

Keväthumaus 2019
Spring Splash



Information is that which informs. In other words, it is the answer to a question of some kind. It is thus related to data and knowledge, as data represents values attributed to parameters, and knowledge signifies understanding of real things or abstract concepts. [1] As it regards data, the information's existence is not nice.

TECHNOLOGY AND HUMANITY: THE NEXT 10 YEARS

1. ETHNOLOGY
2. INFORMATION THEORY APPROACH
3. AS SENSORY INPUT
4. AS REPRESENTATION AND COMPLEXITY
- 5.



techvshuman.com



gerd.cloud



gerdtube.com



@gleonhard



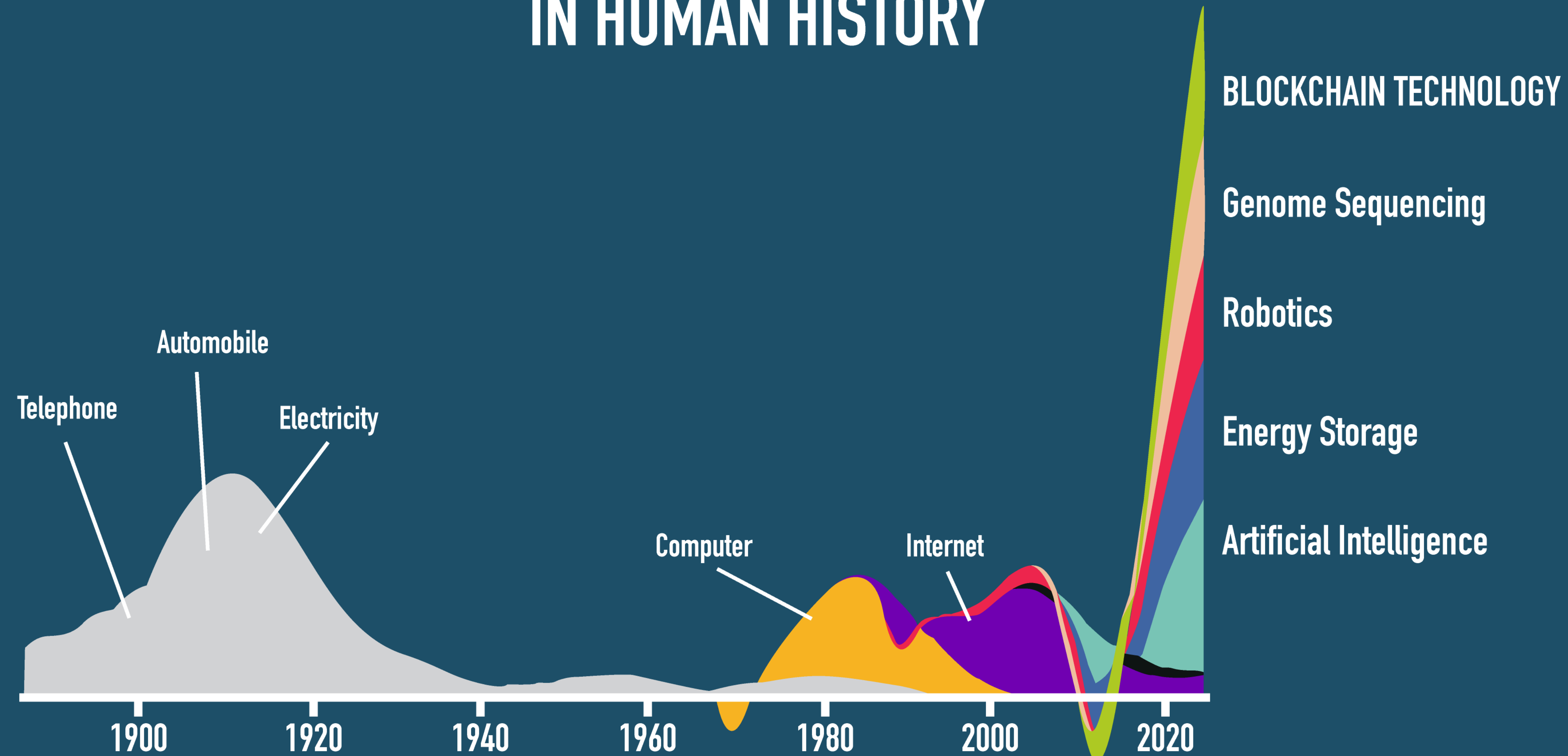
futuristgerd.com

Gerd

ASSUME LESS - DISCOVER MORE



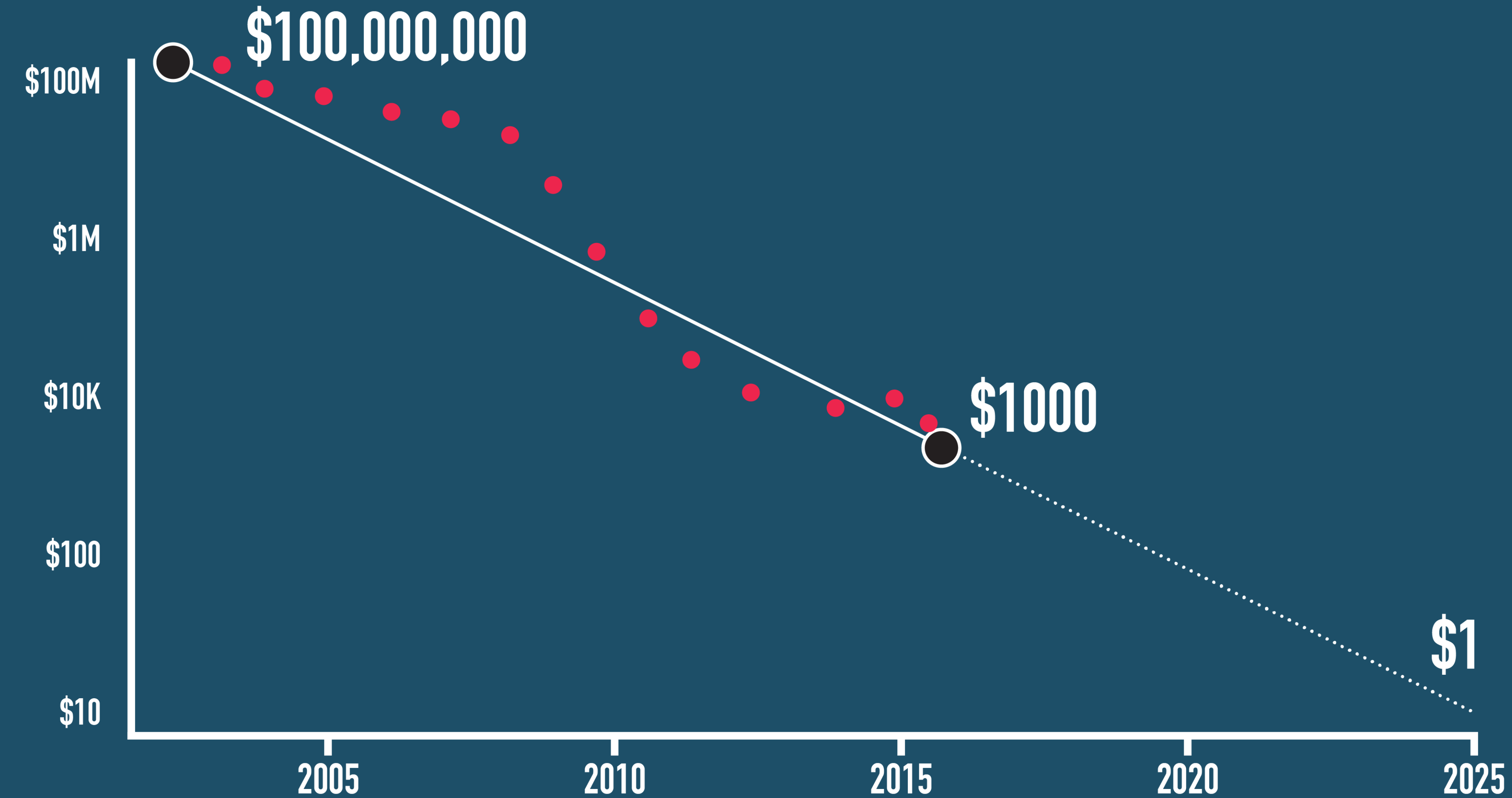
THE LARGEST TECHNOLOGICAL TRANSFORMATION IN HUMAN HISTORY



Source: ARK Investment Management

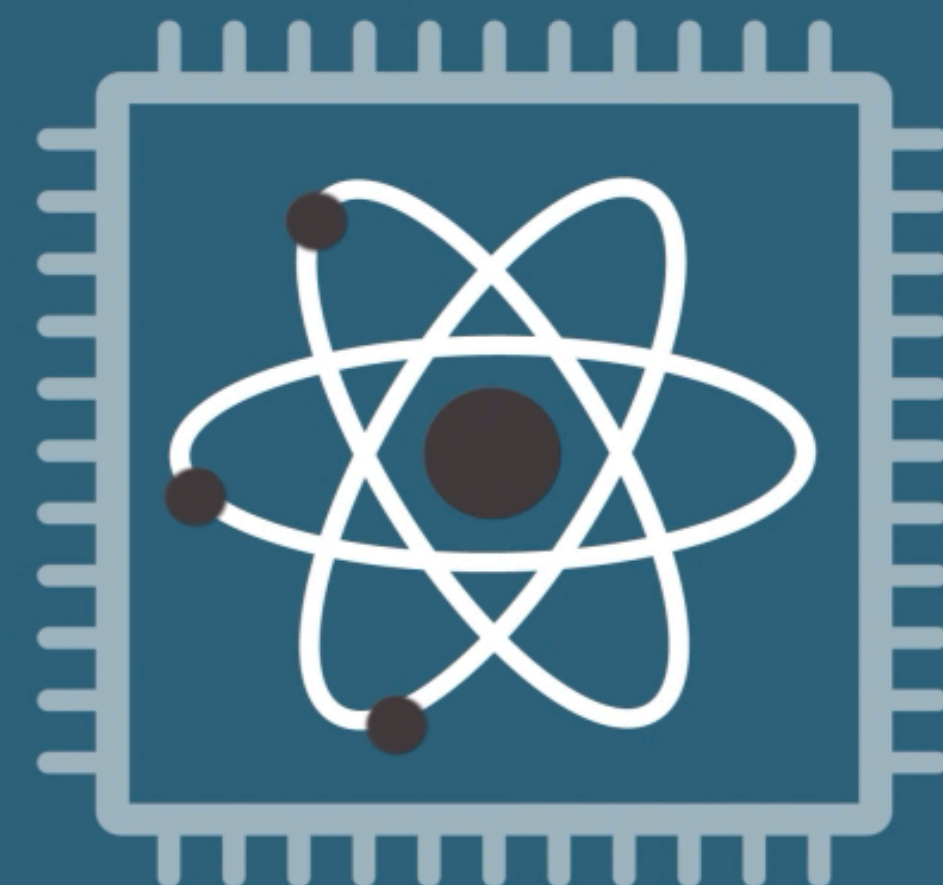
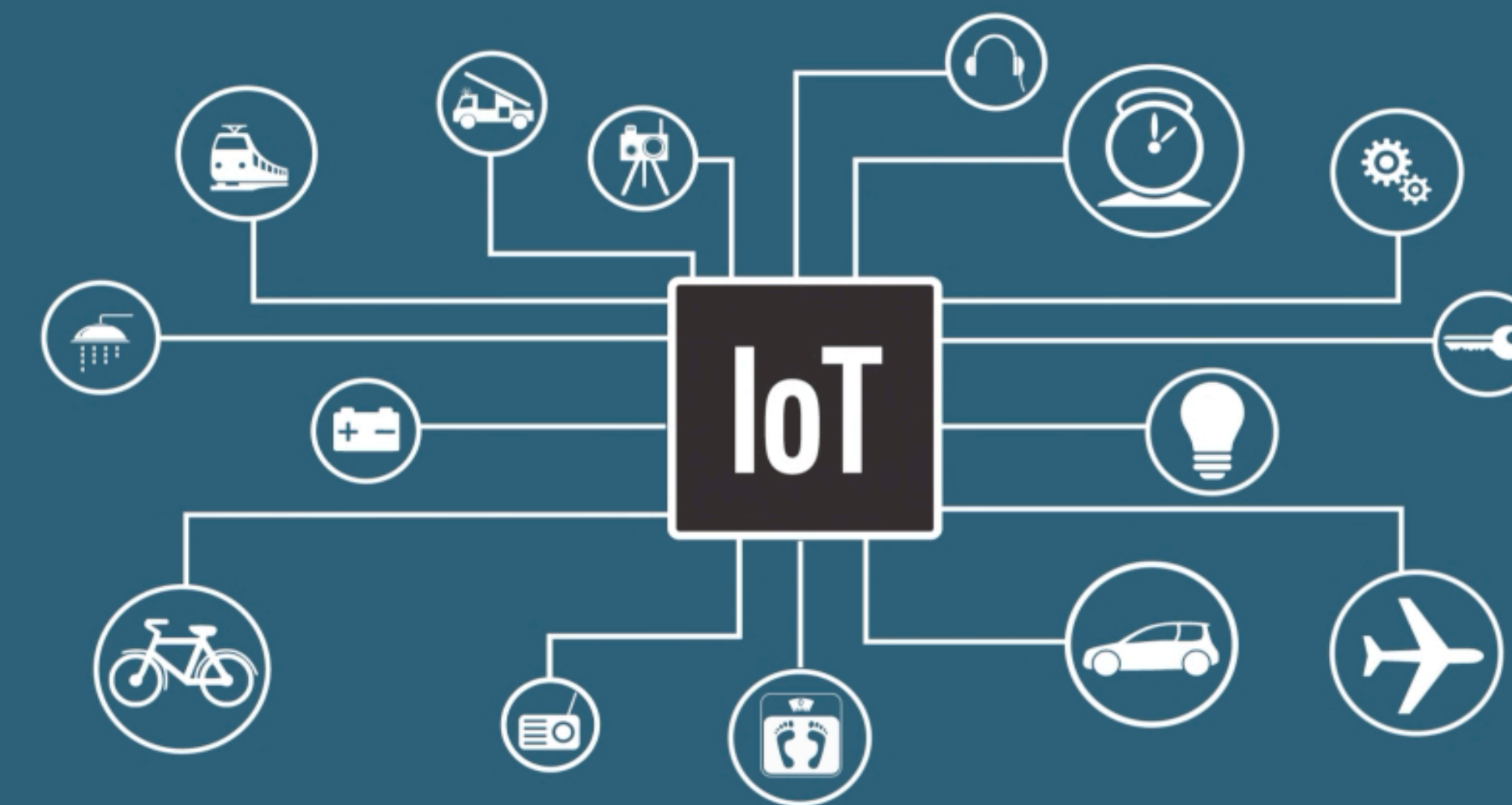
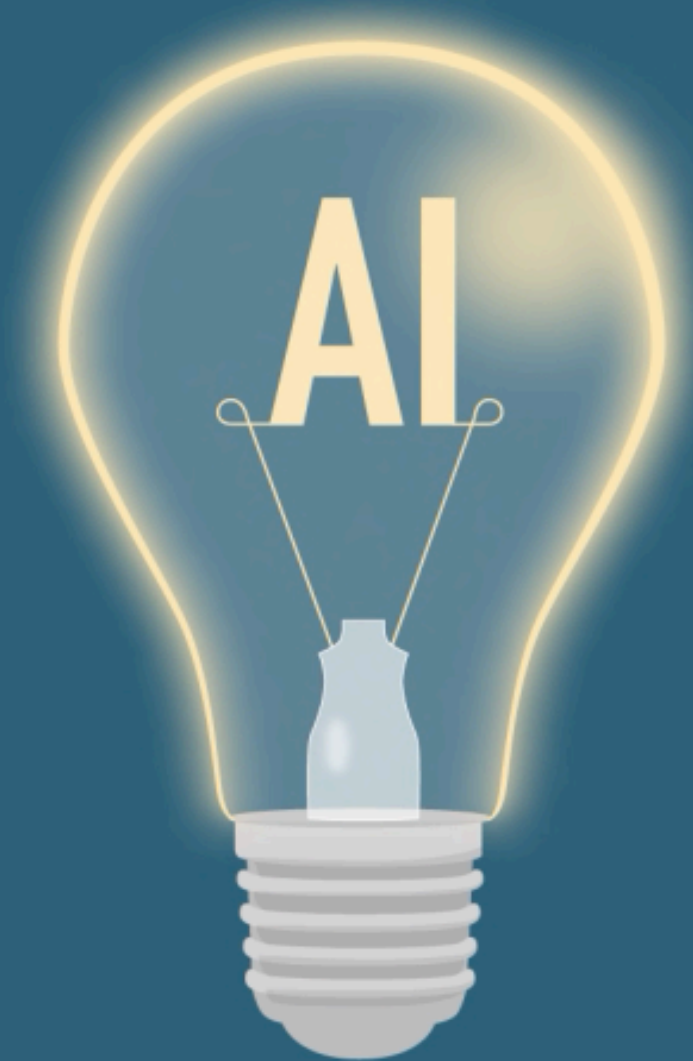
Gerd

