

snips

Yann Lechelle
Chief Operating Officer
@ylechelle



LES PROCHAINES INTERFACES HOMME-MACHINE ENTRE UBIQUITÉ ET MONOPOLE

12 mars 2018





TRIVIA

- Started coding at age 10
- Built deep learning software in 1992
- Interpreter to Magic Johnson in 1993
- Have been playing basketball for 35 years
- INSEAD 2001J:
 - Created a rogue WiFi network, got caught :)
 - President of the “New Economy” Club!
- My kids (12 & 15) have limited access to computers
- My wife hates technology but we still love each other

ENTREPRENEURSHIP

- Shipped pirated SW to the Caribbeans at age 14
- Built a social network on minnie at 17
- Joined NYC startup in 1996 (fintech, sold)
- Founded Etheryl in 2001 (social network, sold)
- Founded KickYourApp in 2009 (agency, sold)
- Founded Appsfire in 2010 (app reco, sold)
- Founded Sonetin in 2012 (social network, sold)
- Entrepreneur in Residence at INSEAD
- Co-founding Member at France Digitale
- Co-founding Member at HUB France IA

ANGEL INVESTMENTS

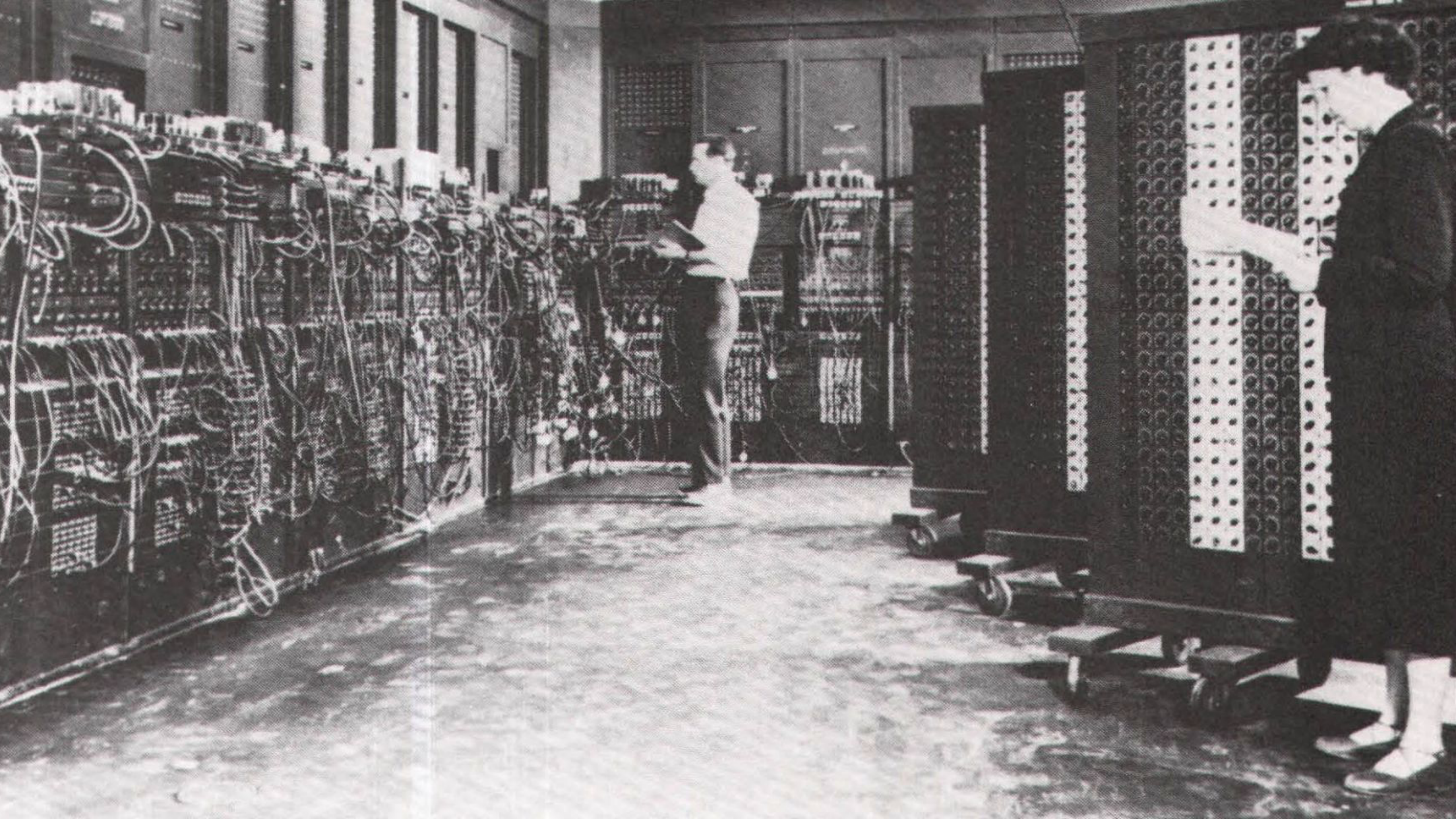
- Meemento (INSEAD alumnus), phygital platform
- Somuto (INSEAD alumni), social DJaying
- QuizFlip (INSEAD alumnus), edutech
- StarSpot (INSEAD Alumni), crowdsourced paparazzi
- Citymeo, digital signage
- Sqreen (YCombinator), SaaS security
- HIMS2, connected skateboarding
- SandBlock (ICO), loyalty program tokens

ADVISORY

- Beeyond.ai (INSEAD alumnus)

The last 7 decades in Tech

in 70 seconds









Starting MS-DOS...

C:\>_





**The complete XEROX
Macintosh system...
everything you
need at one low
price!**

\$3195*

*Complete system price includes Macintosh,
MacWrite, MacPaint, Imagewriter and cables.

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Victoria 386-1155





**The complete XEROX
Macintosh system...
everything you
need at one low
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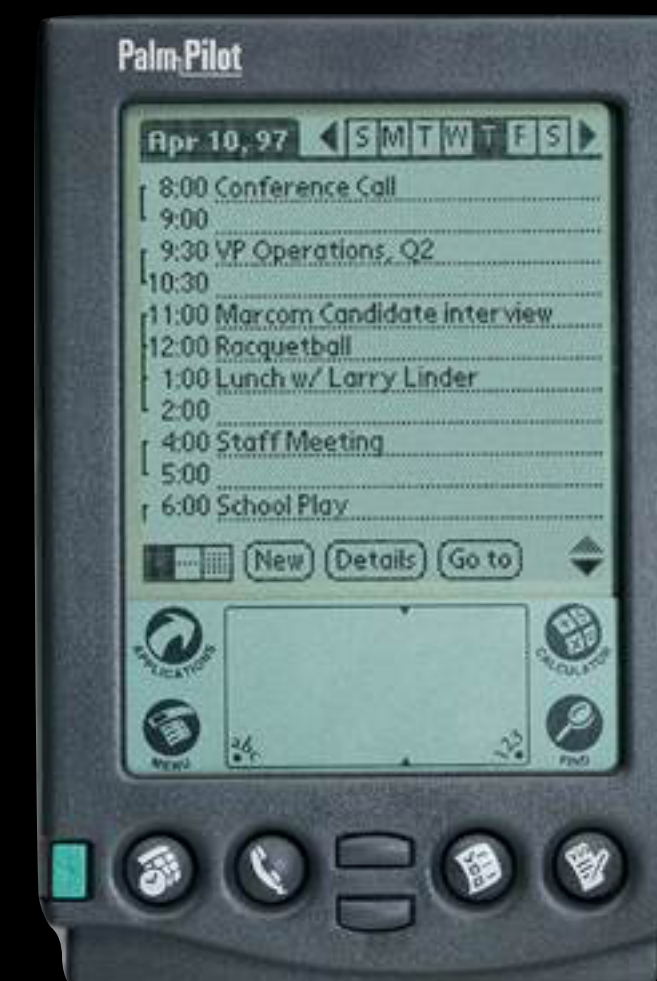


MICROSOFT

Microsoft Windows Operating Environment

Special Offer!
Free copies of
Microsoft Windows Write,
a writing program, and
Microsoft Windows Paint,
a drawing program.
Microsoft Windows Write
requires 320K memory.

