



The 7 Future Principles and what they mean for healthcare in the next decade



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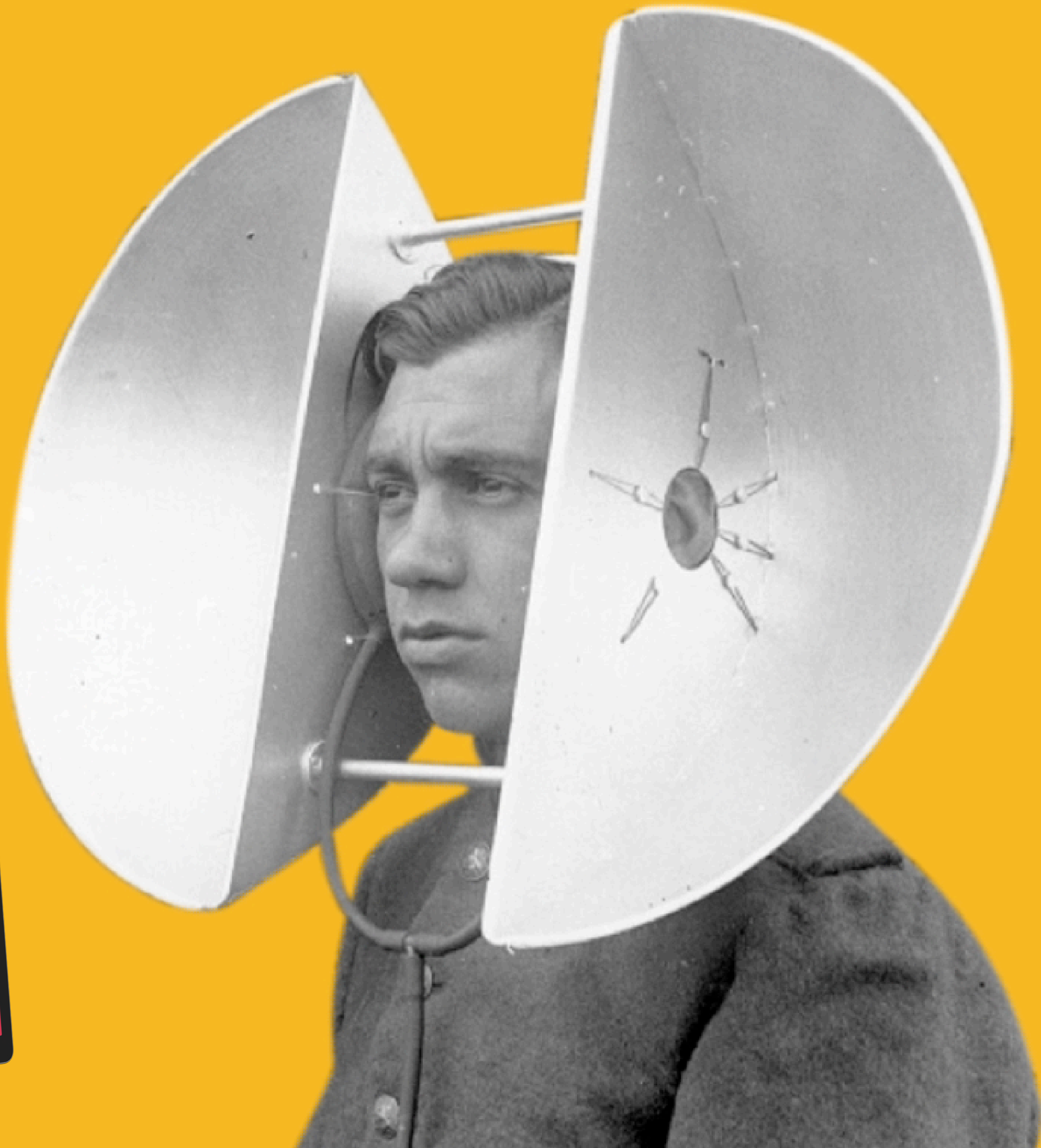


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1

**The future is better
than we think.....***

... we 'just' need to balance technological progress with human purpose



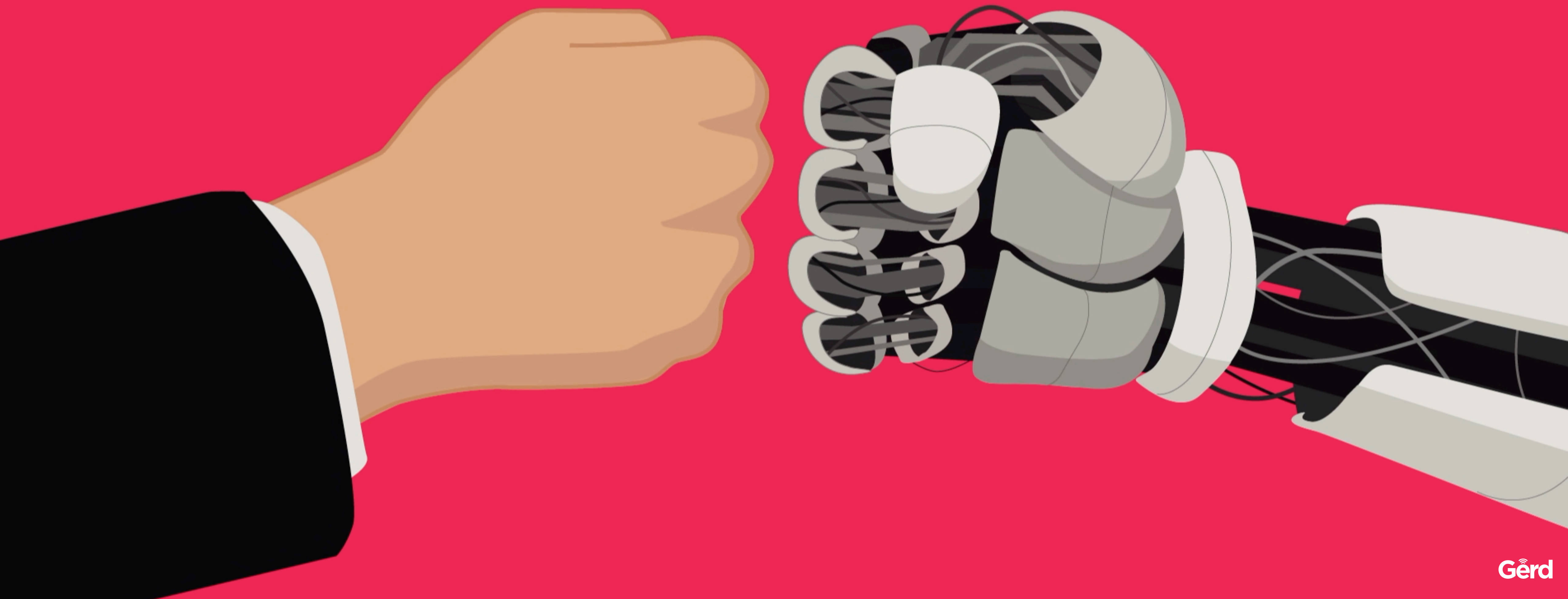
... we 'just' need to balance technological progress with human purpose



The key: a sustainable balance between humans and machines



The key: a sustainable balance between humans and machines

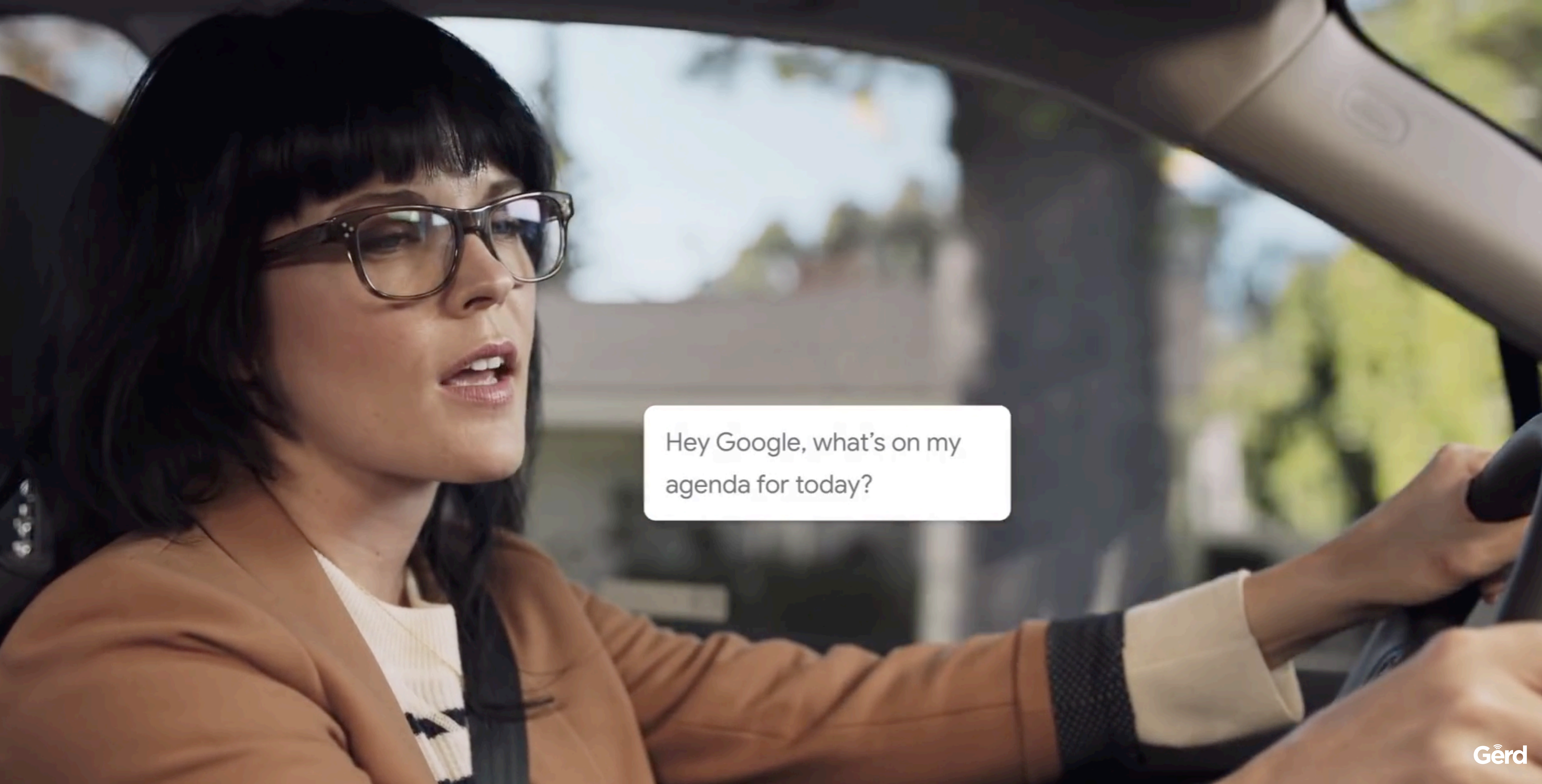


Humanity and Technology: entirely new relationships

Heaven or Hell?