COST OF HUMAN DNA SEQUENCING



Gerd

The 8 Game-Changers: Data | Cloud | 'Intelligent' Machines | Quantum Computing | The Internet of Things | Blockchain | 3D printing | AR/VR/MR



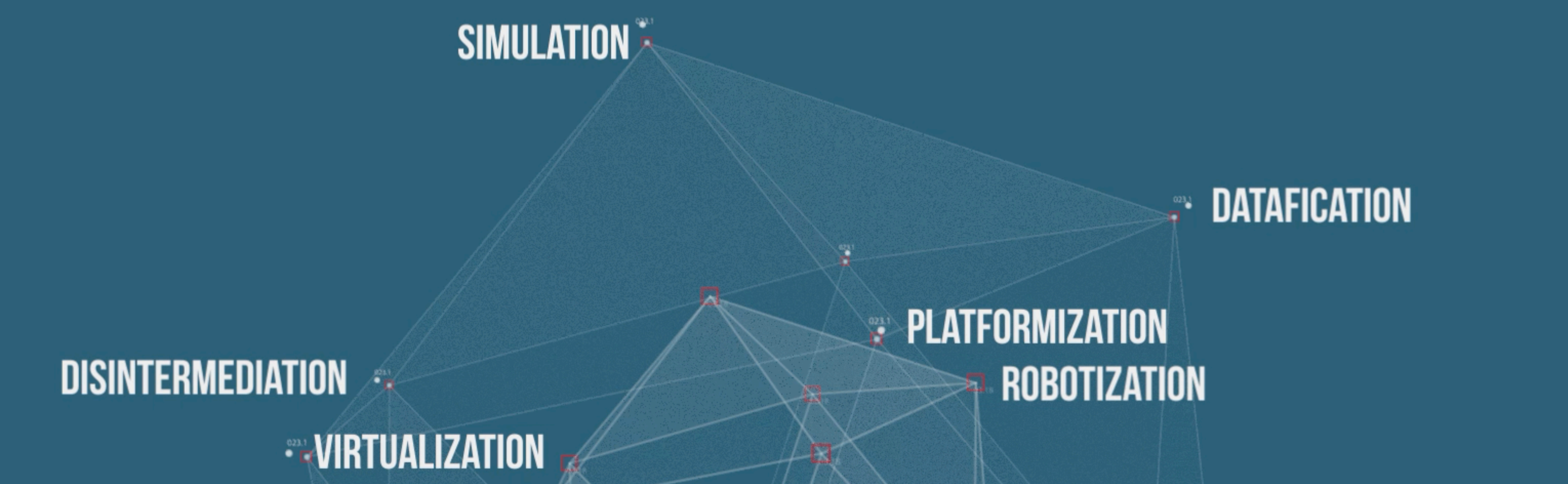
'Smart everything' is the low-hanging fruit in all industries – huge economic incentives but also vast societal changes:

WISDOM REQUIRED



Do you know how to navigate these game-changers? What values and rules will guide you?





Look OUTSIDE of your current domain!



Facebook Plans to Become World’s Biggest Central Bank?

Lance Ng [Follow](#)
Feb 28 · 4 min read ★

Facebook is making its own digital currency and could become the largest bank in the world. Here’s why...



“Facebook is looking at pegging the value of its coin to a basket of different foreign currencies...held in Facebook bank accounts.”