For IBM, and COMPAQ, Personal Computers

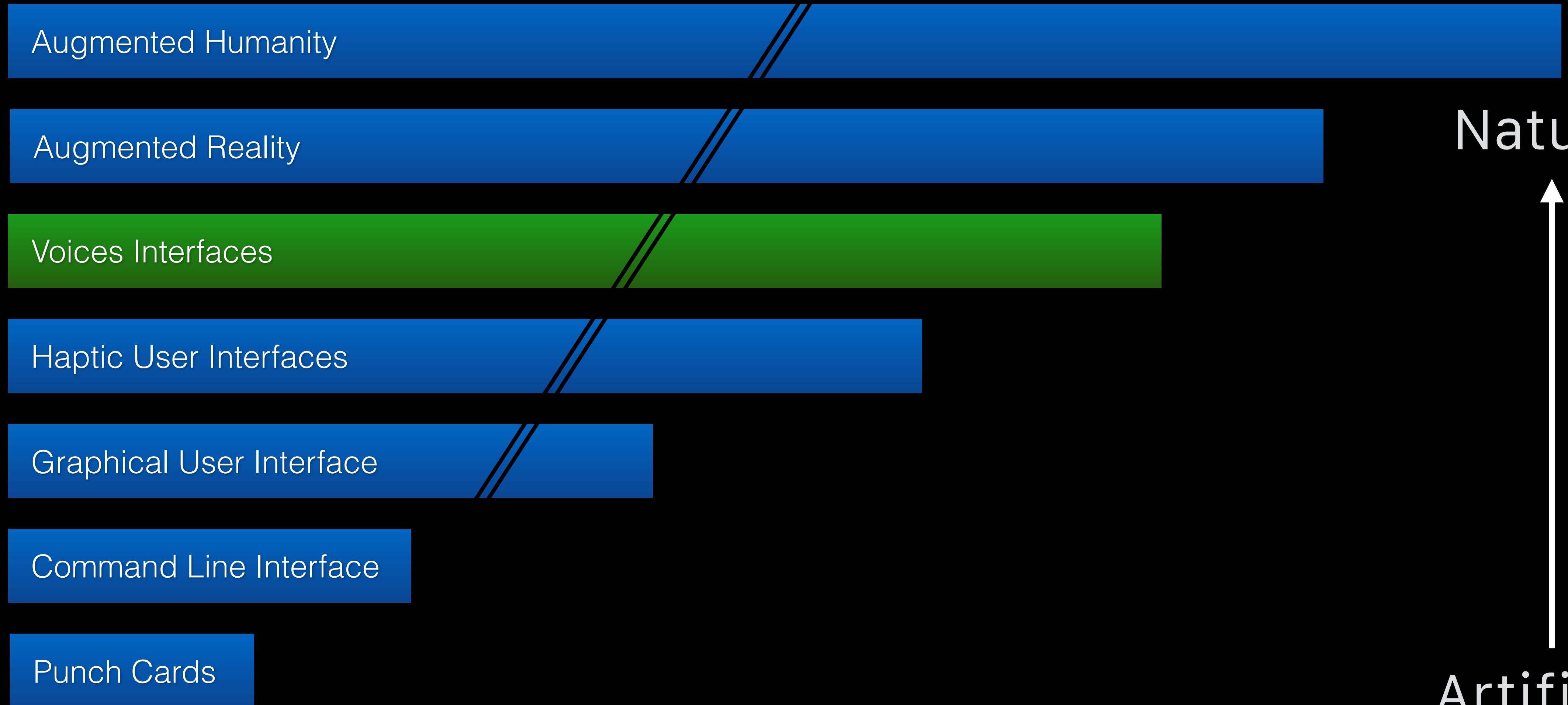




The next 3 decades
from Artificial to Natural HMs

Accessibility

Research / Pro / Personal / Mass / Ubiquitous



Natural

Artificial

World Population

100%

Analysis Framework

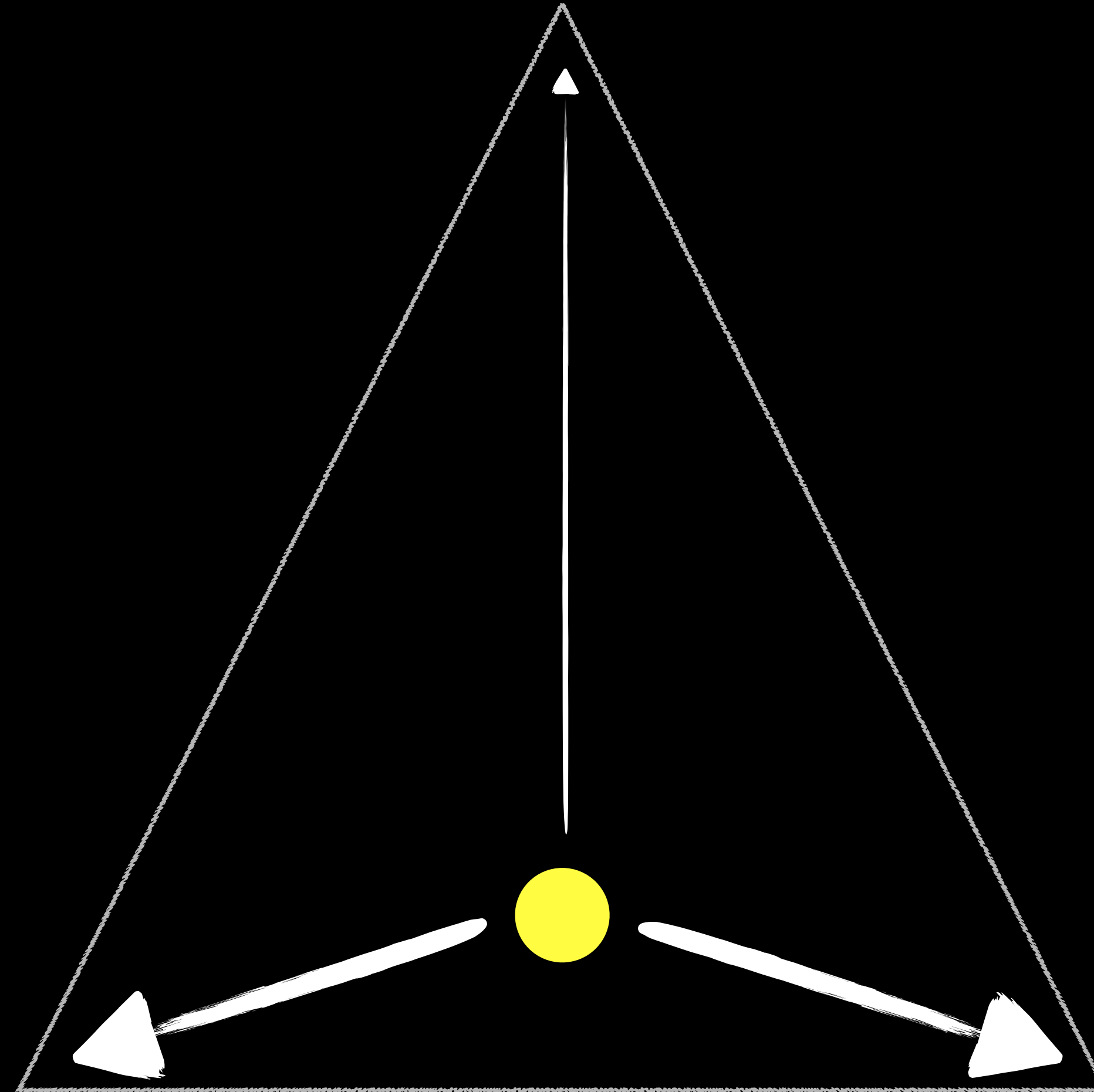
3 pillars to look at carefully

Platform Dominance

Unstable Equilibrium Part I

Maximise Personal Opportunities

Citizen



Corporate

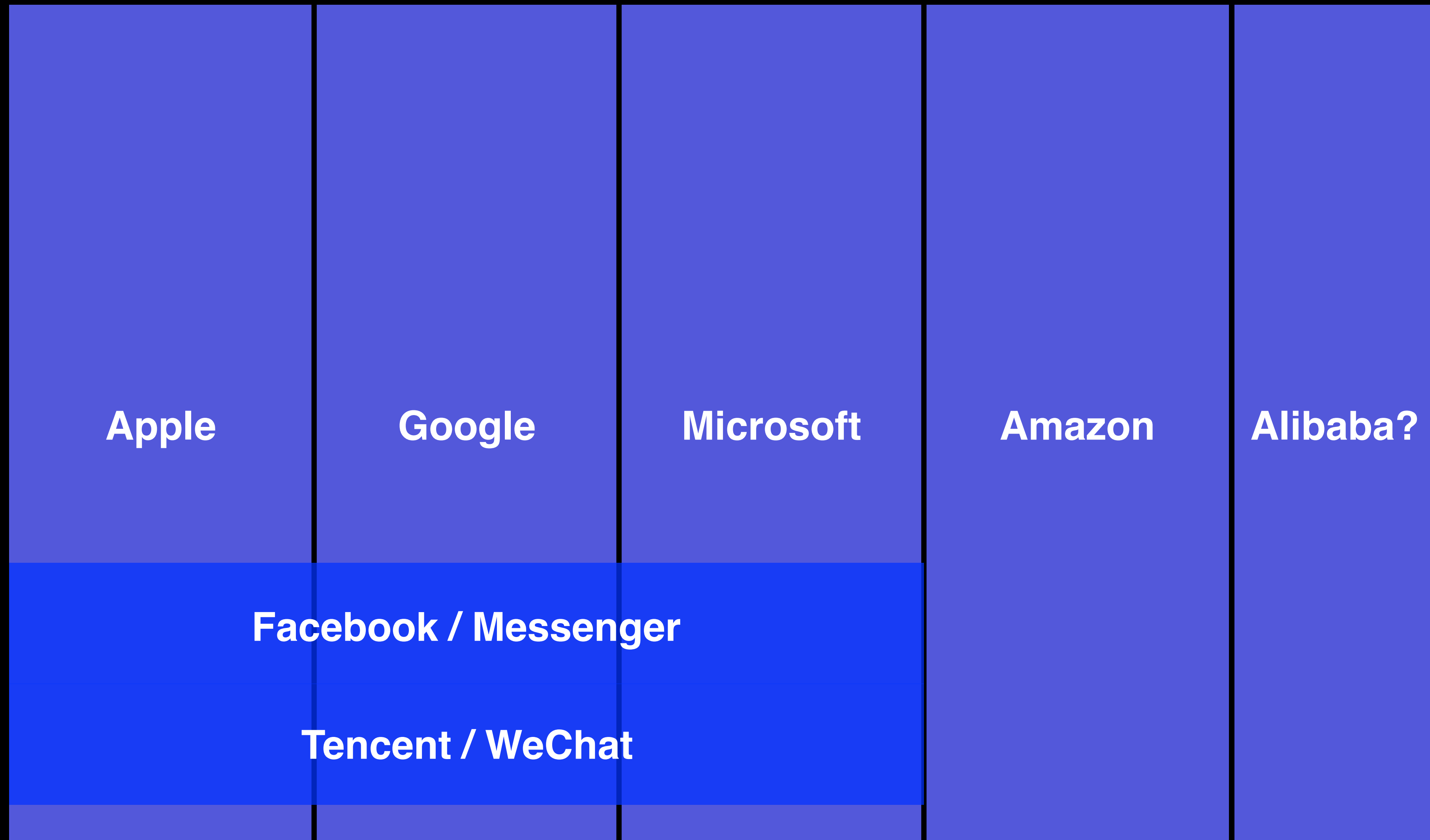
Maximise Quarterly Profits

State

Maximise General Welfare

Platform Wars inside the Billion Users Club

Or the battle for the single experiential entry point

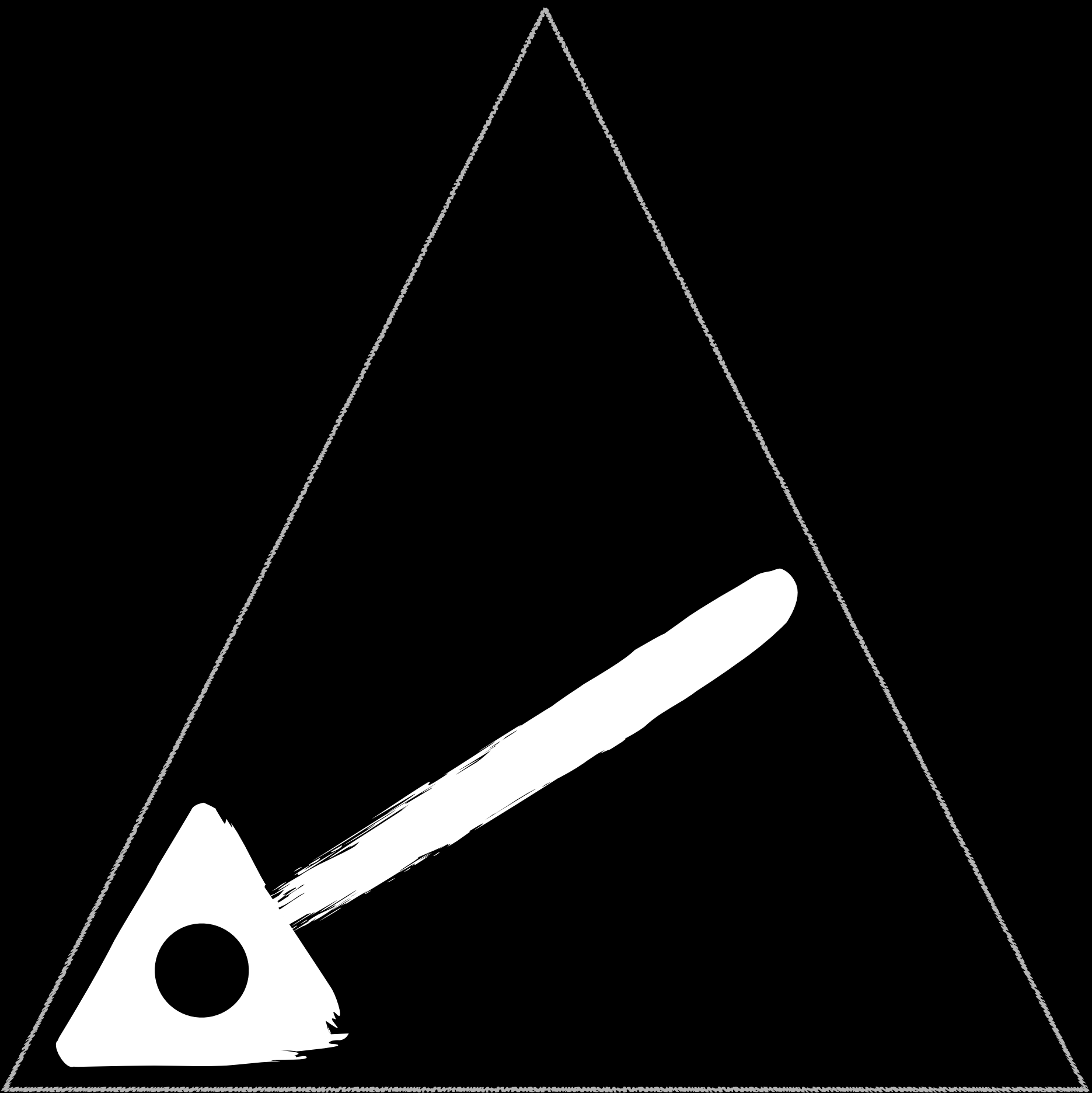


Citizens / Consumers

**Consumer Facing
Platforms**

Data Black Holes

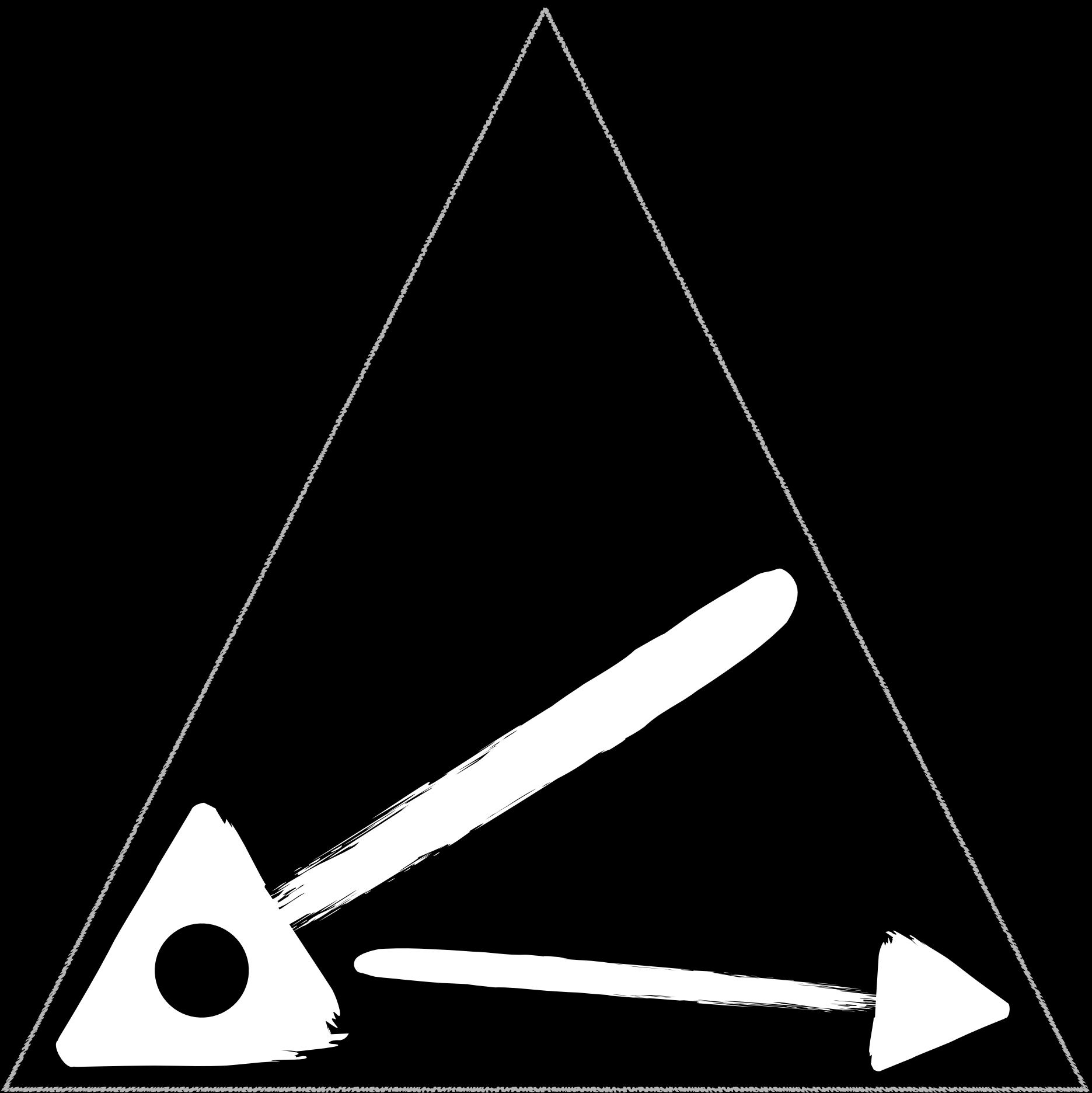
States



Citizens / Consumers

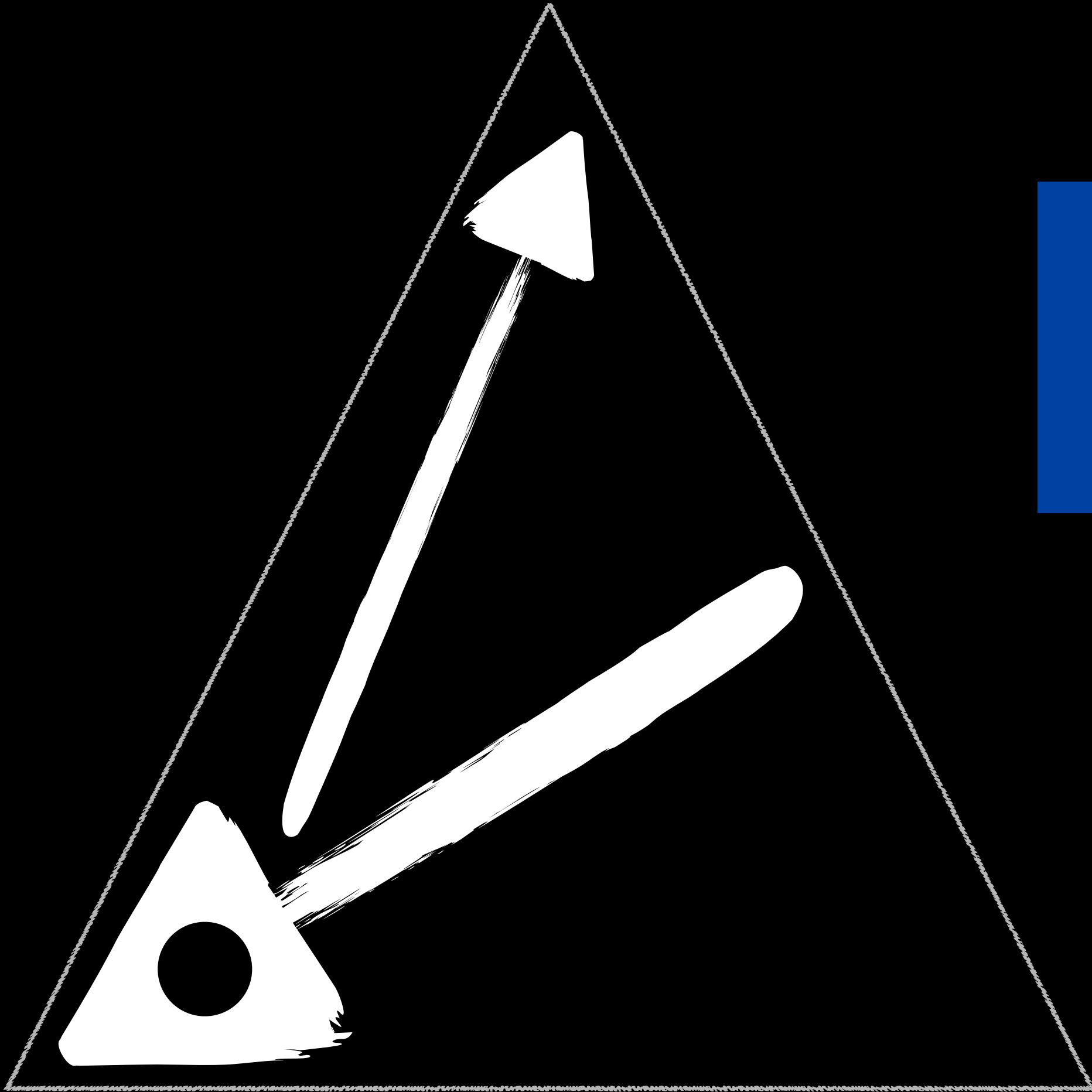
**Consumer Facing
Platforms**

Data Black Holes



**Police
States**
Censorship

Citizens / Consumers



**Consumer Facing
Platforms**
Data Black Holes



Europe
GDPR 2018

Consumer Power

Unstable Equilibrium Part II

Privacy concerns

