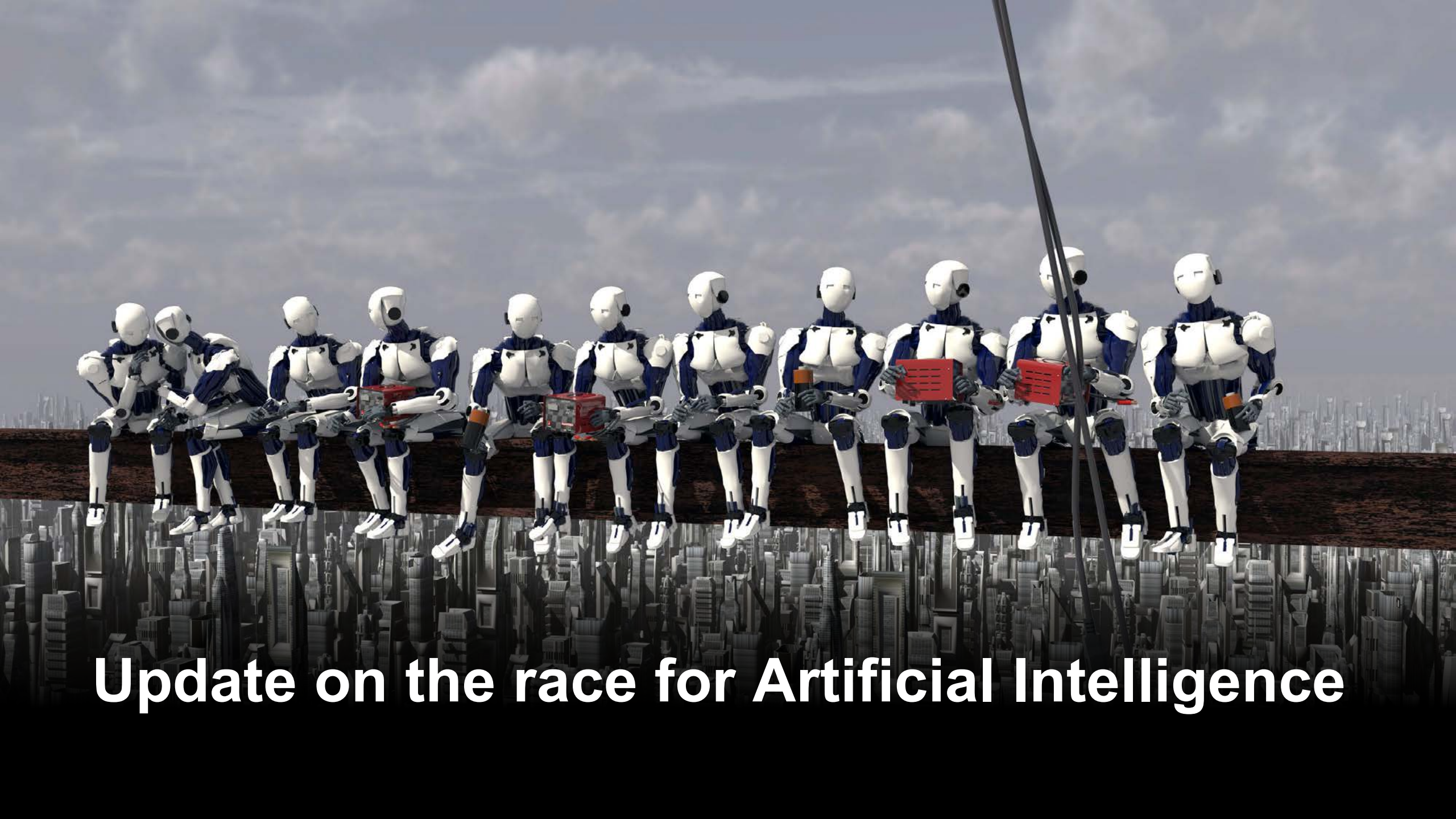
MINDFIRE
ALPINEAI
LAB 42
Pascal Kaufmann
Founder

Update on the race for Artificial Intelligence

Pascal Kaufmann

Update on the race for Artificial Intelligence

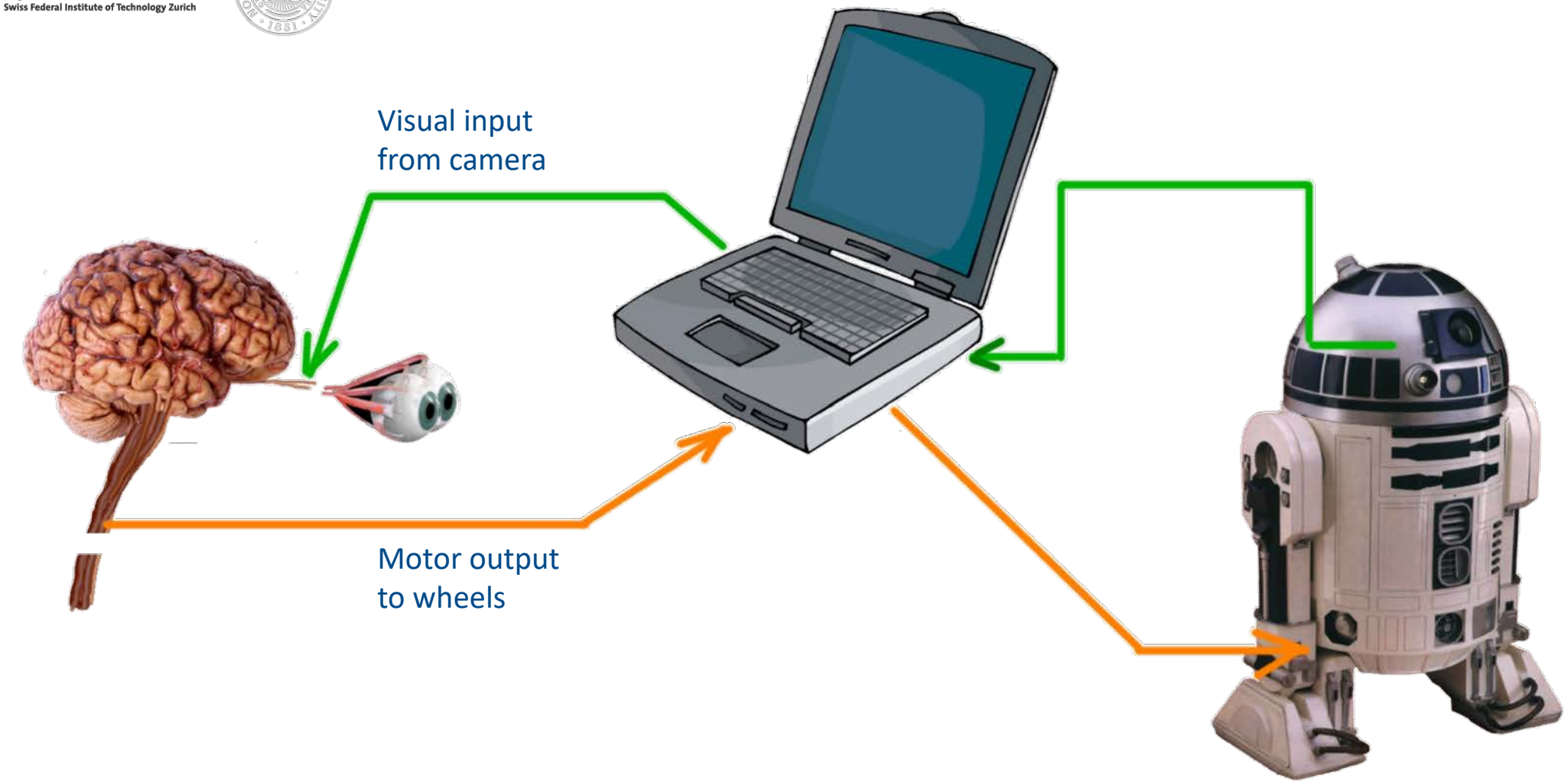


Update on the race for Artificial Intelligence

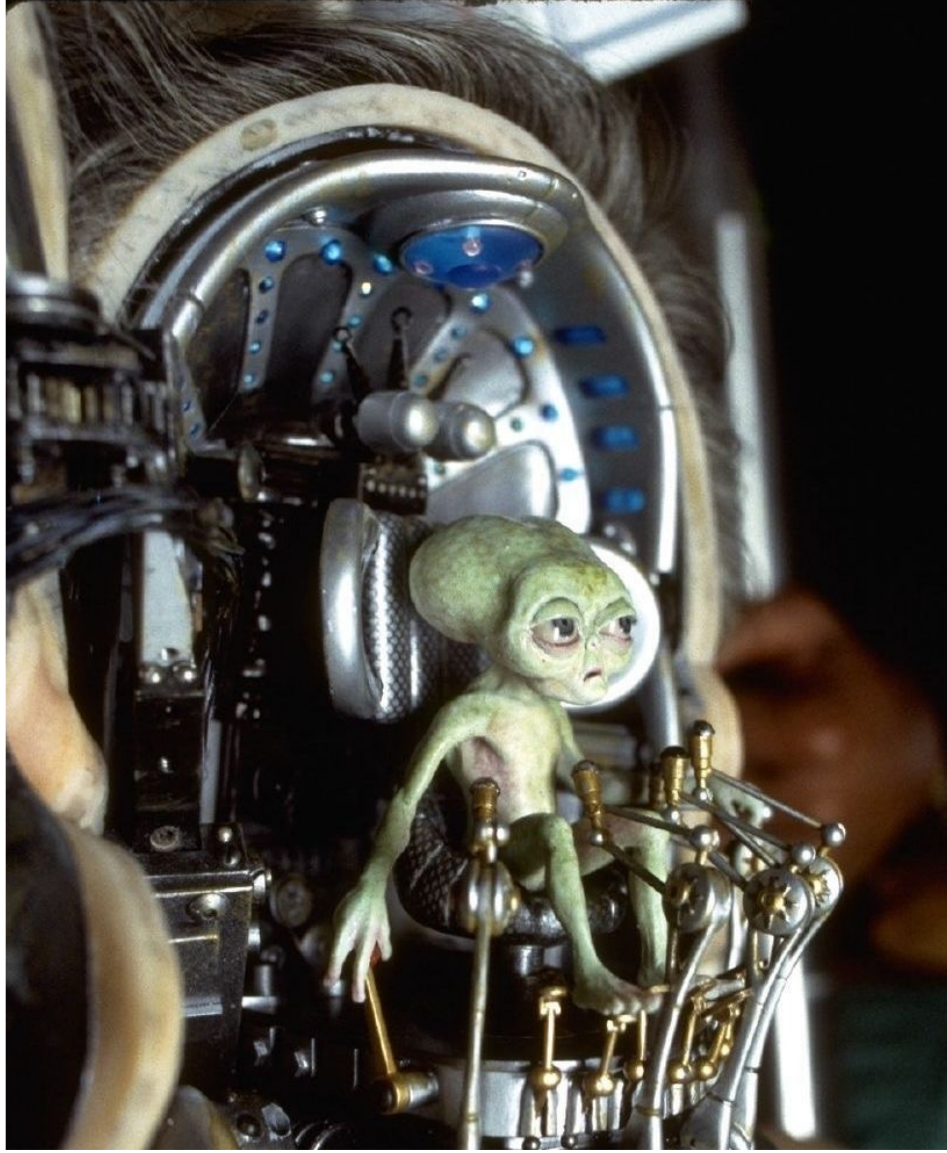
… and what it means for Entrepreneurs

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Northwestern University and ETH Zürich
Chicago Medical School, 2000

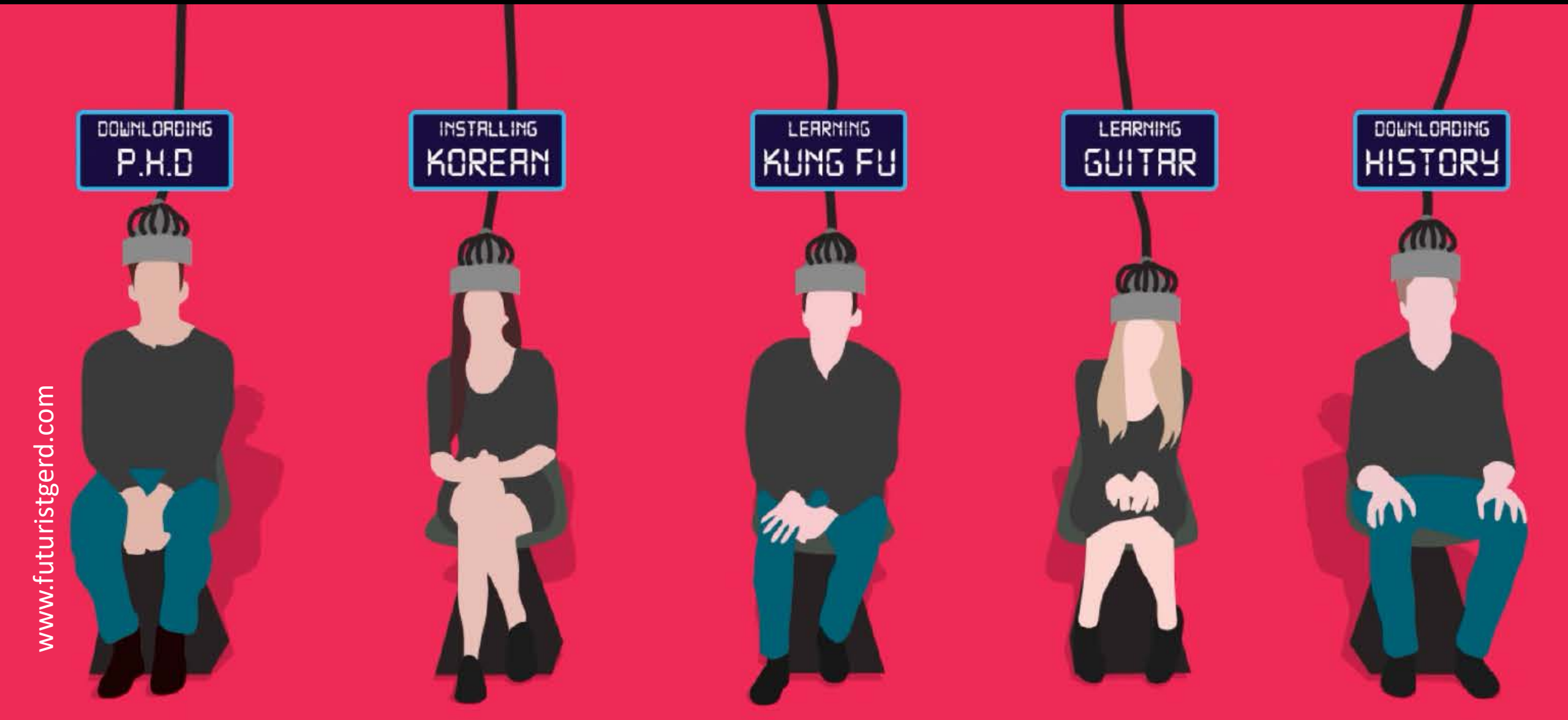


My first attempts to tackle the brain code – Connecting Brains to Robots



The Brain – A blackbox from an alien world

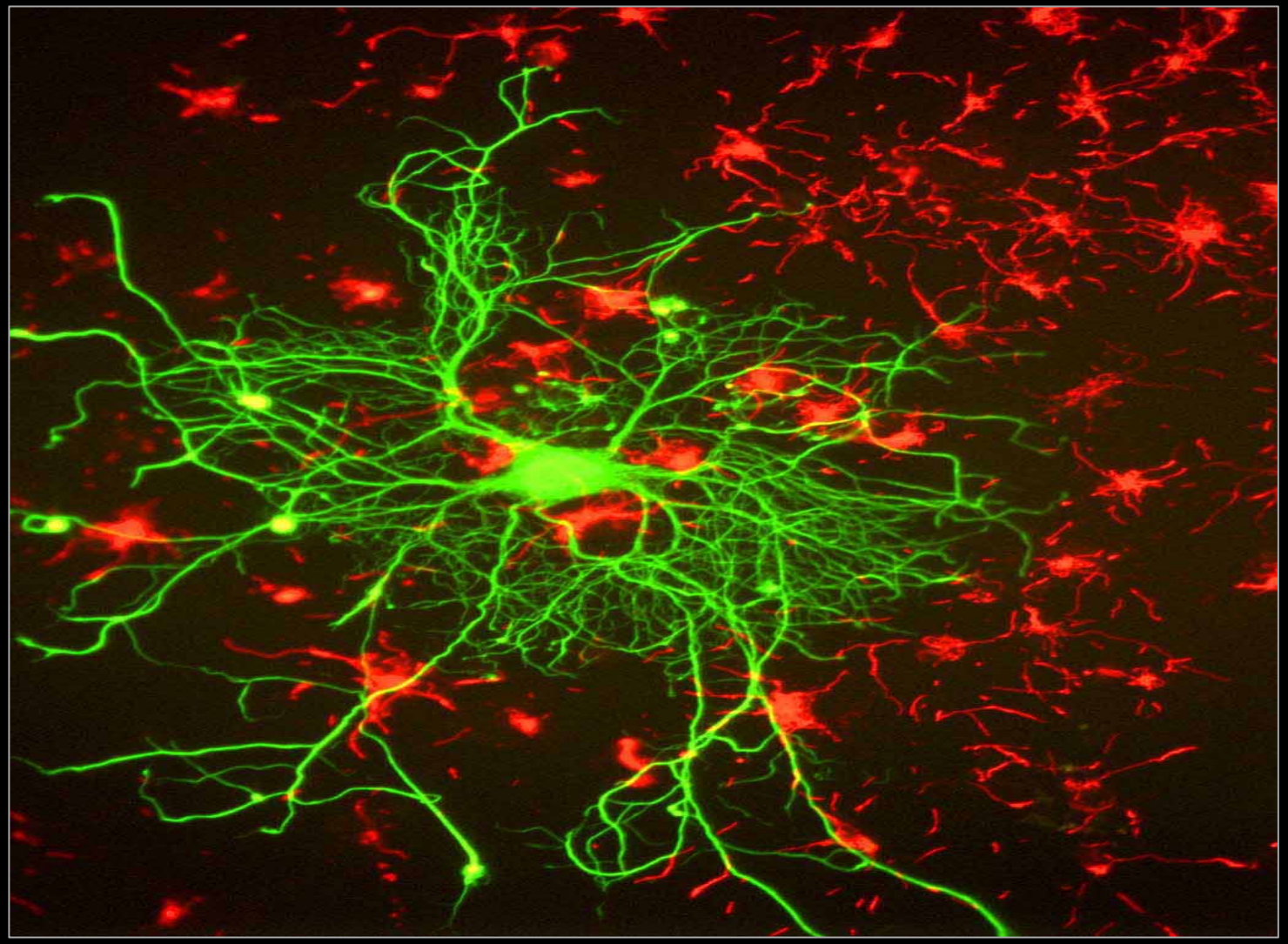
Today's topic – Entrepreneurship, AI and Innovation



www.futuristgerd.com

Where Sales happens – Our personal VR device

Components of the brain – The Neuron (100bn of them)