Create

Observe

The Future Mindset

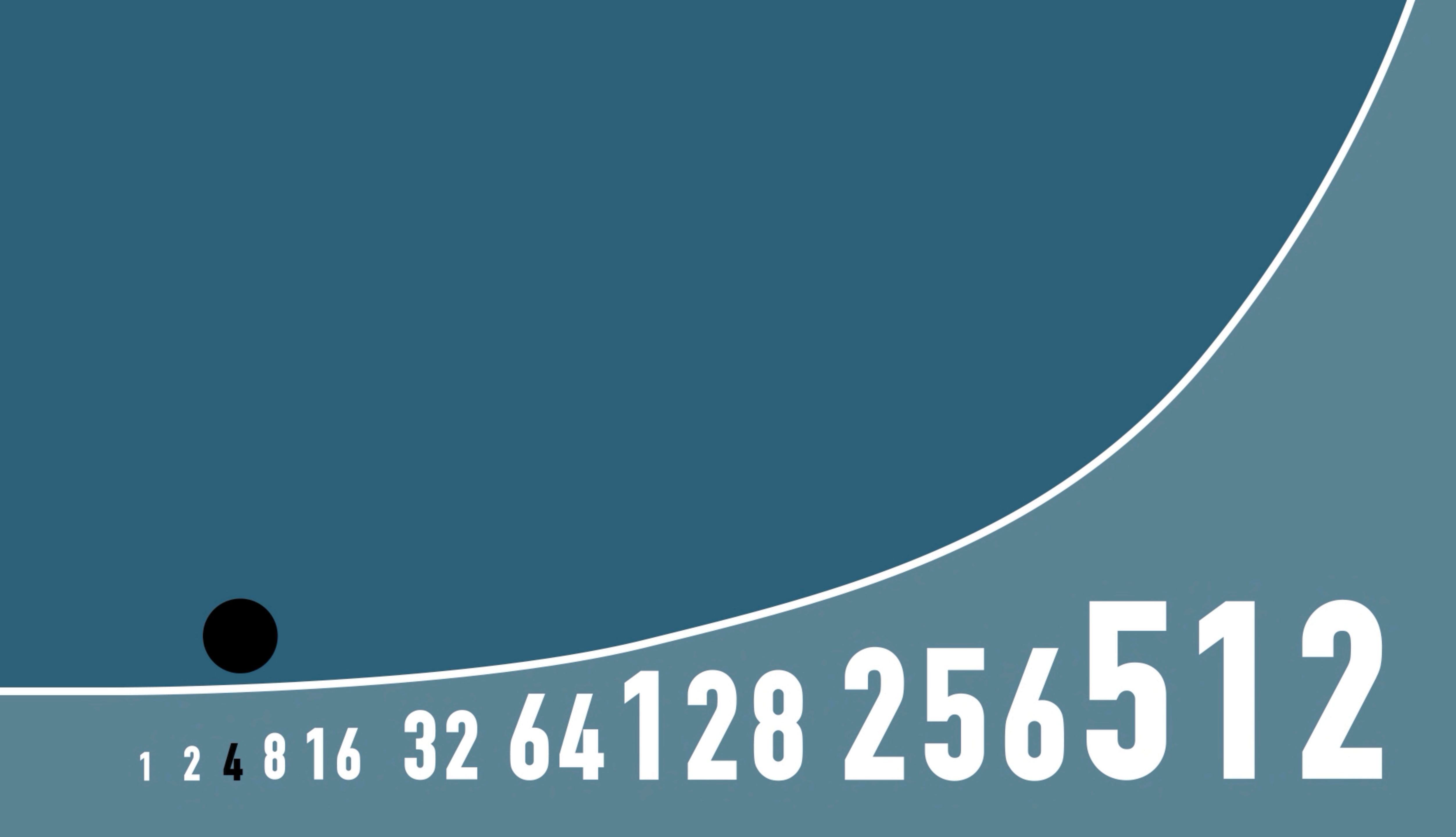
Imagine



Understand
Gerd

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



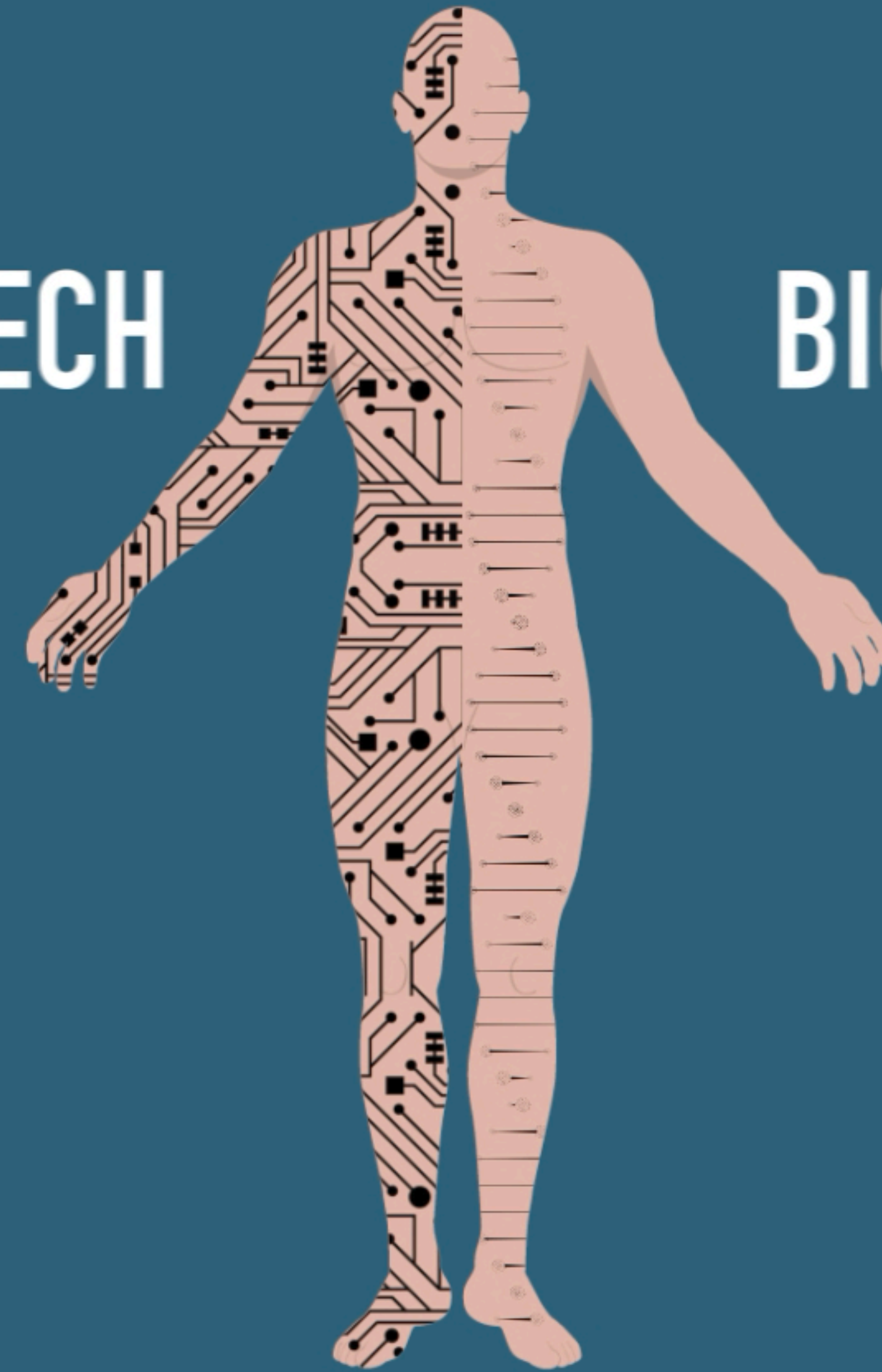


Exponential
Combinatorial
Convergent





INFOTECH



BIOTECH

Exponential

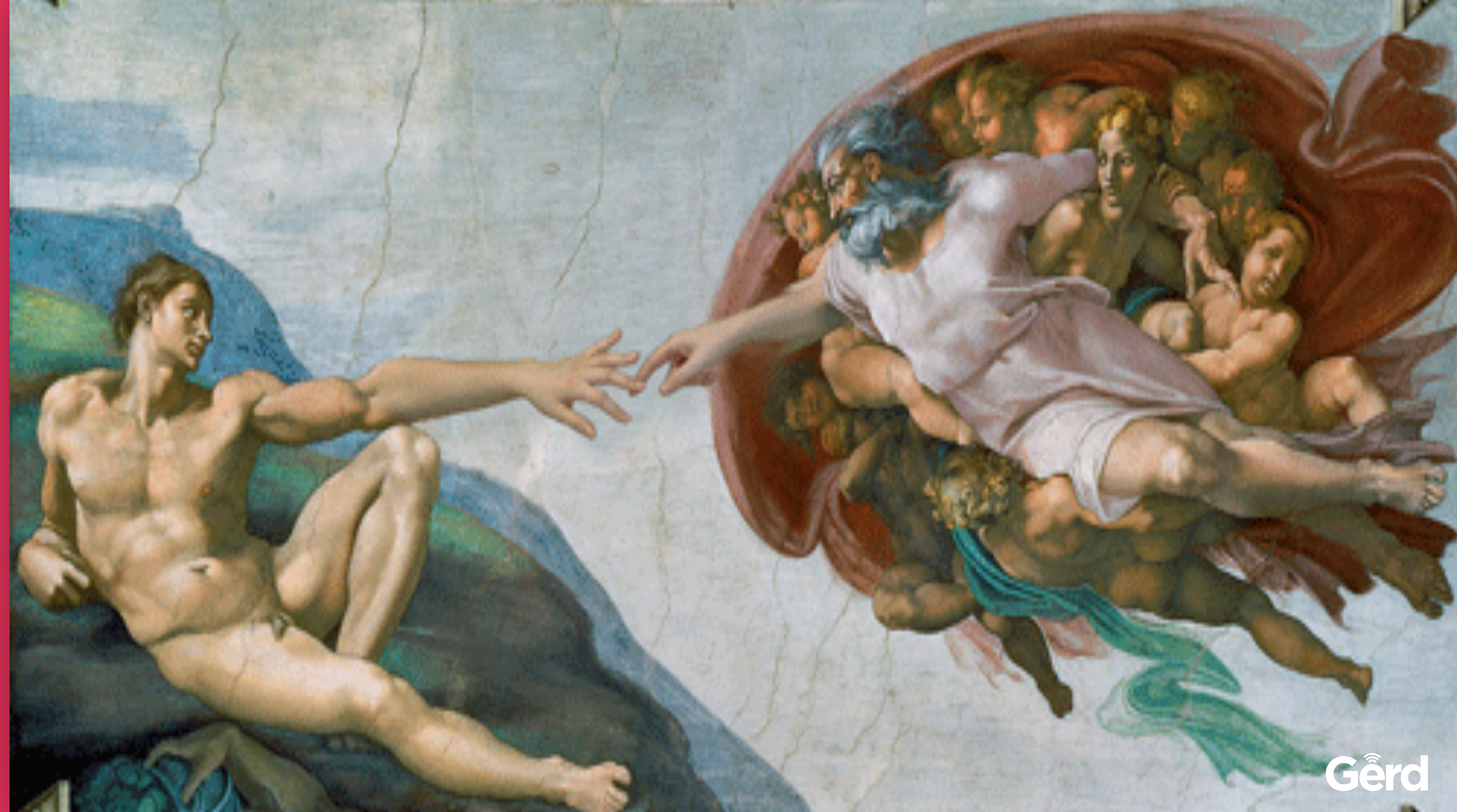
Combinatorial

Convergent

e^x



**Science Fiction is
increasingly becoming
Science Fact**



Science Fiction is
increasingly becoming
Science Fact

= PERSONALIZED HEALTHCARE



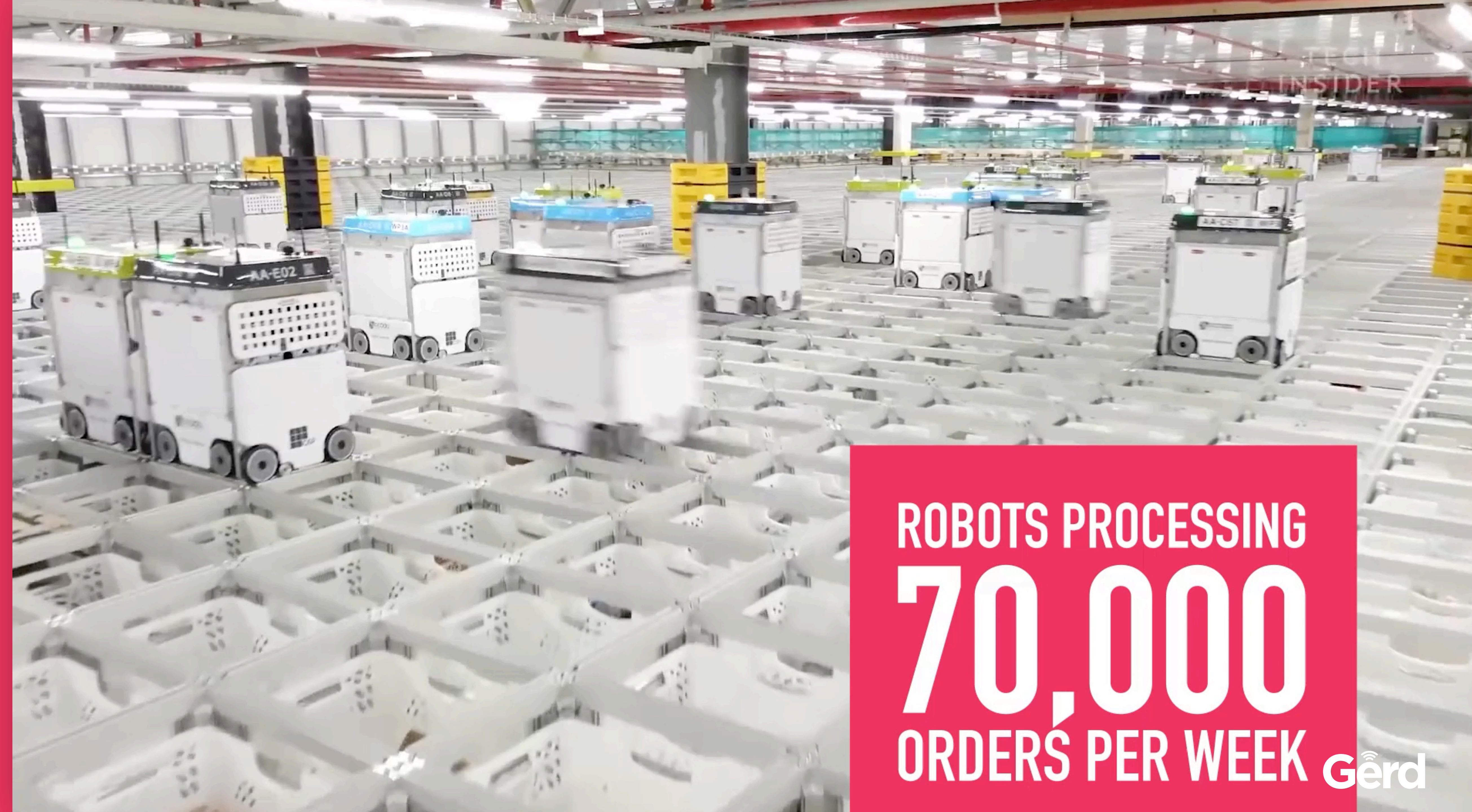
Science Fiction is
increasingly becoming
Science Fact



VERTICAL FARMING
130x MORE PRODUCTIVE

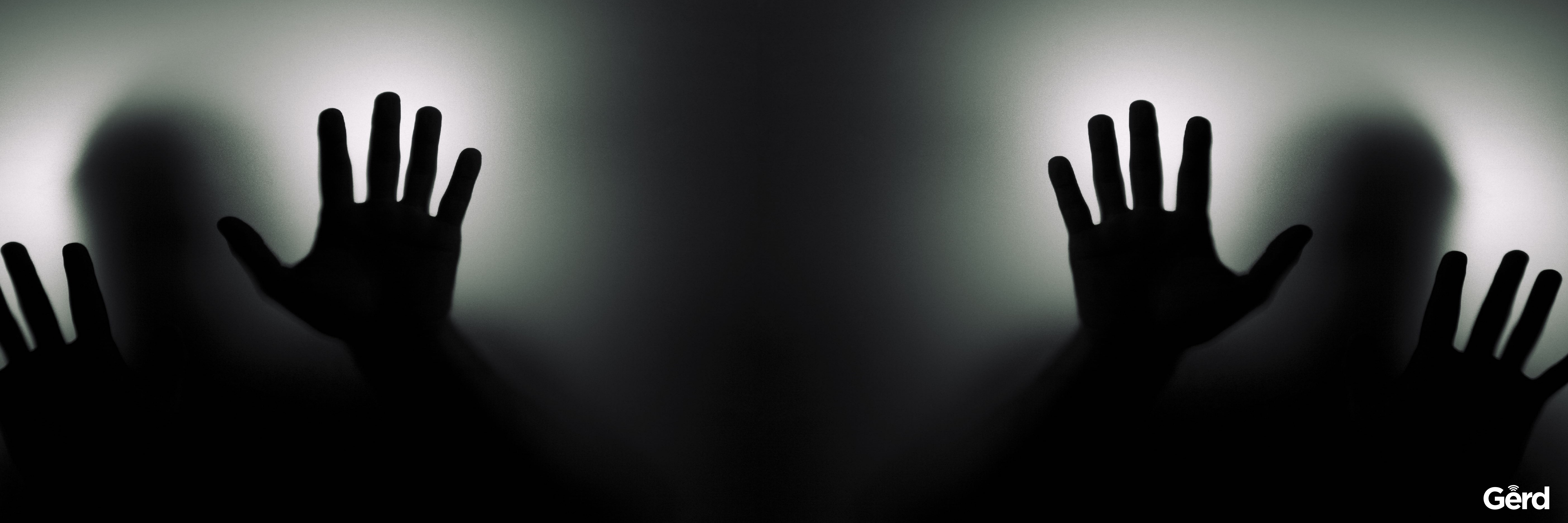
Gerd

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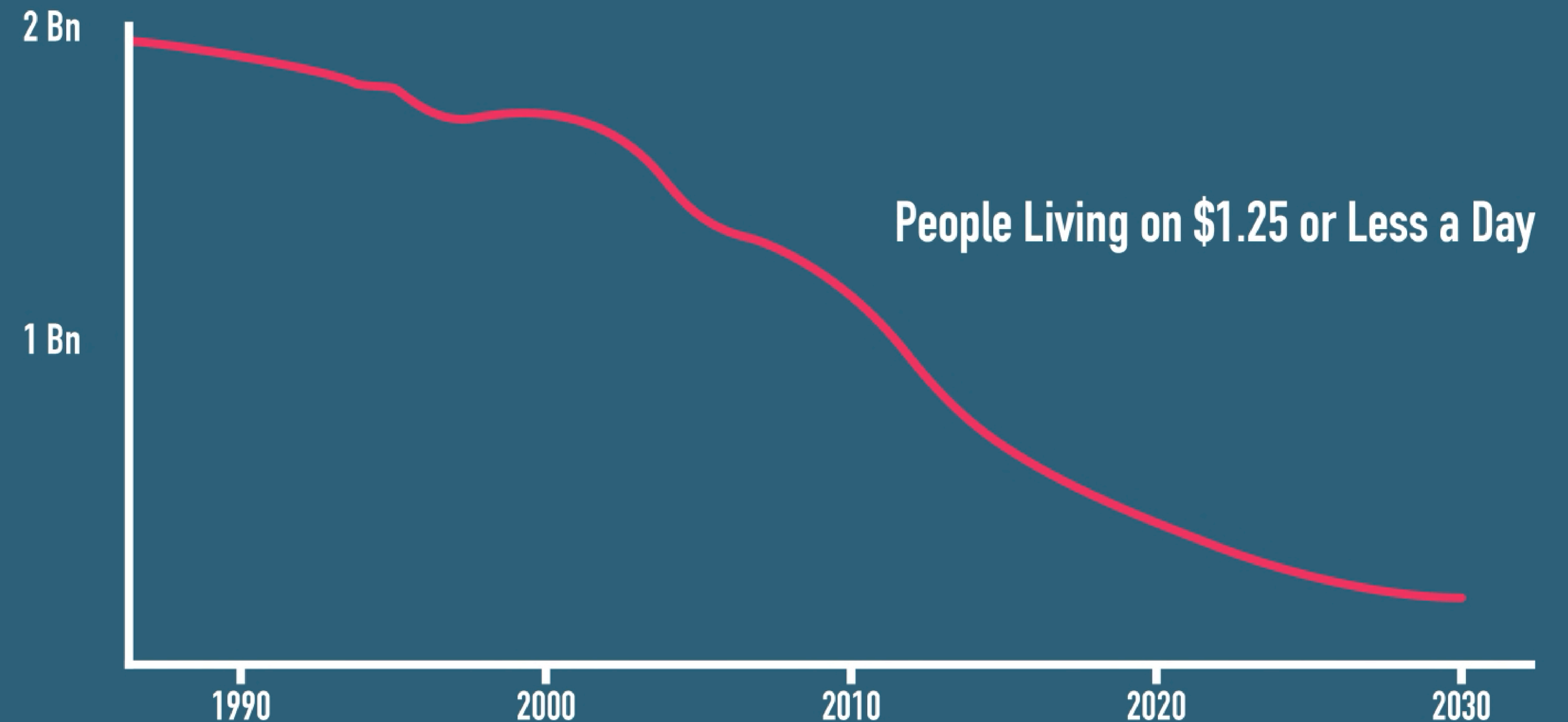
ROBOTS PROCESSING
70,000
ORDERS PER WEEK

Gerd



The future is
better than
we think!