The image is a screenshot of a Wired article. At the top, the Wired logo is on the left, and the article title "ALEXA AND GOOGLE HOME RECORD WHAT YOU SAY. BUT WHAT HAPPENS TO THAT DATA?" is on the right. Below the title, there are navigation tabs for BUSINESS, CULTURE, DESIGN, GEAR, and SCIENCE. The article is categorized under GEAR. The author is TIM MOYNIHAN, and the date is 12.05.16 at 9:00 AM. On the left side, there is a "SHARE" section with icons for Facebook (10040 shares), Twitter, Comment (62), and Email. The main content area shows the title "ALEXA AND GOOGLE HOME RECORD WHAT YOU SAY. BUT WHAT HAPPENS TO THAT DATA?" in large, bold, black letters. Below the title, there is a large, dark blue image with a glowing blue soundwave pattern at the bottom.

Wired Alexa and Google Home Record What You Say. But What Happens to That Data?

BUSINESS CULTURE DESIGN **GEAR** SCIENCE

TIM MOYNIHAN GEAR 12.05.16 9:00 AM

ALEXA AND GOOGLE HOME RECORD WHAT YOU SAY. BUT WHAT HAPPENS TO THAT DATA?

SHARE

f SHARE 10040

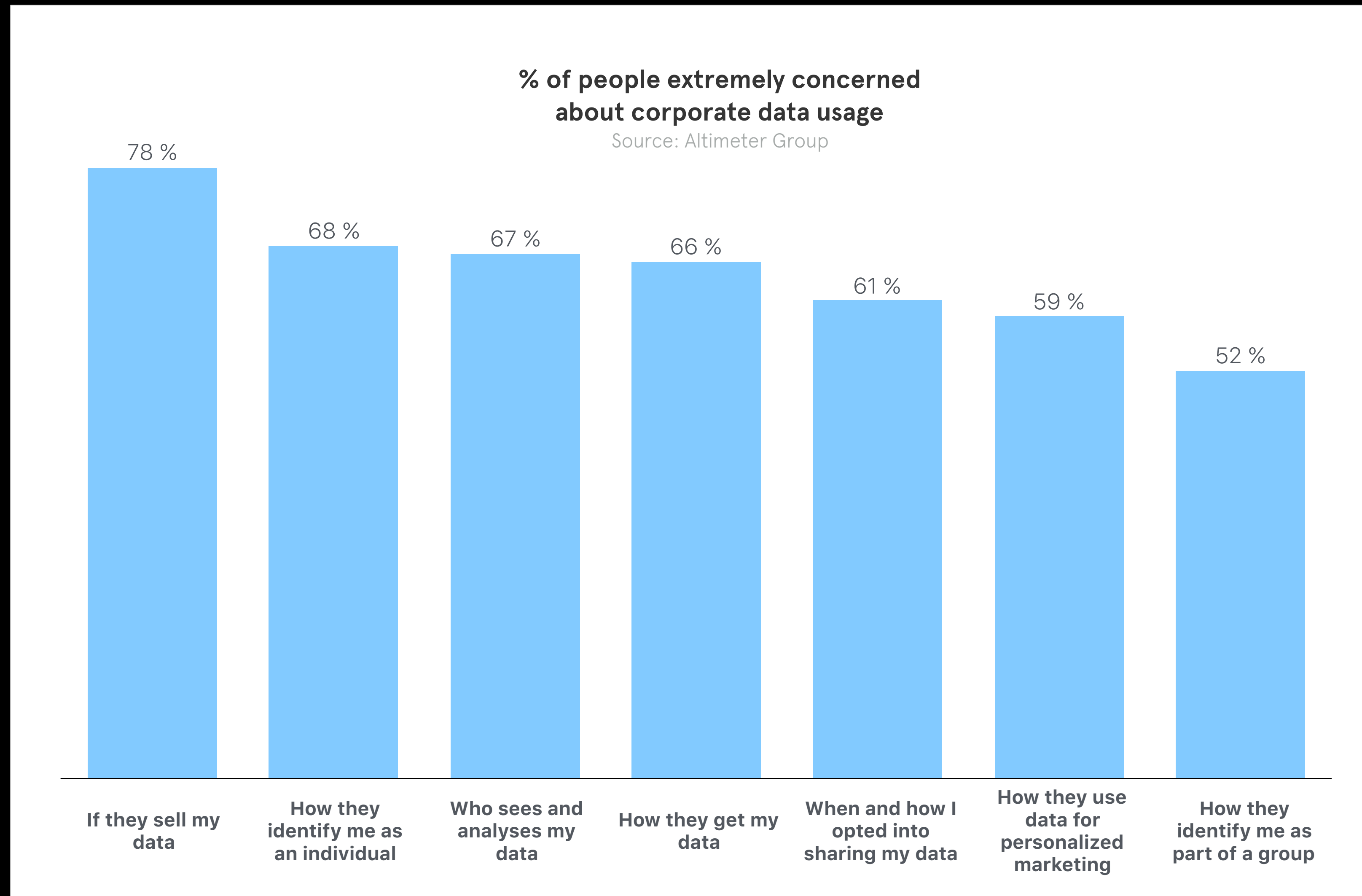
🐦 TWEET

💬 COMMENT 62

✉ EMAIL

Privacy **is** a major concern

Voice devices listen 24/7 by default, sending every private conversation to the cloud



Need for Resilience

GREAT JOB, INTERNET!