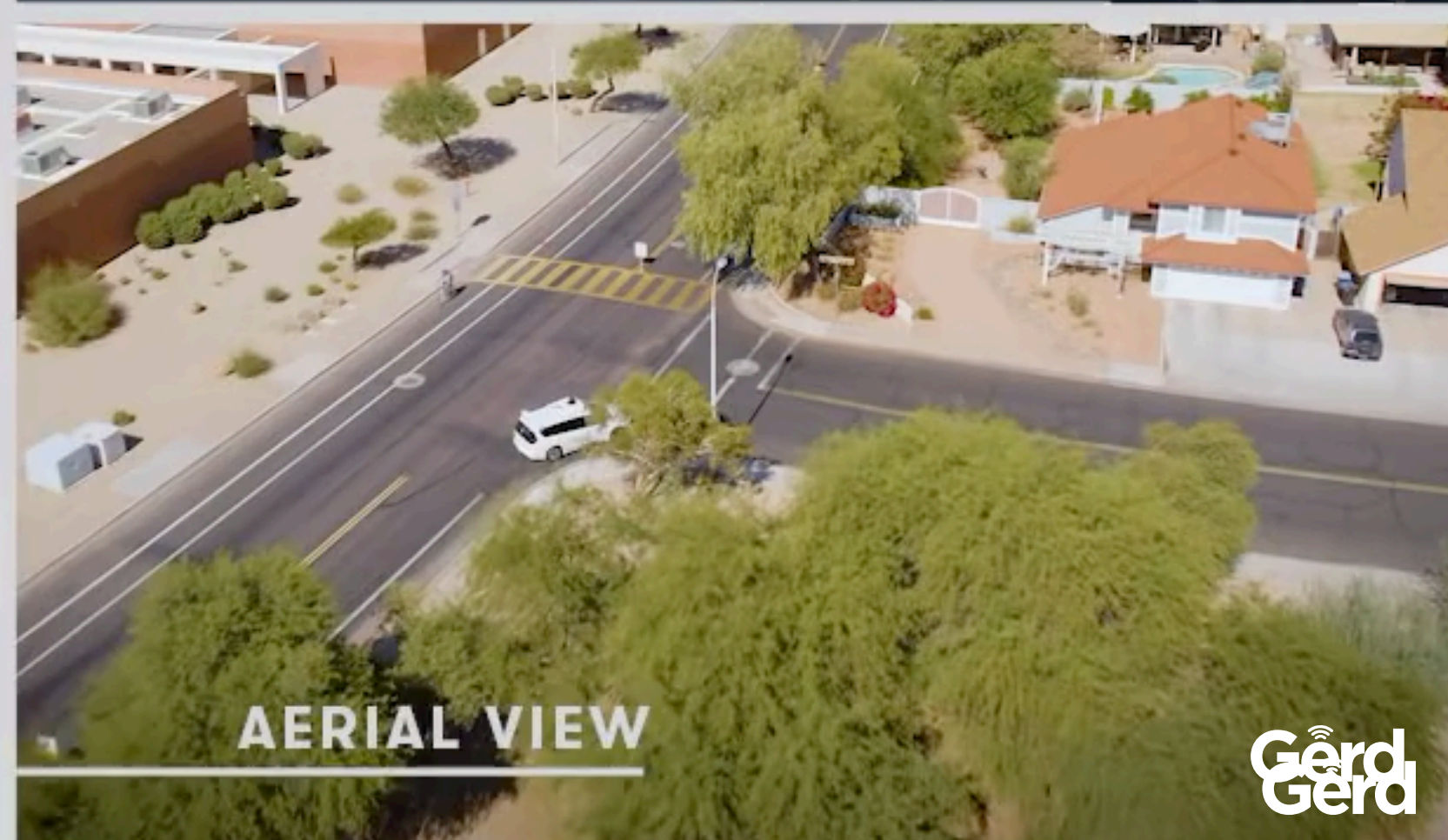
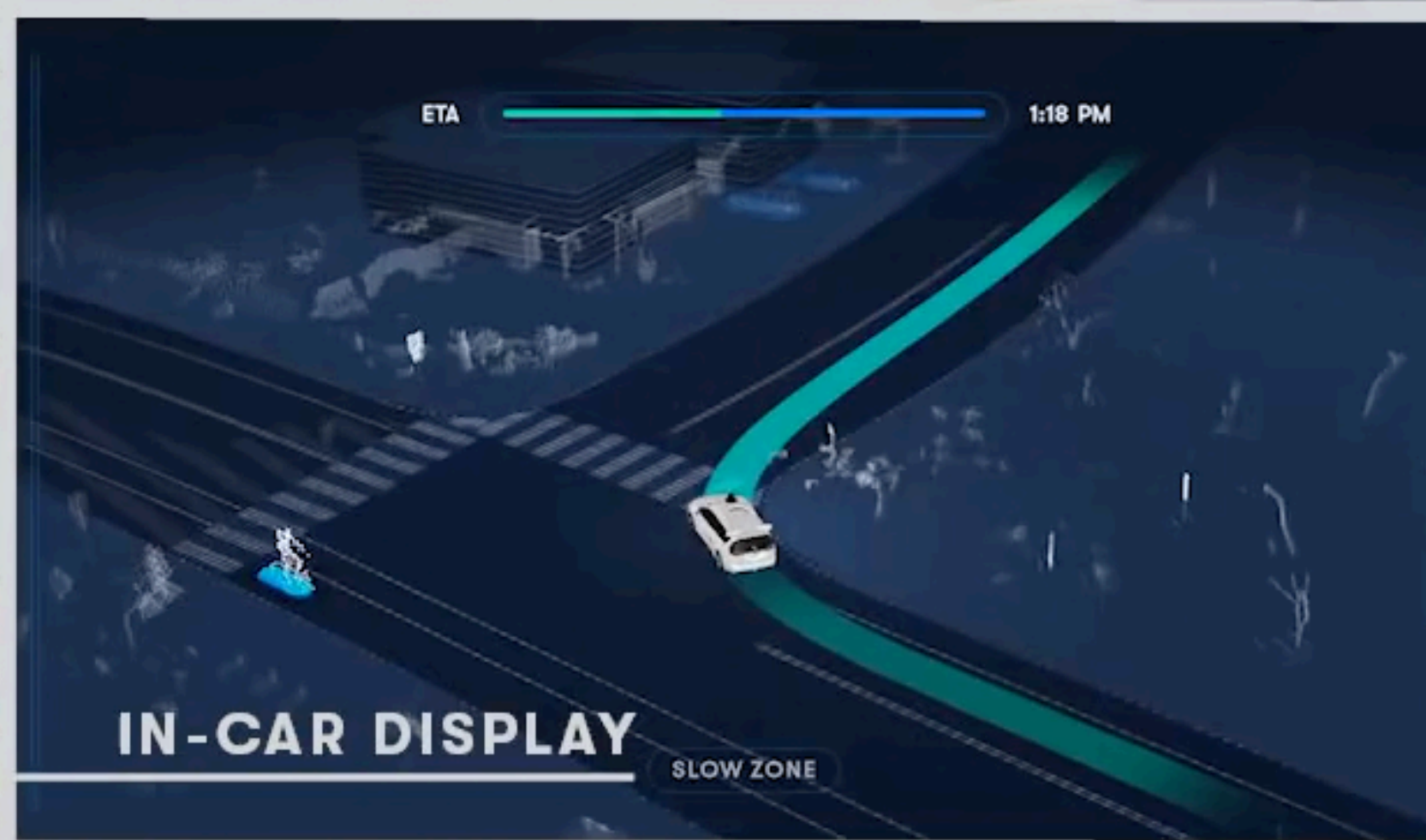


Science fiction is increasingly becoming science fact: Humans Machines



Hey Google, what's on my agenda for today?

Science fiction is increasingly becoming science fact: Humans ☯ Machines



Science fiction is increasingly becoming science fact: Humans ☯ Machines



Science fiction is increasingly becoming science fact: Humans ☯ Machines



Science fiction is increasingly becoming science fact: Humans ☯ Machines



Science fiction is increasingly becoming science fact: Humans ☯ Machines



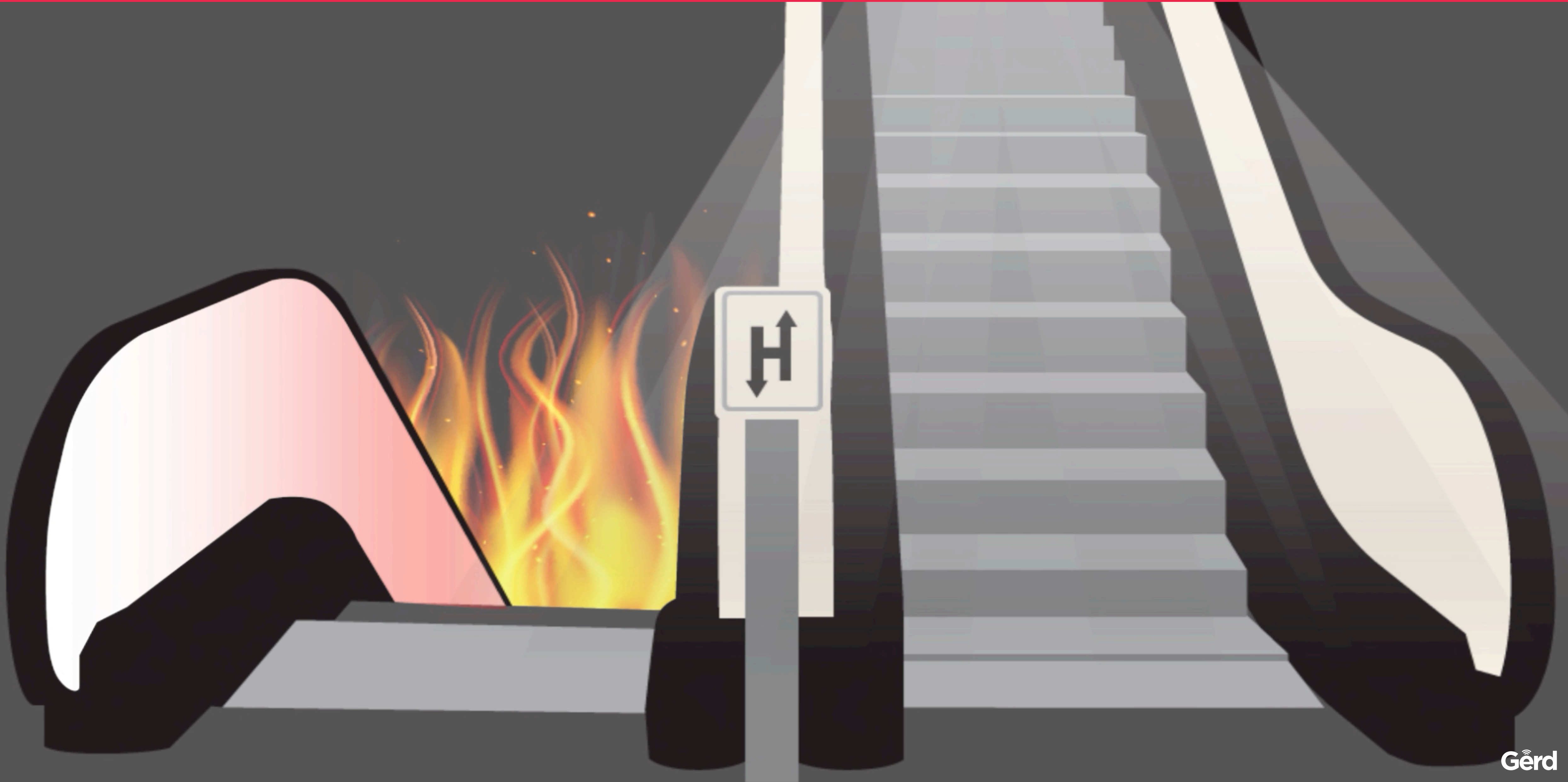
**Humanity will change
more in the next 20
years than in the
previous 300 years**



The convergence of healthcare, pharma and medical with technology



“Technology is morally neutral – until we apply it” William Gibson



Gradually, then suddenly!
Future-readiness is critical.

**Linear
Thinking
will be
detrimental**



How Long Until Computers Have the Same Power As the Human Brain?

Lake Michigan's volume (in fluid ounces) is about the same as our brain's capacity (in calculations per second). Computing power doubles every 18 months. At that rate, you see very little progress for a long time—and suddenly you're finished.