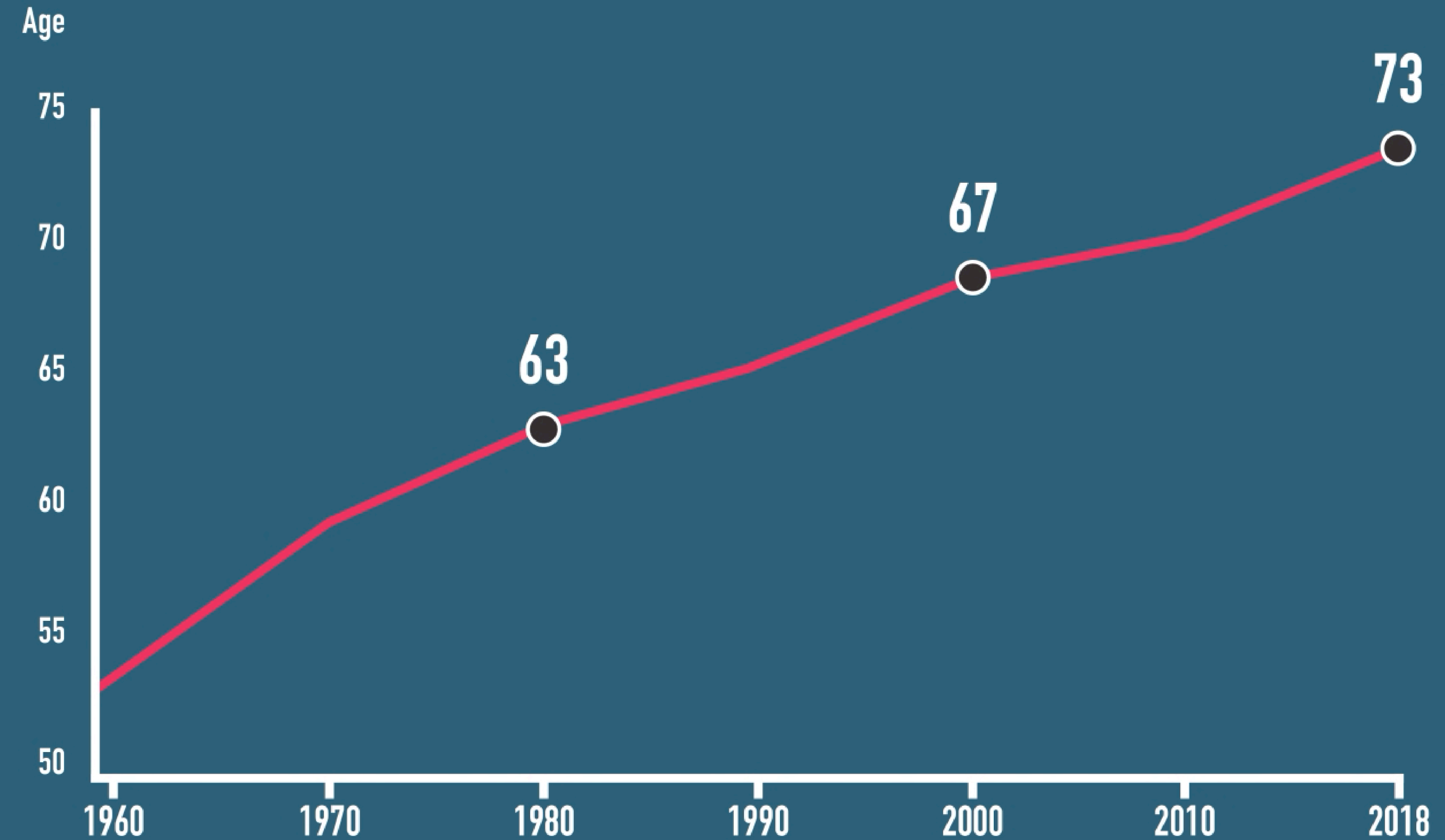
THE DECLINE OF POVERTY



Source: The Economist

The future is
better than
we think!

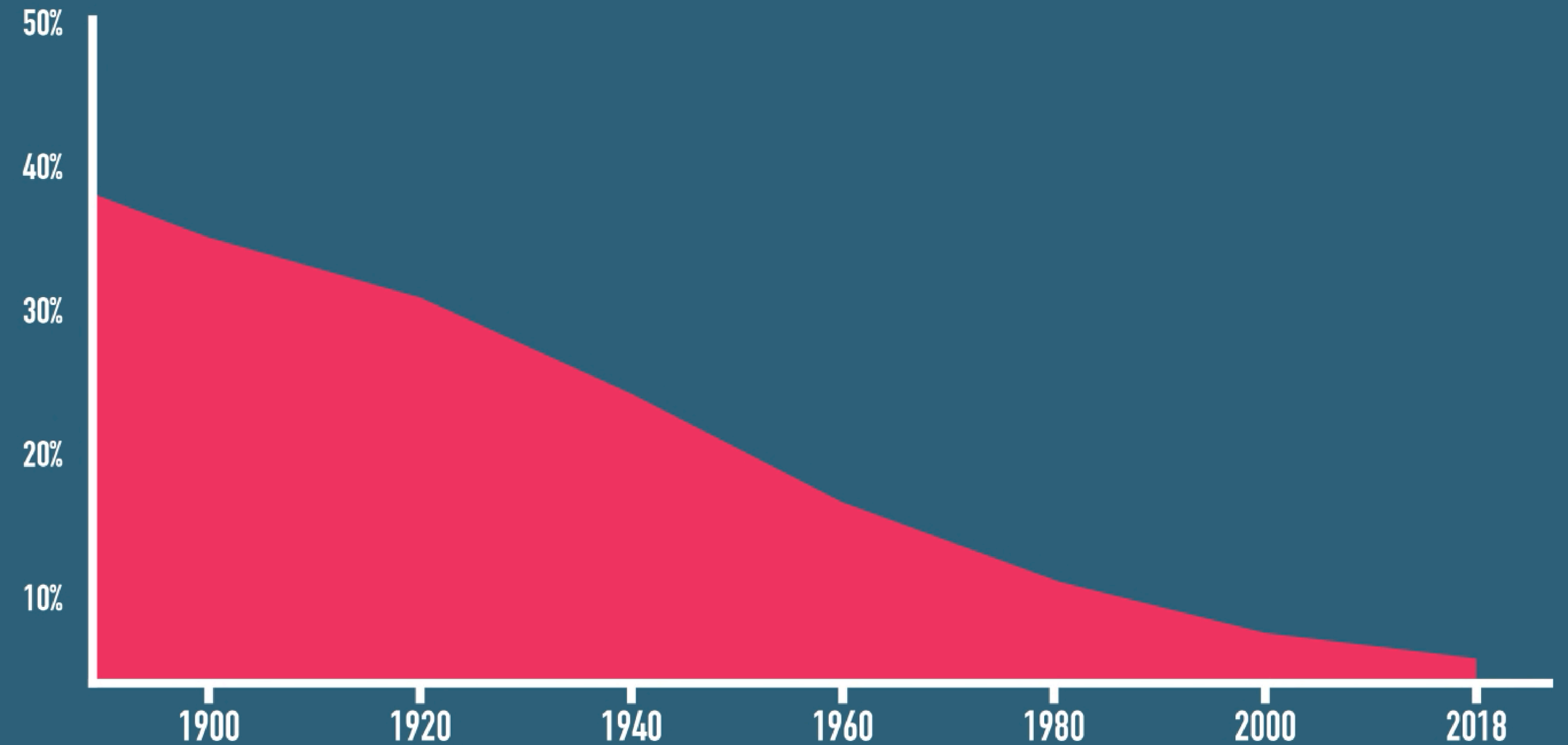
LIFE EXPECTANCY AT BIRTH, GLOBALLY



Source: World Bank

The future is
better than
we think!

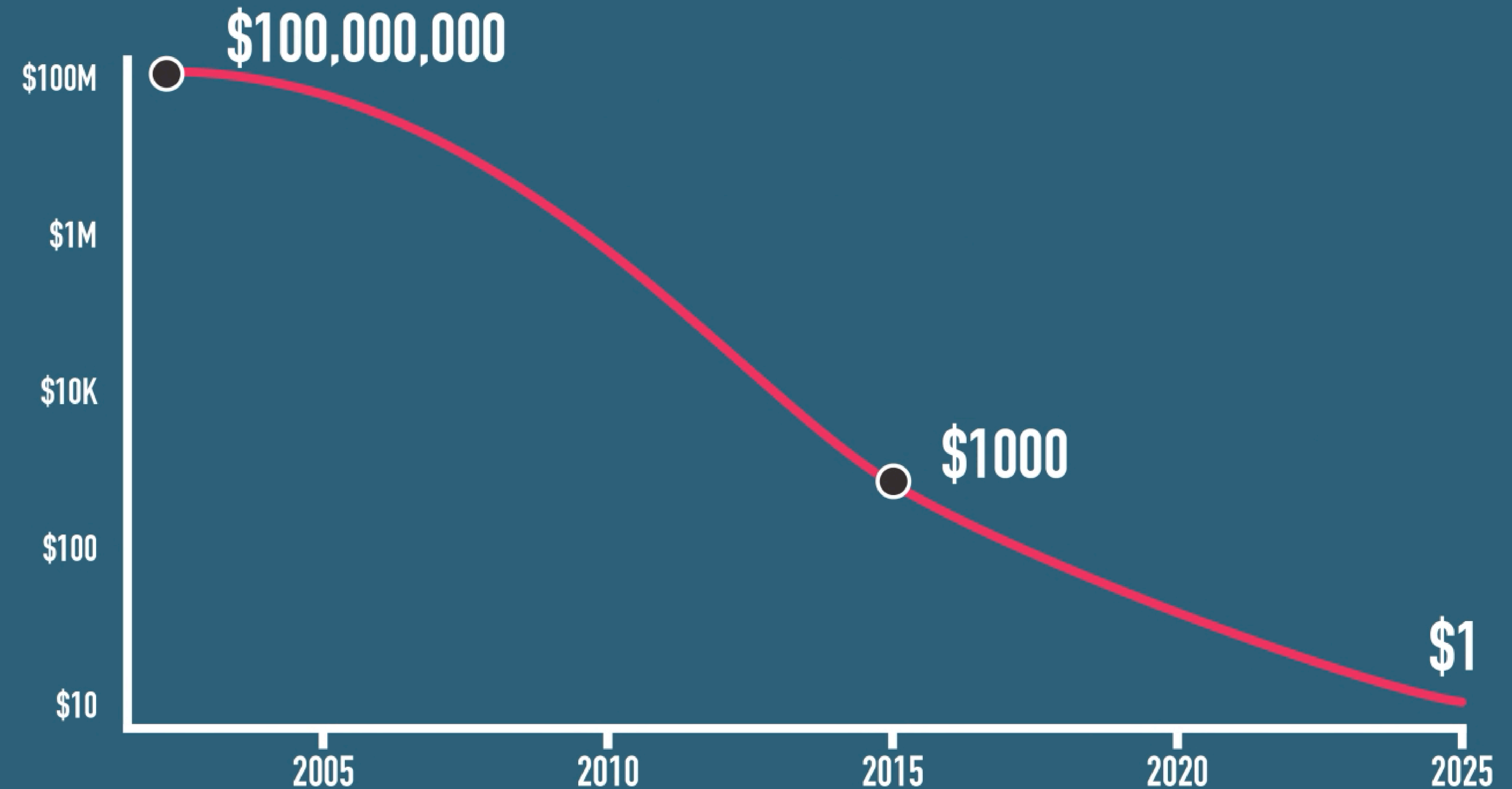
GLOBAL CHILD MORTALITY



Source: World Bank

The future is
better than
we think!

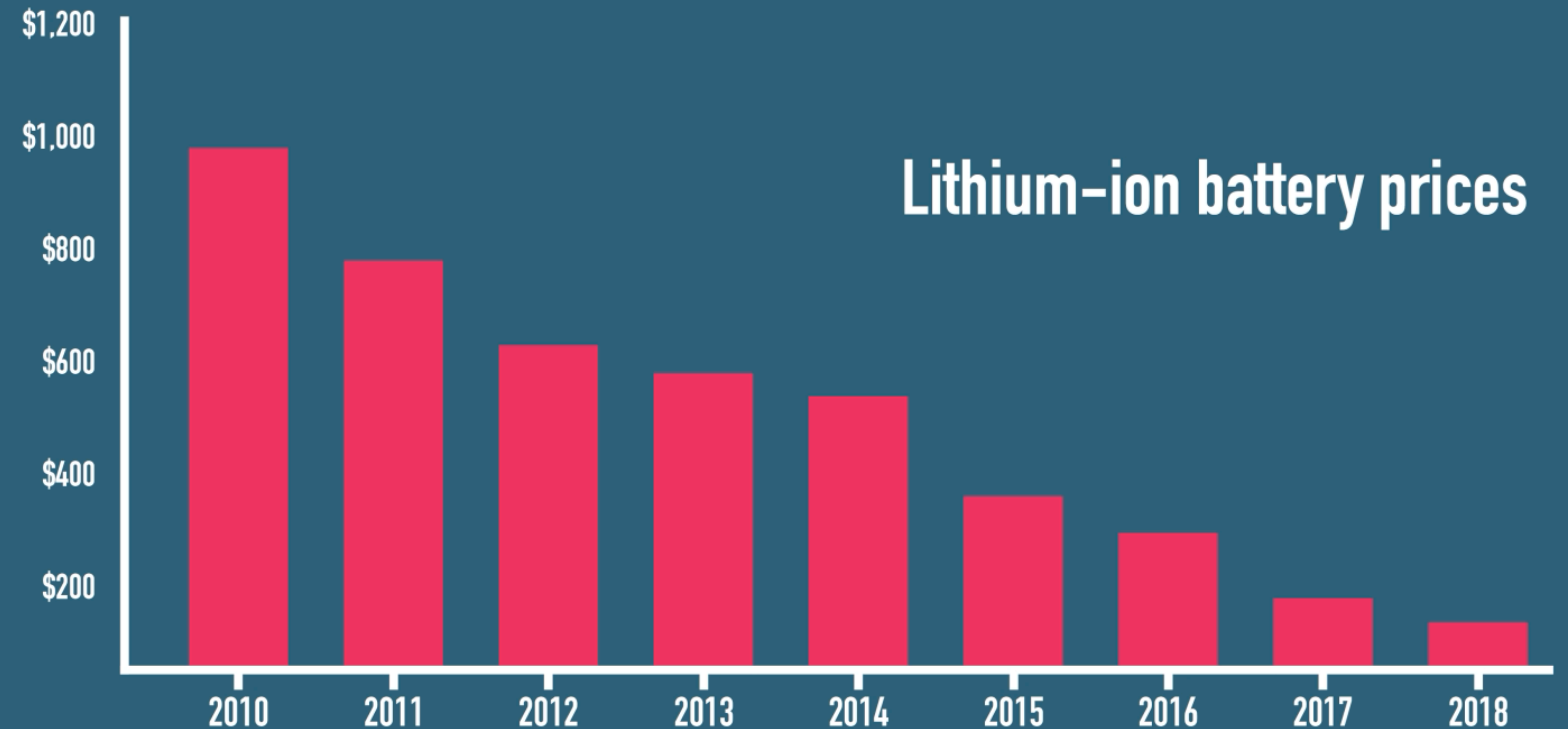
THE DECLINING COST OF SOLAR PANELS



Source: Bloomberg

The future is
better than
we think!