The internet buckled today, transforming smart homes into hellish death machines

By [Clayton Purdom](#) [@claytonpurdom](#) Feb 28, 2017 • 4:37 PM



Consumer Preference & Choice

A powerful voice in a commoditized market



No
Encryption



End-to-End
Encryption



End-to-End
Encryption
100M Users



Enterprise solutions

Consumer solutions

20th
Century

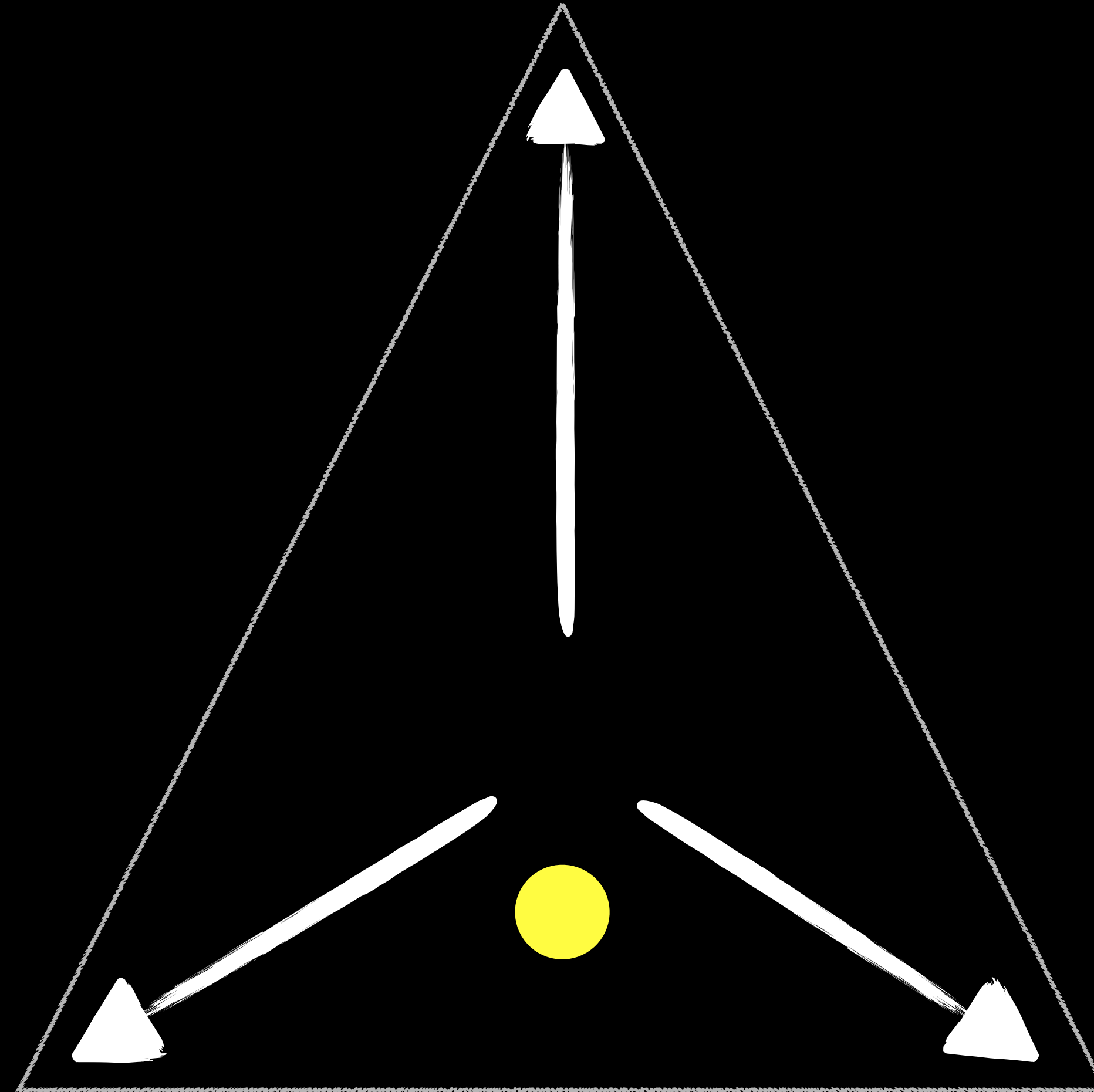


21st
Century



Maximise Personal Opportunities

Citizens / Consumers



Corporates

States

Maximise Quarterly Profits

Maximise General Welfare

Exponential Technologies

Unstable Equilibrium Part III

“Software is eating the world”

Marc Andreessen, 2011

“Software is eating the world”

Marc Andreessen, 2011

“AI is going to eat software”

Jensen Huang, Nvidia CEO, 2016

“Software is eating the world”

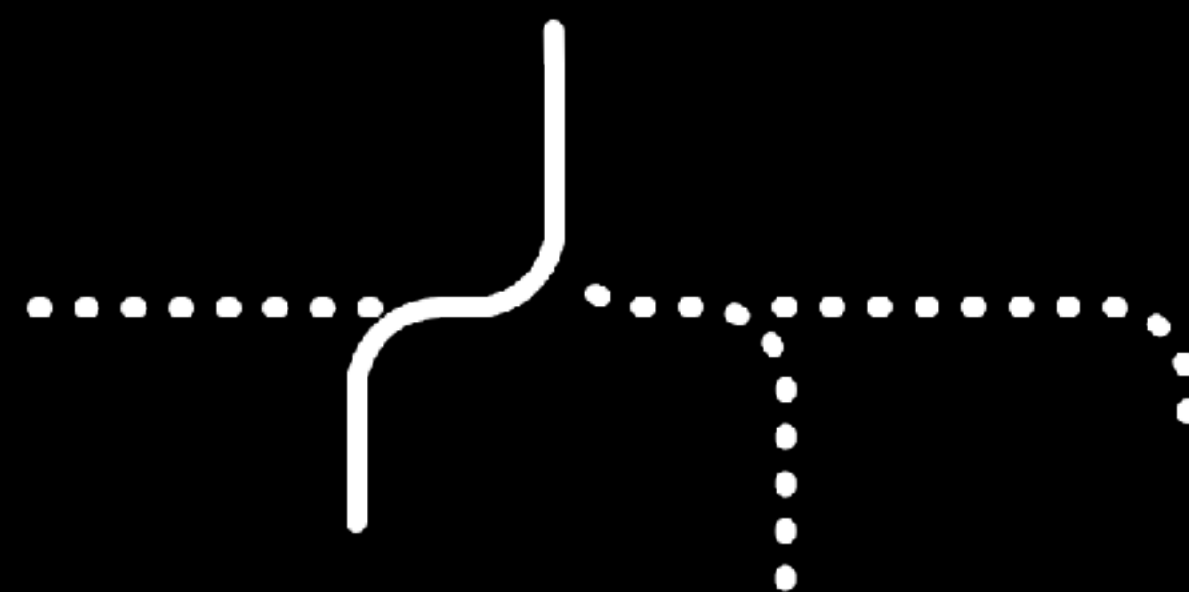
Marc Andreessen, 2011

“AI is going to eat software”

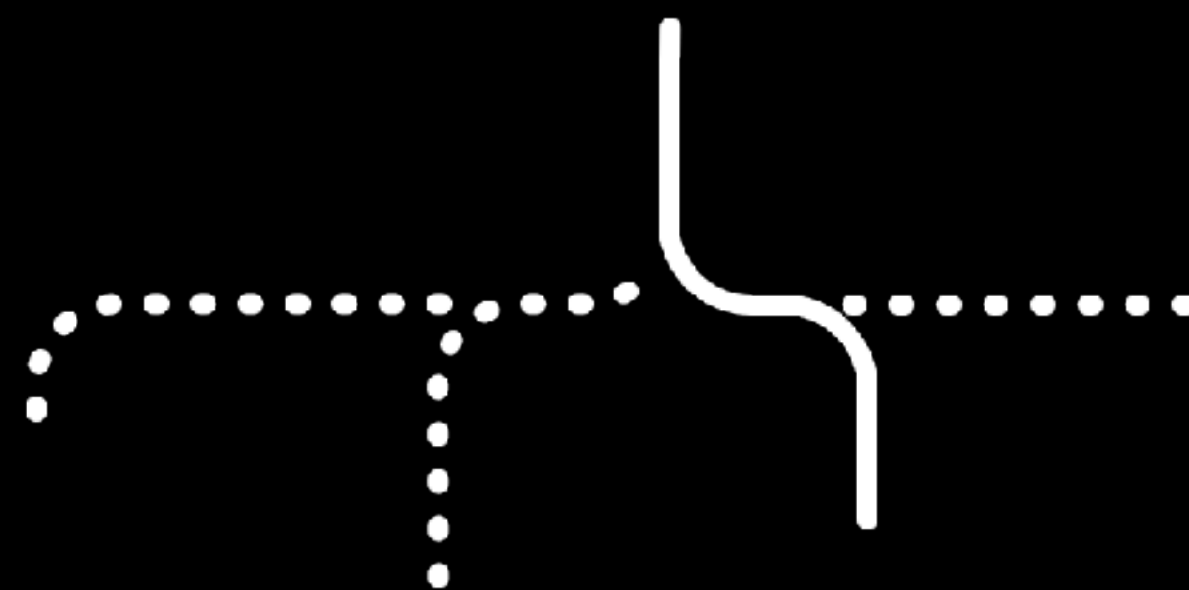
Jensen Huang, Nvidia CEO, 2016

∴ AI is going to eat the world...

A.I.