2012

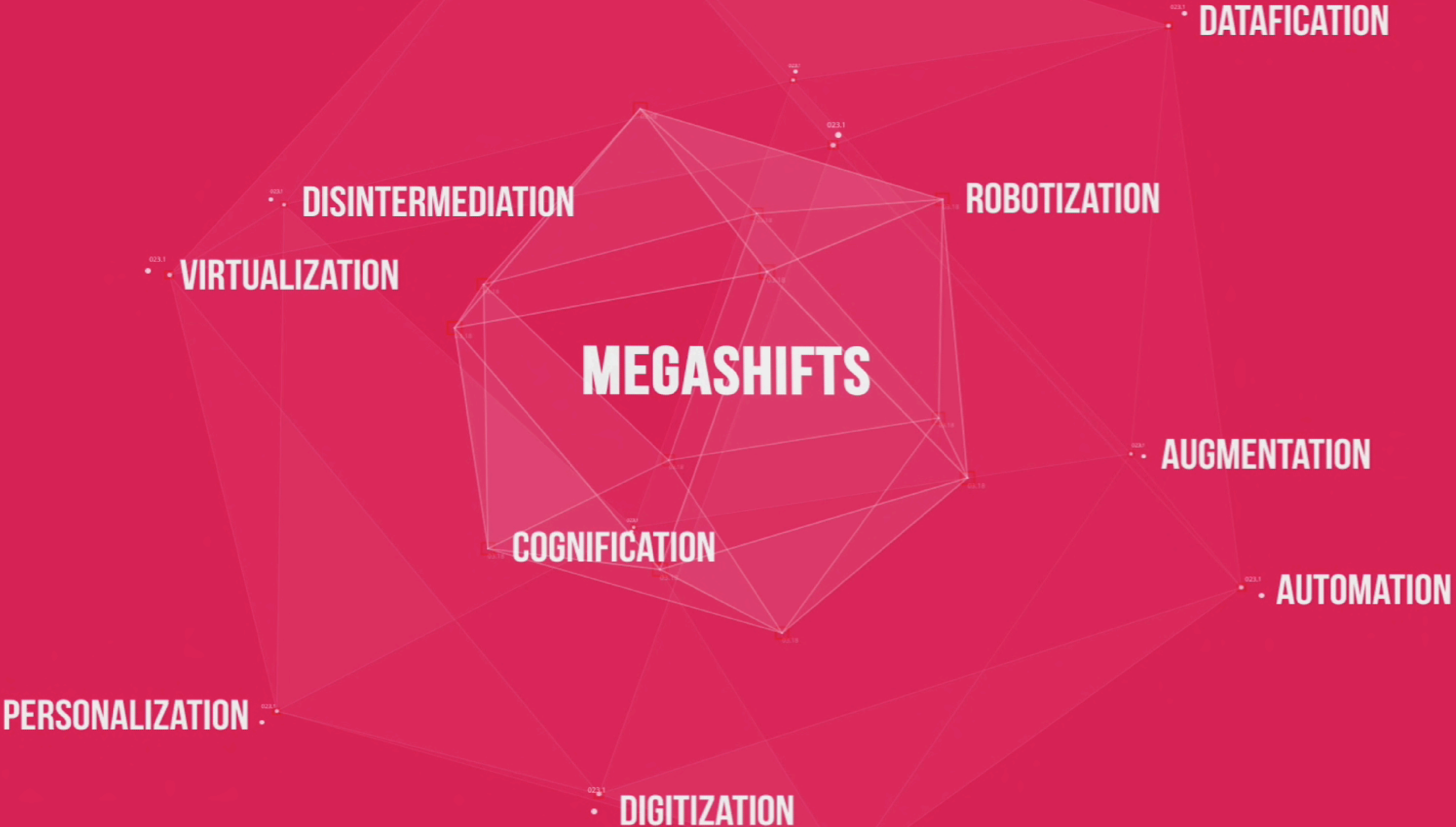
5.63×10^{14}
calcs/second

Gradually, then suddenly is the new normal!



Combinatorial





Example: speaking to machines 'like speaking to a friend'



Example: speaking to machines 'like speaking to a friend'





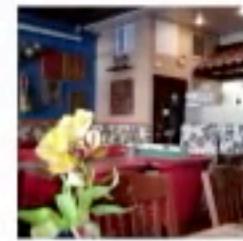
Alright, just in case that's not available, can I try between 7:00 PM and 8:00 PM?

El Cocotero

4.1 ★★★★★ 240 Reviews · \$\$

Venezuelan Restaurant

Open · Closes 11 PM



Arepas & other traditional Venezuelan eats are paired with sangria at this tiny, colorful eatery.



Search



Call



Directions



Street view

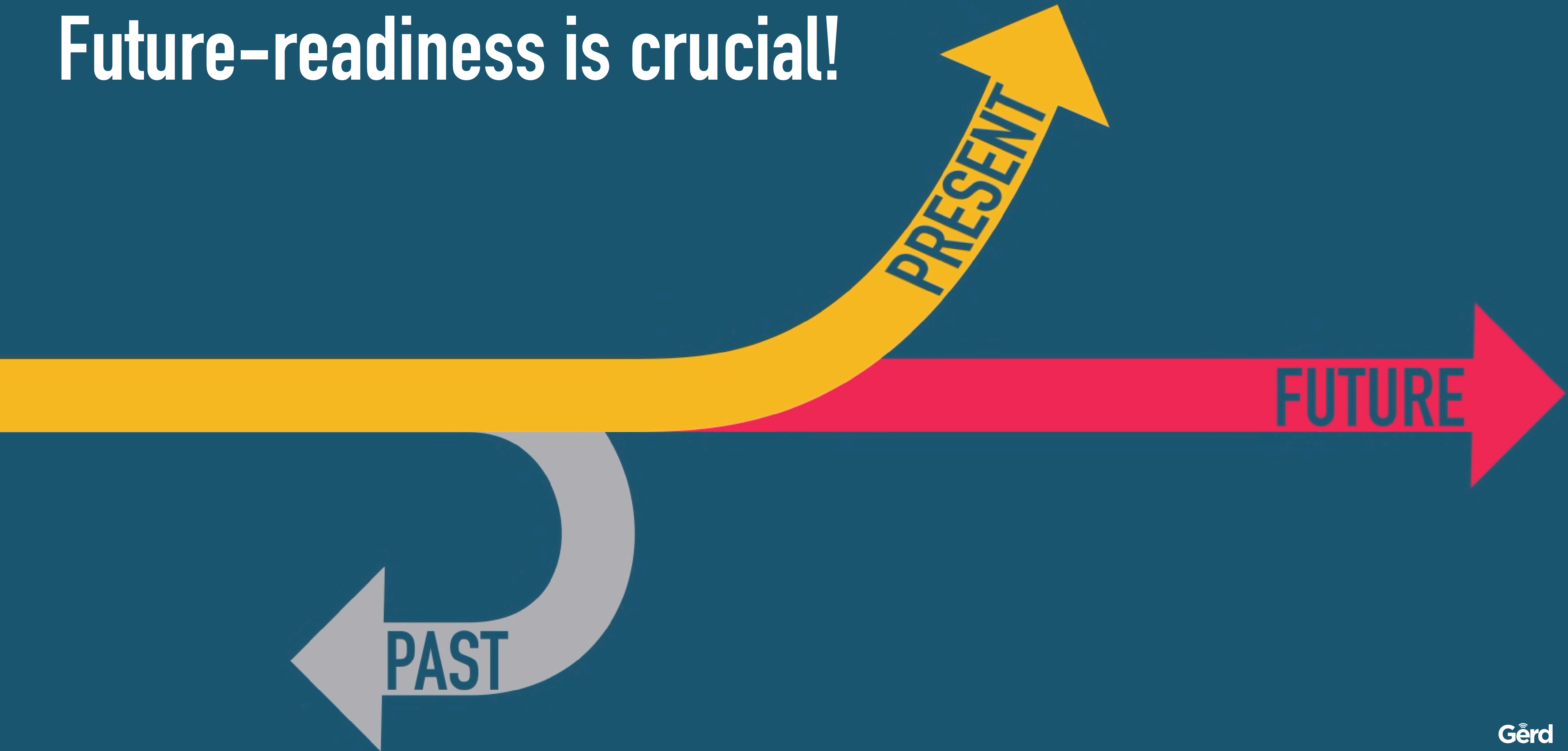


Menu



Share

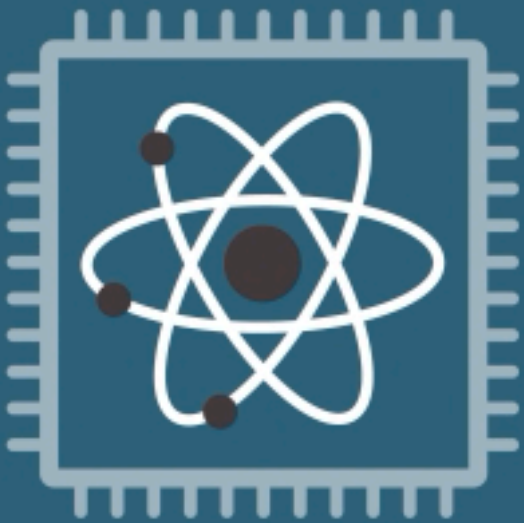
**The future is no longer an extension of the present:
Future-readiness is crucial!**



**Healthcare is converging with Technology:
Data is the new oil, AI is the new electricity.**

Imagine what this could mean for the future of healthcare

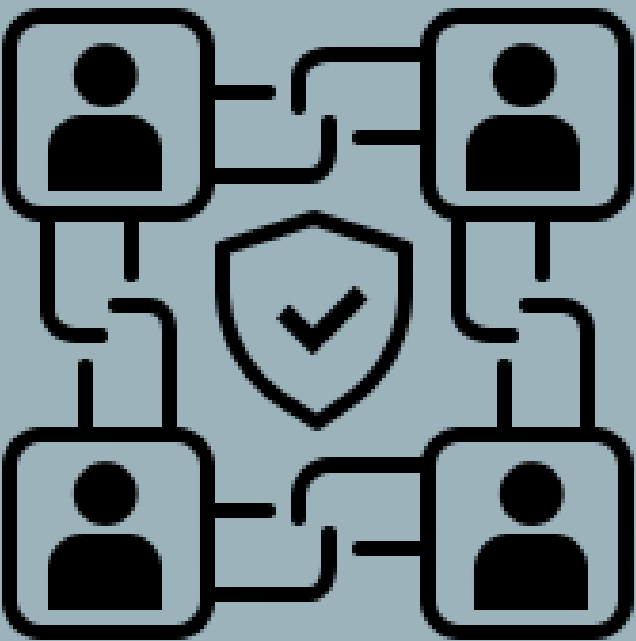
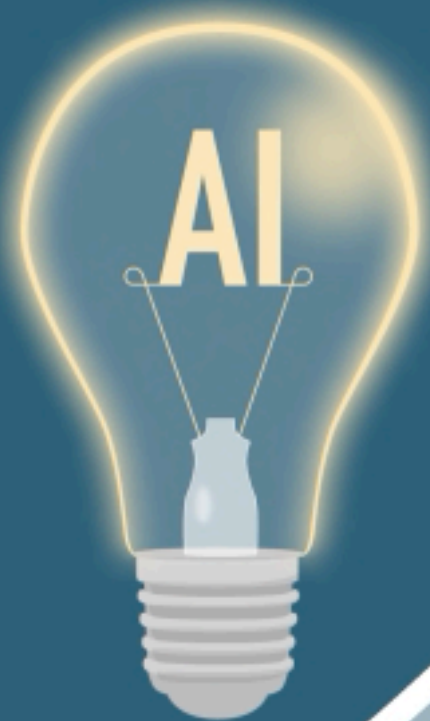
COMPUTE EVERYTHING