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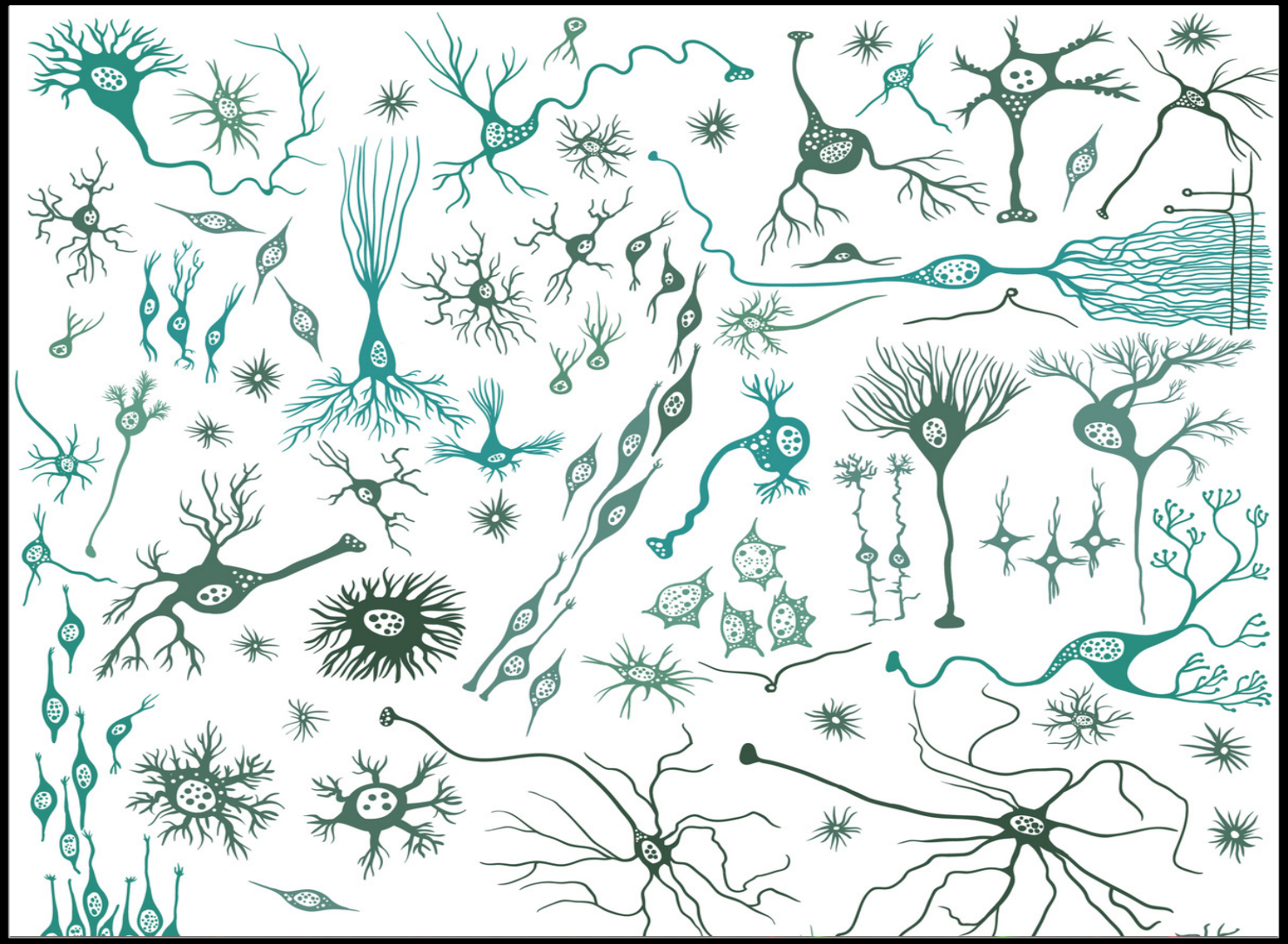

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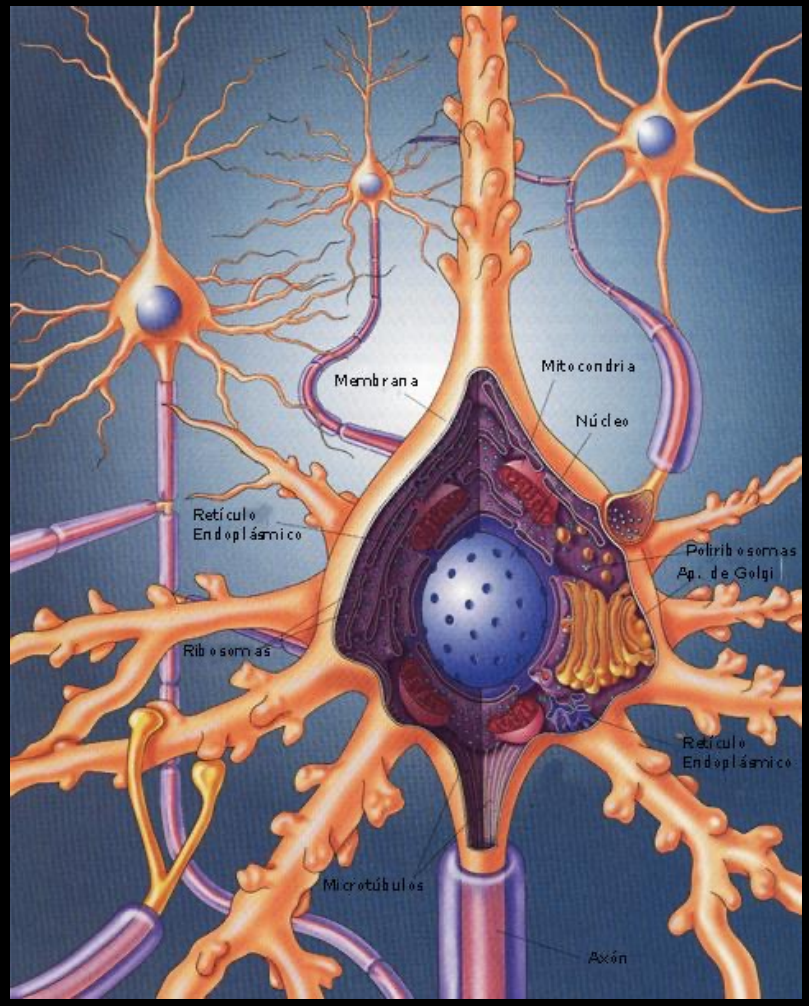
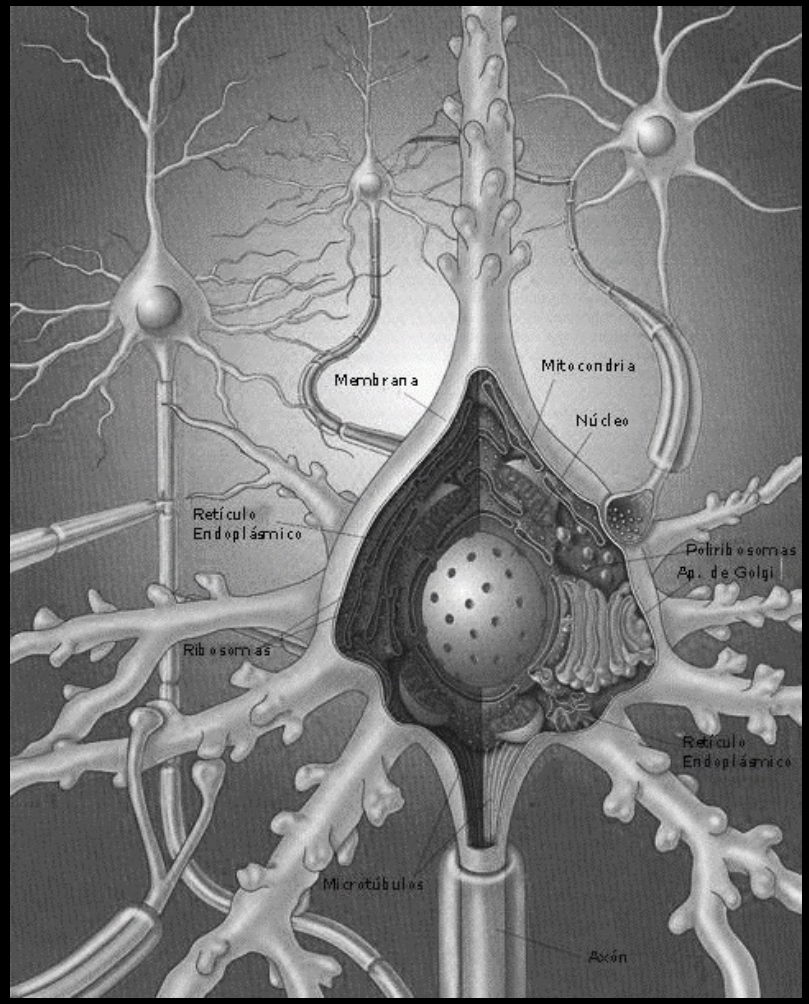


A single neuron: branching astrocyte (schematic)

Components of the brain – The Neuron (100bn of them)



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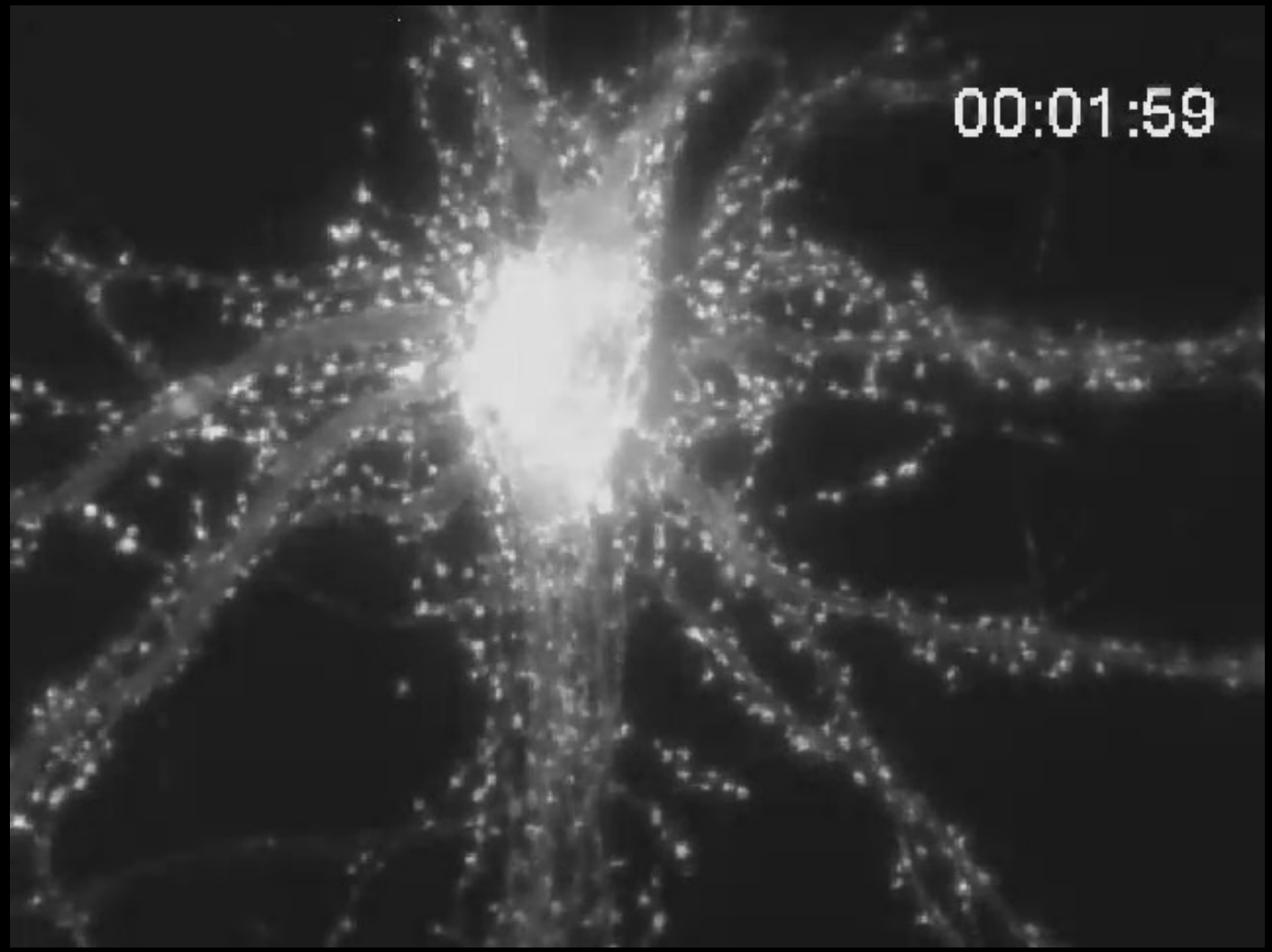


A single neuron: branching astrocyte (schematic)

Bild mit Google Glasses

Sergey Brin

The future of VR – it will probably be a lens or direct brain port

SwissGPT – Your personal Yoda

ALPINEAI

SwissGPT – Your personal Yoda

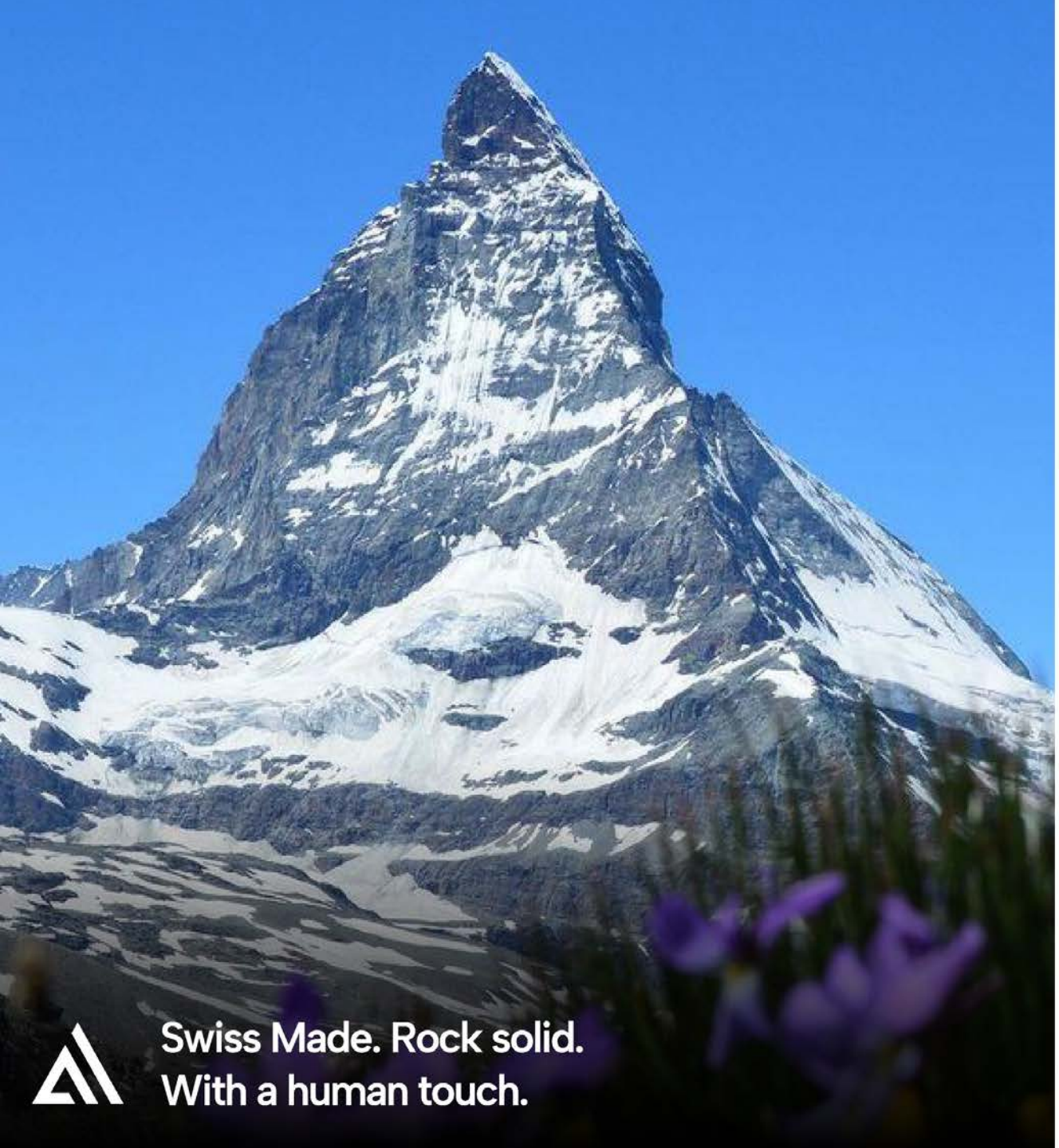
1:1
Ability for dialogue
can anytime jump into a conversation and advance it

24/7
Learns ceaselessly
around the clock, from any (e.g. from google search history, emails)

20x
Information compression
communicates only increment to what the user knows

10x
Teacher efficiency
translates know-how highly individualized

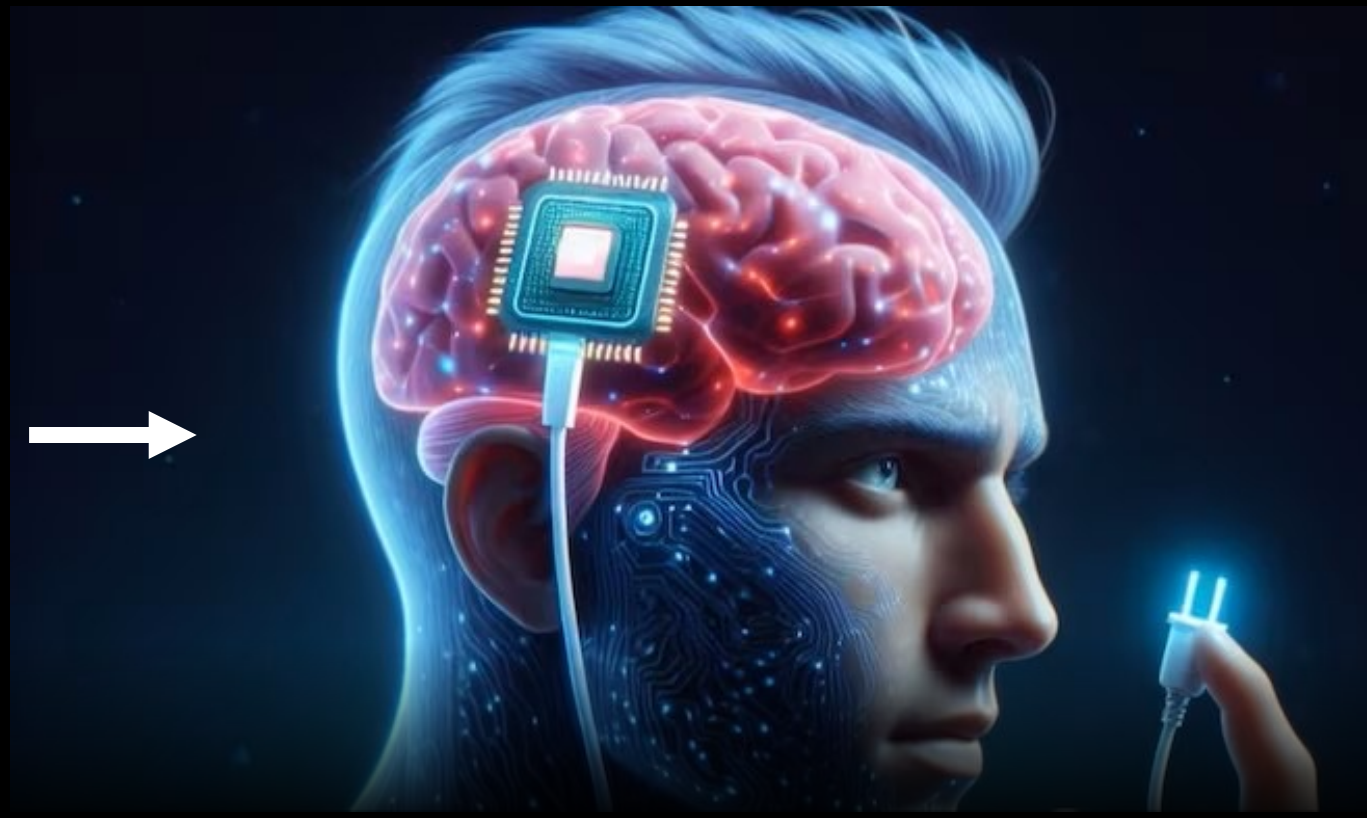
- Teacher
- Challenger
- Deputy
- Friend



AlpineAI

AlpineAI delivers the AI Platform for Mission-Critical Sectors in Switzerland and Europe where trust, compliance, security and efficiency are paramount: In Government, Healthcare and Industry.