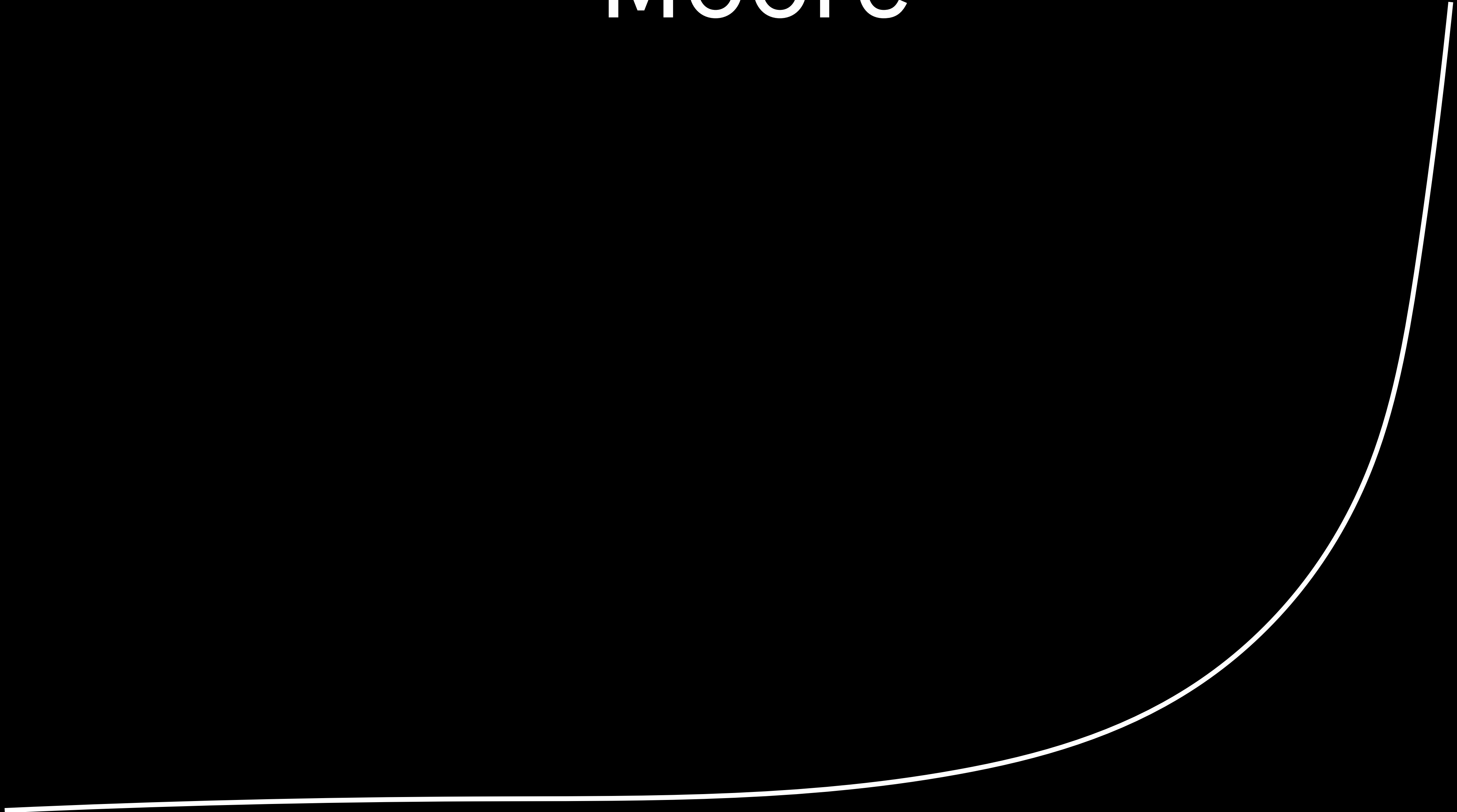
Machine
Learning



Deep
Learning

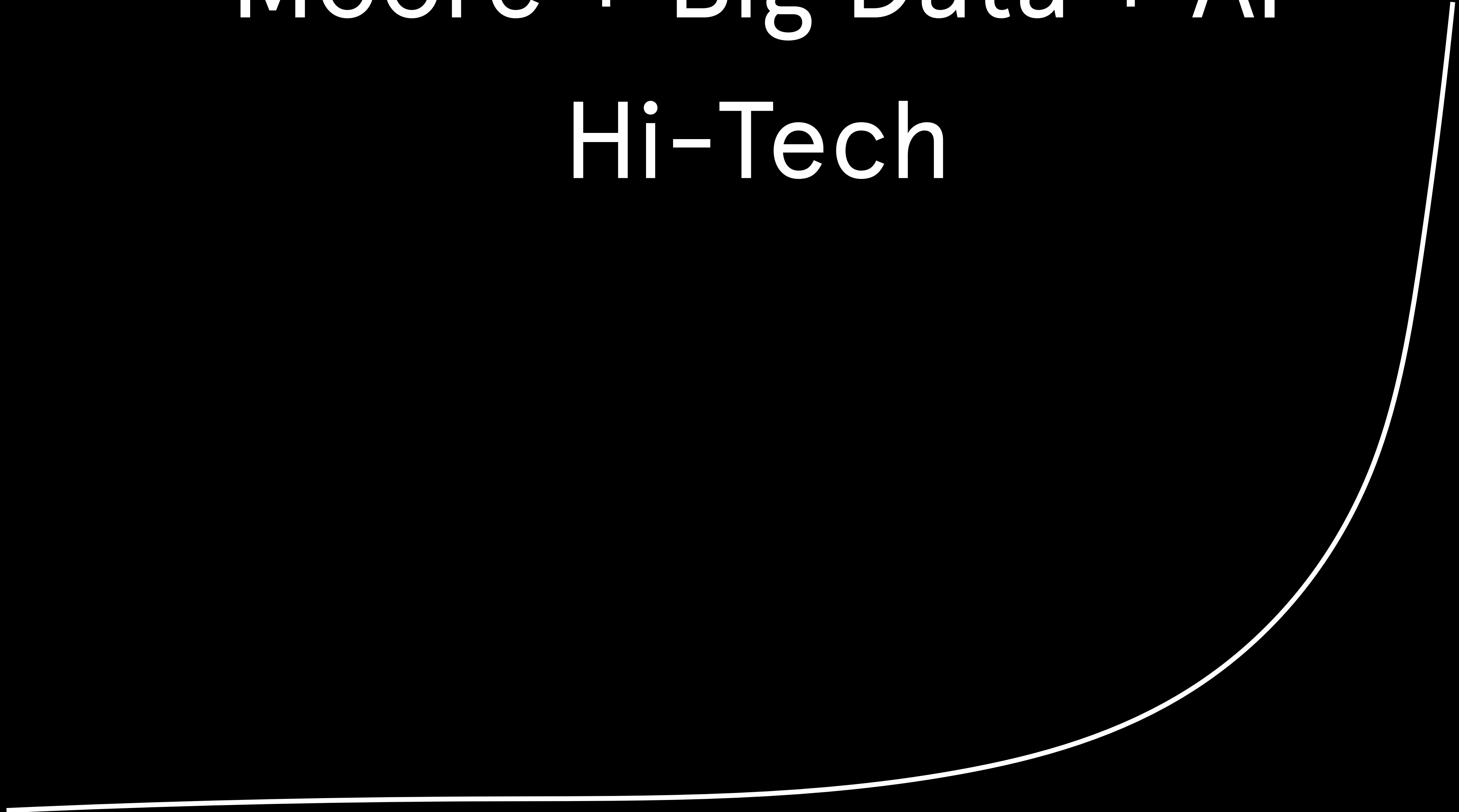


Moore

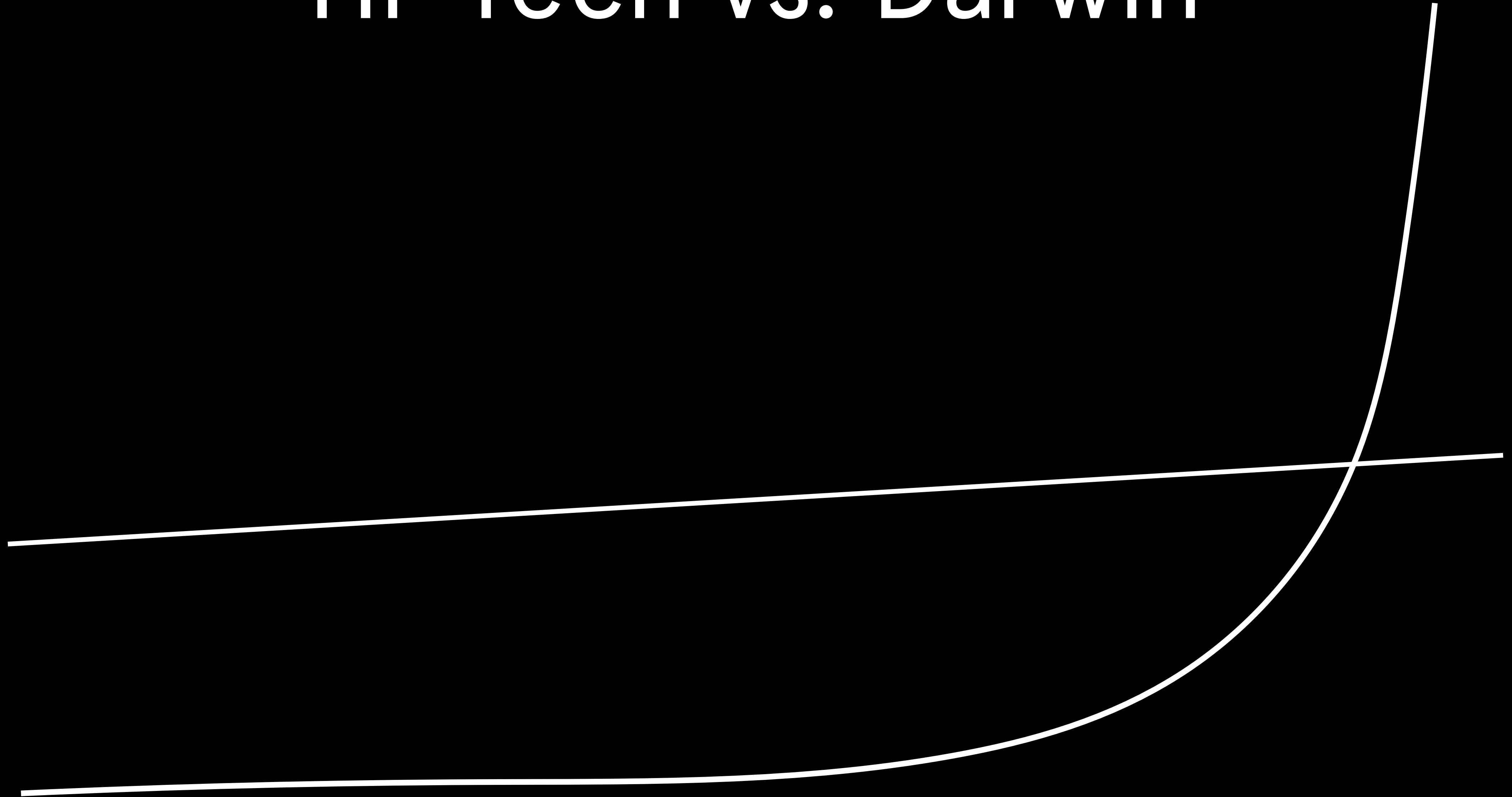


~~Moore + Big Data + AI~~

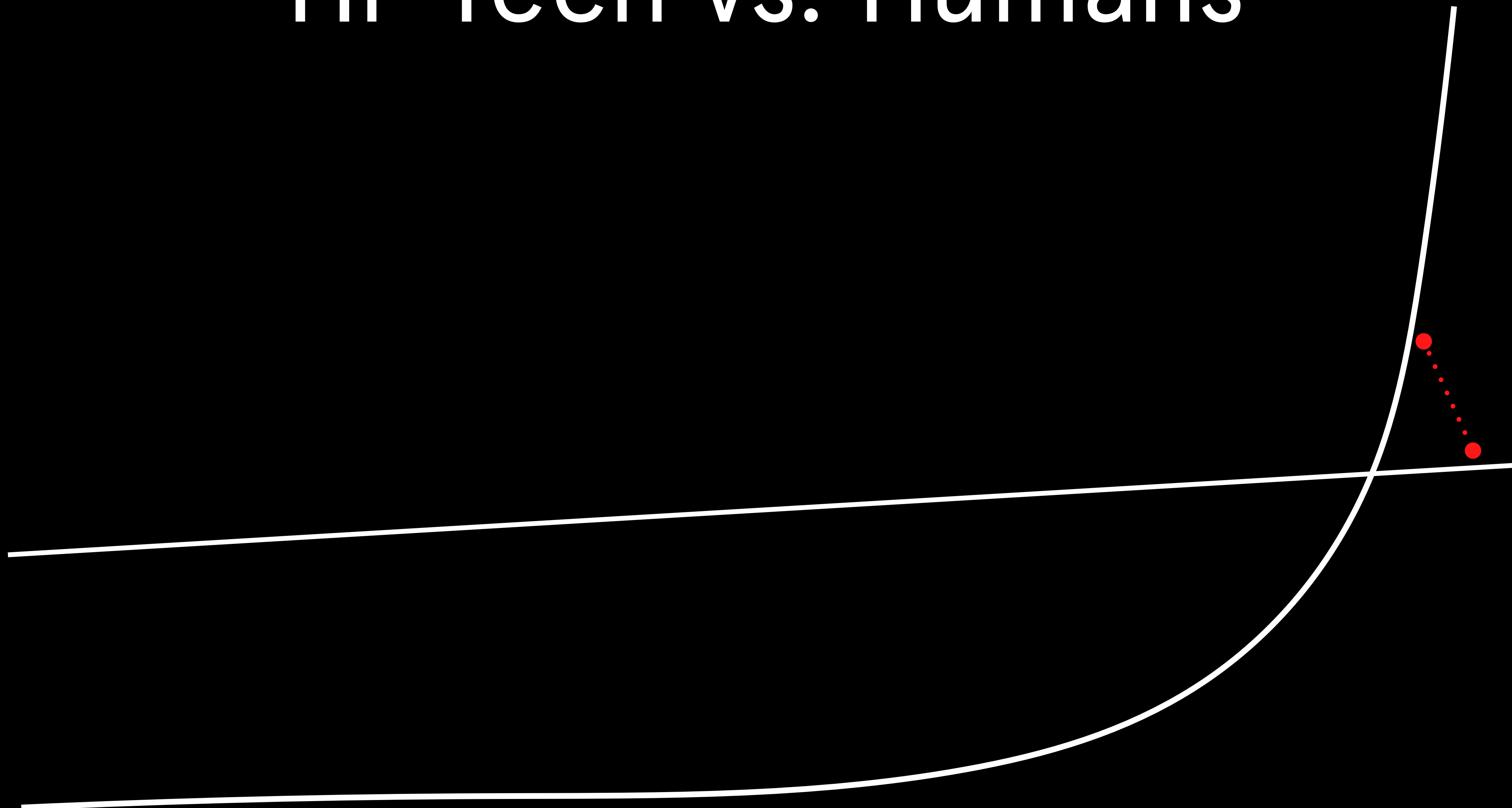
Hi-Tech



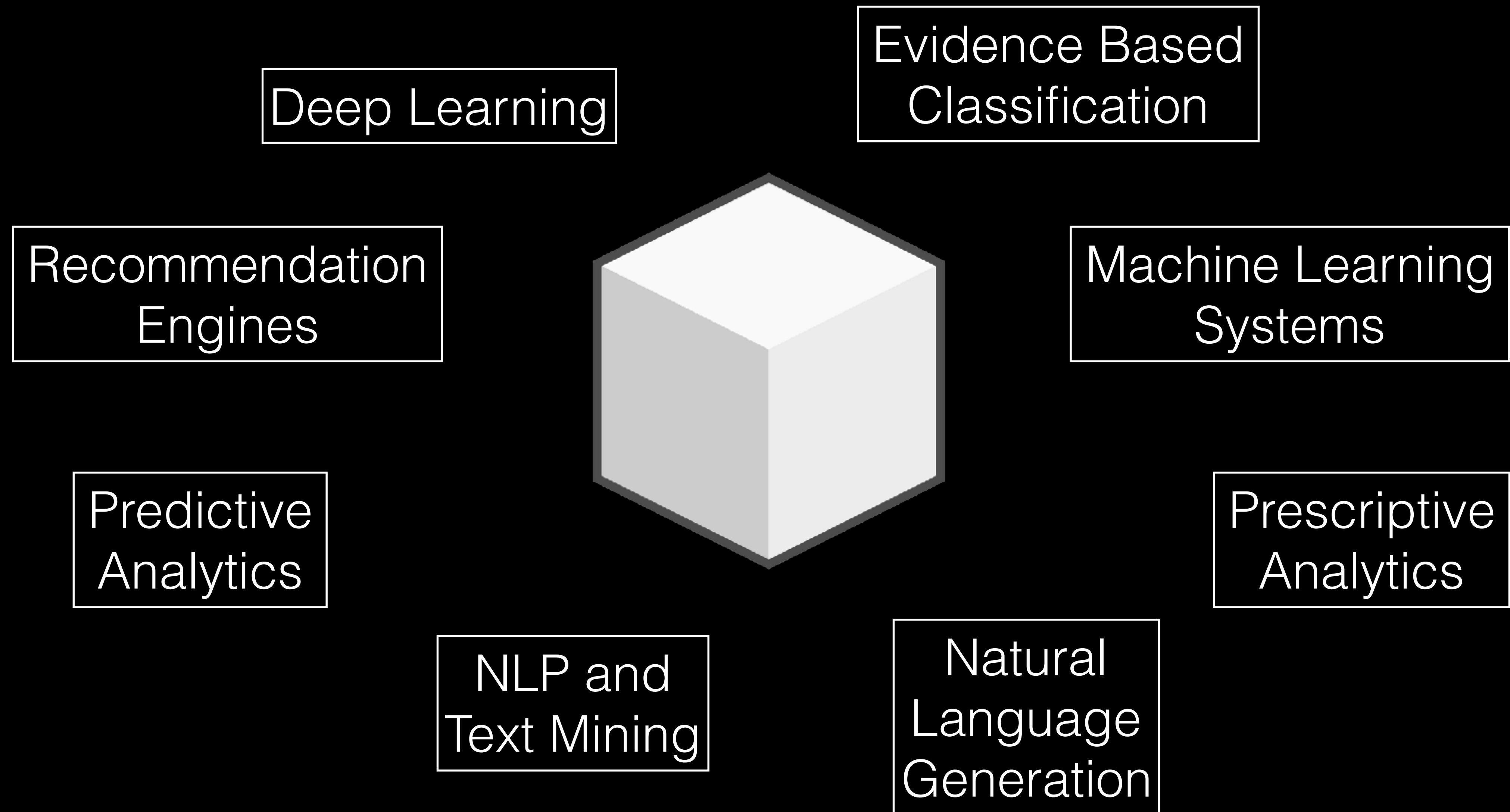
Hi-Tech vs. Darwin



Hi-Tech vs. Humans



Artificial Intelligence is a large family of algorithms
it will serve many consumer facing and back-office use cases



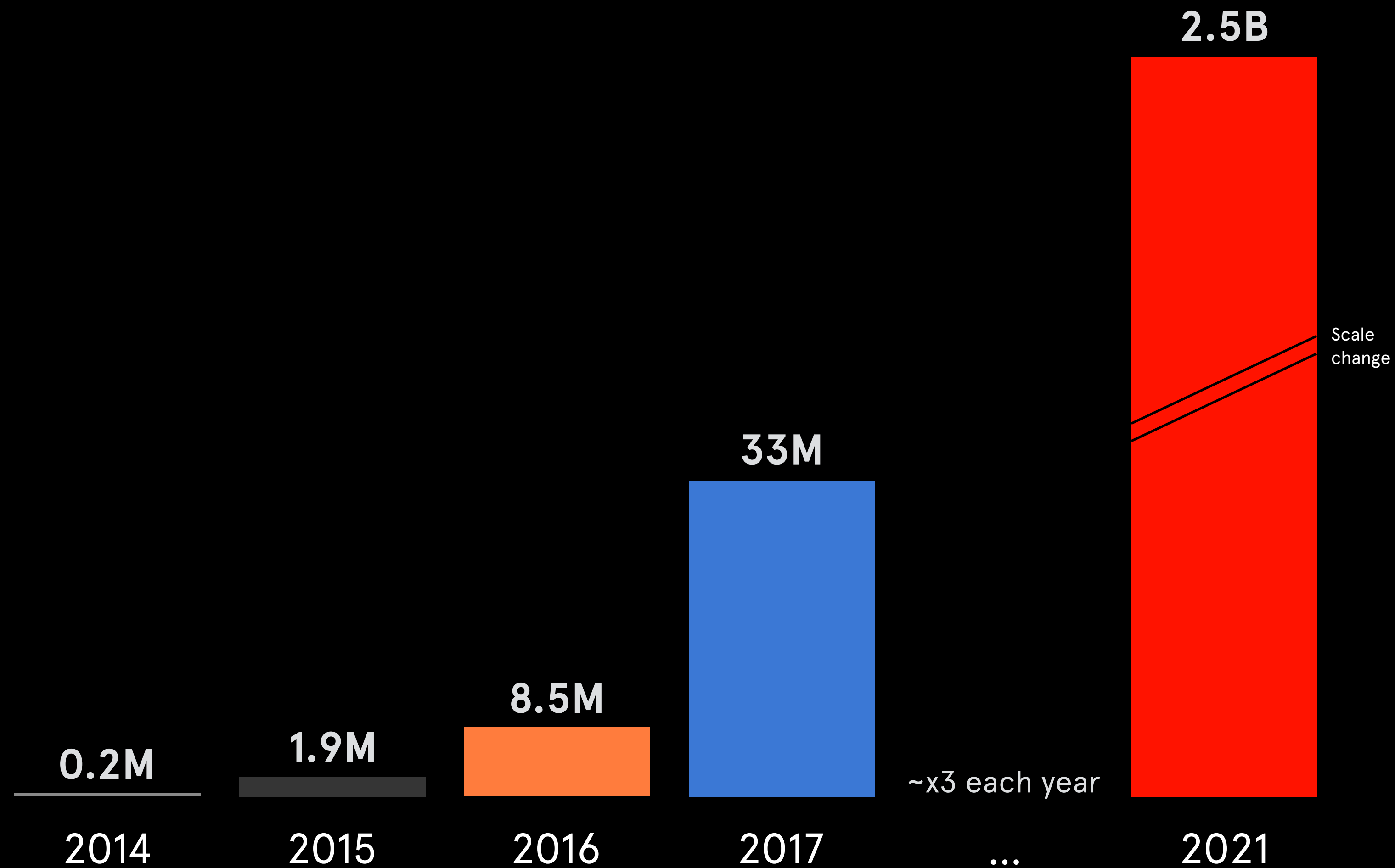
Platforms