NETWORKED EVERYTHING
CLOUD EVERYTHING



SMART EVERYTHING

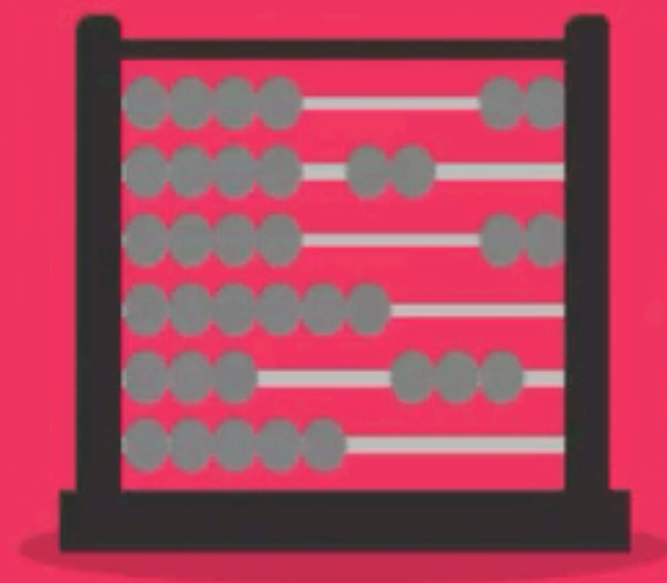


DATA EVERYTHING



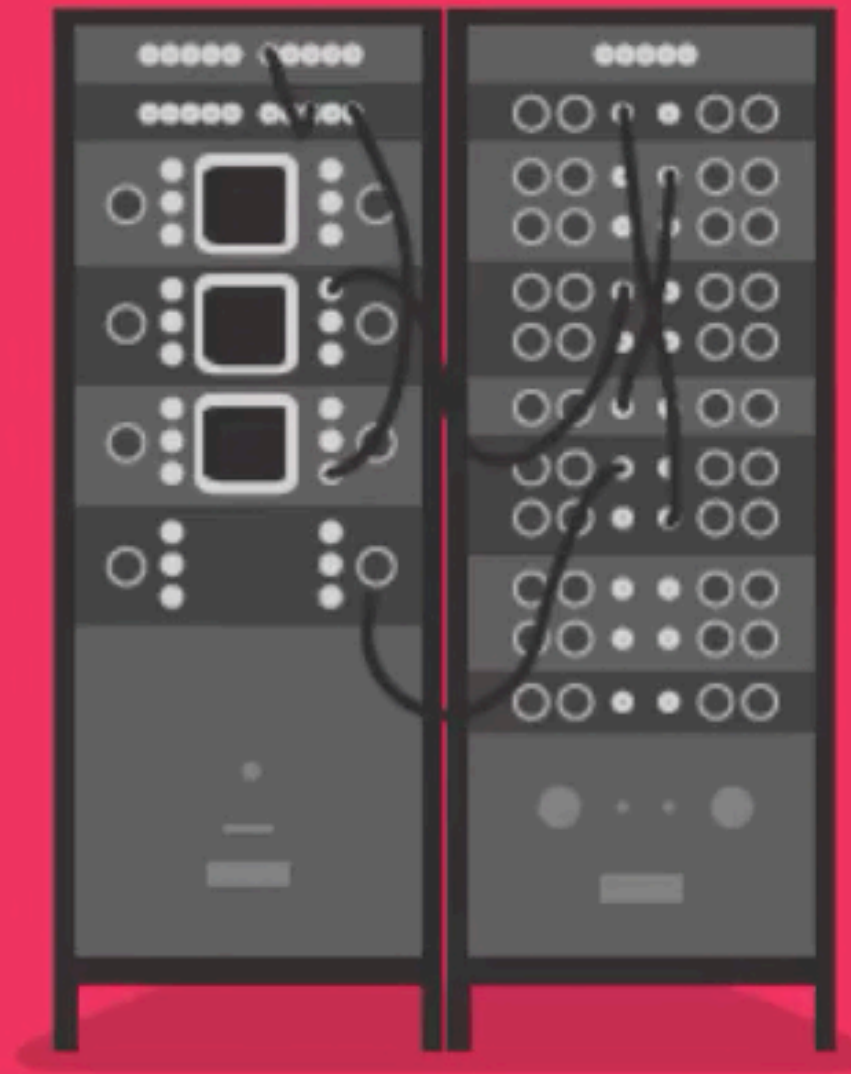
AI: Computer systems that turn information and data into KNOWLEDGE

(Demis Hassabis, CEO, DeepMind)



*Tabulating
Systems Era*

1900



*Programmable
Systems Era*

1950



*Cognitive
Systems Era*

2020

“Machine learning is the science of giving computers the ability to learn and find insights without explicitly programming the machines on what to do”



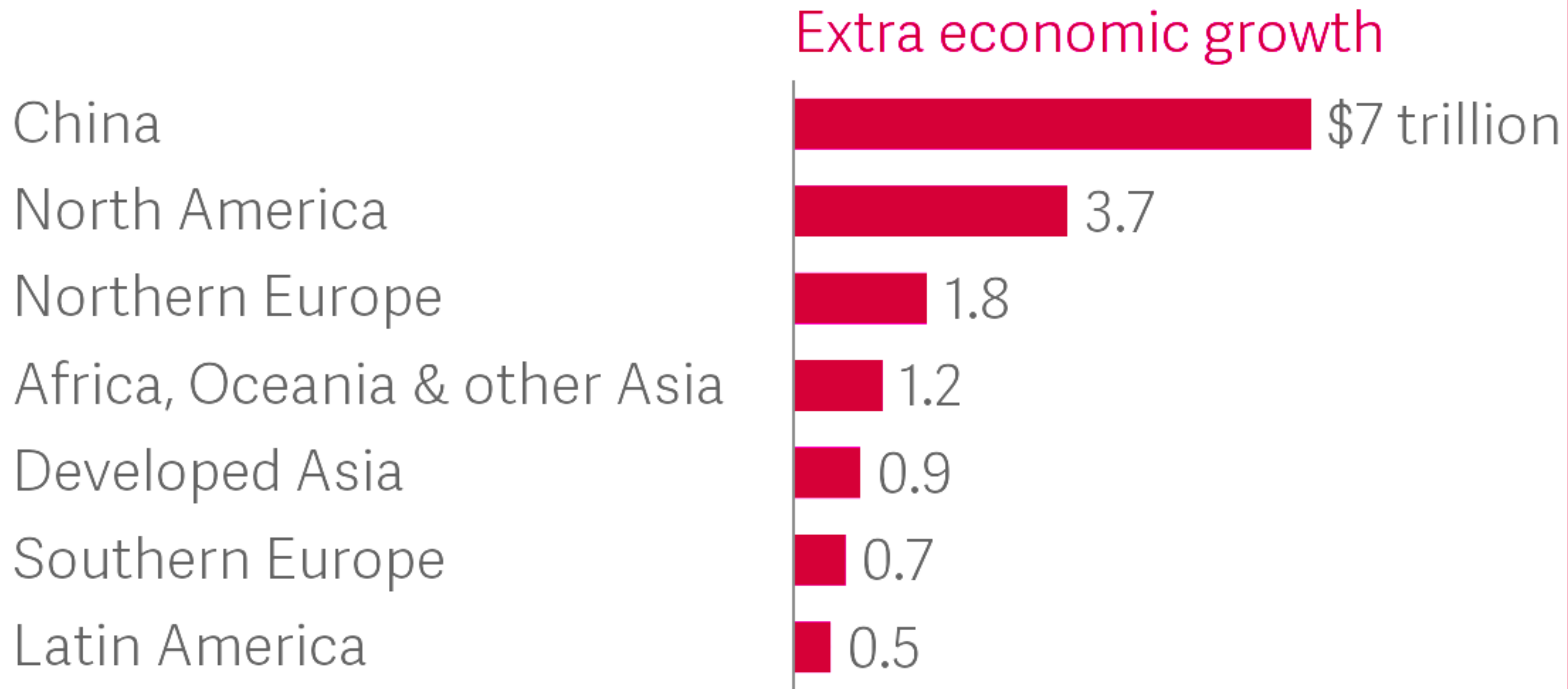
Machines that are no longer programmed but TRAINED



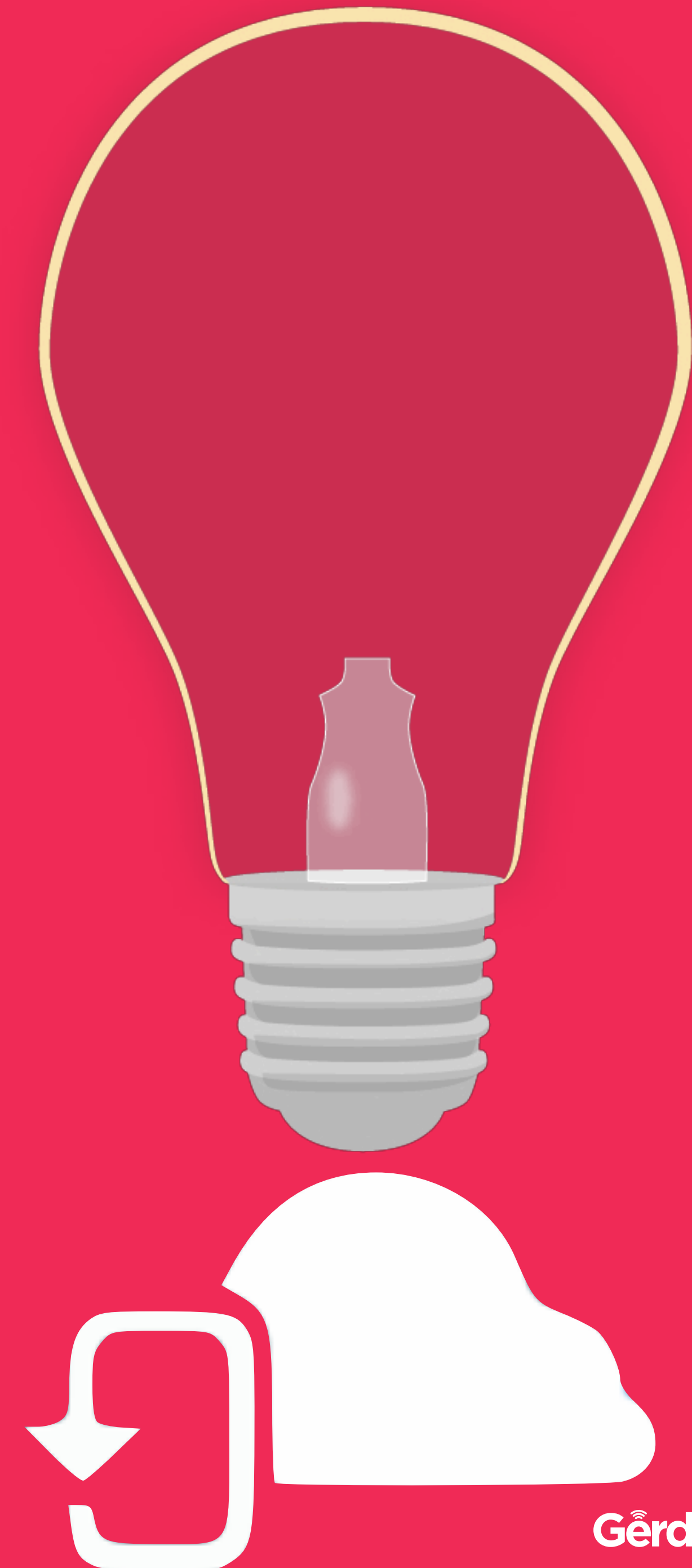
Using Data, Cloud, IoT, AI & ML, healthcare could leap from palliative to preventive



Forecast GDP gains from AI, 2017-2030



ATLAS | Data: PwC



Public / Private Internet Companies, Ranked by Market Valuation (5/29/18)

			Market Value (\$B)	
Rank			2013	2018
2018	Company	Region		
1)	Apple	USA	\$418	\$924
2)	Amazon	USA	121	783
3)	Microsoft	USA	291	753
4)	Google / Alphabet	USA	288	739
5)	Facebook	USA	56	538
6)	Alibaba	China	--	509
7)	Tencent	China	71	483
8)	Netflix	USA	13	152
9)	Ant Financial	China	--	150
10)	eBay + PayPal*	USA	71	133
11)	Booking Holdings	USA	41	100
12)	Salesforce.com	USA	25	94
13)	Baidu	China	34	84
14)	Xiaomi	China	--	75
15)	Uber	USA	--	72
16)	Didi Chuxing	China	--	56
17)	JD.com	China	--	52
18)	Airbnb	USA	--	31
19)	Meituan-Dianping	China	--	30
20)	Toutiao	China	--	30
Total			\$1,429	\$5,788

Beware: consumers & patients love convenience but they also fear technological domination, and dehumanisation



Beware: consumers & patients love convenience but they also fear technological domination, and dehumanisation



The rise of smart machines: IA and narrow AI will be very disruptive, but AGI will be existential



A logo featuring the letters 'AI' in a white, stylized font. The 'A' is composed of a triangle on top of a horizontal bar, and the 'I' is a simple vertical bar. The letters are set against a dark blue background with stylized, rounded cloud shapes in a lighter blue color.