It is an innovation catalyst & protective shield, empowering society's foundational institutions to join the AI Age and forge a safer, smarter, and more humane future.



Your brain – where entertainment takes place

Today's topic – Amazing Innovation (AI)

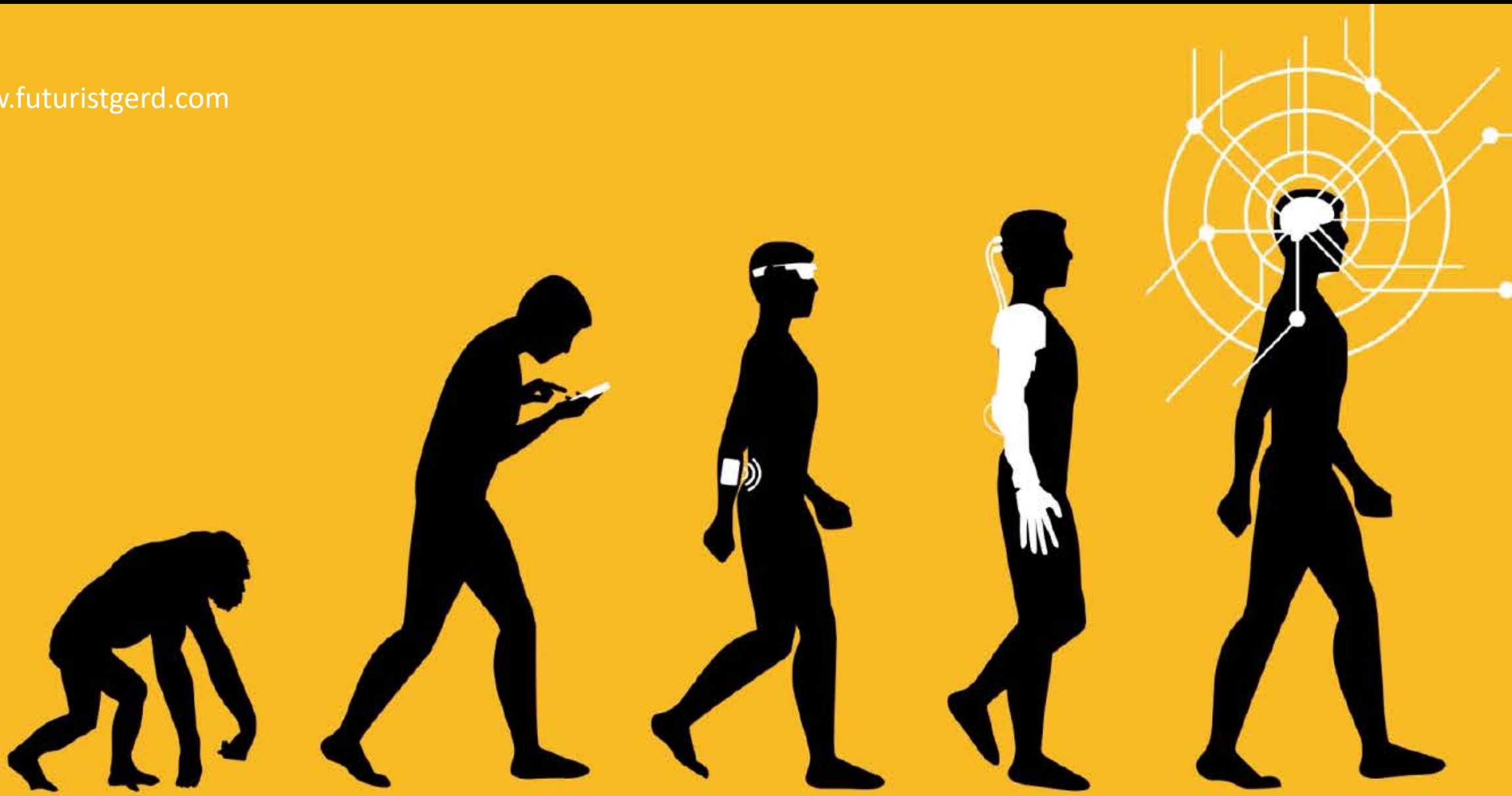
«The biggest danger is not that machines take over the world, but that we become too much like them.»

Gerd Leonhard, futurist (CH)

www.futuristgerd.com

Today's topic – The future of humankind

www.futuristgerd.com

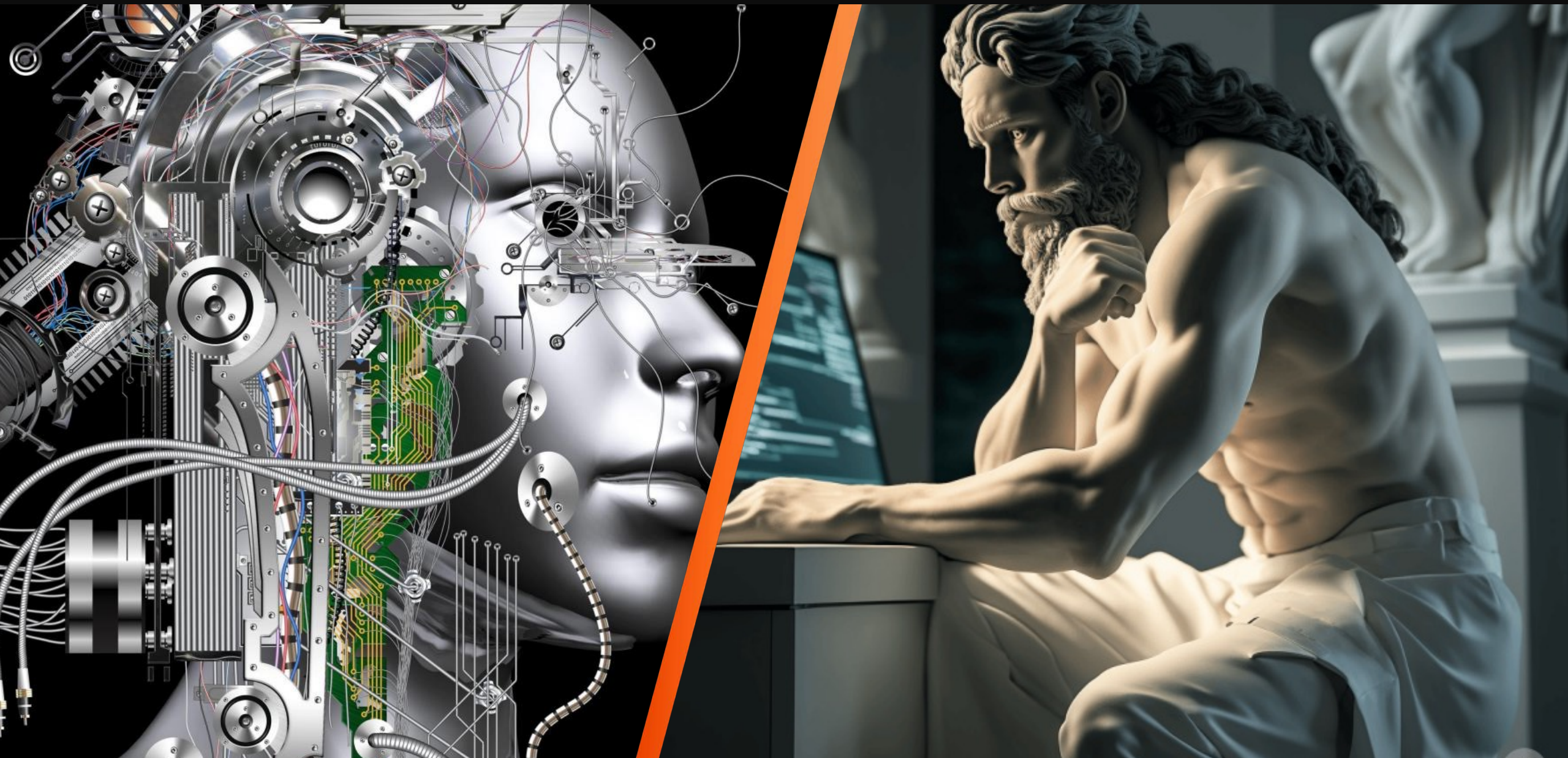


Todays's topic – The future of humankind

www.futuristgerd.com

TECHNOLOGY HAS NO ETHICS

Race for AI 2024: Super Humans powered by AI



Today's topic – Artificial Intelligence & You

ps: “The” Topic in 1960 – Artificial Intelligence

Jerome B. Wiesner, 1960 – «The Thinking Machine»
Director MIT Research Lab for Electronics, USA
Chairman of the US Science Advisory Committee to J. F. Kennedy

1. **The global AI race is heating up – Outlook on state of the art**
   AI spirit, what the world is talking about AI, where blocks are clashing

2. **Beware of the AI hype – There is no AI yet**
   AI today is tinned human intelligence, first signs of Renaissance 2.0

3. **Be a Cyborg – Tool up heavily, ride the wave**
   Incorporate latest tech, learn about AI in order to stay in the game

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the Moonlanding of the 21st century

21.07.1969, first step on the moon

Let us build human level AI in this decade 2020 - 2030

The creation of AI – The Moonlanding of the 21st century

21.07.1969, first step on the moon

The race for human level AI is heating up

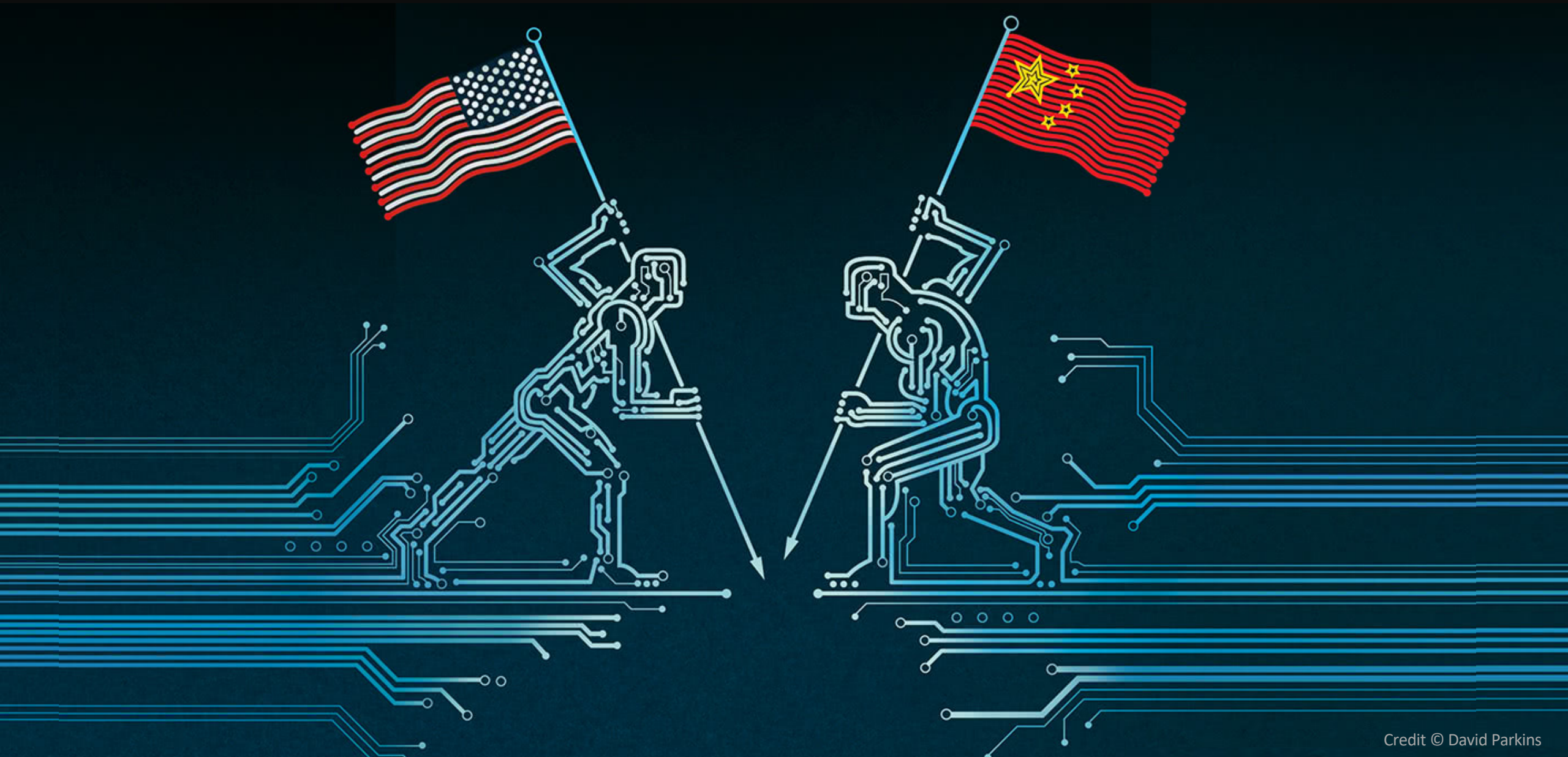
When anything can be automated or digitized: How about us?

Question to the audience:

Interactive Question to the audience:

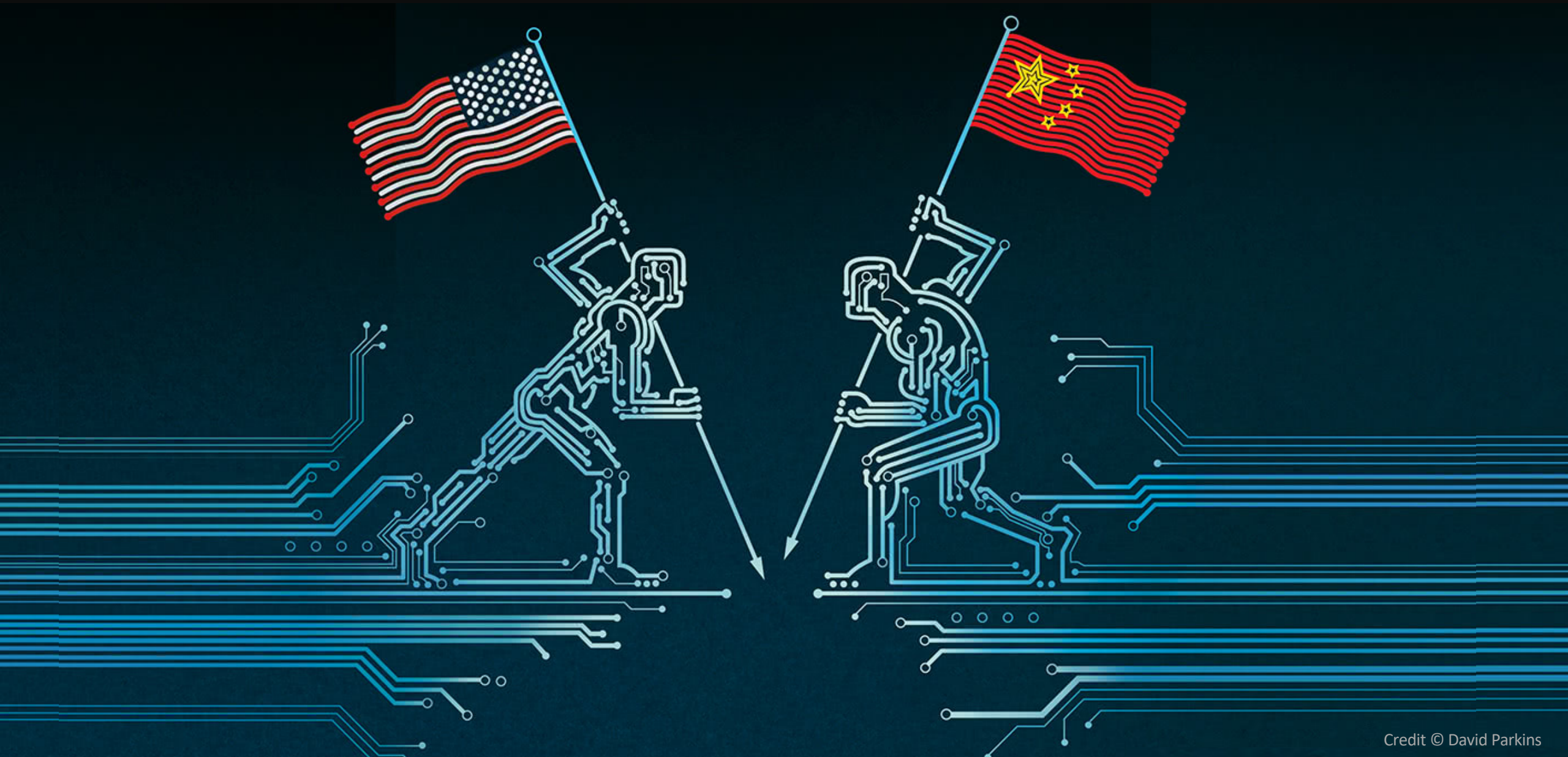
- How long to go until we have terminator / human level AI?
- Who works in a business that cannot be automated (say min. 80%) by machines?