+ Consumer Behavior
+ AI
= Disruption

The Next Decade

The voice (r)evolution

Voice is the new major consumer platform

There will be between 2 and 3 billion voice devices by 2021, growing 3x YoY



Source: Voicelabs.co - The 2017 Voice Report
Extrapolation from 2017 based on 2016-2017 YoY growth

Amazon Echo



Google Home



HomePod

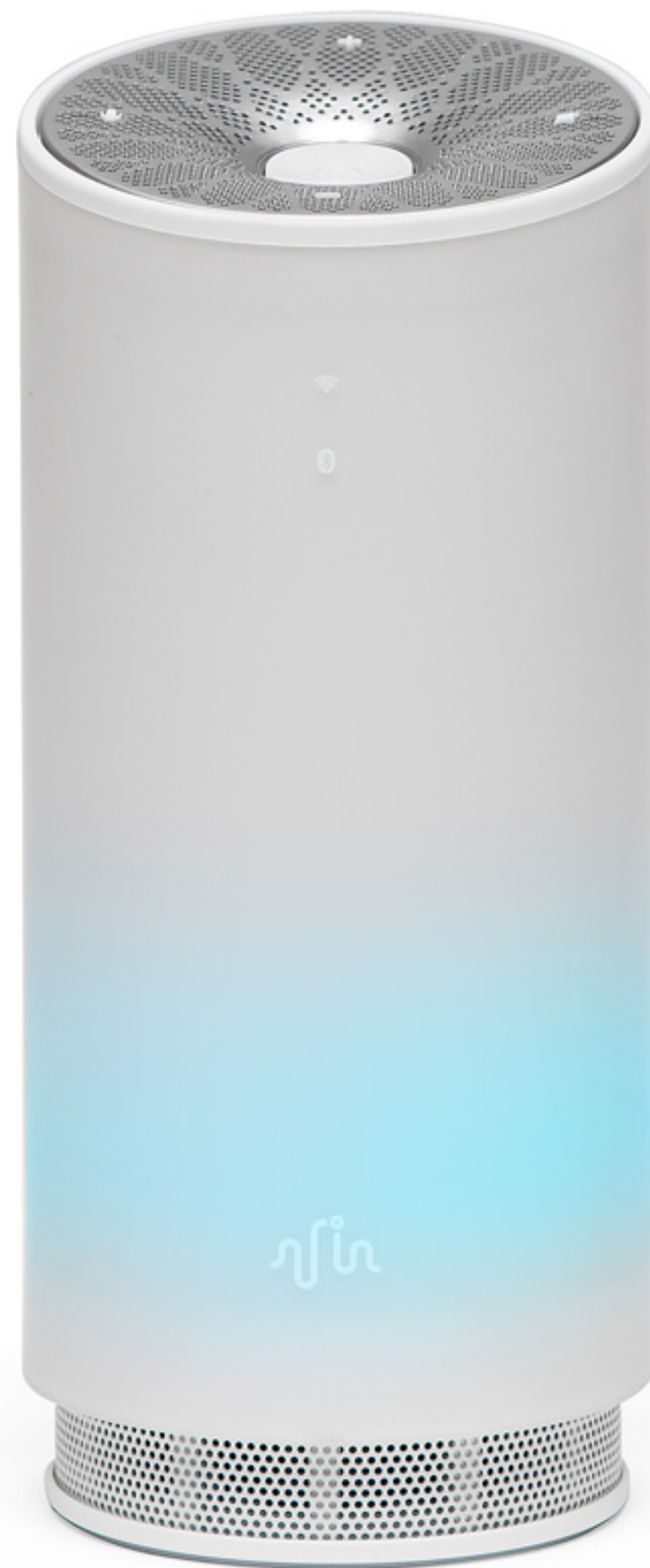


kakao

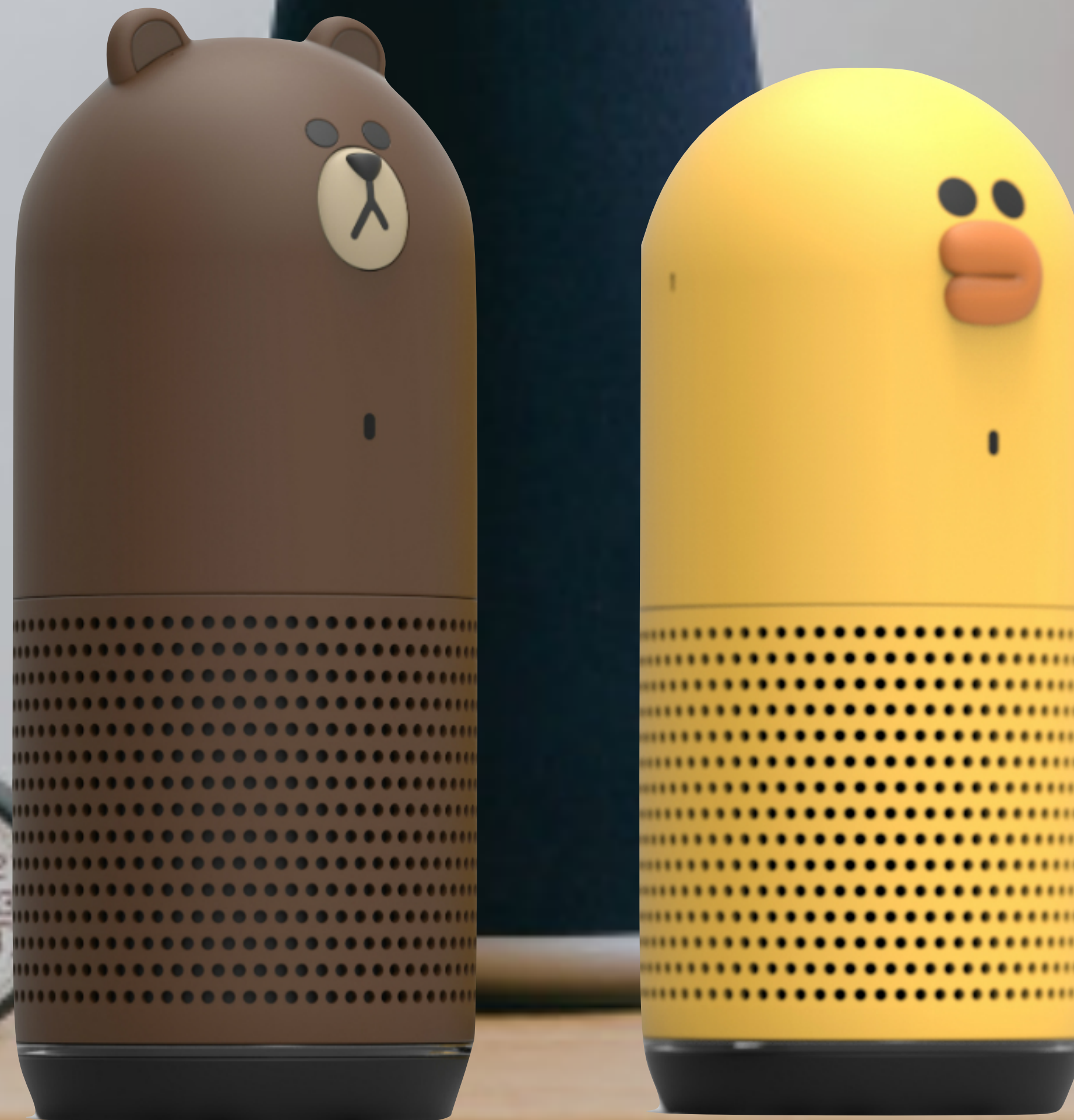


NUGU

인공지능 음성인식 디바이스



Clova[✿]







"Play some Jazz music"

"Crank up the volume!"