A collection of 20 stylized human figures arranged in a loose grid, representing various professions and roles. The figures are rendered in a flat, isometric style with a limited color palette. The roles depicted include: a woman in a red sweater and black skirt holding folders; a man in a blue shirt and green pants using a laptop; a man in a blue shirt and green pants with a backpack; a woman in a blue dress with a stethoscope; a man in a blue shirt and green pants running; a woman in a blue dress talking on a phone; a man in a white shirt and green pants with a chef's hat; a man in a grey suit and tie holding a briefcase; a man in a grey suit and tie holding a gavel; a man in a grey suit and tie holding a briefcase; a woman in a red sweater and black skirt holding folders; a man in a grey suit and tie holding a briefcase; a man in a white lab coat with a stethoscope; a woman in a yellow coat and purple pants; a man in a blue shirt and green pants with a hard hat; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack; a man in a blue shirt and green pants with a backpack. The background is a solid dark blue. The word 'Gerd' is visible in the bottom right corner.

Electrocardiogram



MEMBER FEATURE STORY

I'm a Heart Doctor. Here's Why I'm Wary of the New Apple Watch

Screening for atrial fibrillation in healthy
people just doesn't make sense



John Mandrola, MD [Follow](#)

Sep 17 · 3 min read ★

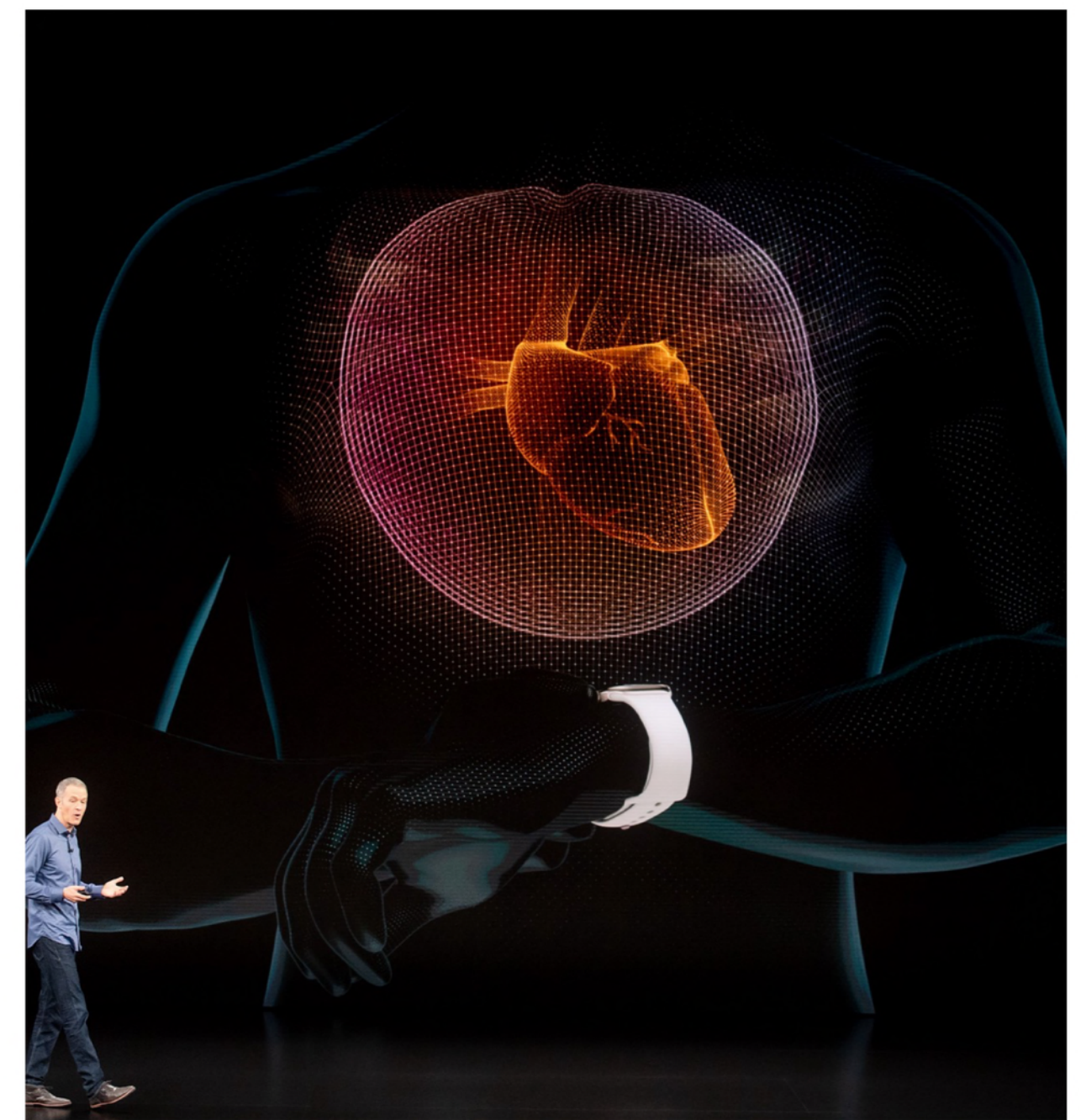
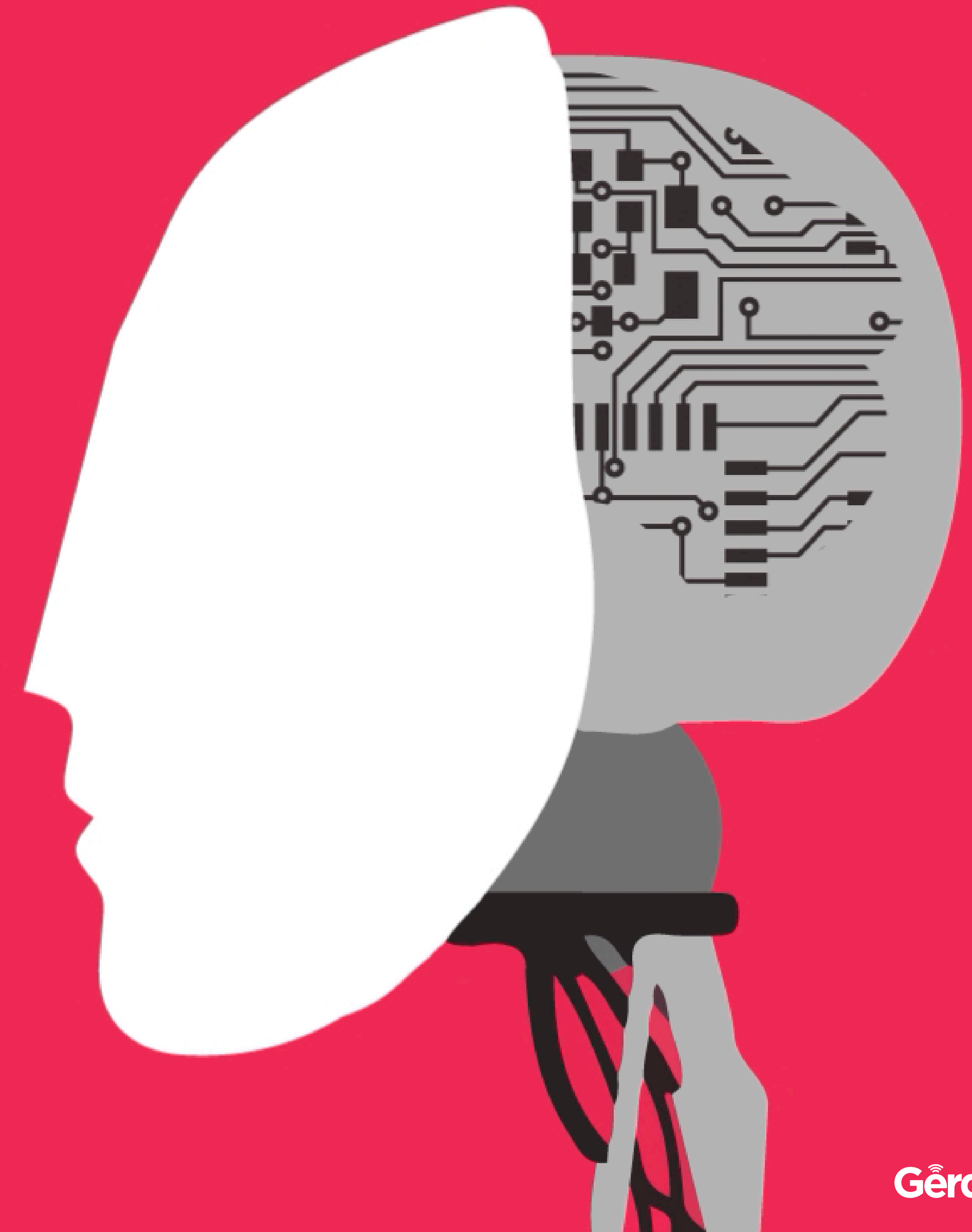
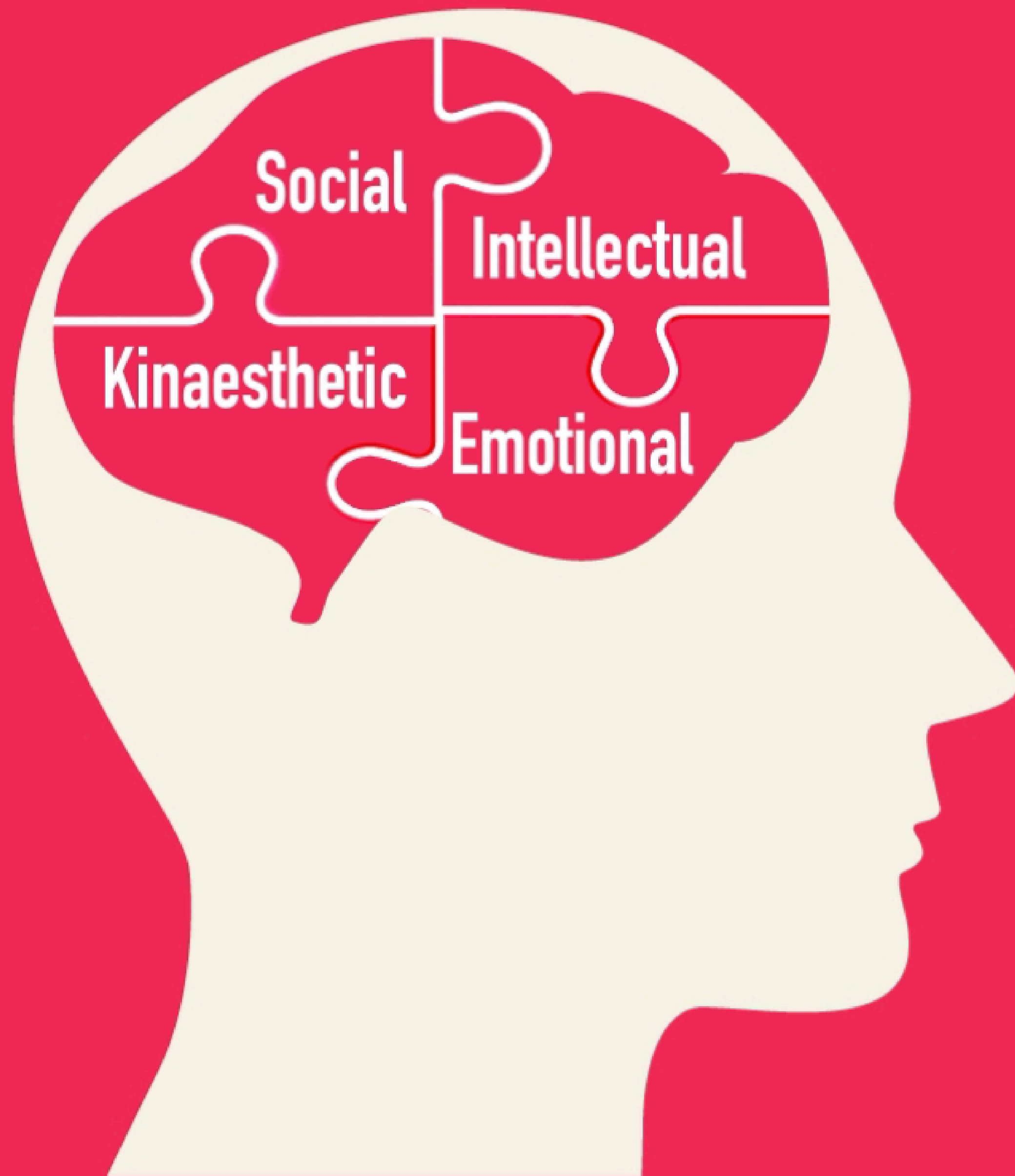