Race for AI 2024: When worlds collide



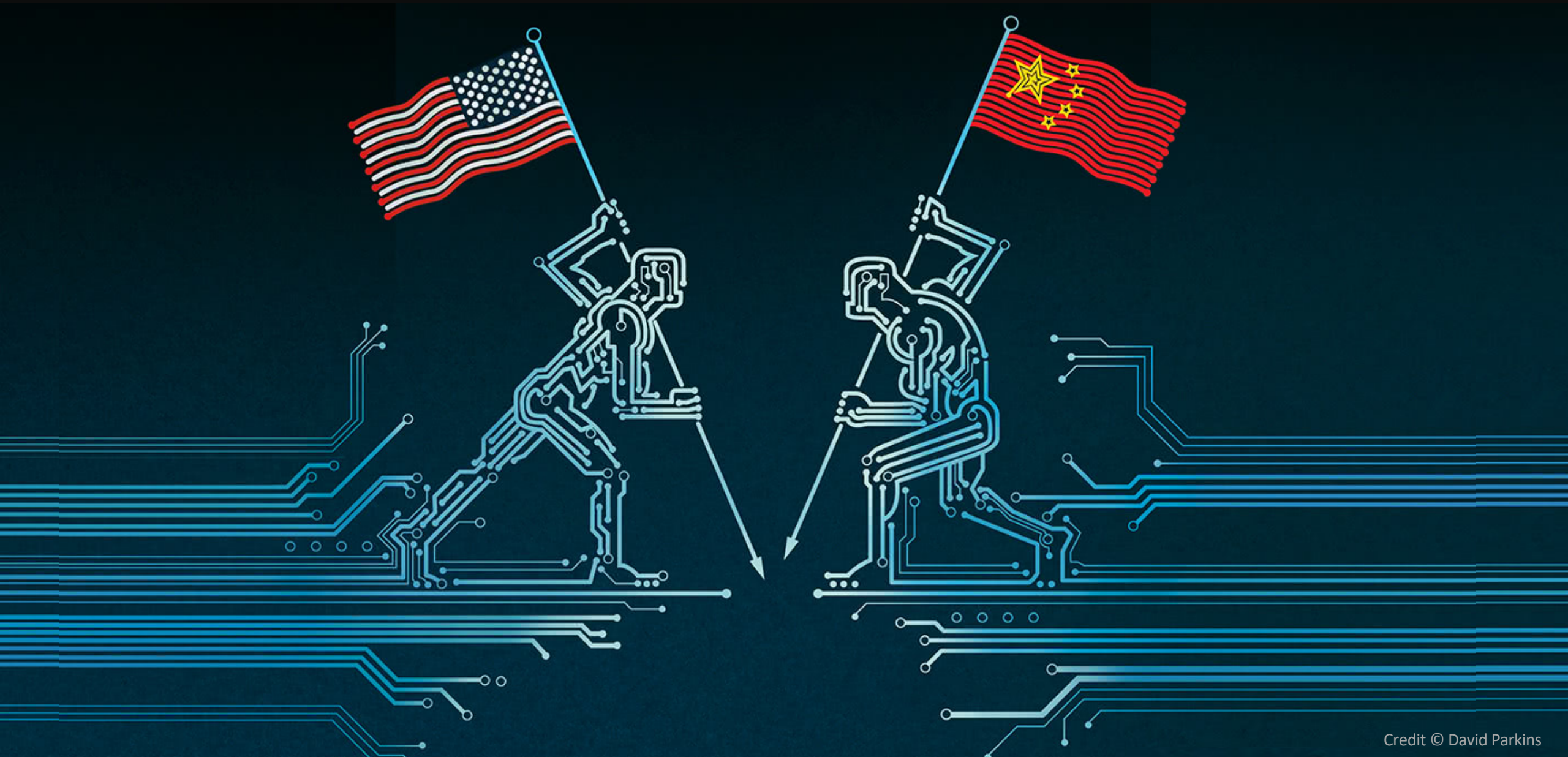
Credit © David Parkins

Race for AI 2024: Where is Europe?



Credit © David Parkins

Race for AI 2024: Where is Switzerland?



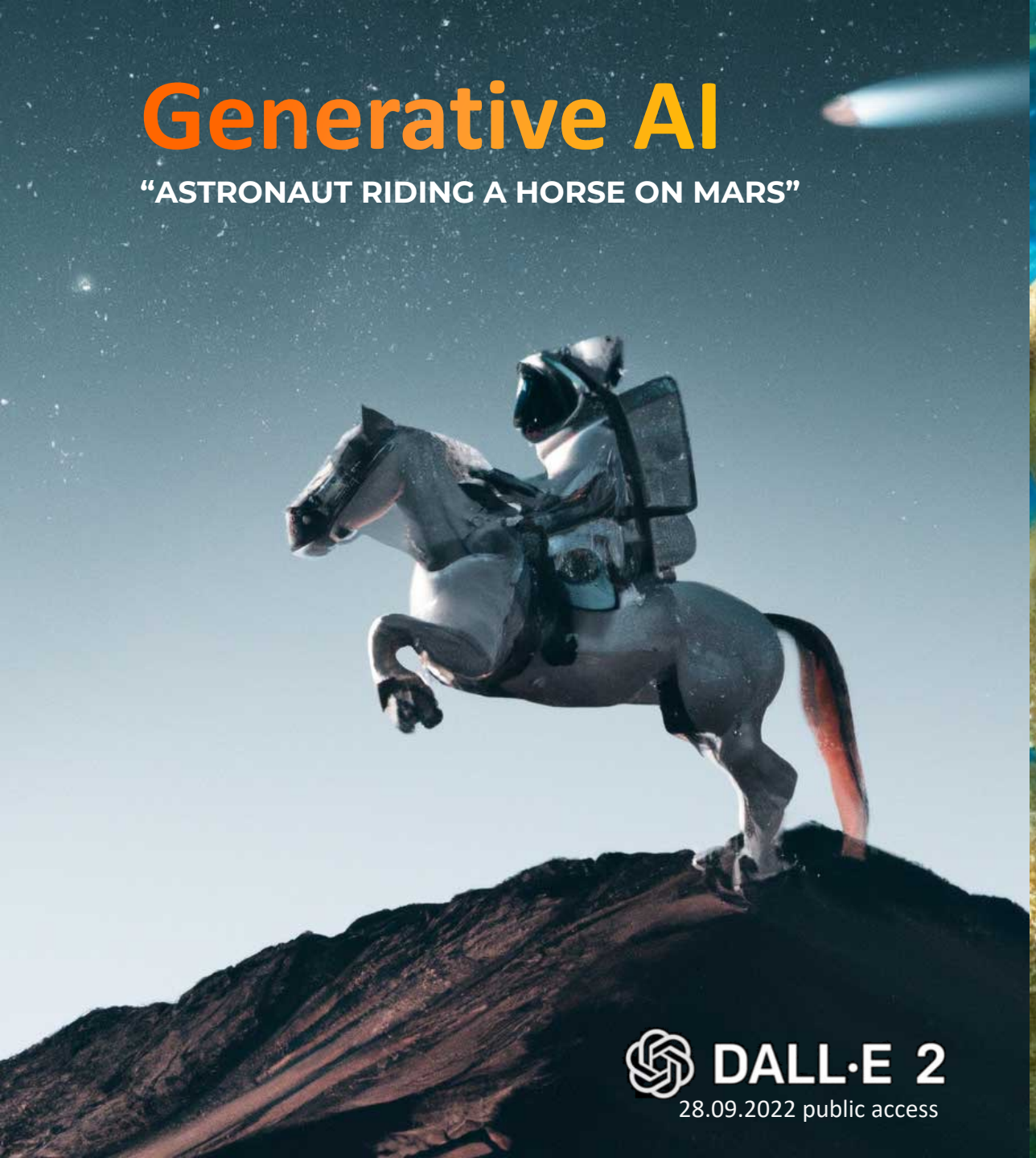
Credit © David Parkins

The race for AI is heating up

AI MAY HOLD THE KEY to our future

Generative AI

"ASTRONAUT RIDING A HORSE ON MARS"



DALL·E 2

28.09.2022 public access

"2 TEDDYS UNDER WATER PLAYING AND LISTENING TO MUSIC"

OpenAI

founded 12/2015

Recent development: 06/2023 – AI Hype is overheating

KI-START-UP

105 Millionen Euro – und nicht viel mehr als eine Idee

KI-Firmen treffen derzeit den Nerv der Investoren. Die Gründer von Mistral AI haben ohne Produkt oder Geschäftsmodell eine hohe Summe eingesammelt. Was steckt dahinter?

Mistral-Gründer Guillaume Lample, Arthur Mensch und Timothée Lacroix

Die französischen Gründer versprechen bei der Entwicklung ihres KI-Sprachmodells ihren potenziellen Kunden mehr Transparenz.

FORTUNE

June 14, 2023

TECH · A.I.

A.I. company raises record $113 million just a month after being founded—despite having no product and only just hiring staff

TechCrunch

June 14, 2023

AI

France's Mistral AI blows in with a $113M seed round at a $260M valuation to take on OpenAI

Ingrid Lunden @ingridlunden / 6:02 PM GMT+2 • June 13, 2023

Comment

Recent development: 07/2023 – Politics wants to cool down

Today: A major data & tech sovereignty crisis in Europe

Very recently: “Rid the world of woke safety standards in AI”

Very recently: “Rid the world of woke safety standards in AI”

10/2023 – US Exec. Order on AI by President Biden

ARTIFICIAL INTELLIGENCE

SAFETY, SECURITY, AND TRUST

The New York Times

Presidential Order to create AI safeguards

The order shows that the US which is considered the leading power in fast-moving AI technology, will also take the lead in its regulation.

October 31, 2023

12/2023 – Google introduces Gemini, the OpenAI rival…

…but: It was a little too good to be true ;-)

01/2024 WEF in Davos – ChatGPT turns multimodal

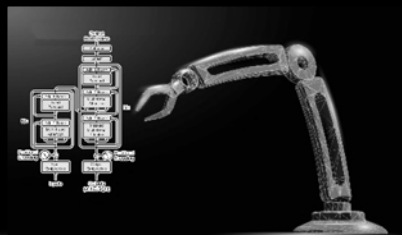
AI AGENDA | GOOGLE AI

OpenAI Hustles to Beat Google to Launch 'Multimodal' LLM

By Jon Victor | Sept. 18, 2023 7:00 AM PDT

Photo: OpenAI's Greg Brockman (left) and Google's Demis Hassabis (right). Photos by Getty.

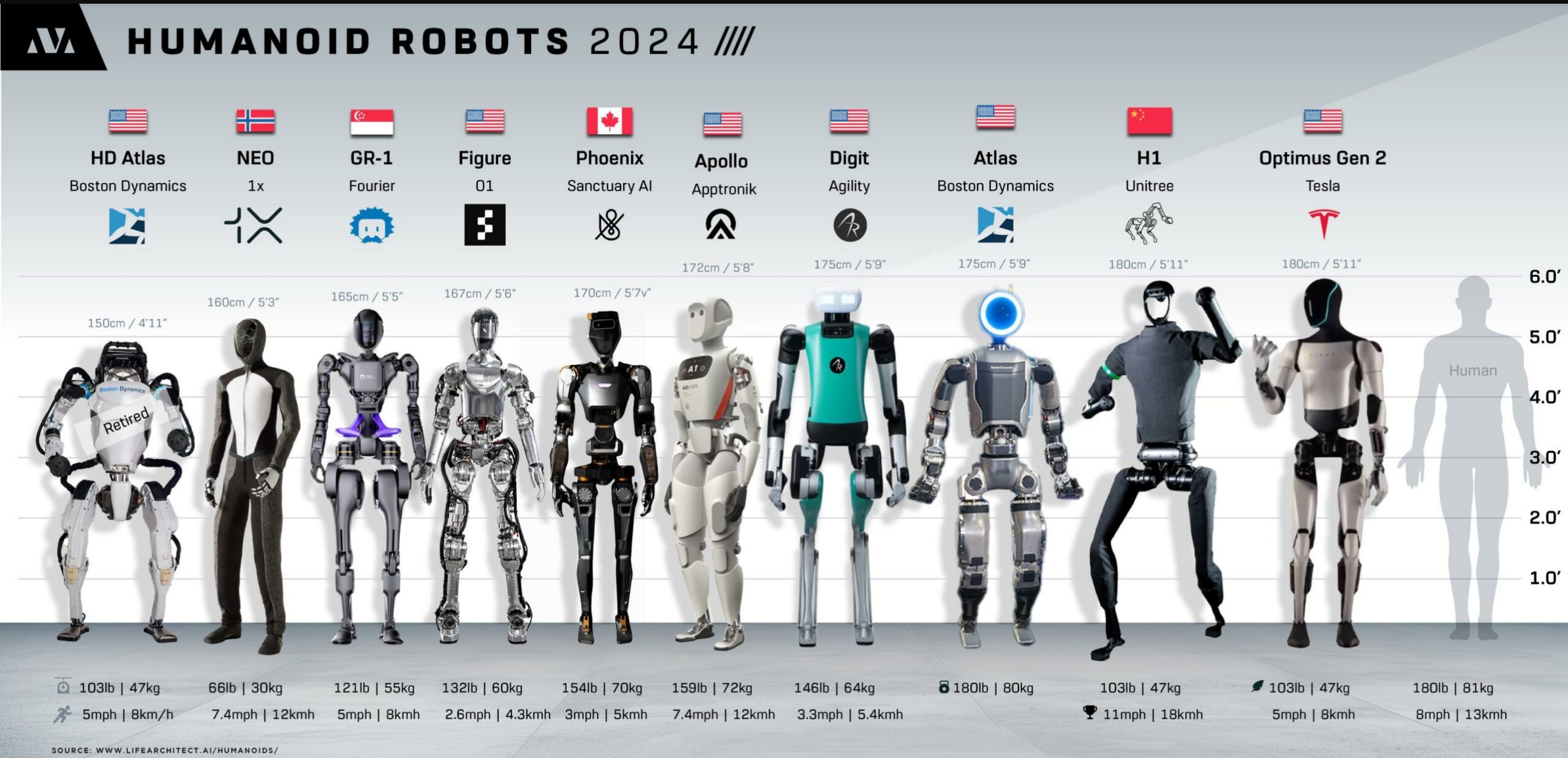
As fall approaches, **Google** and **OpenAI** are locked in a good ol' fashioned software race, aiming to launch the next generation of large-language models: multimodal. These models can work with images and text alike, producing code for a website just by seeing a sketch of



März 2024: Kombination von ChatGPT mit Humanoiden

FIGUREAI: FIGURE-1

März 2024: Kombination von ChatGPT mit Humanoiden



The bots are coming: Commercially available and affordable (2024)

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Since Summer 2024: ChatGPT-4o – “For free”

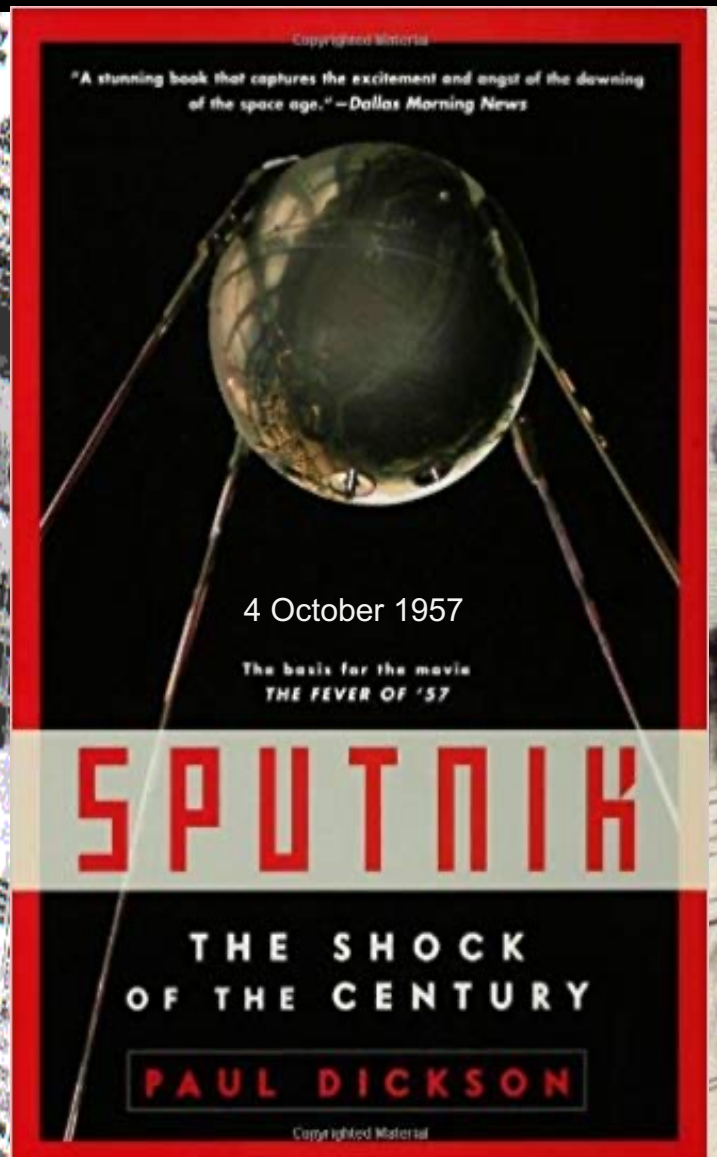
ChatGPT: Google Killer on the rise from Zurich?

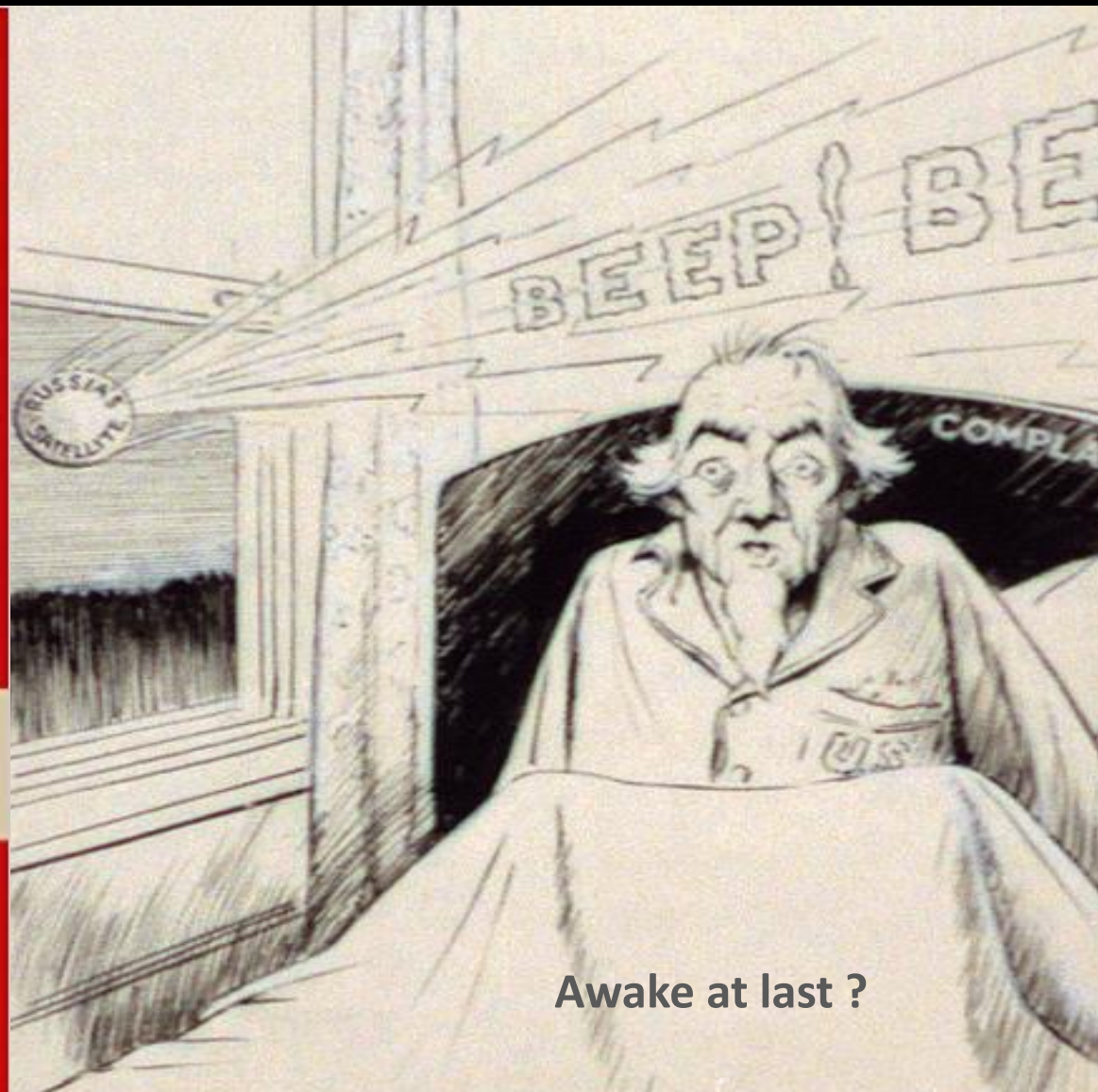
ChatGPT is just a taste of a "monster" GPT-4 says Gary Marcus

Google's management has reportedly issued a 'code red' amid the rising popularity of the ChatGPT AI

ChatGPT: what can the extraordinary artificial intelligence chatbot do?