"What's the name of this song?"

"Play all songs from the same album"

"Show me the next Breaking Bad episode"

"Take me to the presidential debate"

"Turn up the volume"

"Record this show"

*"Bring up German subtitles
and mute"*



"How far is the nearest gas/recharge station?"

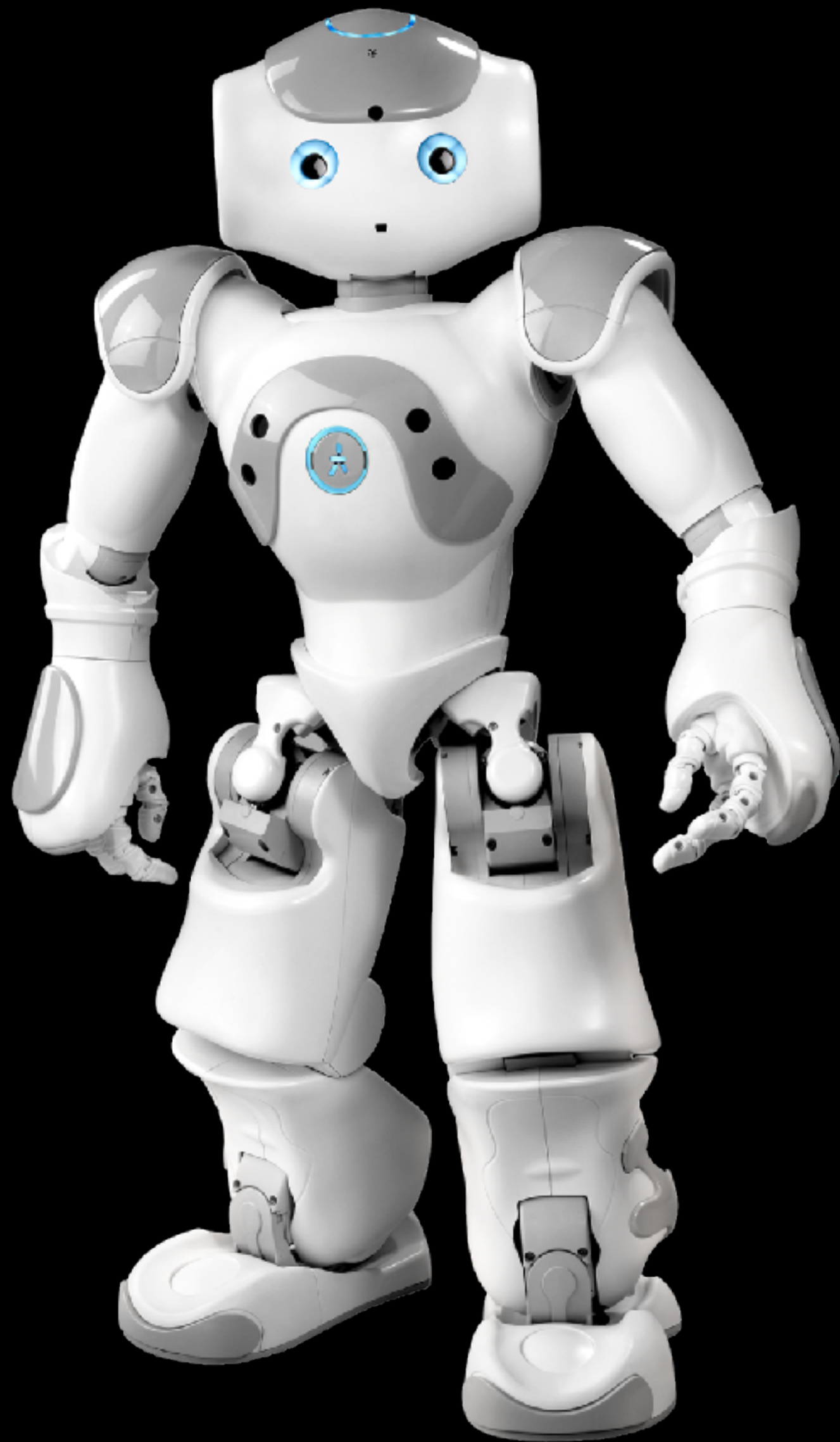
"Take me to my next meeting"

"Activate sport mode"

"Turn up the heat"

*"Road Trip
playlist please"*





*"I need a birthday gift for Mom,
do you have ideas?"*

*"For my homework, I need to know
about Pythagorean Theorem, can
you explain it to me?"*

*"Let's rehearse Romeo and Juliet,
I'll play Juliet"*

Accent, gender, speech style and tone will define the voice of a brand.

And celebrities will lend theirs the Als in products.



The 1 billion dollar question

Are all products and services
doomed to be satellites of one or
few dominating platforms?



Or can they join the revolution
without compromising their
margin, brand, data and privacy?



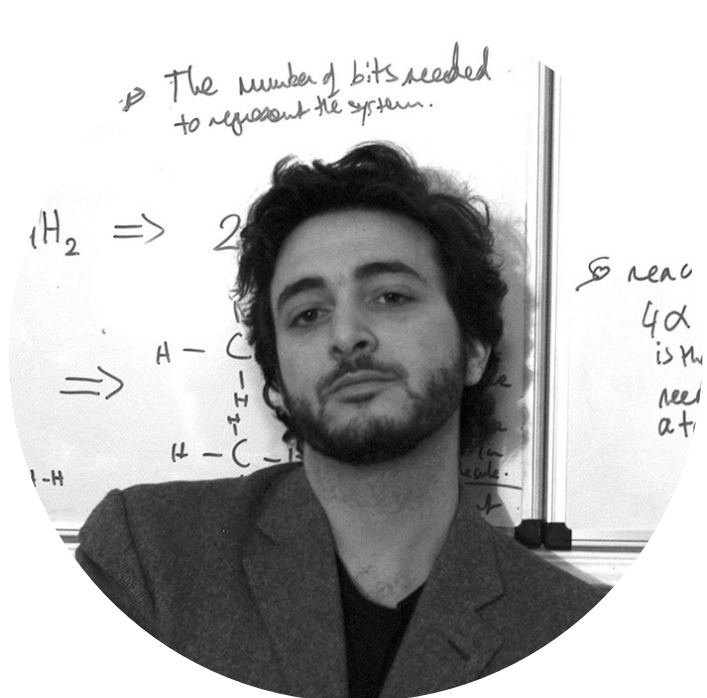
snips



Using Voice to Make Technology Disappear

Our team brings together researchers and entrepreneurs

All are serial entrepreneurs, and founders all did a PhD in AI or maths



Dr Rand Hindi

Founder & CEO

- Coding since age 10
- Founded Planet Ultra at 14 (social network)
- Founded Hinran at 15 (web agency)
- PhD in Bioinformatics (UCL)
- MIT 35 under 35
- Forbes 30 under 30
- Privacy & AI Lead for the French Digital Council



Dr Mael Primet

Founder & CSO

- Coding since age 8
- Co-founded 8pen (keyboard)
- PhD in Machine vision (ENS Paris)
- Ingenieur du Corps des Mines



Michael Fester

Founder & CIO

- Co-founded 8pen (keyboard)
- Founded 3qubits (health apps)
- PhD in Number Theory (Cambridge, pending)
- Gartner Cool Vendor Award
- Rayleigh Knight Prize



Yann Lechelle

COO

- Coding since age 10
- Built a social network on minitel at 17
- Founded Appsfire (app reco, sold)
- Founded Eheryl (social network, sold)
- Founded Kick your App (agency, sold)
- Author OpenUDID, OpenIDFA
- MBA (INSEAD)



Dr Joseph Dureau

CTO

- Co-founded Science.ai (semantic web, TechStars)
- Climatologist at NASA
- Machine Learning researcher at CEA
- PhD Statistics (LSE)

We are the largest European startup specialized in Voice AI

Founded in 2013, offices in Paris and New York. Raised \$21M.



20

Researchers

18

Engineers

2

Designers

10

Business

31

Average age

14

Nationalities

5

Startups exited

1000+

Candidates

Apple, Google, Criteo, NASA, ...

Previous companies

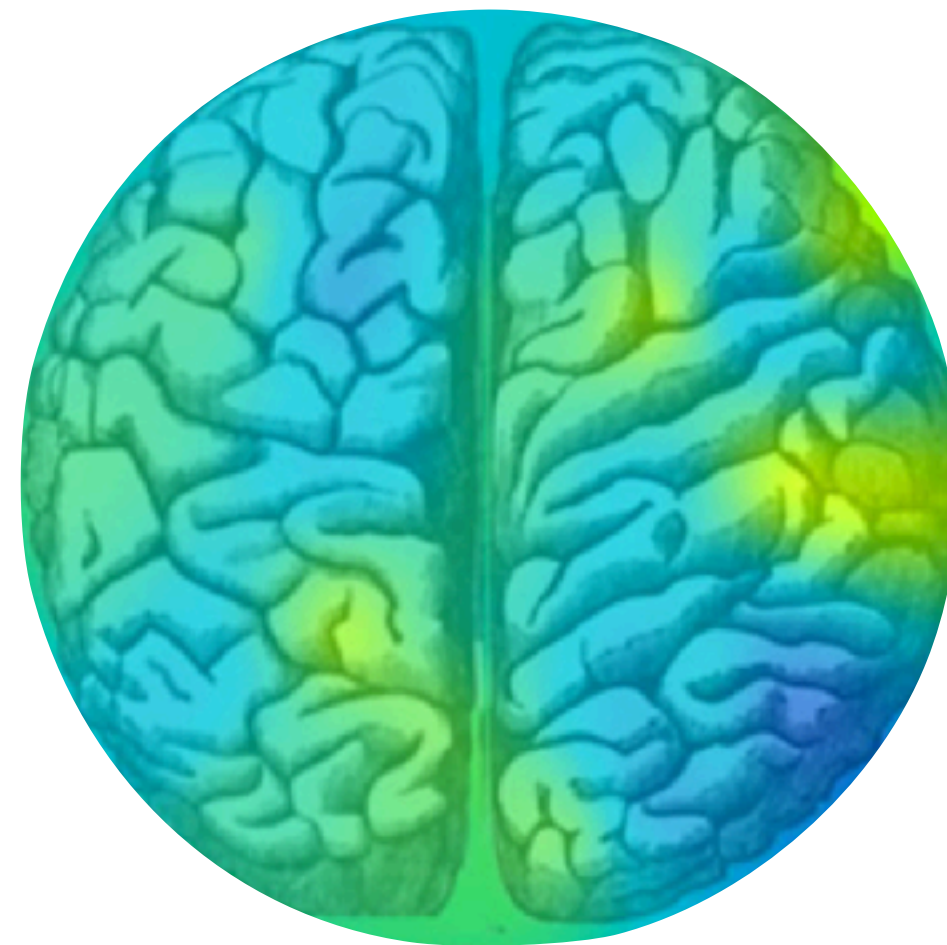


Our mission is to **make technology disappear** by
putting an AI assistant in every device

Speaking to a device is 2x easier than typing on it

This means less friction, and more user engagement with your product

Voice



Low mental
activity

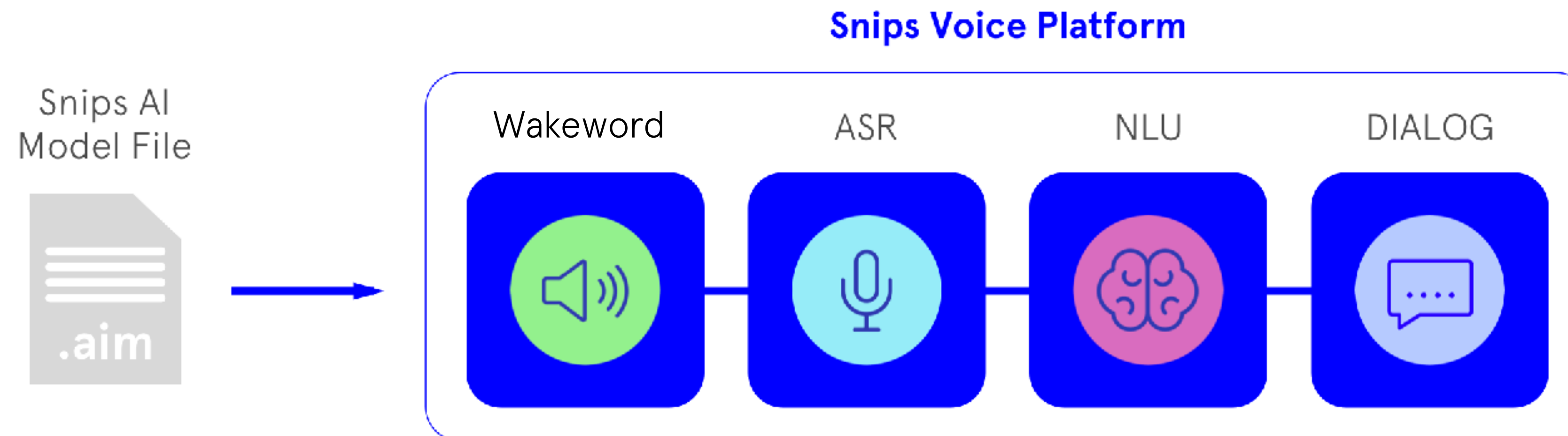
Text



High mental
activity

Snips is an AI Voice platform for connected devices

It includes Hotword Detection, Speech Recognition (ASR), Natural Language Understanding (NLU) and Dialog. It runs 100% on-device, and is **private-by-design**.