Photo by Noah Berger/AFP/Getty Images

Machine 'smartness' is not at all like human intelligence*



**Digital Ethics is a huge opportunity –
and your ticket to the future**



TECHNOLOGY HAS NO ETHICS

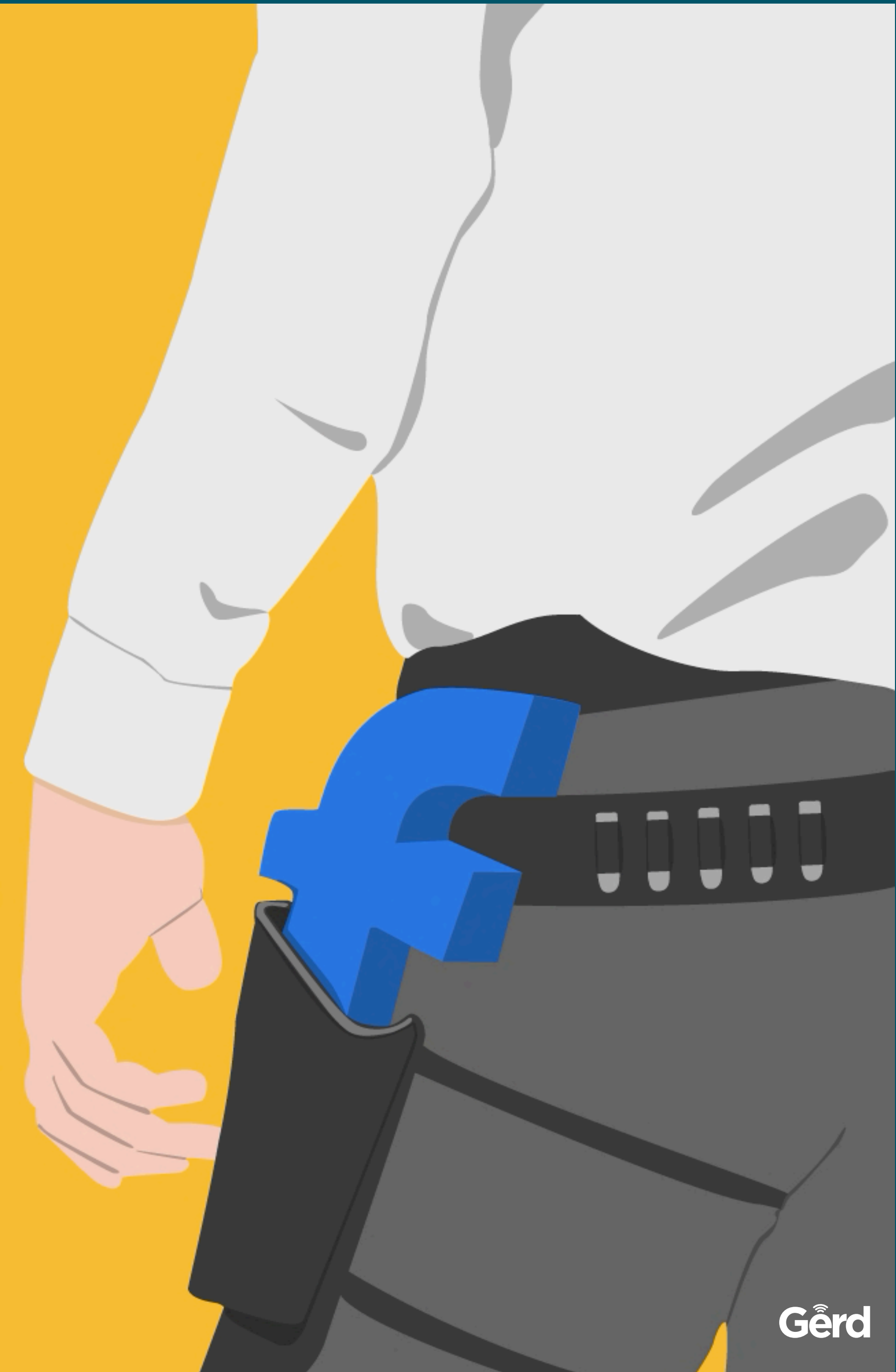
#digitaletics

WHY?

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



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



The more we connect ourselves, the more we need to maintain and care for what makes us human