Nov. 13, 2022 – Parallels to the Sputnik shock of 1957





Back in the days: Emergency meetings

Sputnik Shock: October 4, 1957

NASA founded: July 29, 1958

Sputnik Shock: October 4, 1957

Swiss AI Dinner: December 15, 2022

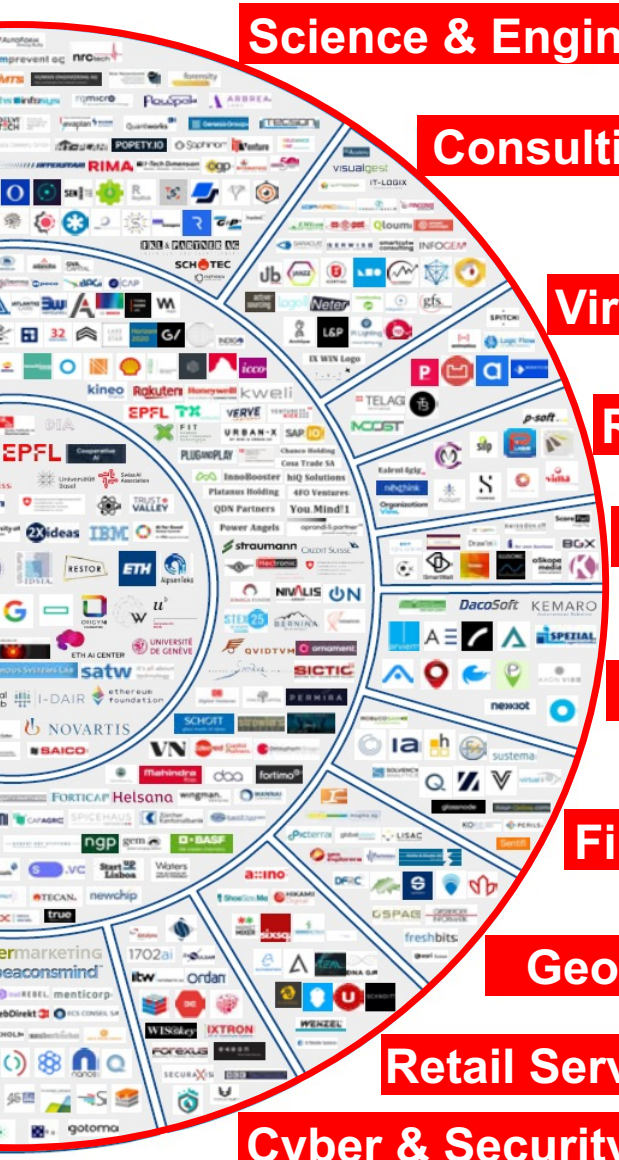
Discussing on ChatGPT, the future of AI and the role of Switzerland in the global AI race

So funktioniert ChatGPT: Statistisches Raten des wahrscheinlichsten nächsten Wortes je Kontext

Künstliche Intelligenz	... ist	3,2 %
	... kann	1,8 %
	... hat	1,4 %
	... revolutioniert	0,7 %
	... eröffnet	0,3 %

Künstliche Intelligenz revolutioniert
Künstliche Intelligenz revolutioniert die
Künstliche Intelligenz revolutioniert die Art
Künstliche Intelligenz revolutioniert die Art und
Künstliche Intelligenz revolutioniert die Art und Weise
Künstliche Intelligenz revolutioniert die Art und Weise, wie
Künstliche Intelligenz revolutioniert die Art und Weise, wie wir
Künstliche Intelligenz revolutioniert die Art und Weise, wie wir arbeiten

Switzerland AI Landscape: We are an AI-Nation (10/2024)



500+ companies
220 Investors
50 AI-Centers & Hubs

1st place
Global Innovation Index (WIPO)

1st place
Global Talent Competitiveness Index

1st place
Impact of AI publications per country

1st place
The highest number of AI companies per capita in the EU

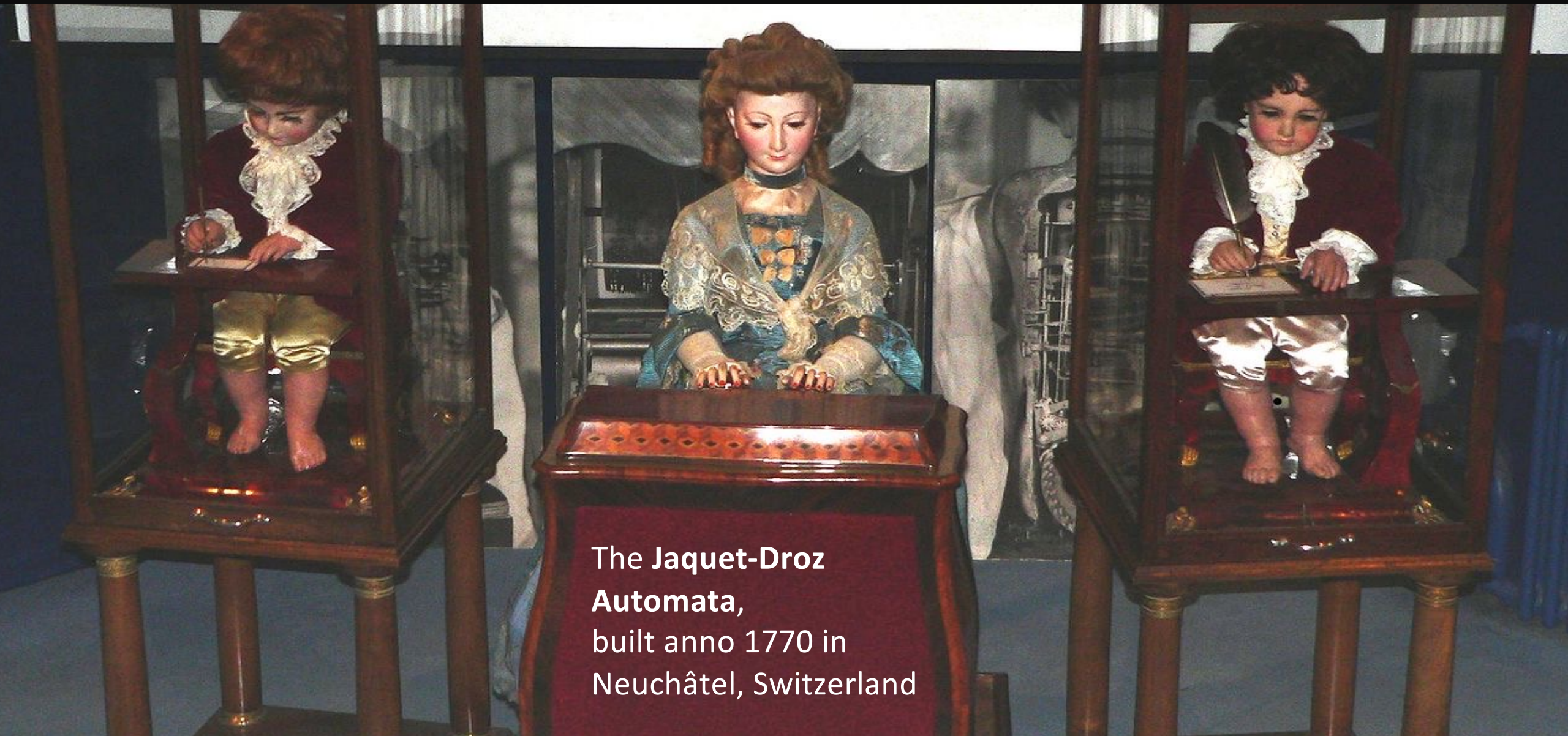
2nd place
AI companies per 1 million inhabitants

2nd place
AI patents per 1 million inhabitants

50
R&D centres, hubs, and nonprofits

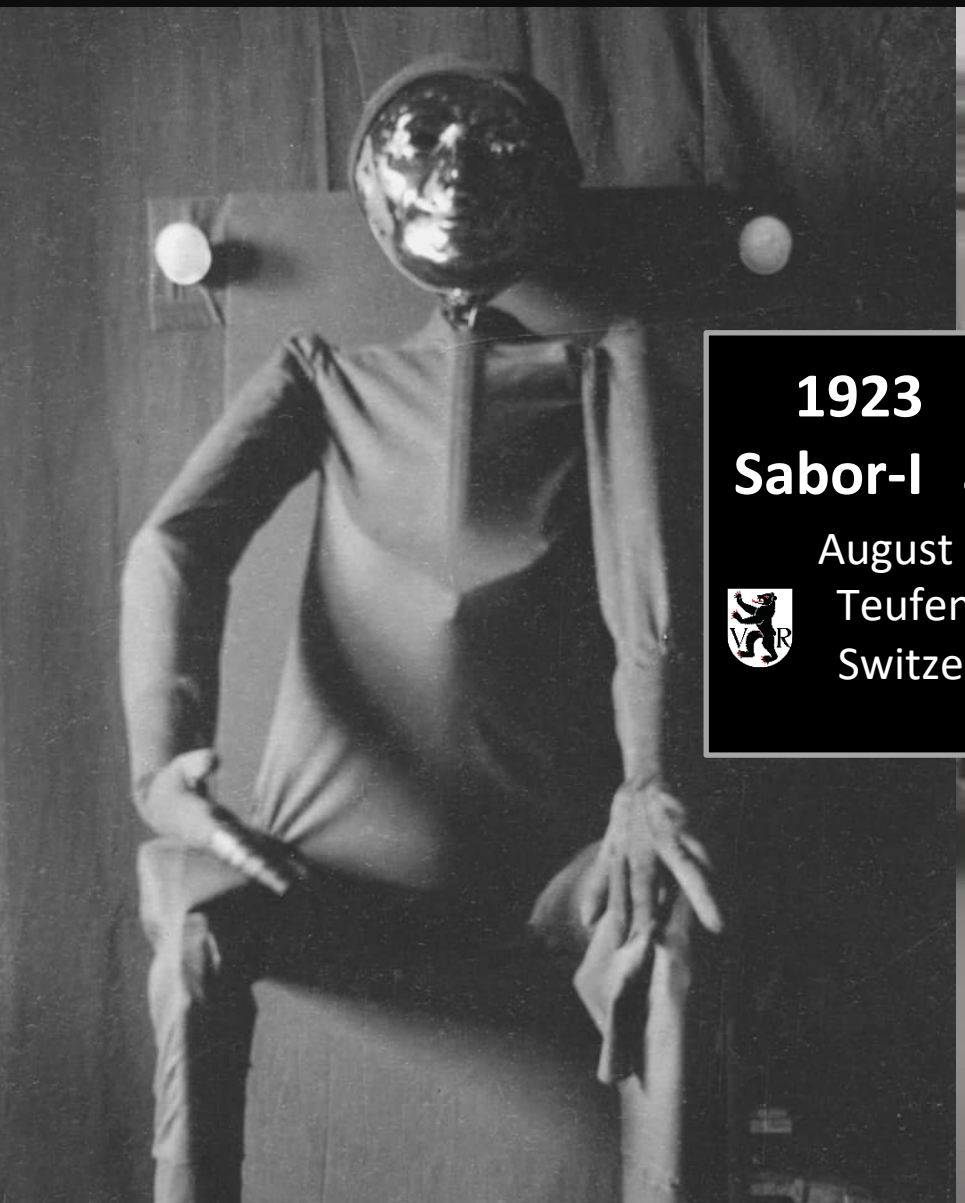
37%
of AI world-class patents are invented in Switzerland

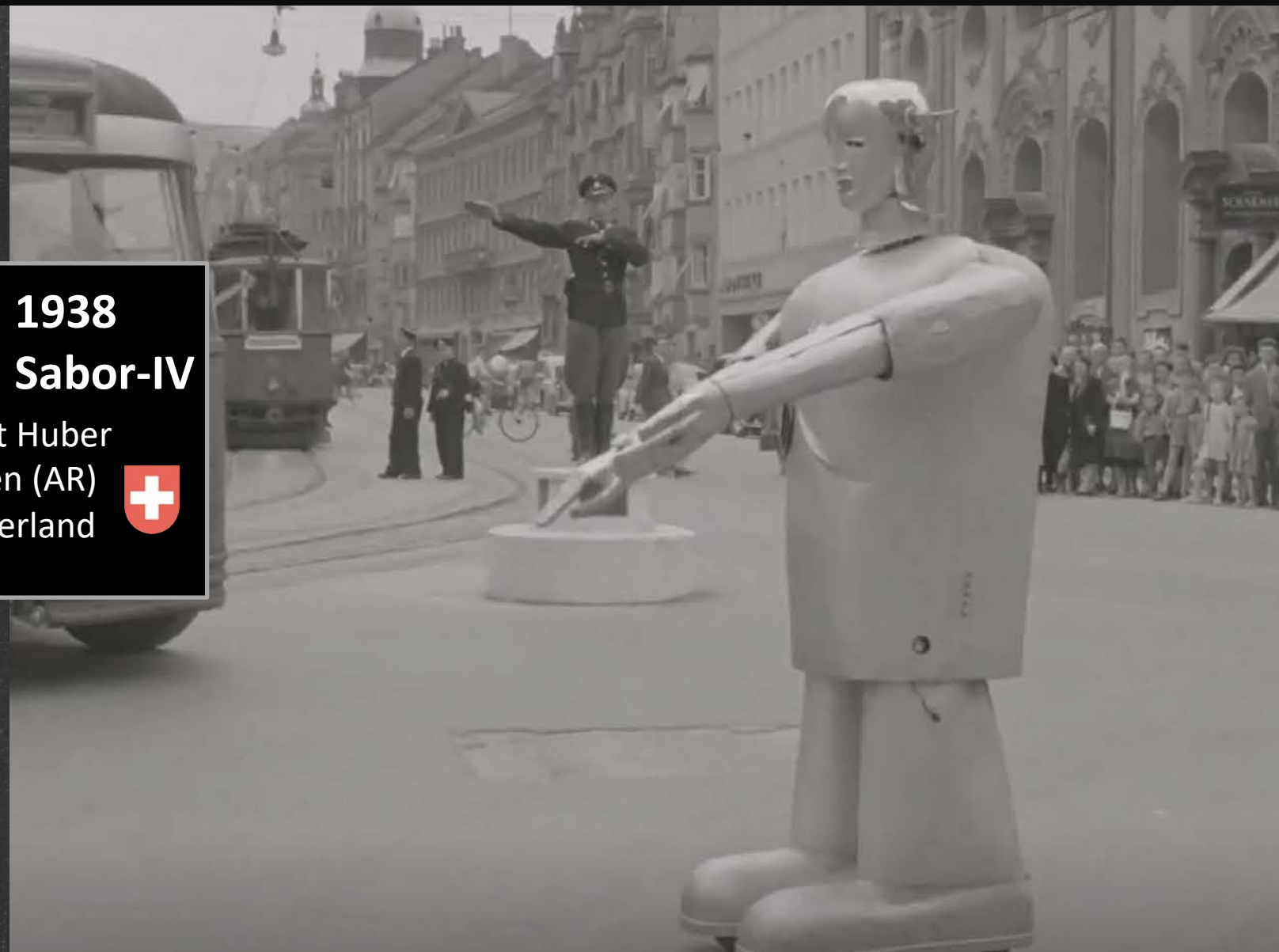
Robots: Switzerland as pioneer in robotics (254 years ago)



The **Jaquet-Droz Automata**,
built anno 1770 in
Neuchâtel, Switzerland

Robots: Switzerland as pioneer in robotics (100 y ago)





1923 Sabor-I

1938 Sabor-IV

August Huber

Teufen (AR)

Switzerland

Swiss AI Dinner: December 15, 2022

Discussing on ChatGPT, the future of AI and the role of Switzerland in the global AI race

Recent development: 08/2023 – Founding SwissGPT

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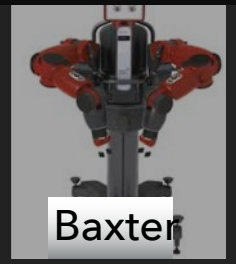
Perfect storm: The AI and Robotics hype join forces