THE DECLINING COST OF BATTERIES



Source: Bloomberg

G&R

The background features a dark, textured cylinder on the left and several wireframe spheres of varying sizes on the right, all set against a dark, blurred background with bokeh light effects.

Within the next 20 years, technology will enable us to:

Address global food shortages

Stop or even reverse global warming

Prevent or slow-down many major diseases

Cheaply desalinate as much water as needed

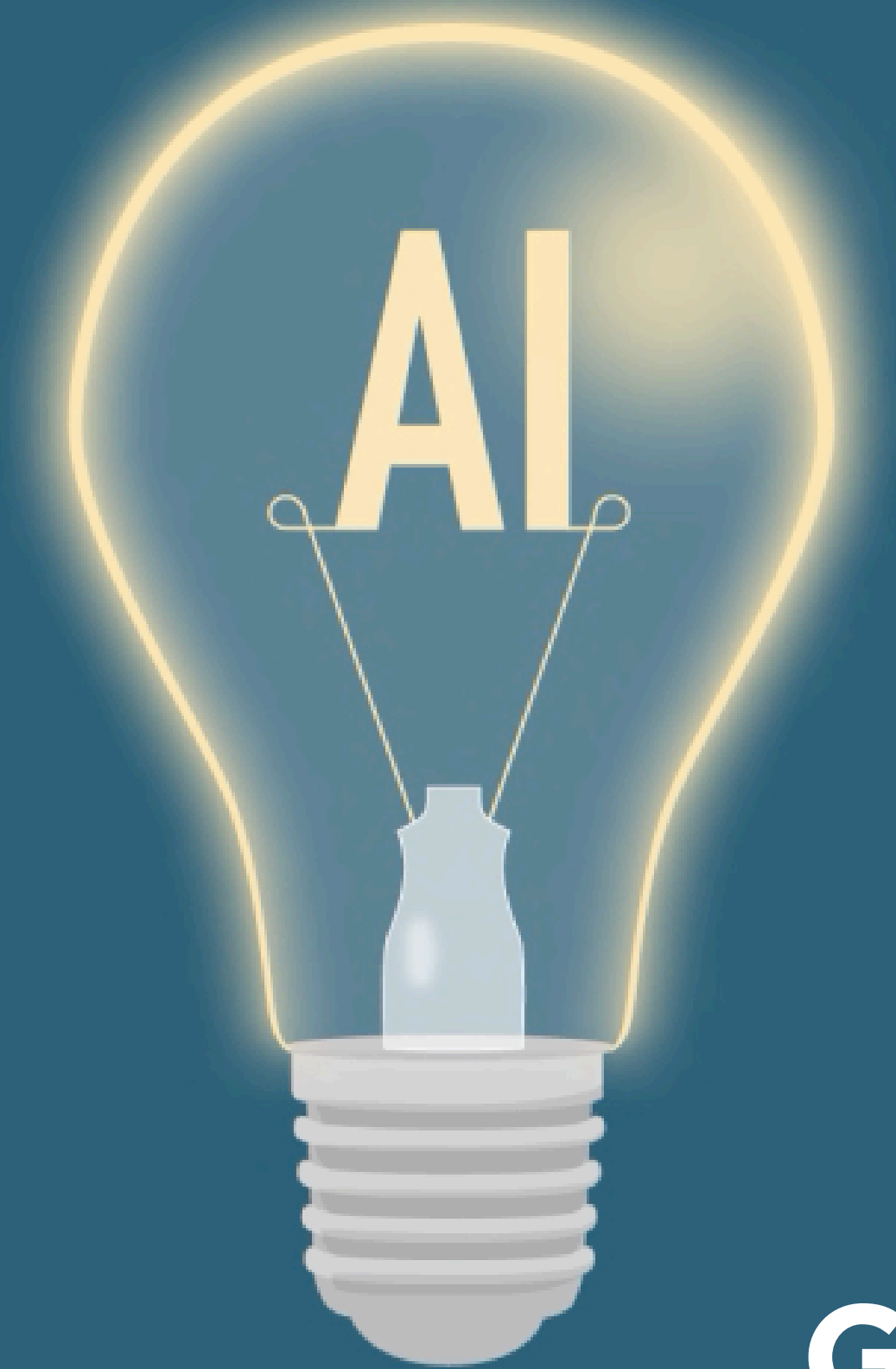
Solve the energy problem (i.e. reach abundance)



...IF we govern it wisely!



DATA IS THE NEW OIL AI IS THE NEW ELECTRICITY



Platformization

RANK	COMPANY	REGION	CURRENT MARKET VALUE (\$B)
1	Apple	USA	\$964
2	Amazon	USA	783
3	Microsoft	USA	753
4	Google / Alphabet	USA	739
5	Facebook	USA	538
6	Alibaba	China	509
7	Tencent	China	483
8	Netflix	USA	152
9	Ant Financial	China	150
10	eBay + Paypal*	USA	133
11	Booking Holdings	USA	100
12	Salesforce.com	USA	94
13	Baidu	China	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			\$5,788

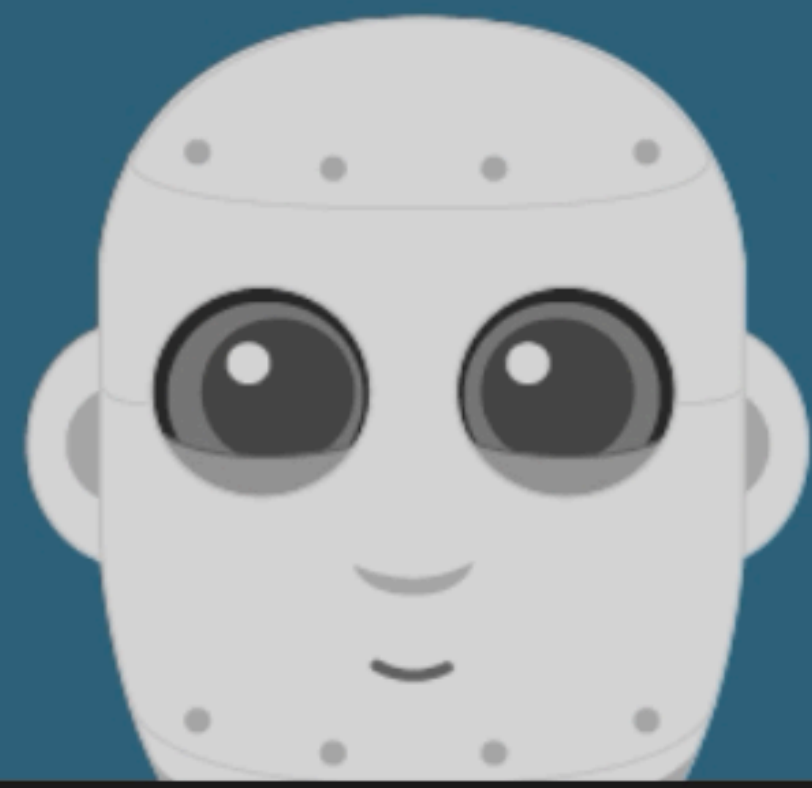




Too much of a good
thing can be a very
bad thing –
who will define
the right balance?



Make
Google
do it.



**Make
Google
do it.**

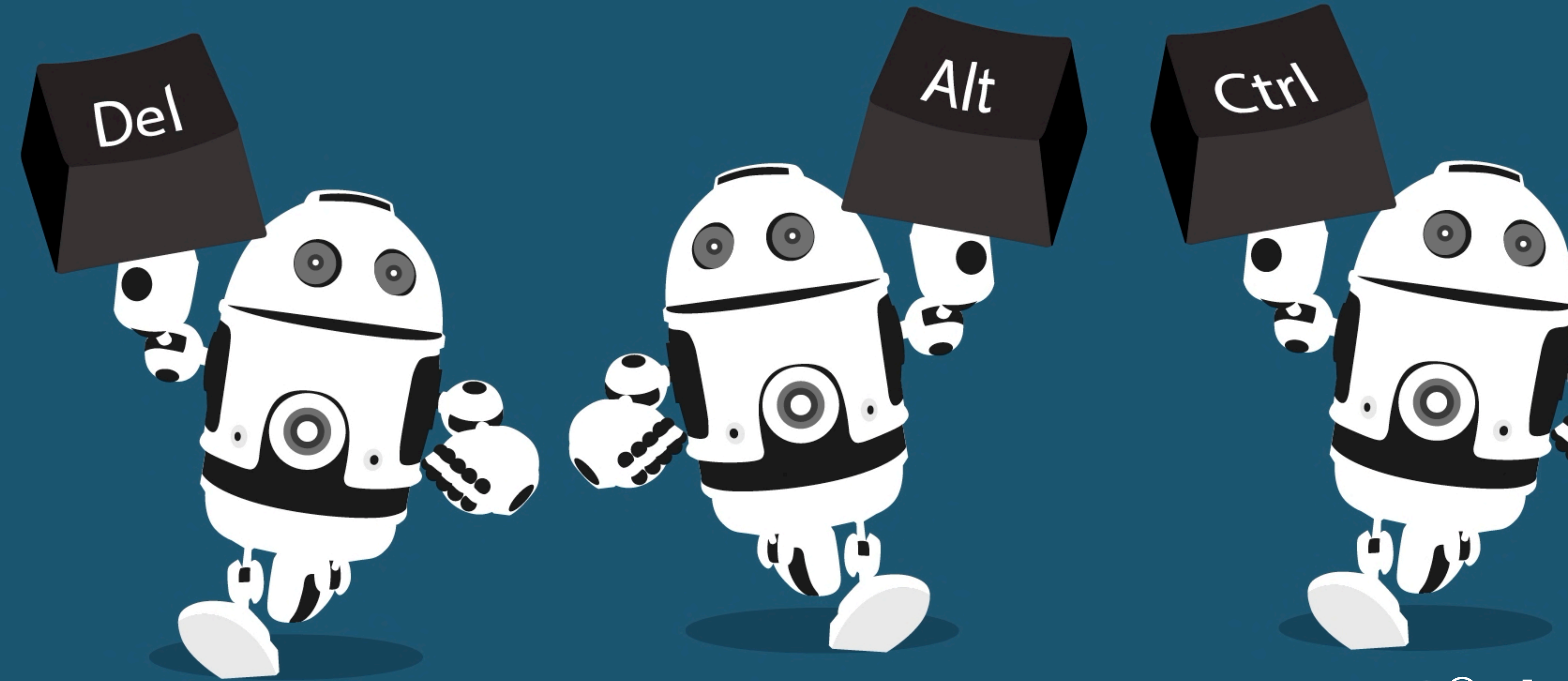
**Too much of a good
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bad thing –
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Gerd

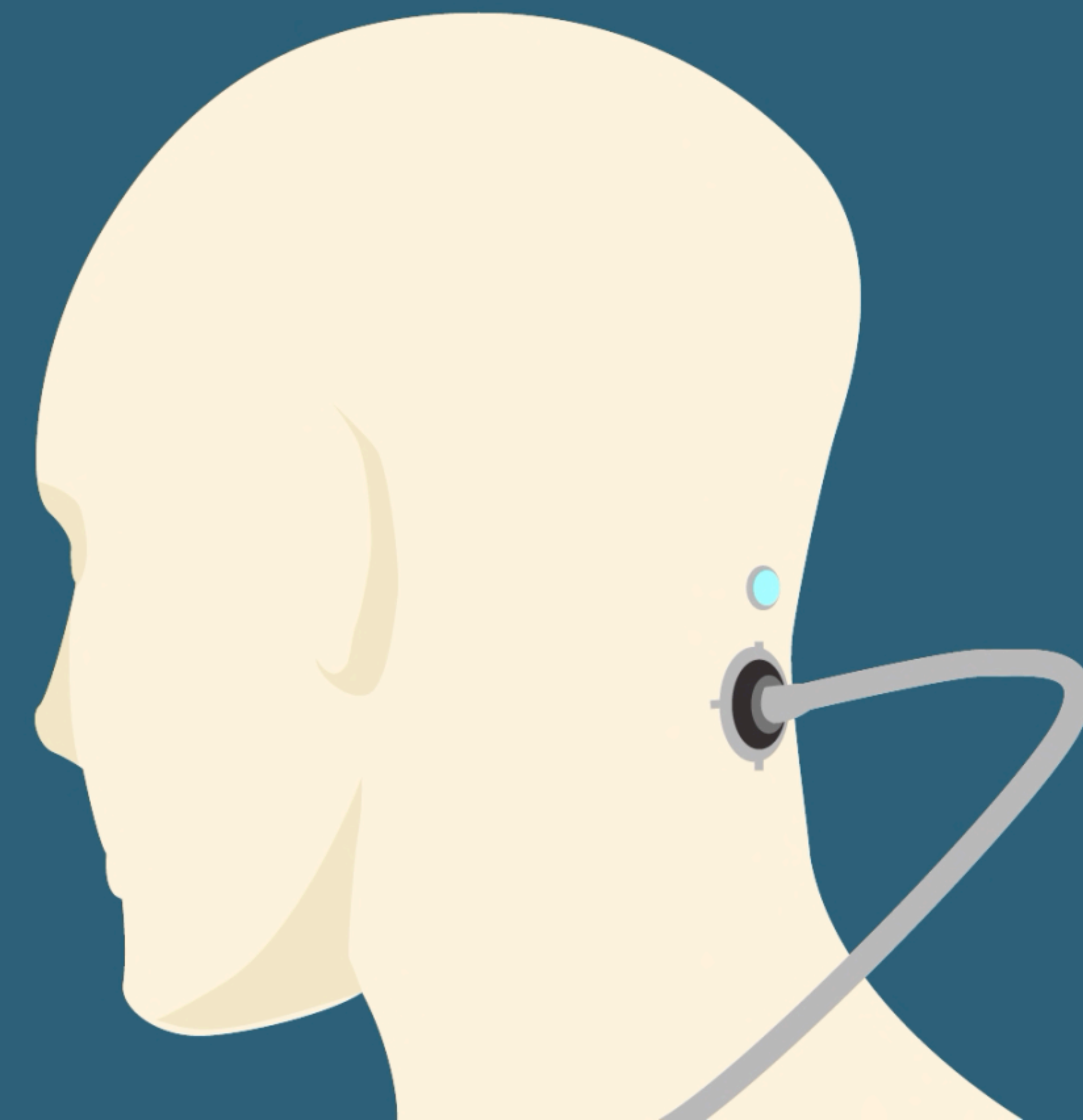


**Today, the biggest danger
is not that machines will
take over but that we
might become too much
like them!**

Technology is not WHAT we seek but HOW we seek!



