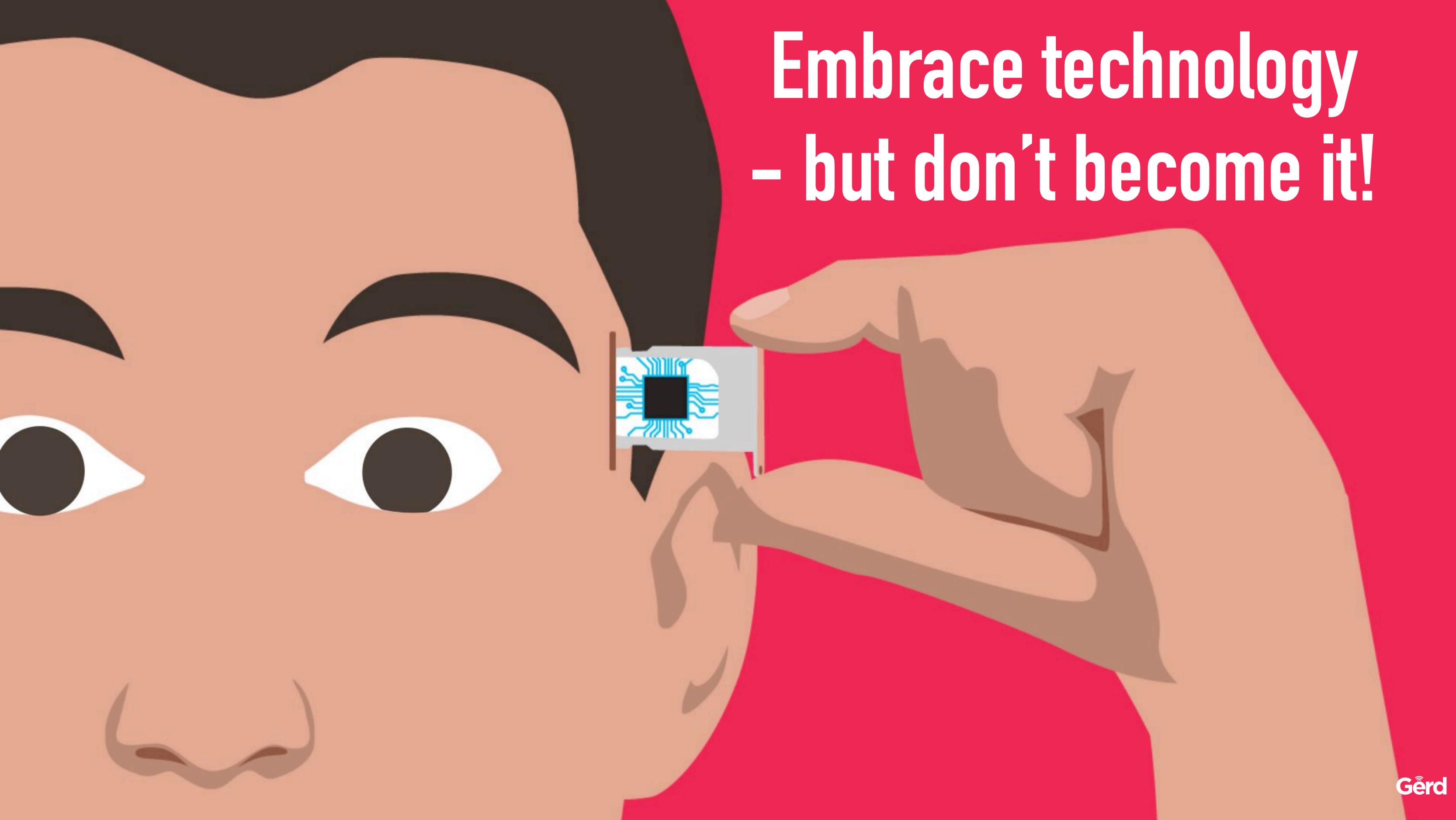
CRITICAL THINKING



Future success is all about finding the right balance



**Embrace technology
- but don't become it!**





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amazon.com