Self-driving car

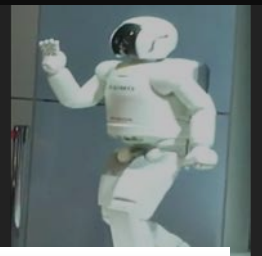
Drones

Internet of Things

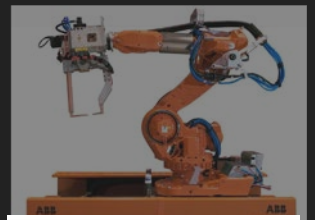
Pepper



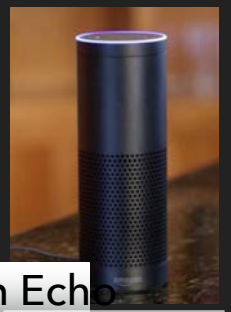
Baxter



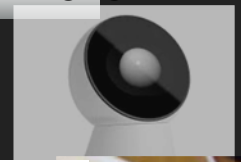
Honda Asimo



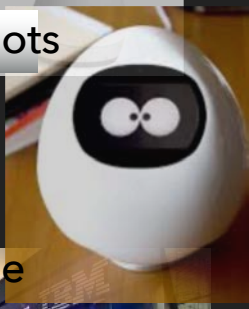
Industrial Robot



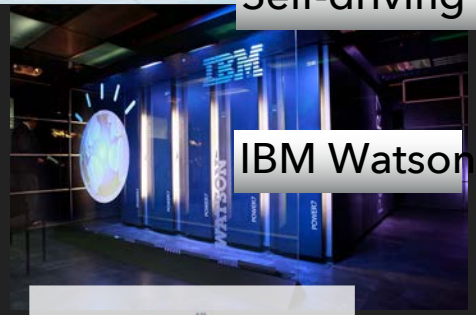
Amazon Echo



Social robots



IBMs Deep Blue



IBM Watson

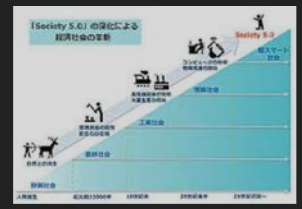
Big Data, ChatGPT

AlphaGo

Apple Siri

Industry 4.0

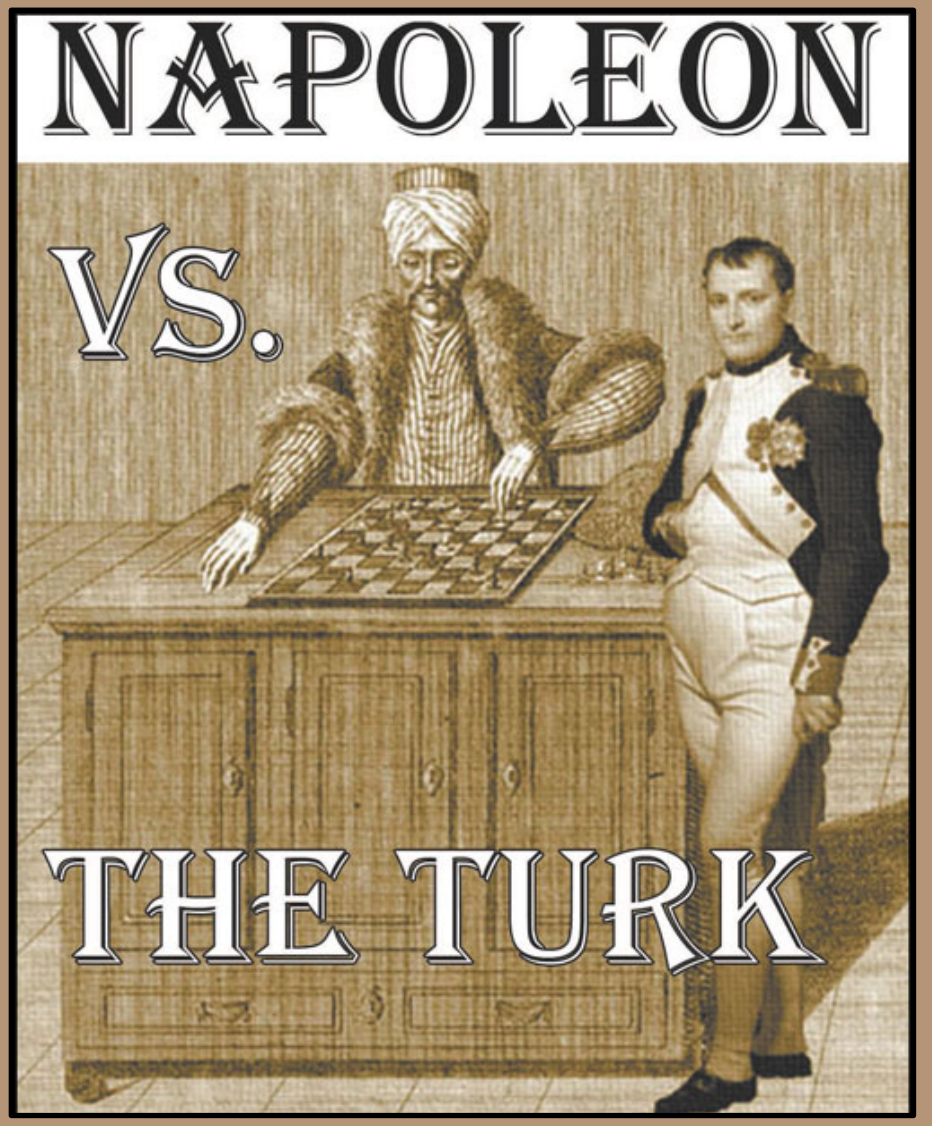
"Made in China 2025"



"Society 5.0"

Sanity check: How much AI is in there?

Napoleon vs. the Chess Automaton (1809)



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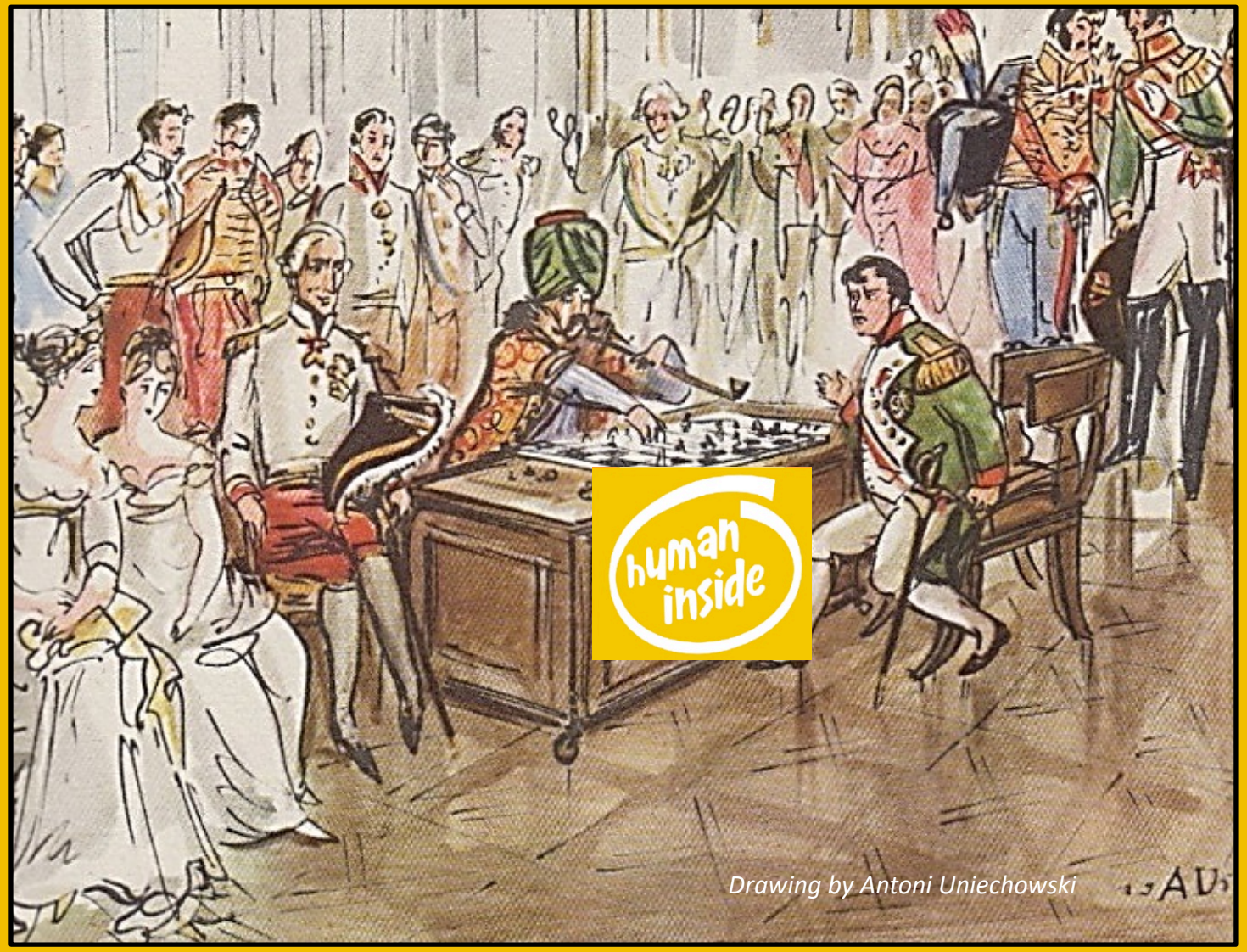
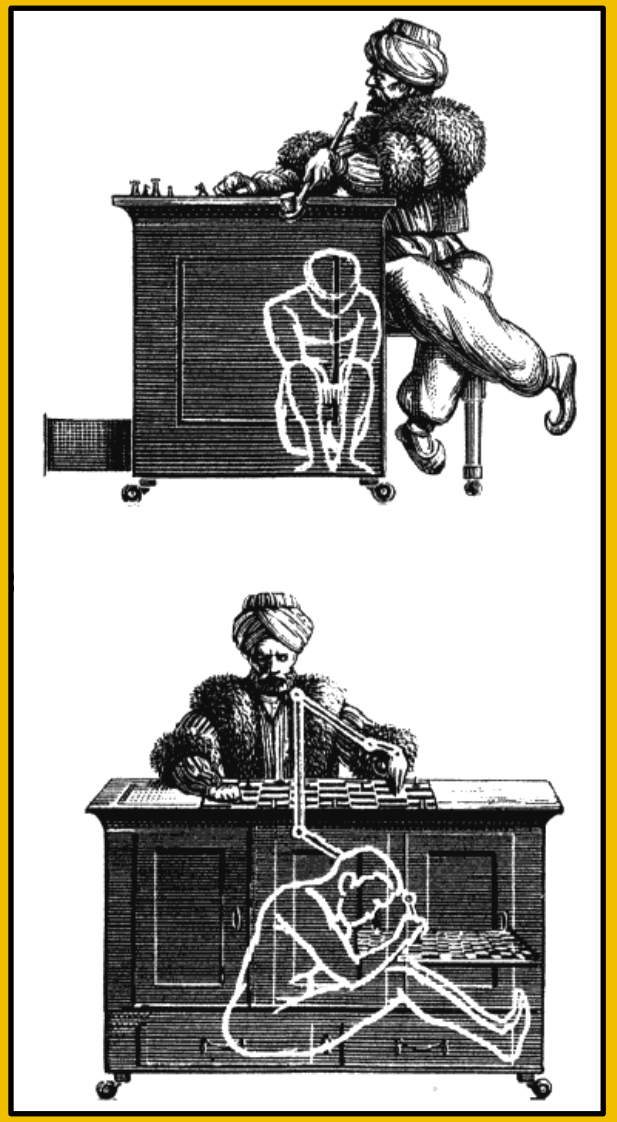
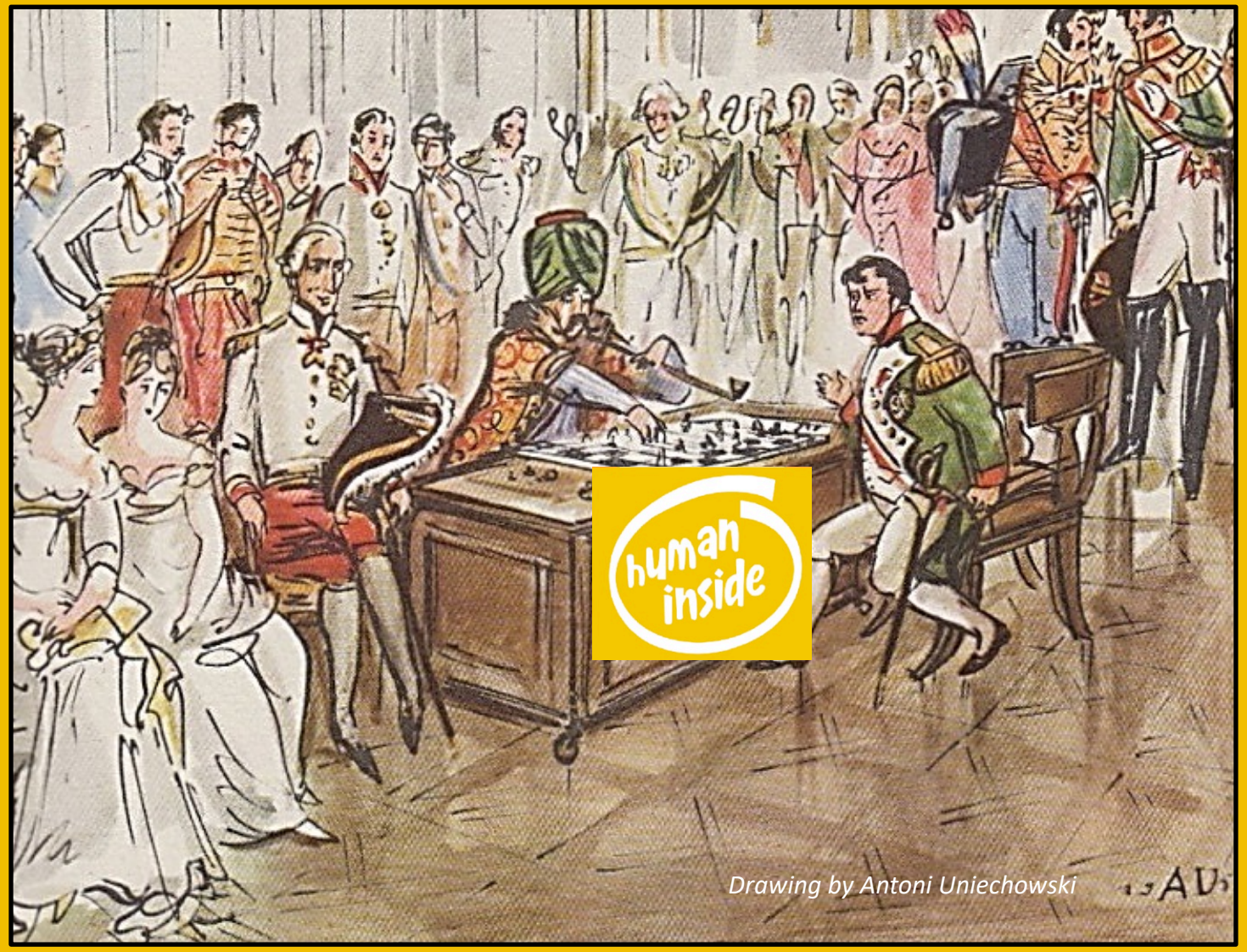
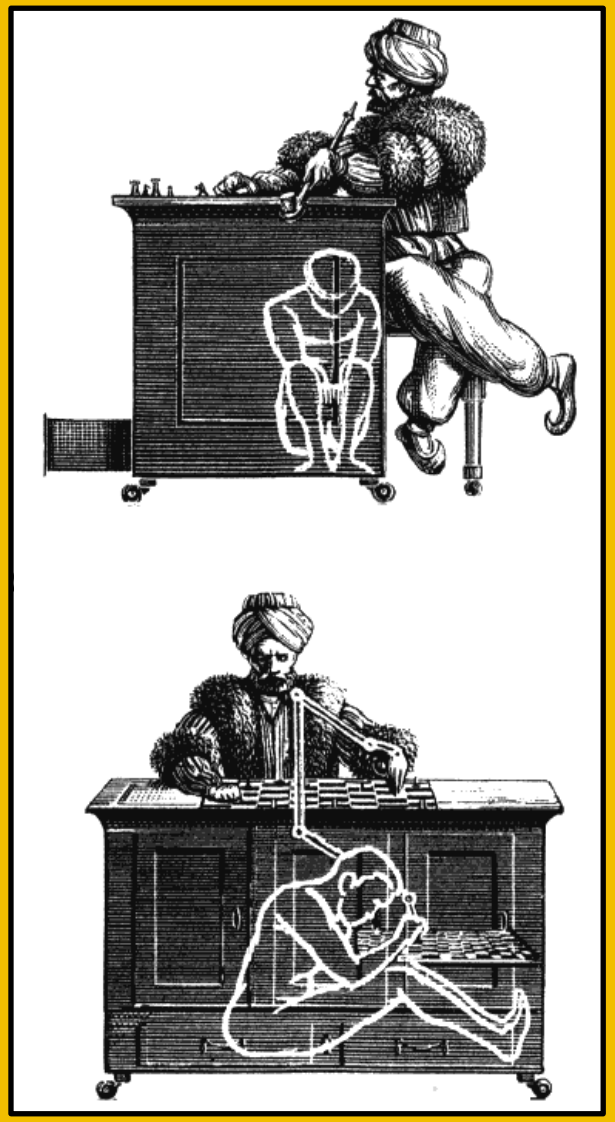




- *1770 – 1854, the fake chess-playing machine attracted world leaders and toured the globe.*
- *For more than 84 years it tricked the best minds, before it was burnt in the US, Philadelphia.*

Napoleon vs. the Chess Automaton (1809)





- *1770 – 1854, the fake chess-playing machine attracted world leaders and toured the globe.*
- *For more than* ***84 years*** *it tricked the best minds, before it was burnt in the US, Philadelphia.*

215years later – Tesla's Optimus tin man 10/2024

TECH· A.I.

FORTUNE

Elon Musk's Optimus bot stole the show at Tesla's robo-taxi unveil—but the AI was all smoke and mirrors

BY CHRISTIAAN HETZNER

October 13, 2024 at 11:28 PM GMT+2

Tesla's Optimus on display at the Shanghai World Expo Exhibition and Convention Center in July.

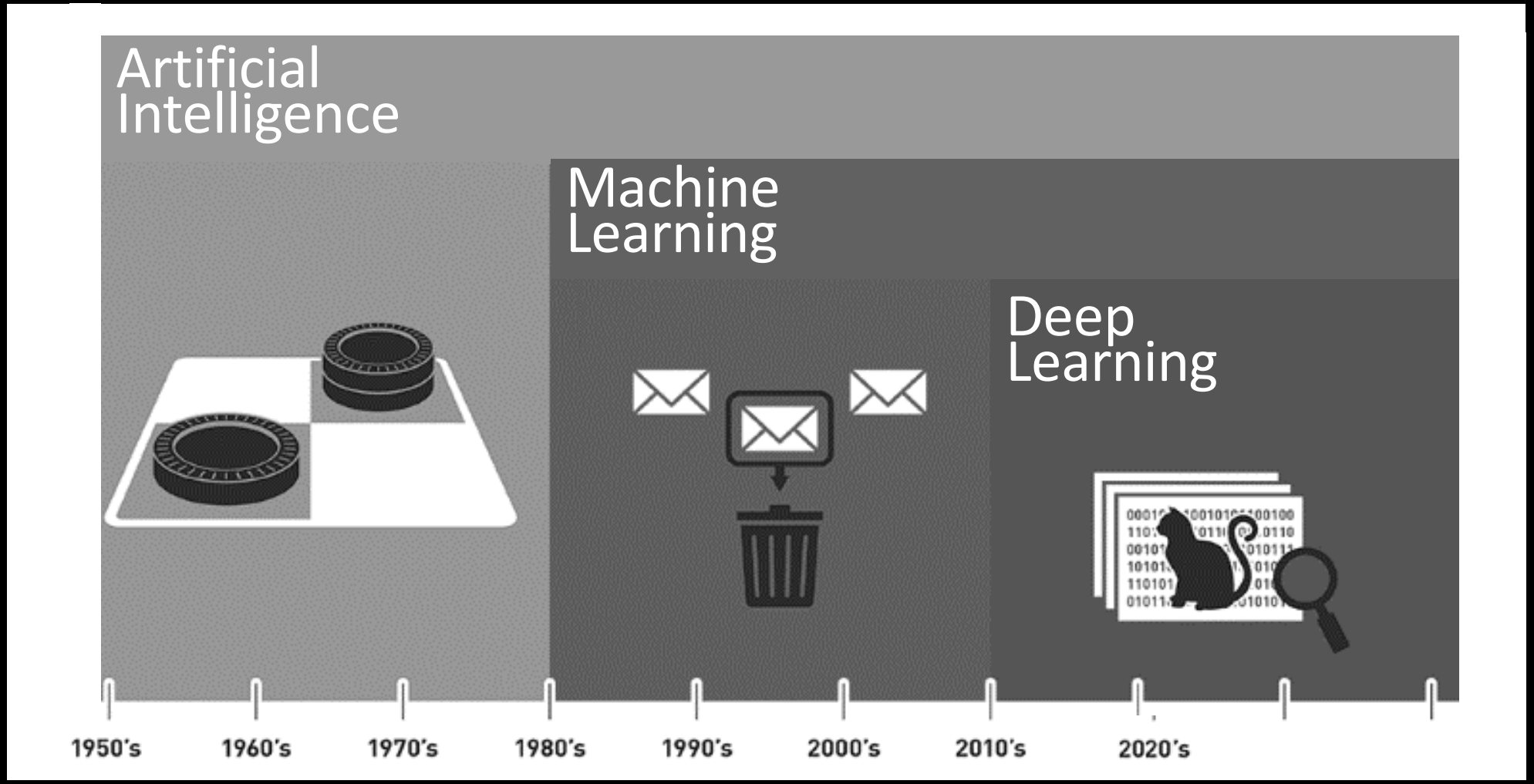
AI Today: Tinned human intelligence

"To push the development in AI ahead we need to start all over."