It is the only GDPR-compliant Voice platform on the market

By doing Deep Learning directly on device, we don't have to send any user data to the cloud



On-device



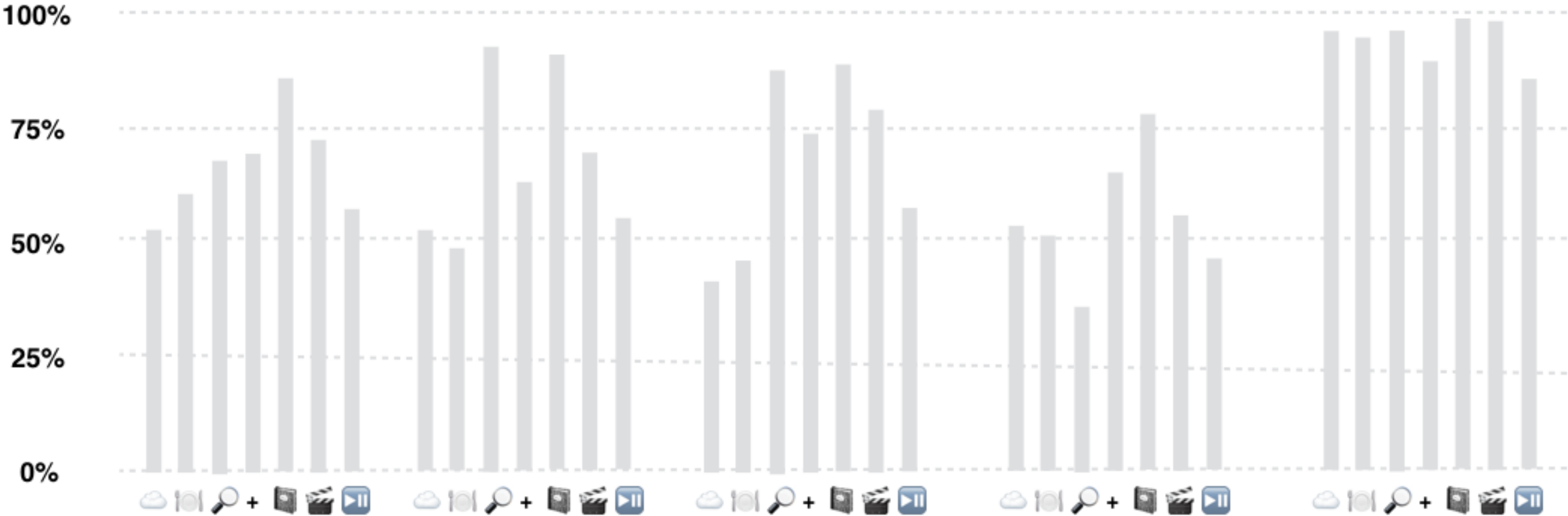
In a smart hub

Edge Computing



on-premises licensing possible as well

Slot filling F1-score



71%



73%



69%



56%



93%

Snips is fast, offline, cross-platform, and lightweight

Runs on Raspberry Pi equivalent — OS: Yocto, Linux, macOS, iOS and Android

ASR

Real Time

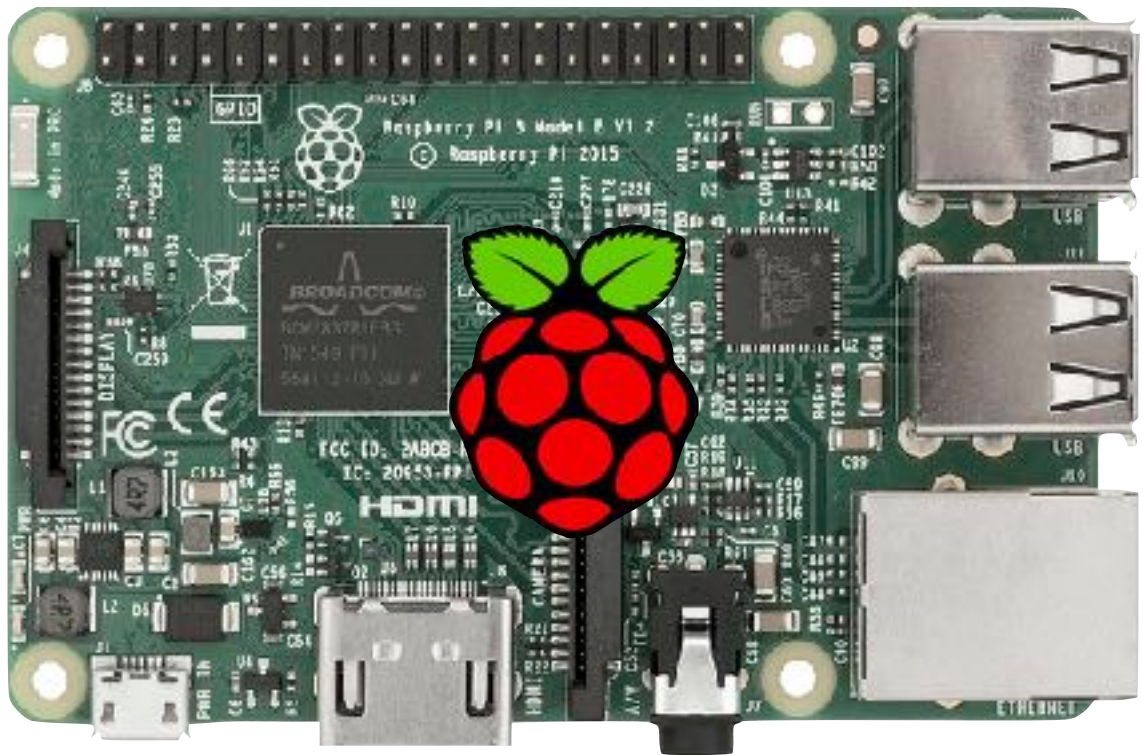
NLU

< 100ms



Hotword + ASR + NLU

CPU	ARM CortexA7 @1GHz (4500 DMIPS equivalent)
RAM	<ul style="list-style-type: none">- ASR: 100MB- Intents: 2-3MB / intent
Disk	<ul style="list-style-type: none">- ASR: 30MB- Intents: 2MB / intent





Launched June 2017

10k developers joined

20k assistants created



March 2018

NLU Engine

Open Sourced

👁 Watch ▼

53

★ Star

856

🔗 Fork

34

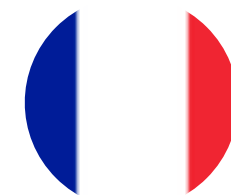
It is available in multiple languages, with more added monthly

We invented a way to generate synthetic data to train our models, without relying on real users

Languages available today



English



French



Spanish



German



Korean

Languages under development



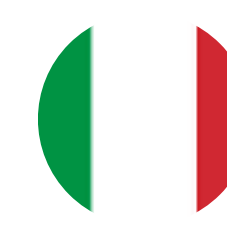
Japanese



Chinese



Arabic



Italian



Russian



Portuguese

snips +  keecker



Quick recap: why Snips?

The next generation voice controller with the following benefits:



GAFA independent,
No cloud



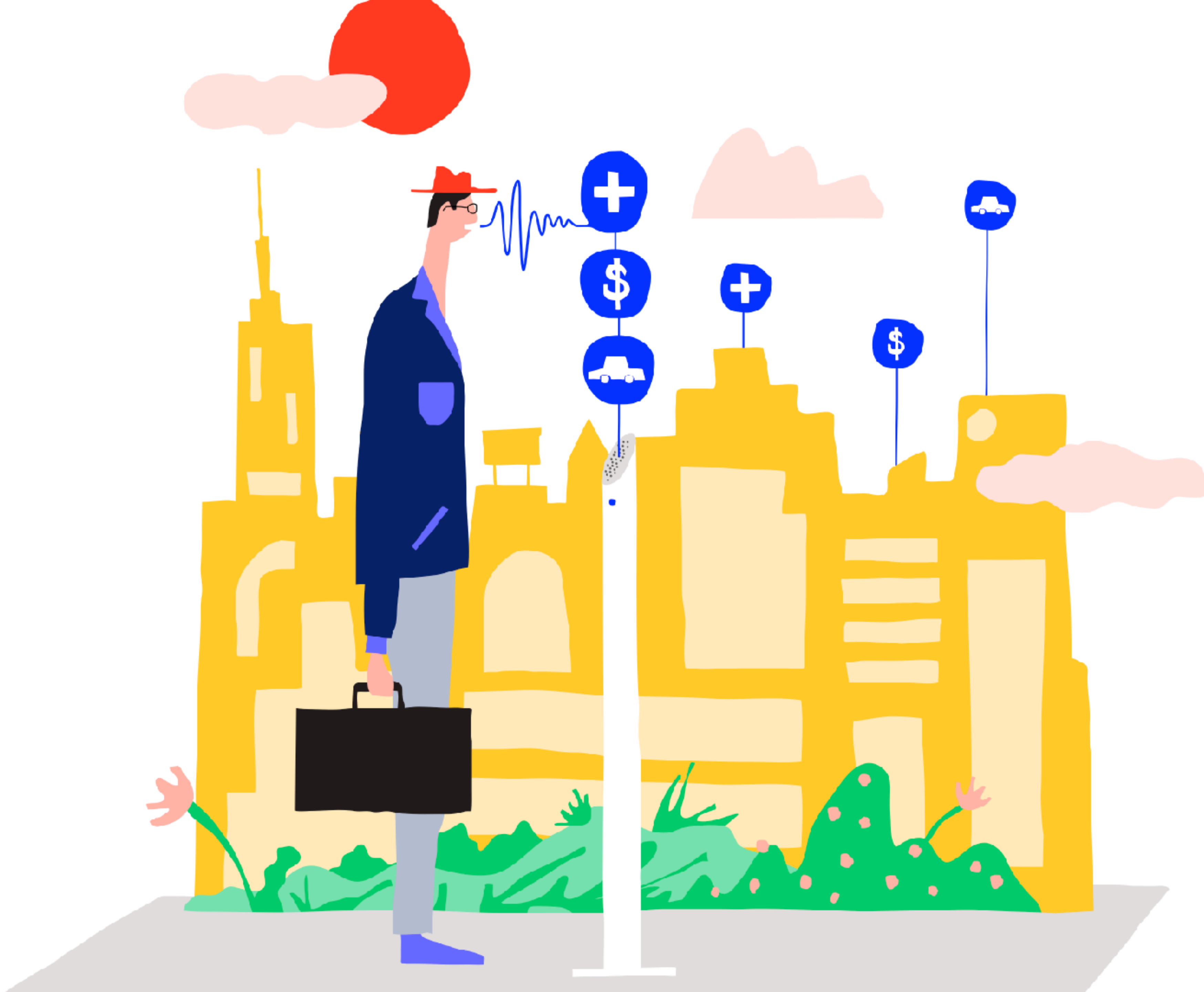
High-performance,
customizable NLU



Private-by-Design,
GDPR compliant



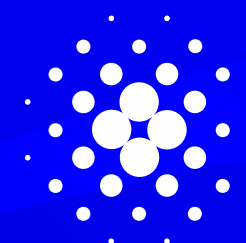
Fixed, per device
pricing



Merci!

Snips France

18 rue Saint-Marc
75002 Paris



Snips USA

33 Greene Street
10013 New York

LECHELLE Yann
yann.lechelle@snips.ai
[@ylechelle](#)