“Technology can do great things. But it does not WANT to do great things. It doesn’t want anything” (Tim Cook, Apple)

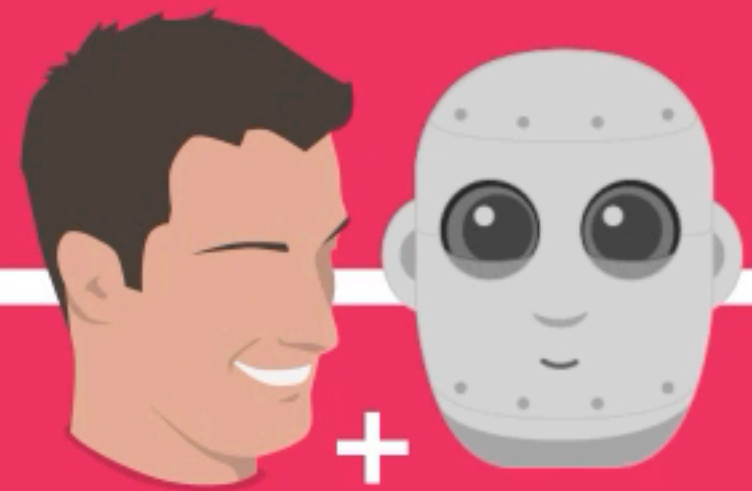


We must urgently address the **externalities** and the unintended **consequences** of exponential scientific and technological progress.

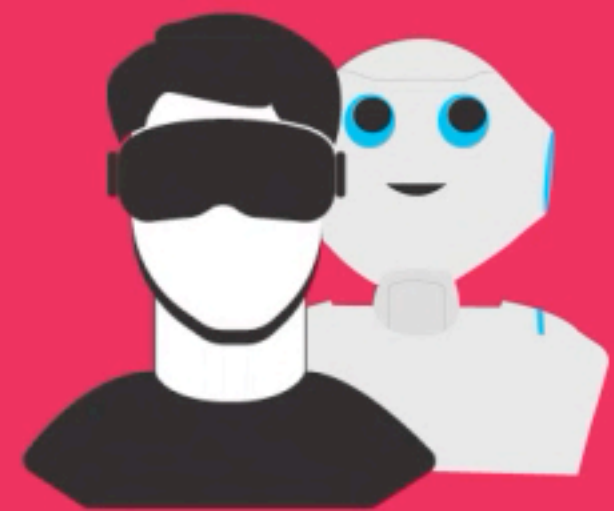
We need a stronger focus on ethics & values, new social contracts, renewed public debate, new corporate accountability, balanced regulation and global collaboration



ASSISTED INTELLIGENCE



AUGMENTED INTELLIGENCE



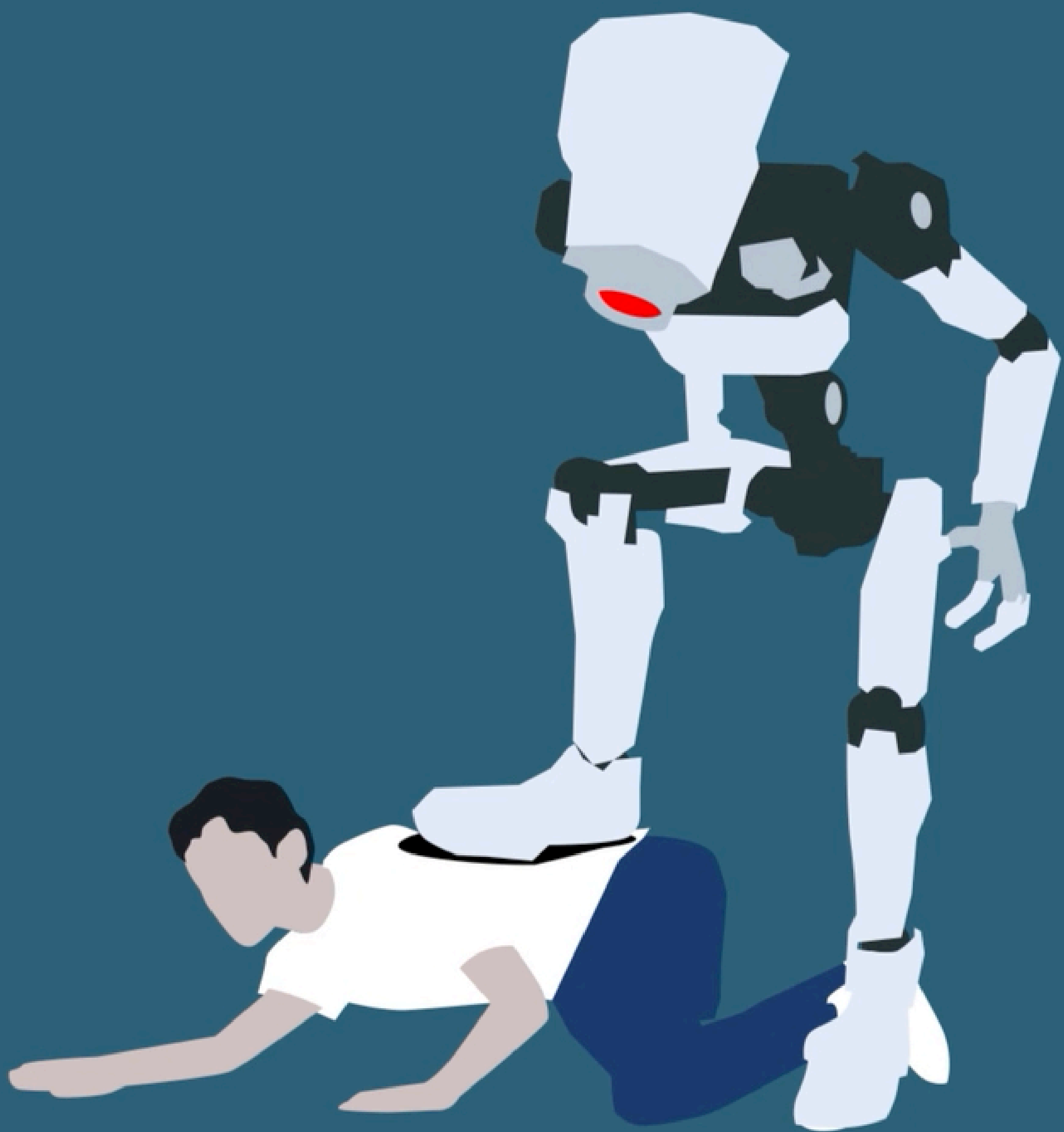
AUTOMATION



AUTONOMOUS INTELLIGENCE







TEAM ROBOT



TEAM HUMAN
Gêrd





**"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

TECHNOLOGY HAS NO ETHICS

A new economic logic is evolving

EGO



ECO



PEOPLE



PLANET



PURPOSE



PROSPERITY



“What kind of world do we want to live in?”

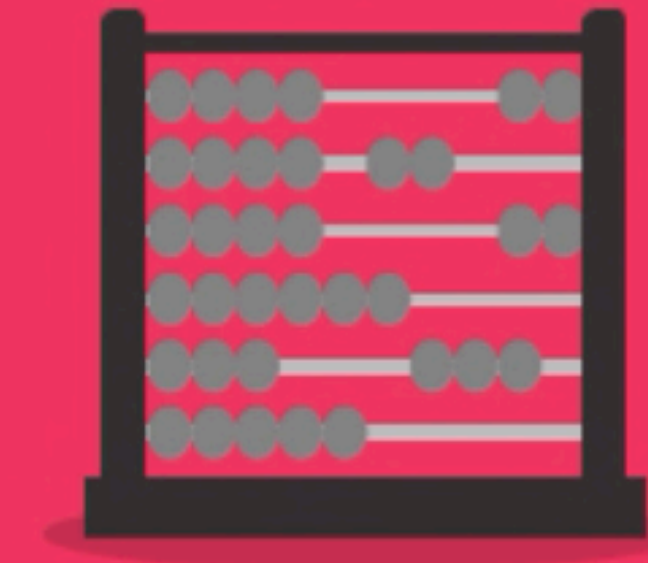
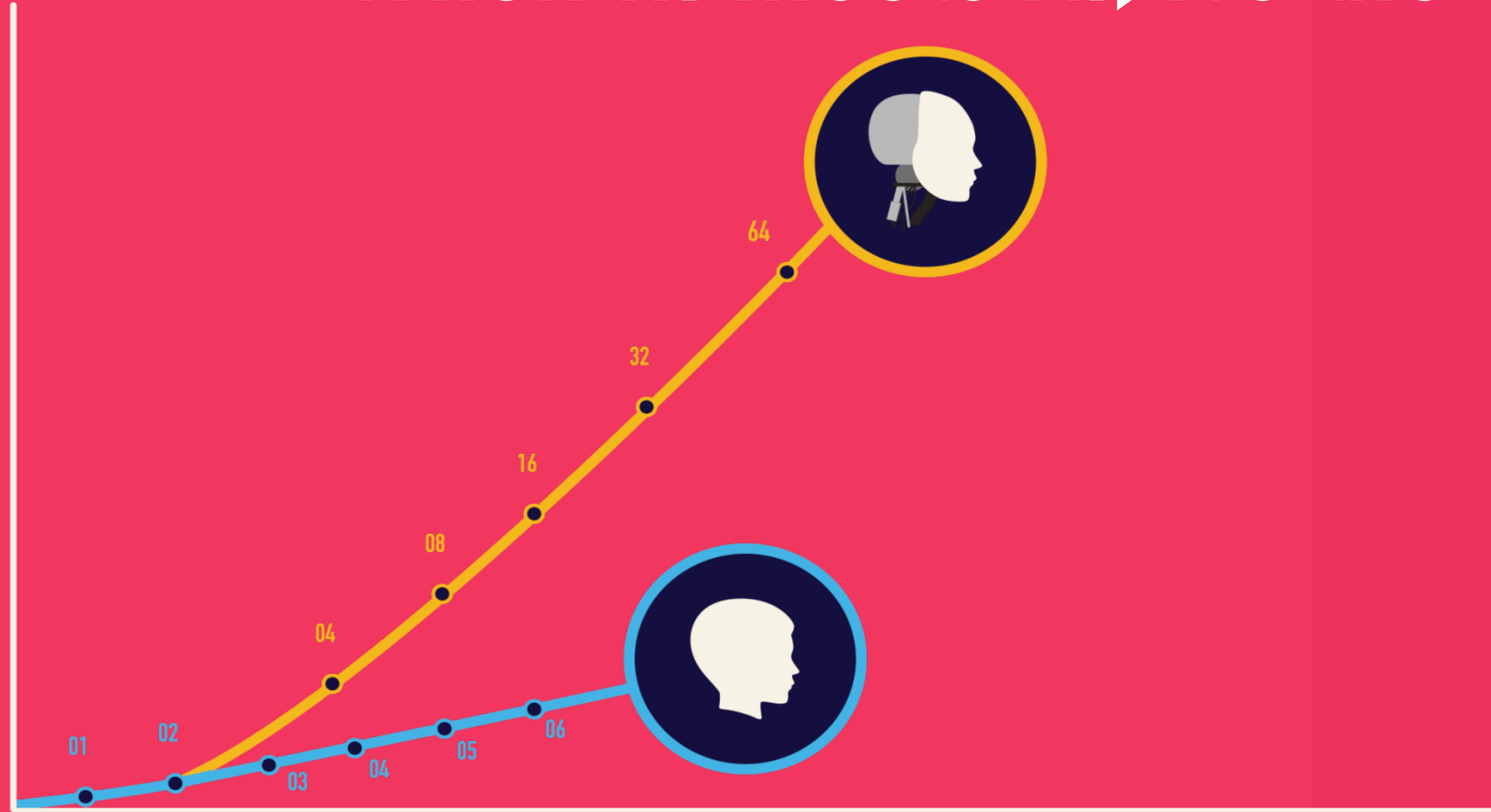