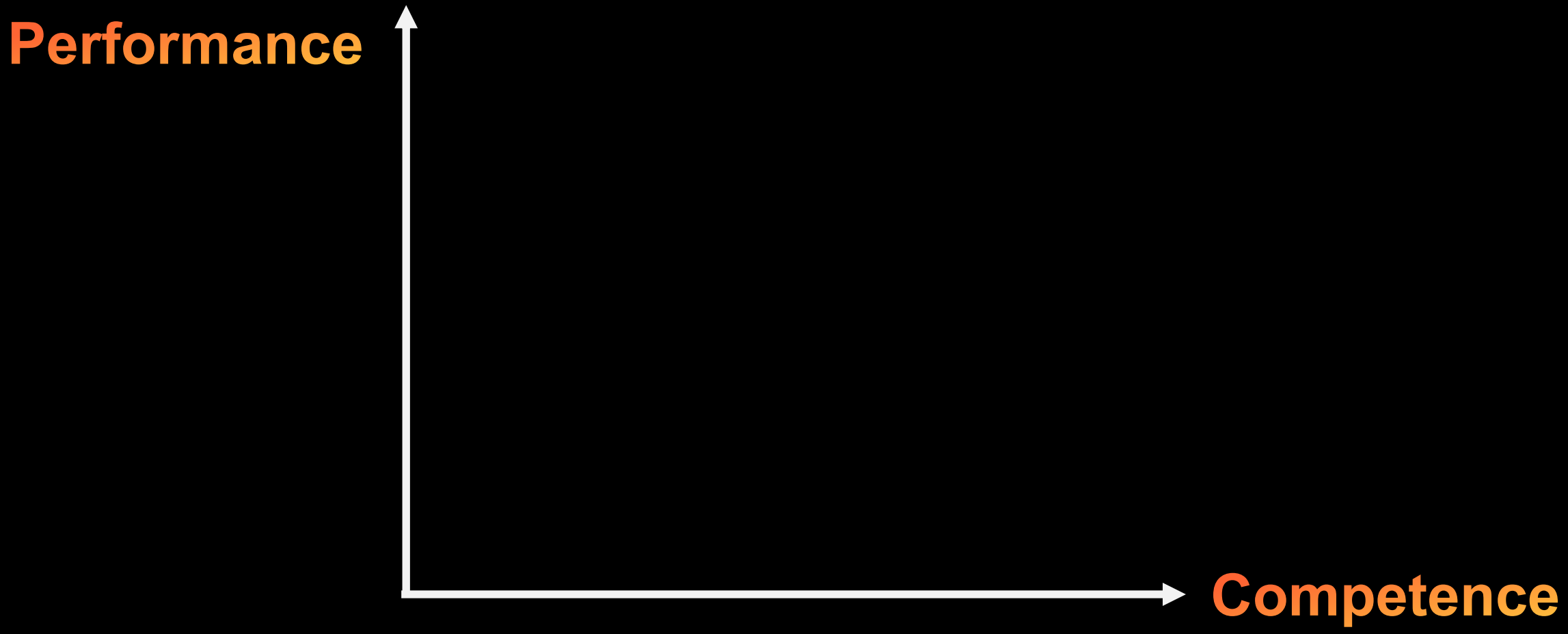
Prof. Geoffrey Hinton, 2019
University of Toronto and Google lead AI researcher

"Tin Man"
from The Wizard of OZ
(1939 film)

About Artificial Intelligence – What is state of the art?



Difference between man and machine – Example: Performance vs. Competence



Difference between man and machine – Example: Performance vs. Competence

Performance

- Search engines (Google)
- Big Data, ChatGPT
- Manufacturing
- Deep Neural Networks

eg. DeepMind, DeepBlue

Competence

Difference between man and machine – Example: Performance vs. Competence

Performance

- Search engines (Google)
- Big Data, ChatGPT
- Manufacturing
- Deep Neural Networks

eg. DeepMind, DeepBlue

most Humans

eg. shoes: «What can you do with a pair of shoes?»

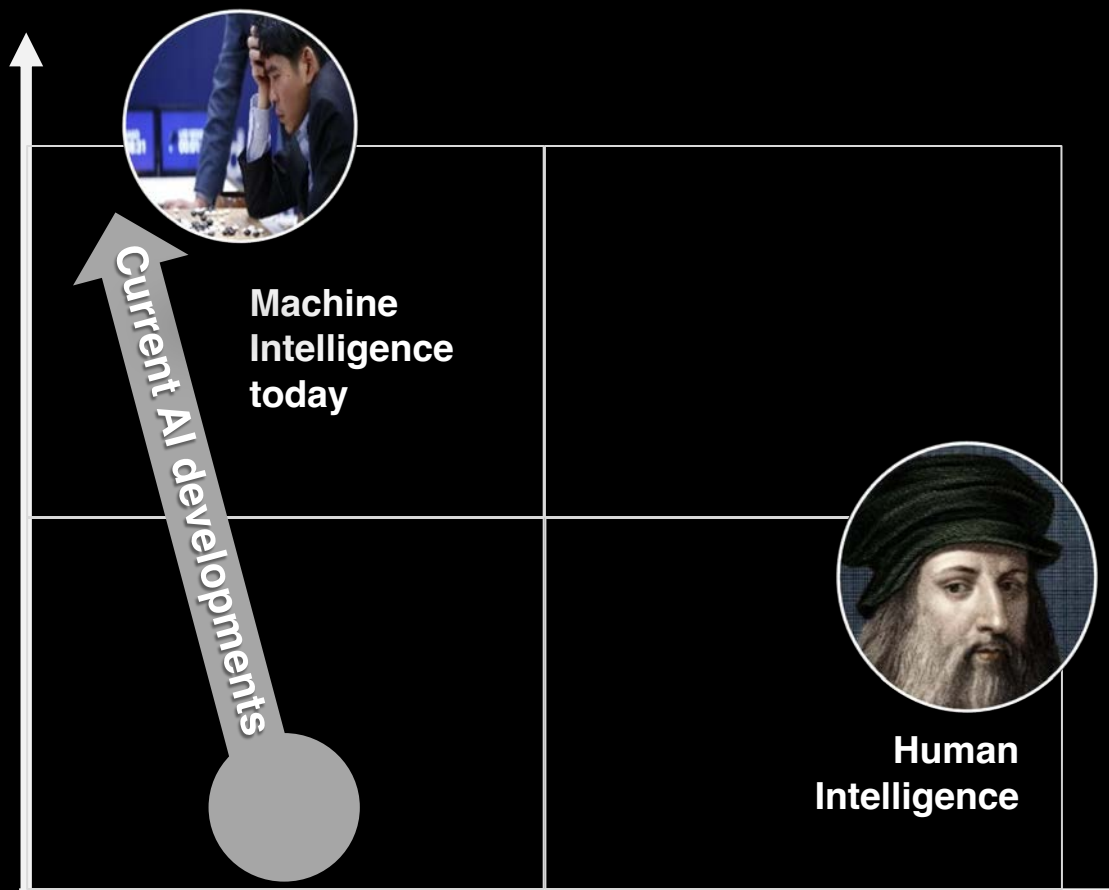
«Play chess on a 10 x 10 board»

Competence

Difference between man and machine – Example: Performance vs. Competence

Performance

(Optimzing for tasks)



Competence

(Easy transfer of knowledge)

Ambition of Switzerland's Mindfire program

Performance
(Optimzing for tasks)

Machine Intelligence today

Current AI developments

Mindfire program

MINDFIRE

Human Intelligence

Competence
(Easy transfer of knowledge)

Switzerland’s Mindfire Program unites AI talents globally

MINDFIRE

www.mindfire.global

LAB 42

A different
Approach

Who will be the next Michelangelo: A new Renaissance?

Michelangelo 1504: David

Origin of the Renaissance 1.0

- **New tech: Book printing**
  Revolution in know-how access, new mindset , mass dissemination of opinions

- **New Perspective: First mirrors and telescopes**
  Self-esteem, purpose crisis, breaking the habits

- **Accumulation of Wealth: Banking system, 80% death**
  This led to breakthroughs in arts and science

The Renaissance was an explosion in know-how access and sharing

First signs of a Renaissance 2.0

- **New tech: Social Media, Internet**
  Revolution in know-how access, new mindset, mass dissemination of opinions

- **New Perspective: GPT tech, Gen-Z, Advent of AI**
  Self-esteem, purpose crisis, breaking the habits

- **Accumulation of Wealth: Tech giants, Tycoons**
  Monumental breakthroughs in arts and science

The Renaissance was an explosion in know-how access and sharing

Michelangelo

Leonardo Davinci

Steve Jobs

Elon Musk

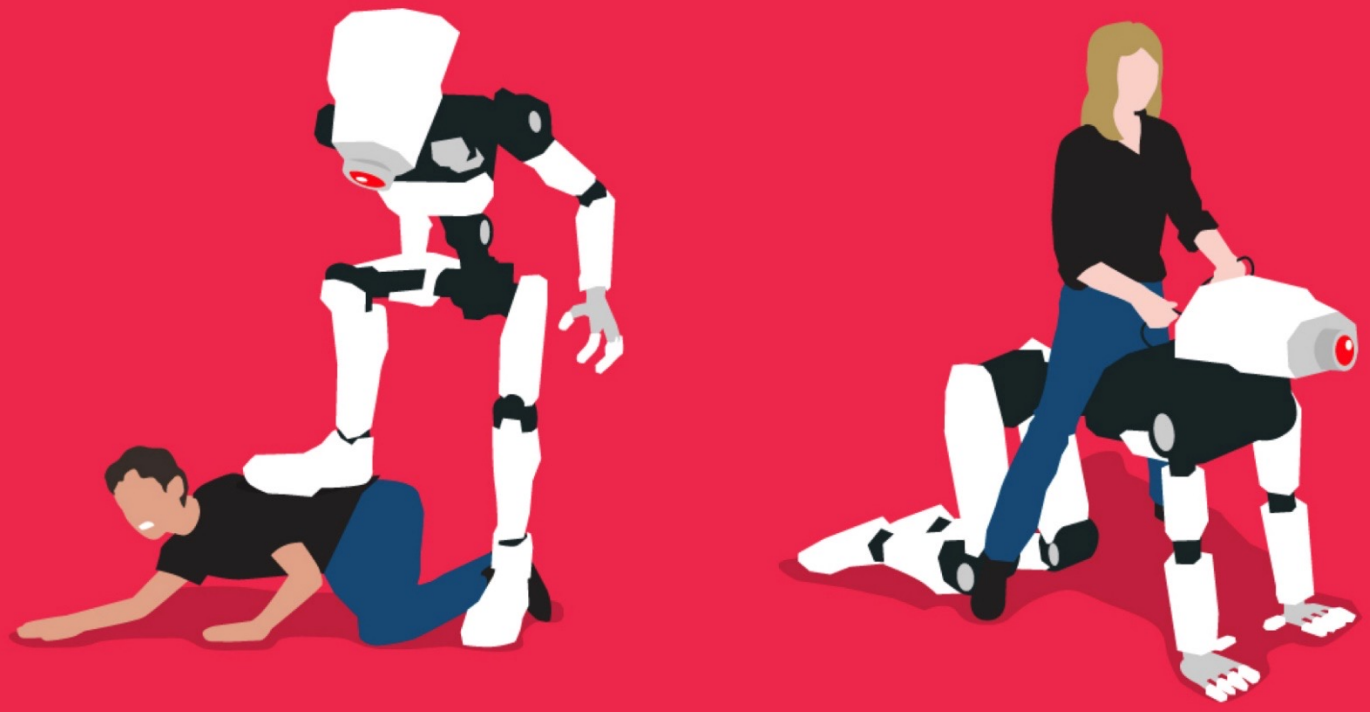
Demis Hassabis

1. **The global AI race is heating up – Outlook on state of the art**
   AI spirit, what the world is talking about AI, where blocks are clashing

2. **Beware of the AI hype – There is no AI yet**
   AI today is tinned human intelligence, first signs of Renaissance 2.0

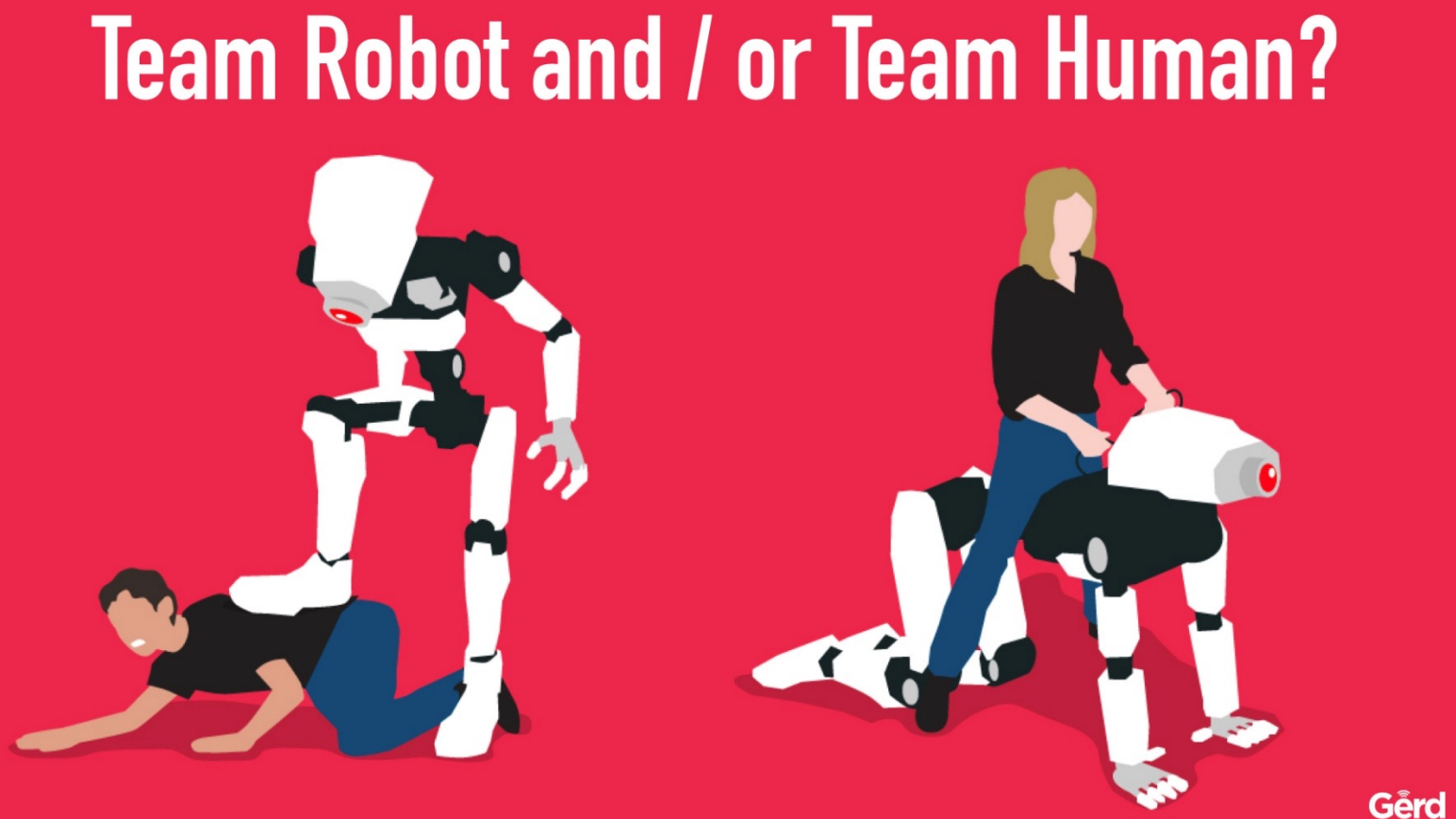
3. **Be a Cyborg – Tool up heavily, ride the wave**
   Incorporate latest tech, learn about AI in order to stay in the game

Team Robot and / or Team Human?