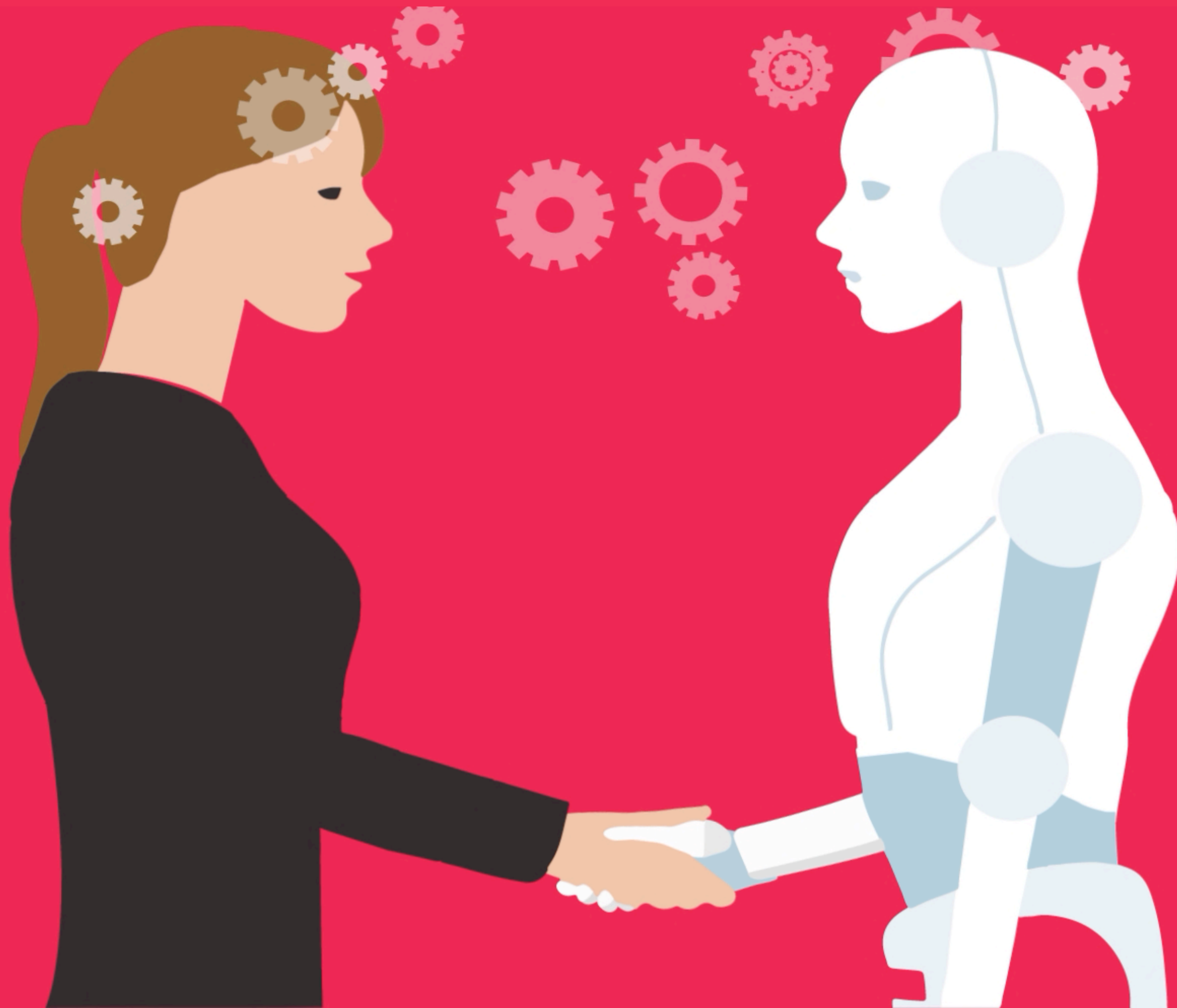


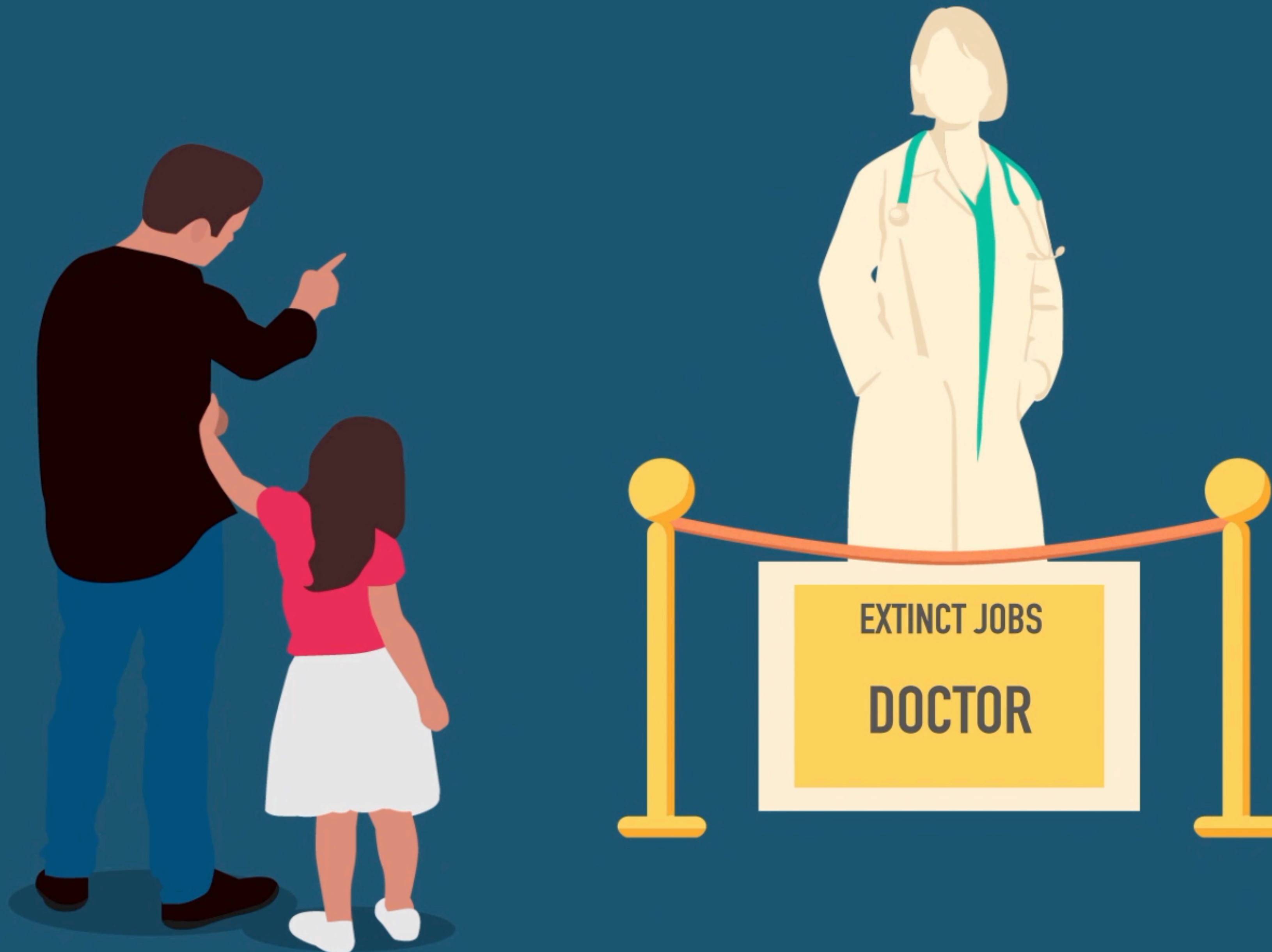
We must invest as much into humanity as we invest into technology



**As machines become exponentially smarter we
need to become exponentially human**

Intelligent machines will change our world more than any other invention before





Are humans the
horses of the
digital
era?

Healthcare: the End of Routine is coming



But the end of routine tasks does not mean the end of human work

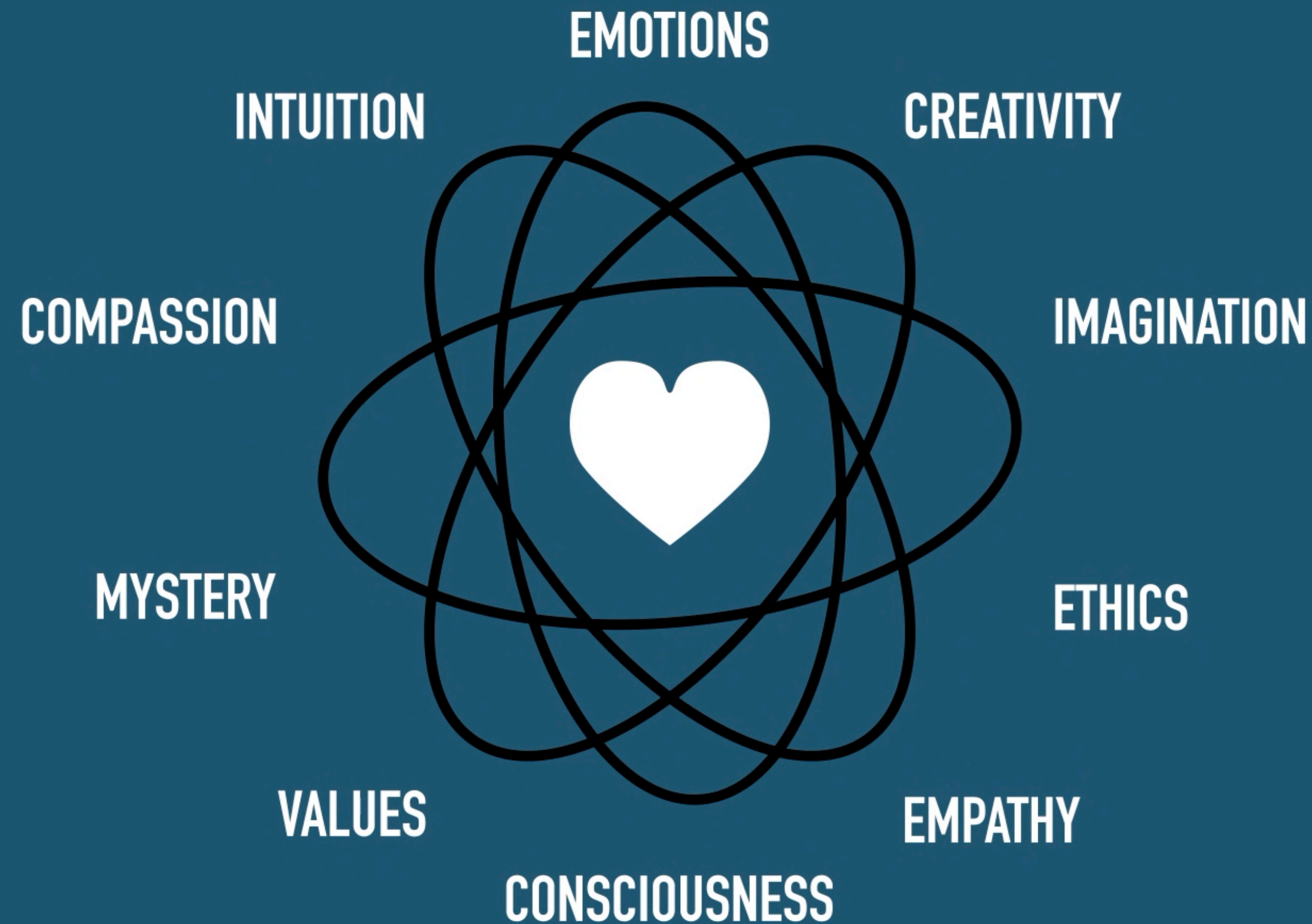
ROUTINE

...while anything that can be digitized or automated, will be...



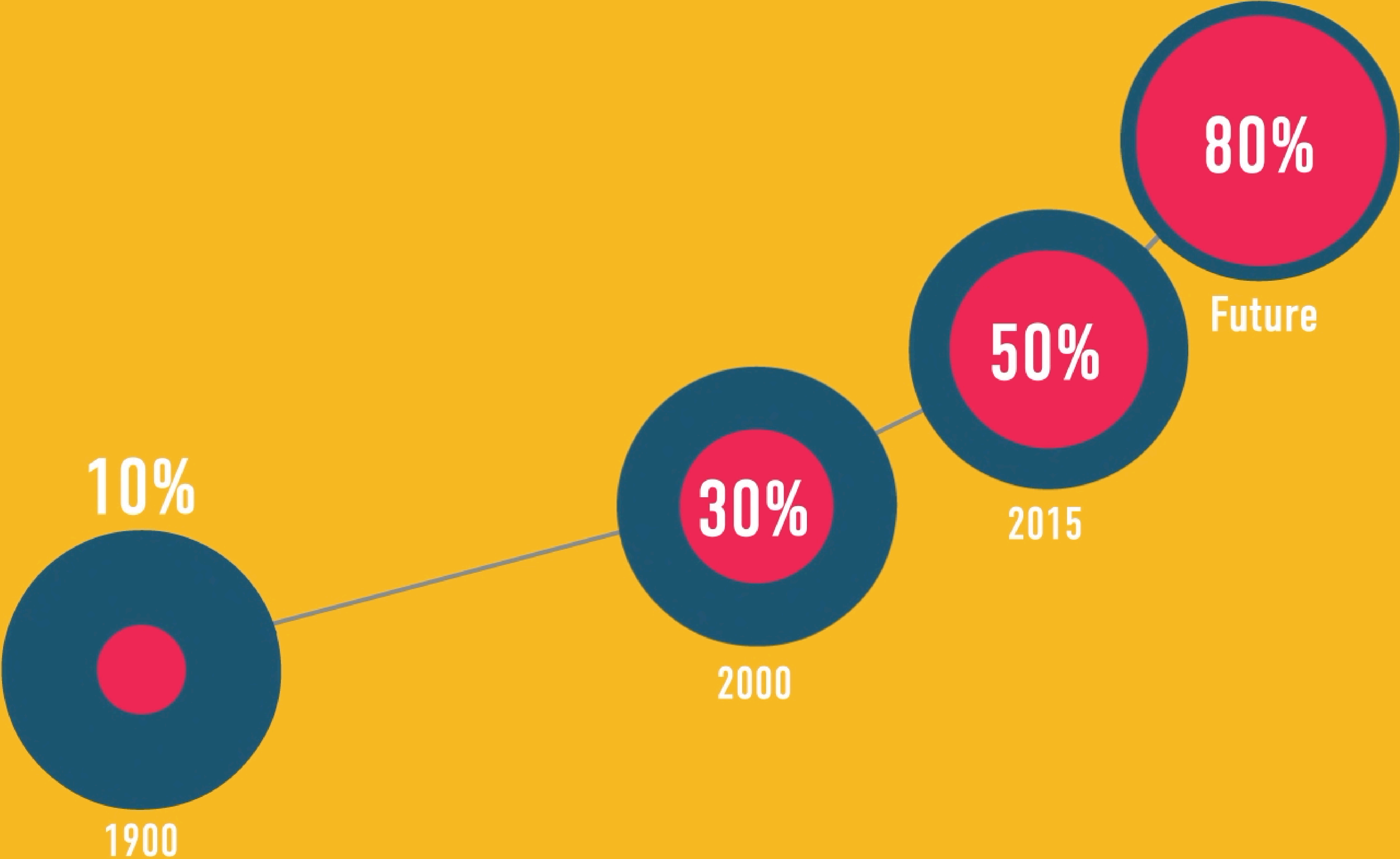
...anything that cannot be digitized or automated will become much more valuable

...while anything that can be digitized or automated, will be...