TIM COOK

CEO APPLE

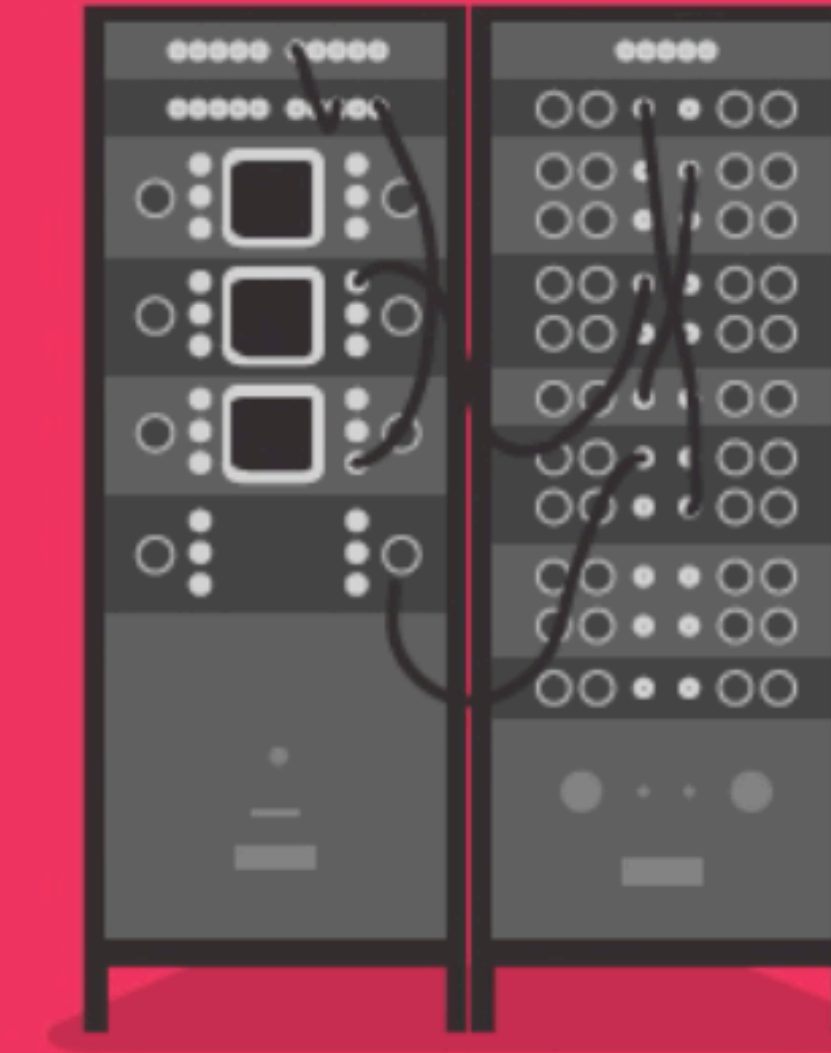


When HI meets AI, it's the end of 'business as usual' *



*Tabulating
Systems Era*

1900



*Programmable
Systems Era*

1950

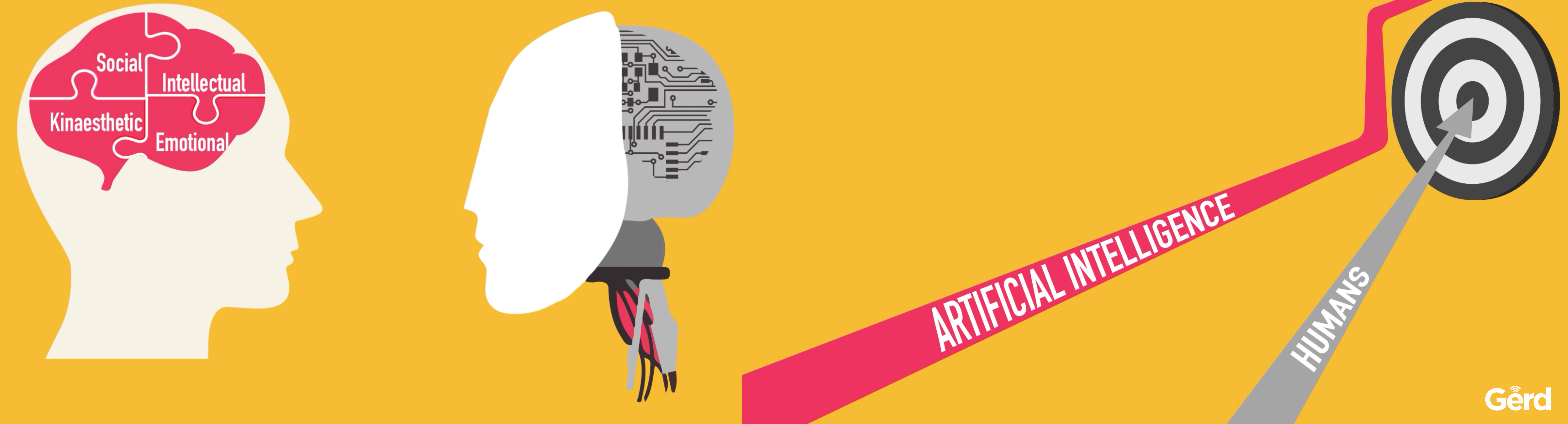


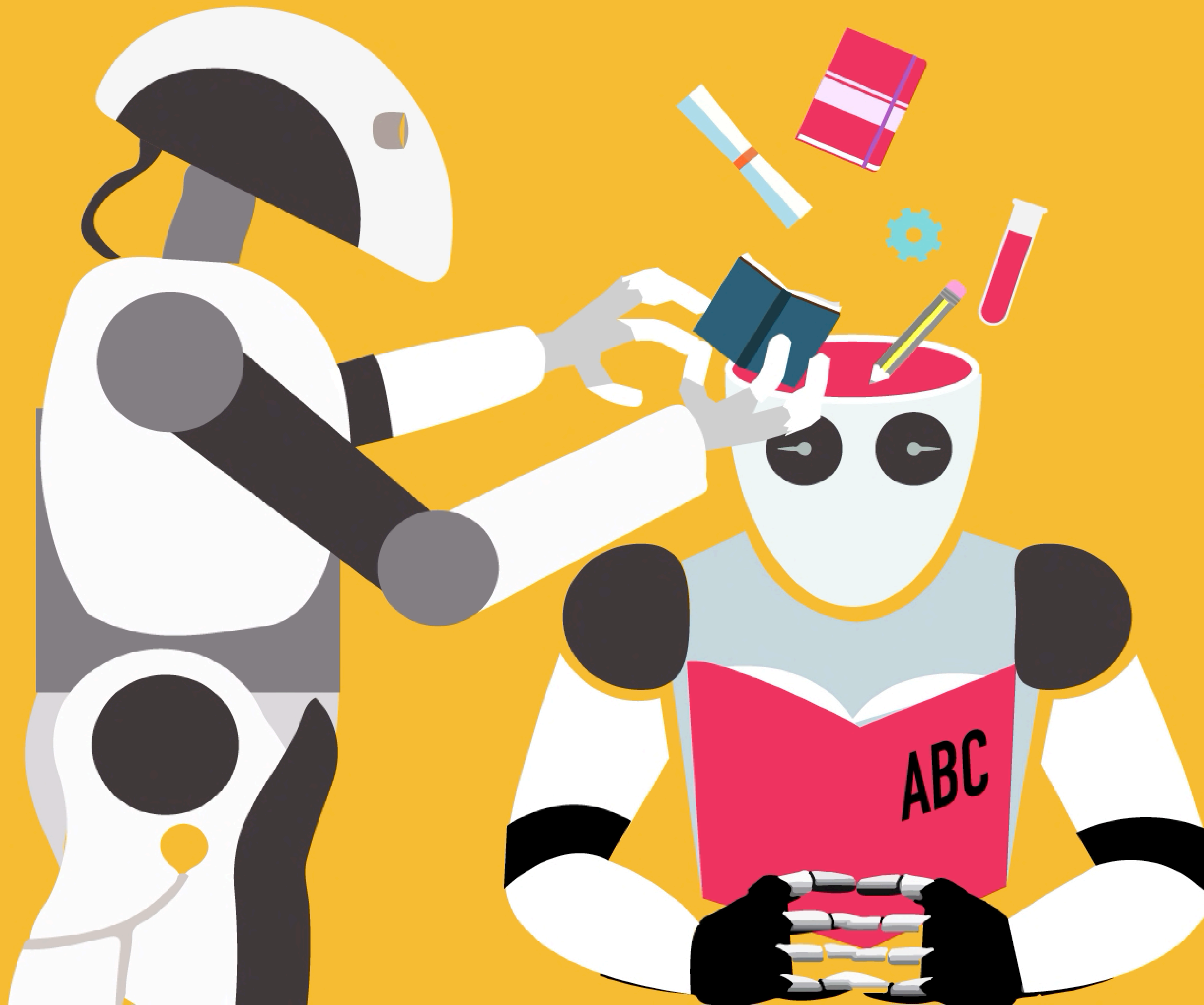
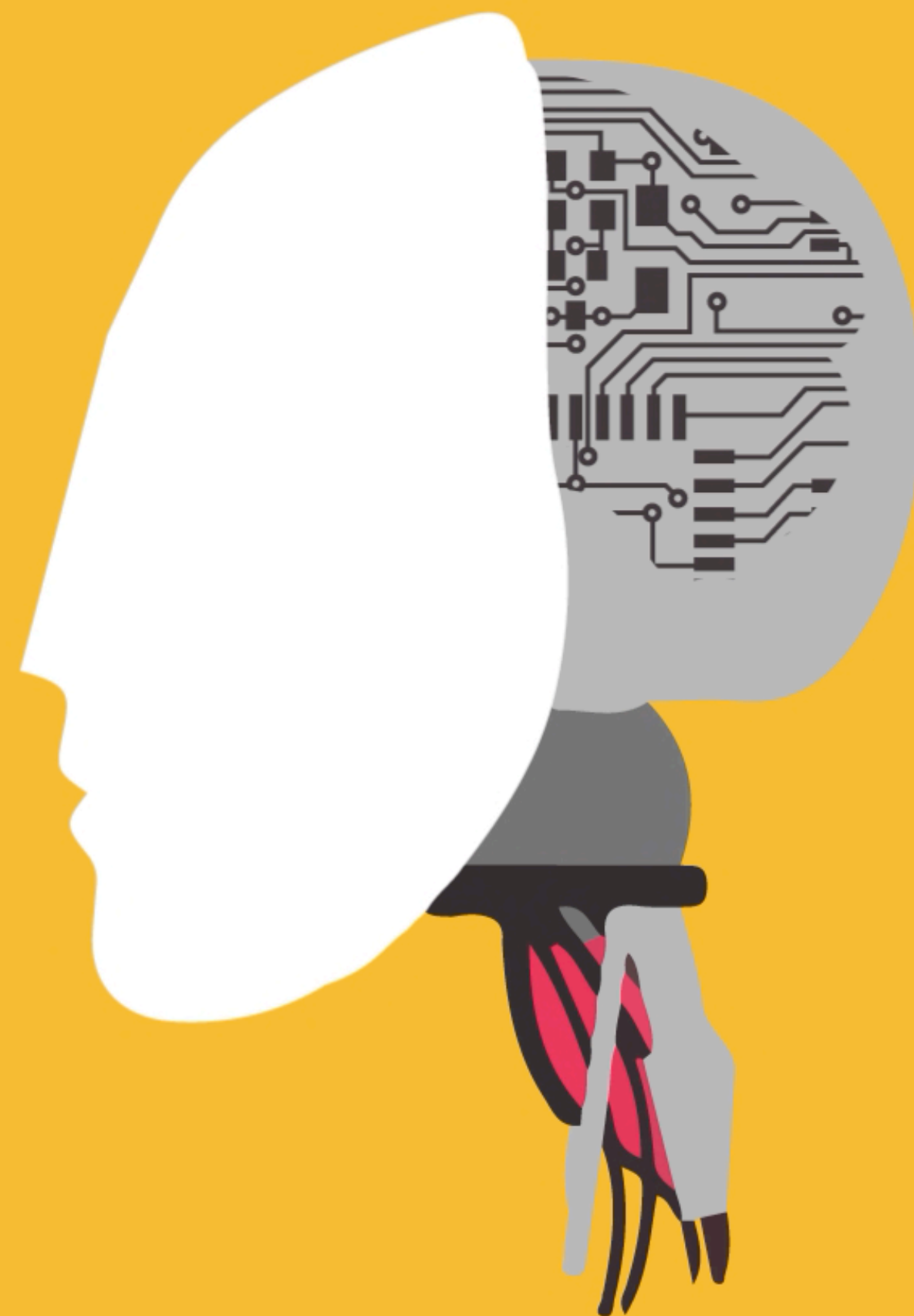
*Cognitive
Systems Era*

2020

'Thinking Machines': Don't mistake a clear view with a short distance!

(riffing off Paul Saffo)





DATA AND INFORMATION
is not Knowledge*
is not Understanding
is not Wisdom
is not Purpose



The Future Of A.I.