Gerd

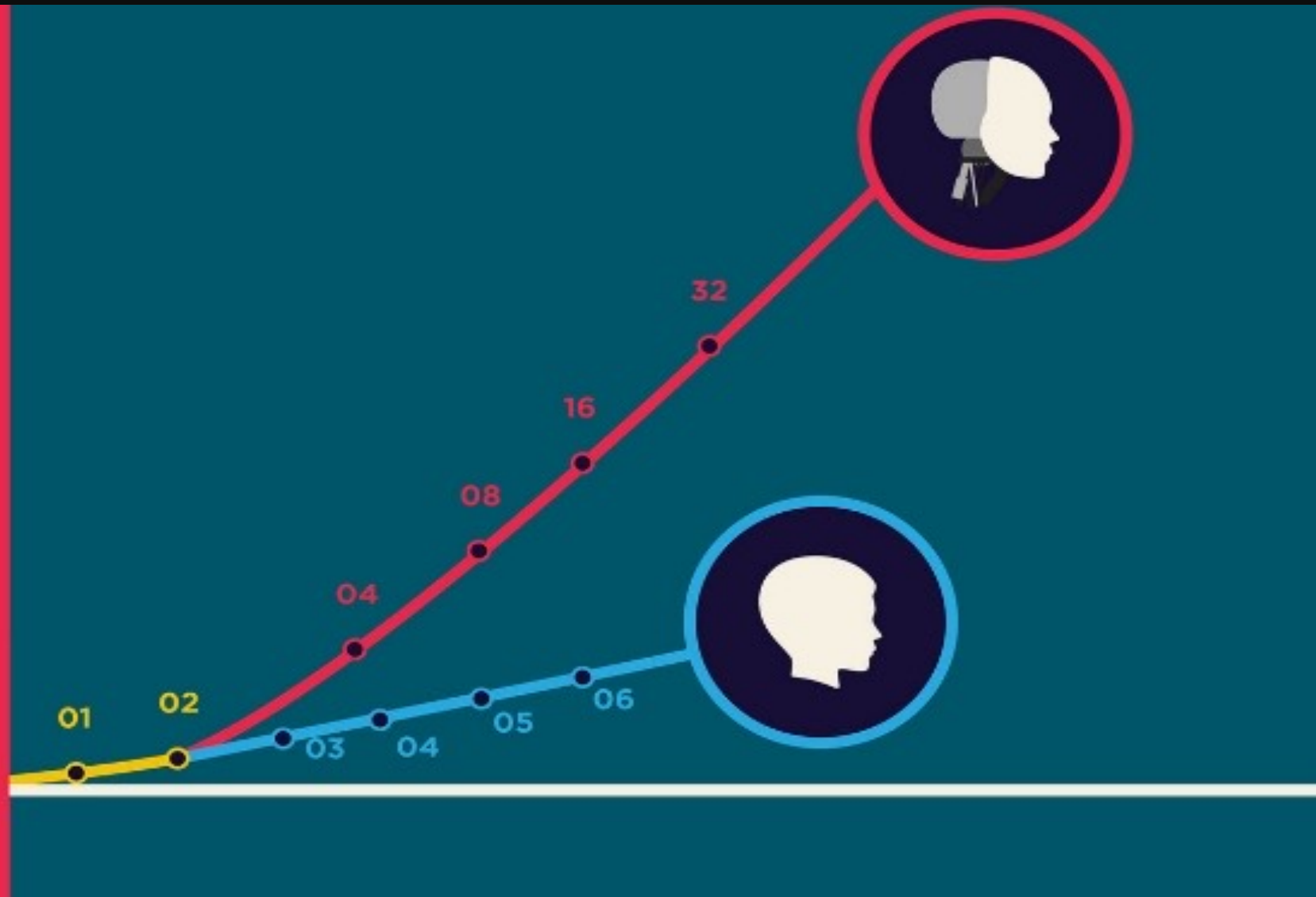
Let us embrace latest technology and tool up team human



Can humans keep up with the digital revolution?

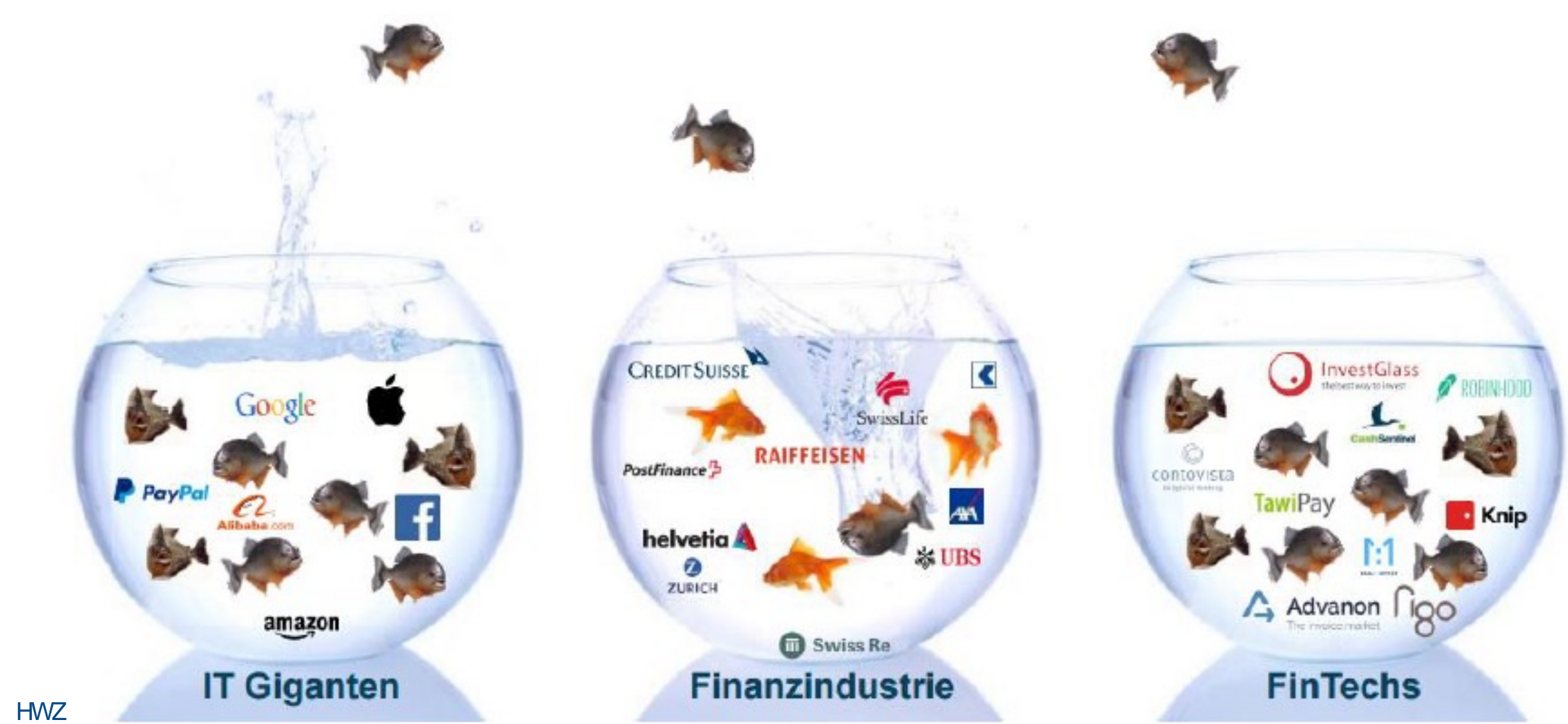
Keep in mind:
Technology is exponential

but Humans are linear



The digital transformation of our lives is Today

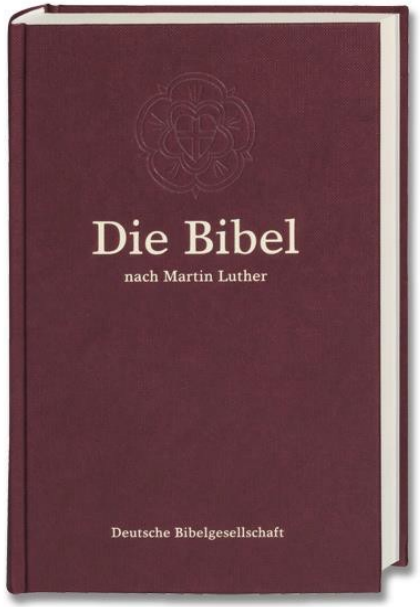
Meanwhile in Switzerland: IT Giants & FinTechs vs. Banks



Regulations: Do they really protect us from competition?

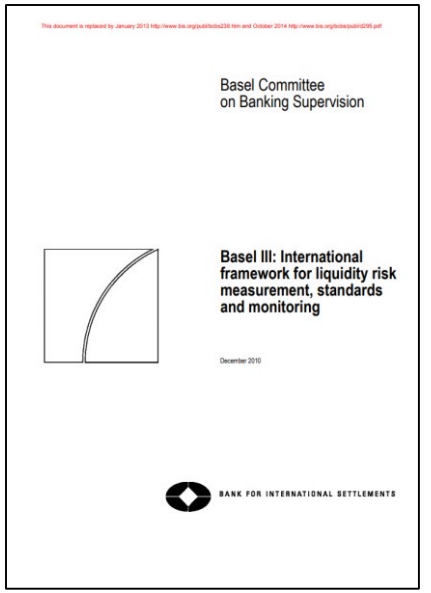
Bundesverfassung

30‘000 words



Bible

700‘000 words

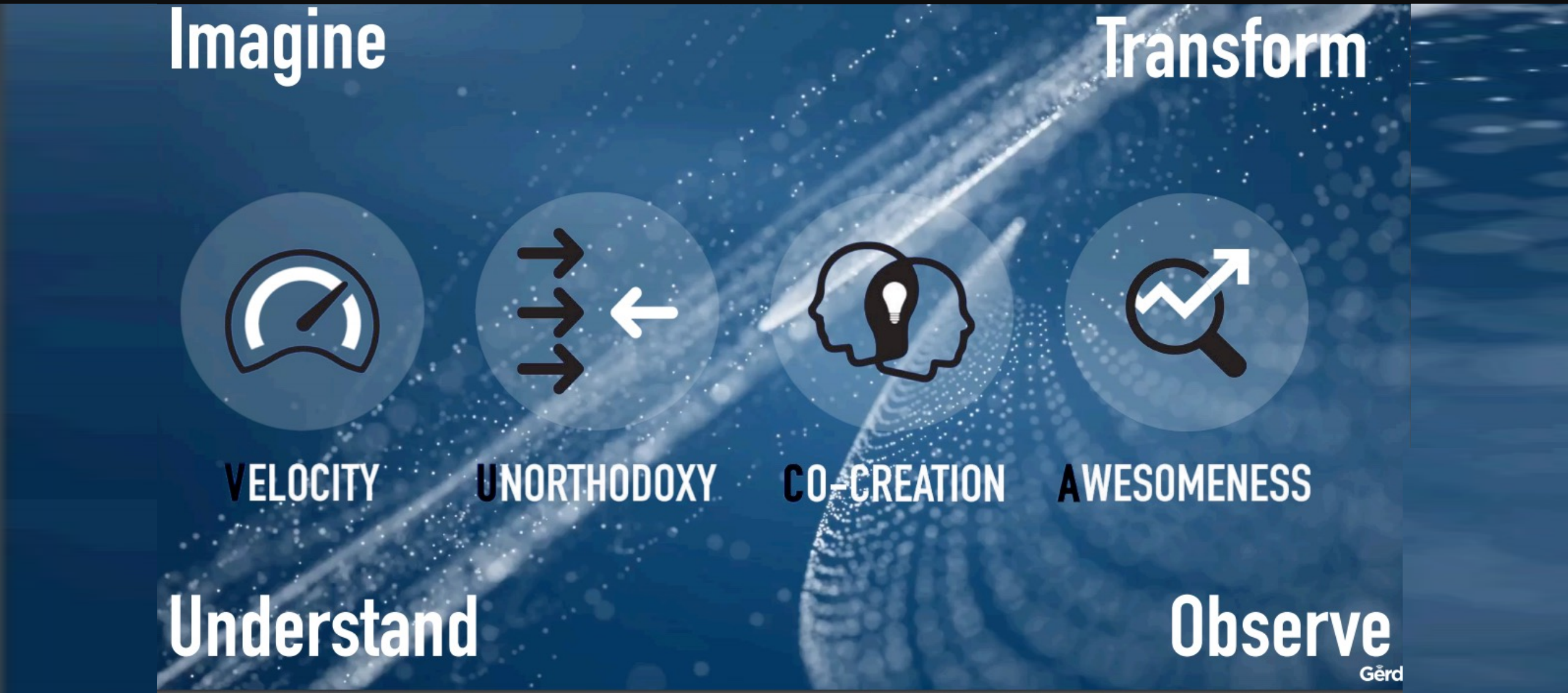


Liquidity risk measurements, standards and monitoring (Basel III)

> 2‘000‘000 words
… or 5440 pages

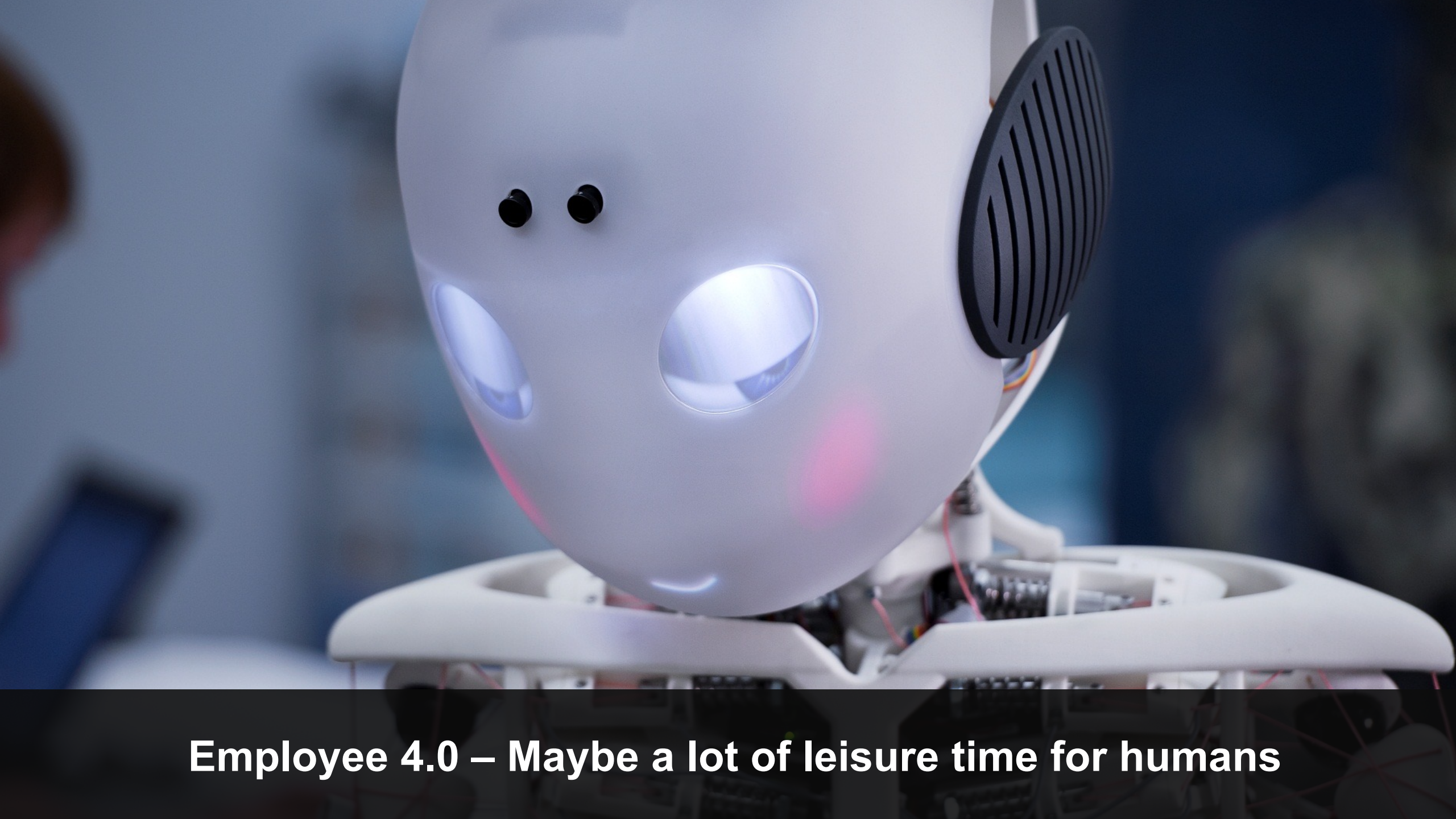
Interfacing human with technology – The skills landscape is shifting

Human facing the future – Important skills



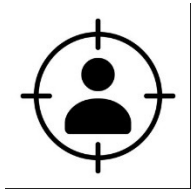
As technology gets commodity, the Human Factor becomes key

Human worker 3.0 – Technology gets closer and incorporated

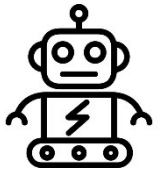


Employee 4.0 – Maybe a lot of leisure time for humans

Keep PACE - Go all-in on Entrepeneur tech: Personalization, Automation, Collaboration and Exploration



Personalization - Search is dead, embrace generative AI

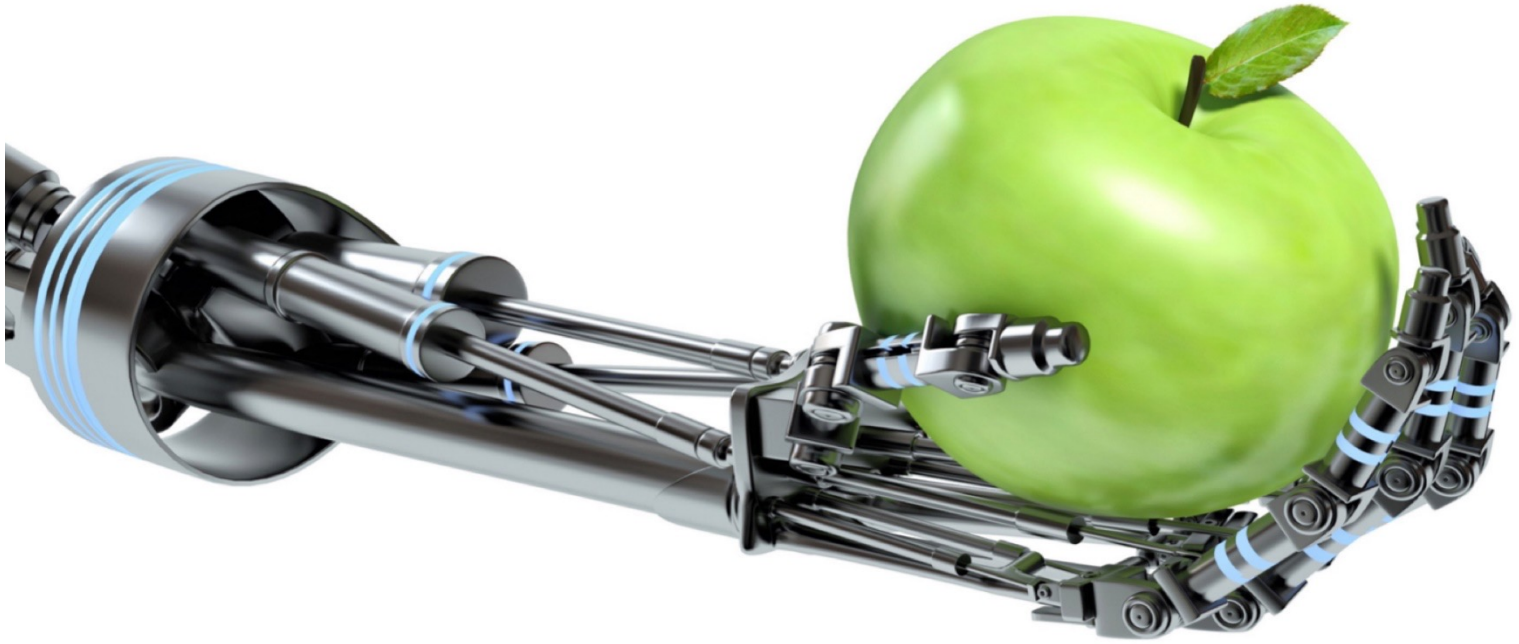


Automation - Go all-in on AI (“free the human worker”)

Collaboration - Collaborate with the Swiss AI ecosystem

Exploration - Get to the future before customers, welcome them there

The AI transformation of all our lives is ahead of us



It is up to you what will and what should not be automated

THANK YOU.
Pascal Kaufmann
www.pascalkaufmann.com