...anything that cannot be digitized or automated will become much more valuable

The percentage of healthcare tasks that are 'human only' will increase dramatically

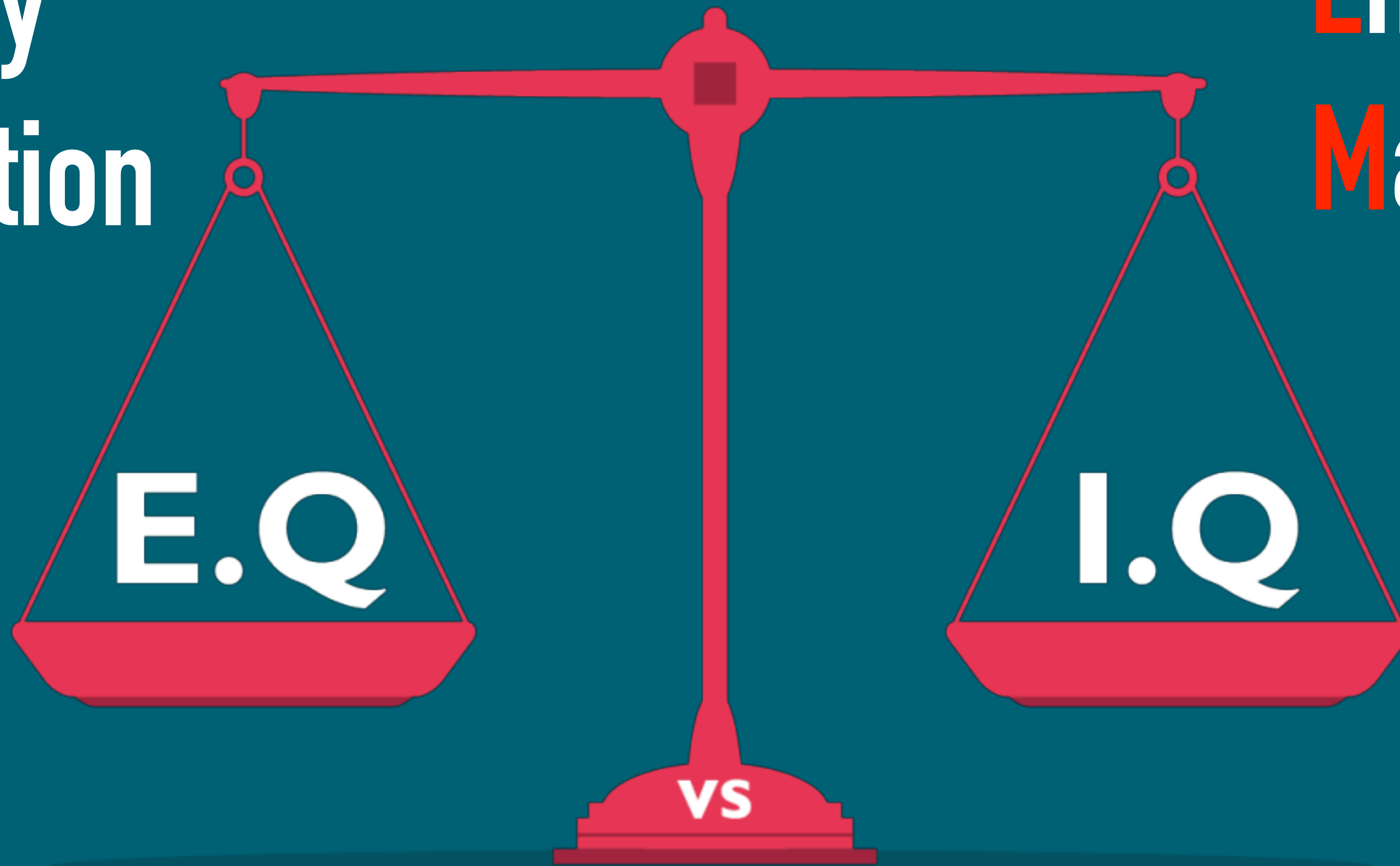


Humanity

Ethics

Creativity

Imagination



Science

Technology

Engineering

Mathematics

The future: upskill, re-skill; and create entirely new jobs!

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

**The biggest danger is not that machines will take over but
that we become too much like them!**

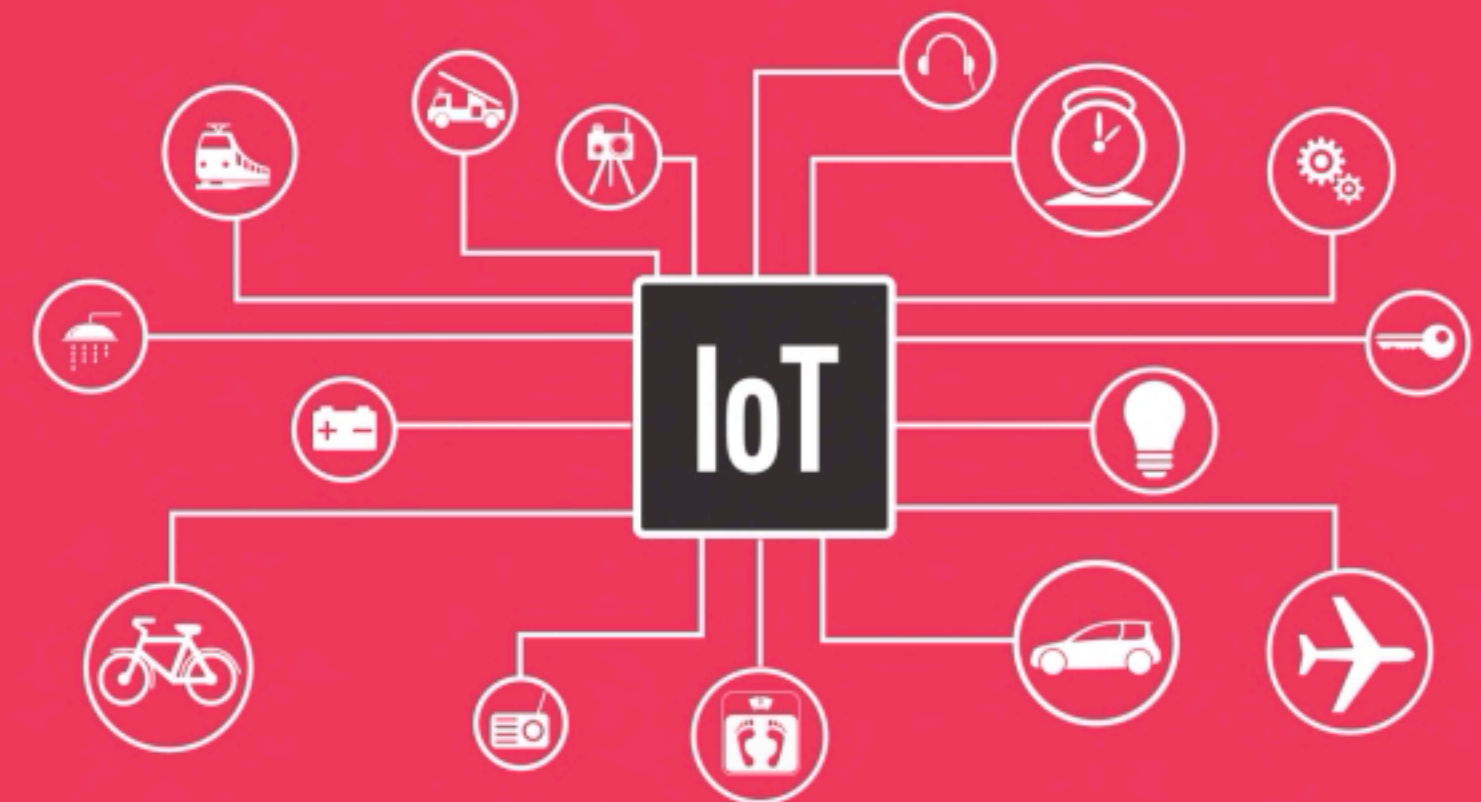




**Machines
don't do
relationships!**

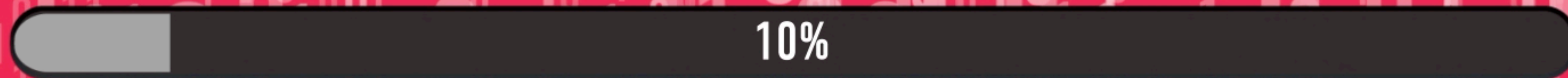
**The future: awesome humans
on-top of magic technology**

THE FUTURE

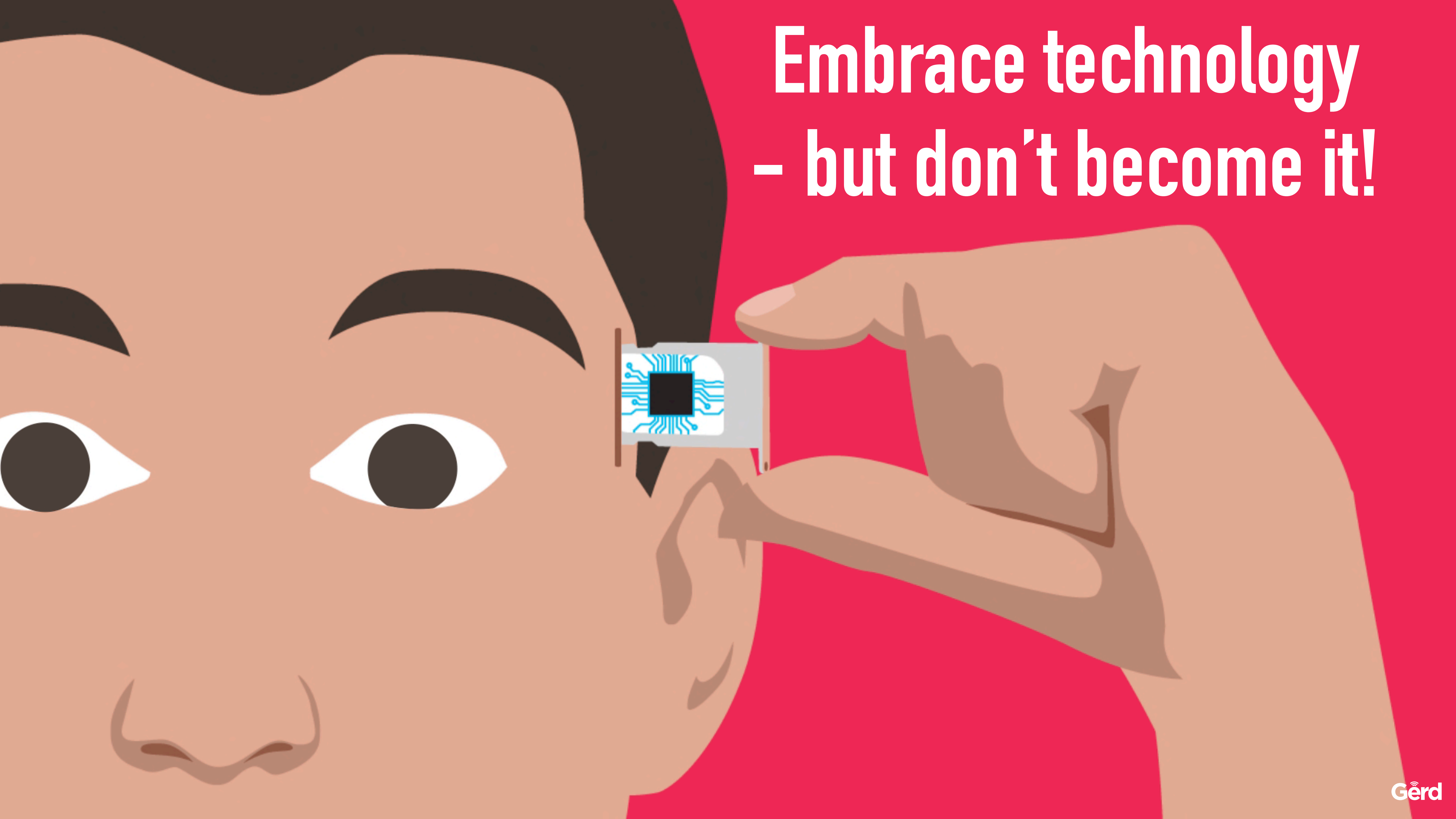


How to DO the future

Reduce the fear but keep the caution!



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





Thanks for your time!
Now, let's talk...



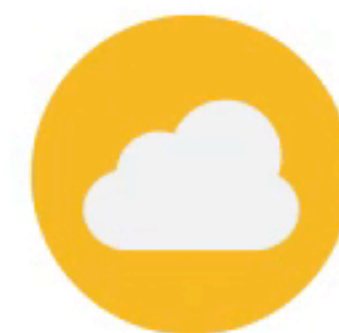
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