Forecasted cumulative global artificial intelligence revenue 2016-2025, by use case (U.S. dollars)



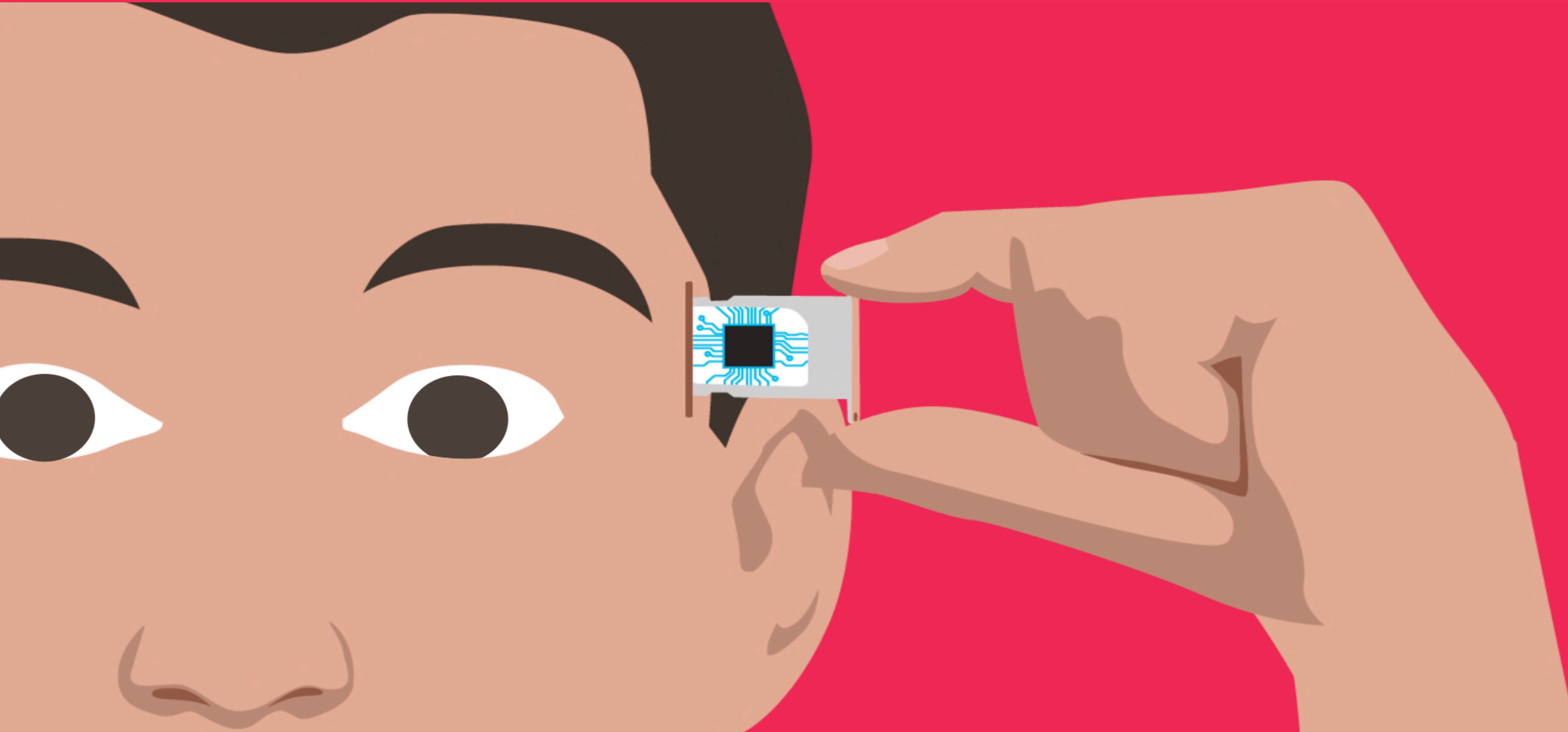
@StatistaCharts

* From geospatial images

Source: Tractica

statista

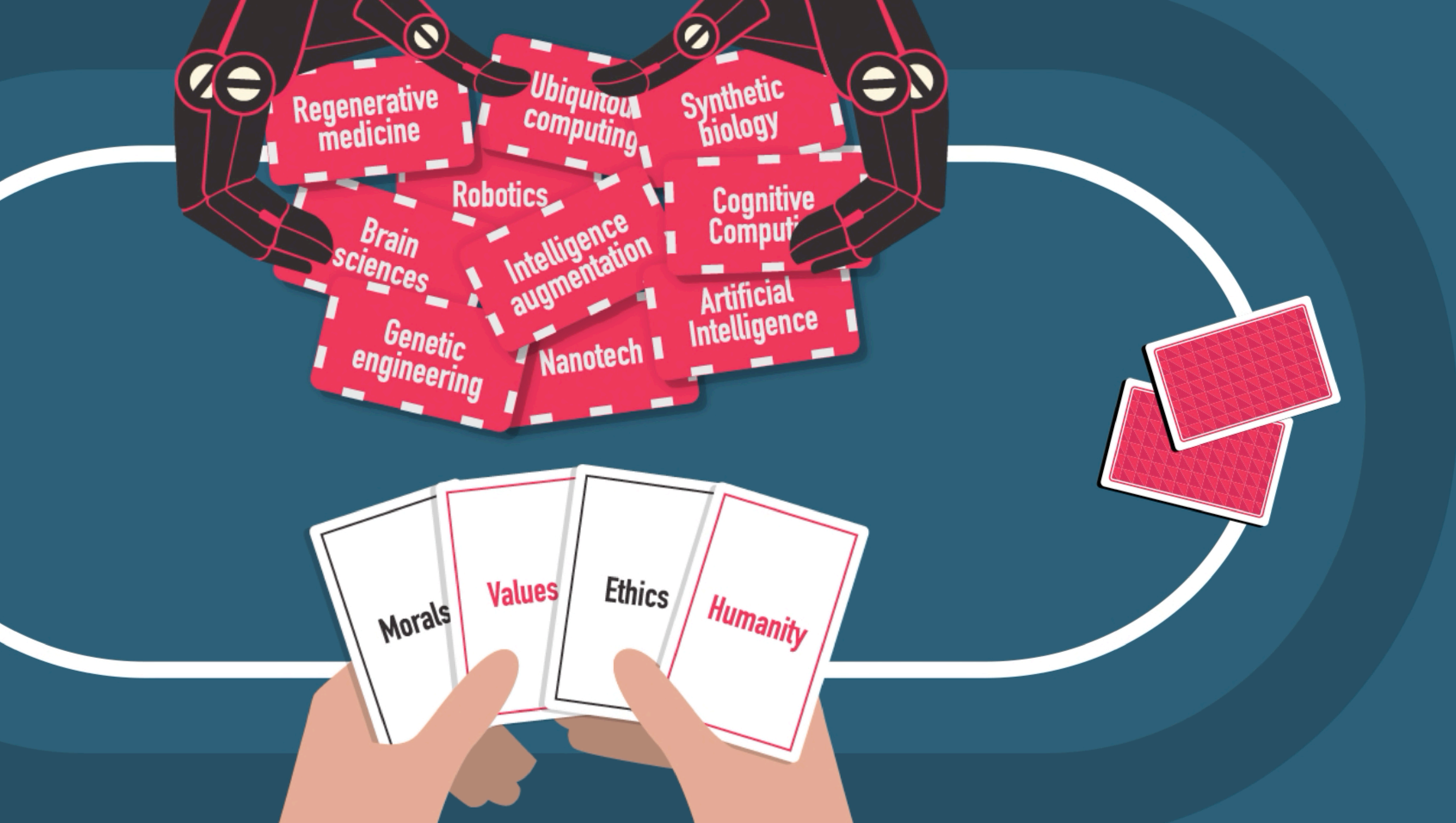
In world that's powered by technology we can (and must) become **M0RE** human not less!



Machines are for answers – Humans are for questions. Efficiency is for robots!







2020

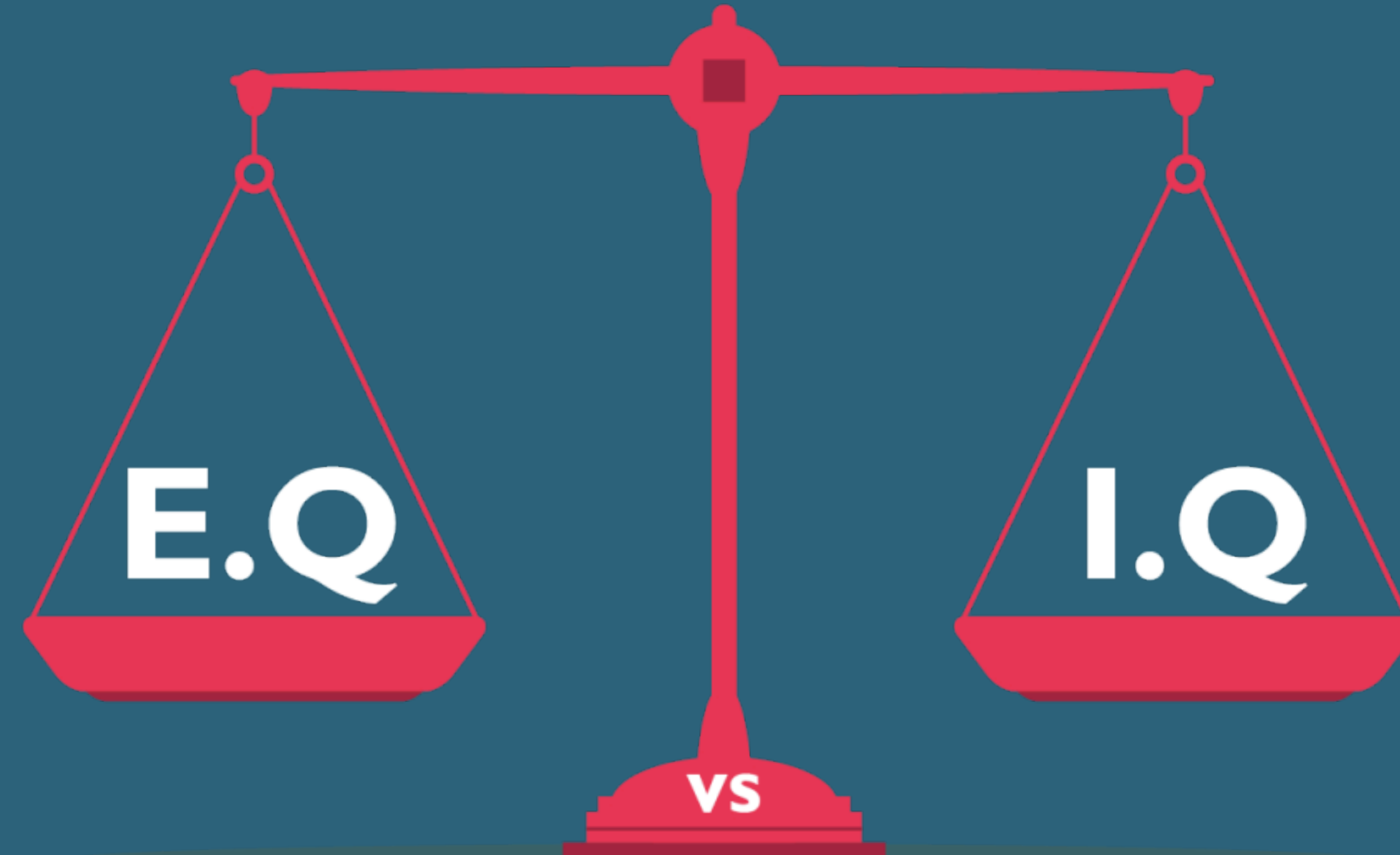
- 1 Complex Problem Solving
- 2 **Critical Thinking**
- 3 **Creativity**
- 4 People Management
- 5 Coordinating with Others
- 6 **Emotional Intelligence**
- 7 Judgement and Decision Making
- 8 Service Orientation
- 9 Negotiation
- 10 **Cognitive Flexibility**

Humanity

Ethics

Creativity

Imagination



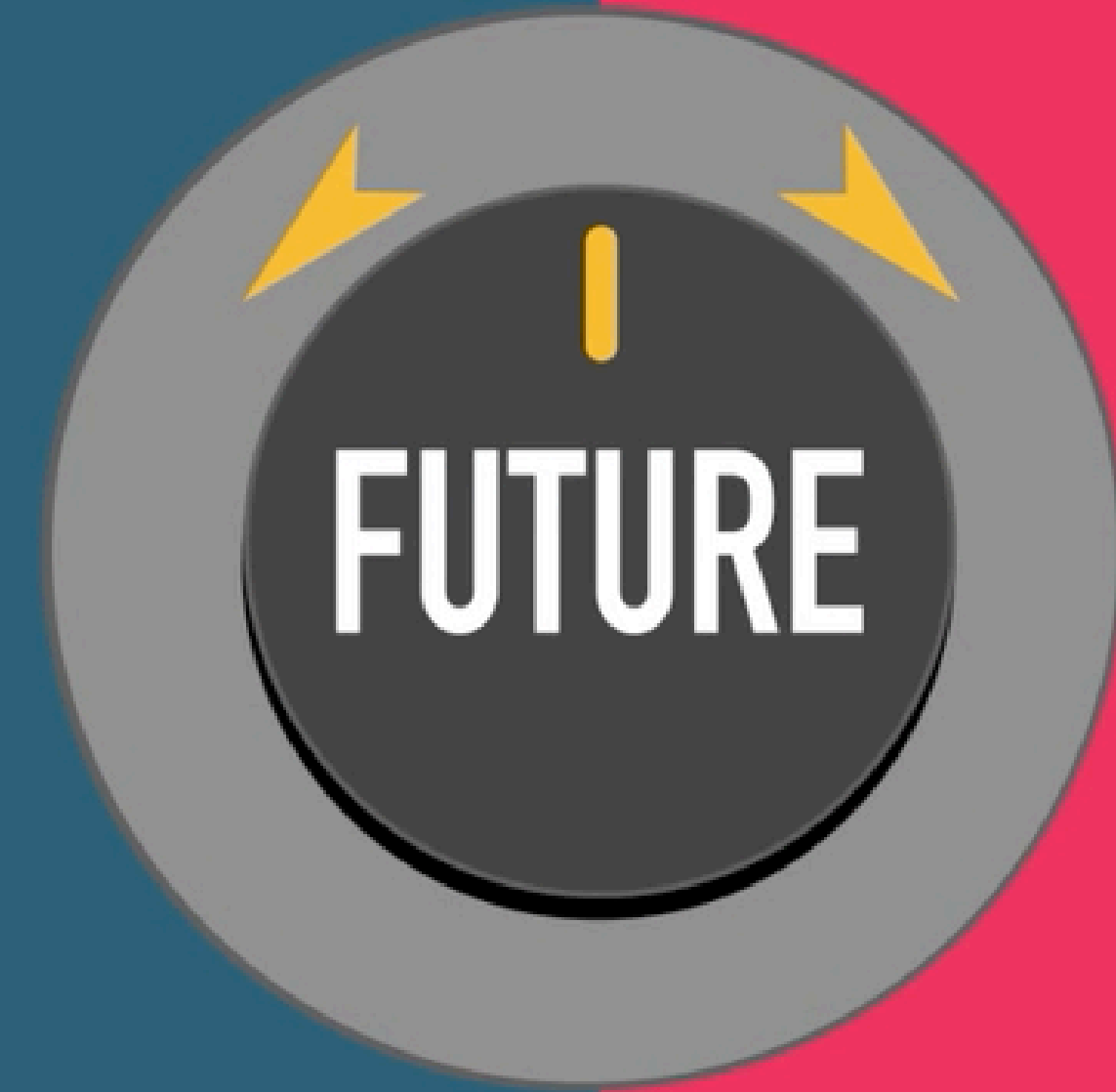
Science

Technology

Engineering

Mathematics

The future: Awesome humans on top of amazing technology!



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