

DRESSCODE

express yourself

The 5th Industrial Revolution.

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#1 Artificial Intelligence
AI /Machine Learning / Deep Learning



#2 Internet of Things
IOT, IIOT, Sensors & Wearables



#3 Mobile/Social Internet
Advancements - Search/Social/Messaging/Livestreams



#4 Blockchain
Distributed Ledger Systems, Apps, Infrastructure, Technologies + Cryptocurrencies & DApps



#5 Big Data
Apps, Infrastructure, Technologies + Predictive Analytics



#6 Automation
Information, Task, Process, Machine, Decision & Action



#7 Robots
Cons./Comm./Indus., Robots, Drones & Autonomous Vehicles



#8 Immersive Media
- #VR/ #AR/ #MR/ 360°/ Video?Gaming



#9 Mobile Technologies
Infrastructure, networks, standards, services & devices



#10 Cloud Computing
SaaS, IaaS, PaaS & MESH Apps



#11 3D Printing
Additive Manufacturing & Rapid Prototyping



#12 CX
Customer Journey, Experience Commerce & Personalization



#13 EnergyTech
Efficiency, Energy Storage & Decentralized Grid



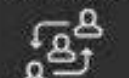
#14 Cybersecurity
Security, Intelligence Detection, Remediation & Adaptation



#15 Voice Assistants
Interfaces, Chatbots & Natural Language Processing



#16 Nanotechnology
Computing, Medicine, Machines + Smart Dust



#17 Collaborative Tech
Crowd, Sharing, Workplace & Open Source Platforms & Tools



#18 Health Tech
Advanced Genomics, Bionics & Health Care Tech.



#19 Human-Computer Interaction
Facial/Gesture Recognition, Biometrics, Gaze Tracking



#20 Geo-spatial Tech
GIS, GPS, Mapping & Remote Sensing, Scanning, Navigation



#21 Advanced Materials
Composites, Alloys, Polymers, Biomimicry, Nanomanufacturing



#22 New Touch Interfaces
Touch Screens, Haptics, 3D Touch, Paper, Feedback & Exoskeletons



#23 Wireless Power

Bio-/Enviro-Materials + Solutions, Sustainability, Treatment & Efficiency



#24 Clean Tech



#25 Quantum Computing
+ Exascale Computing



#26 Smart Cities
+ Infrastructure & Transport



#27 Edge/Computing
+ Fog Computing



#28 Faster, Better Internet

Broadband incl. Fiber, 5G, Li-Fi, LPN and LoRa



#29 Proximity Tech

Beacons, RFID, Wi-Fi, Near-Field Communications & Geofencing



#30 New Screens
TVs, Digital Signage, OOH, MicroLEDs & Projections

THE 30 TECHNOLOGIES OF THE NEXT DECADE

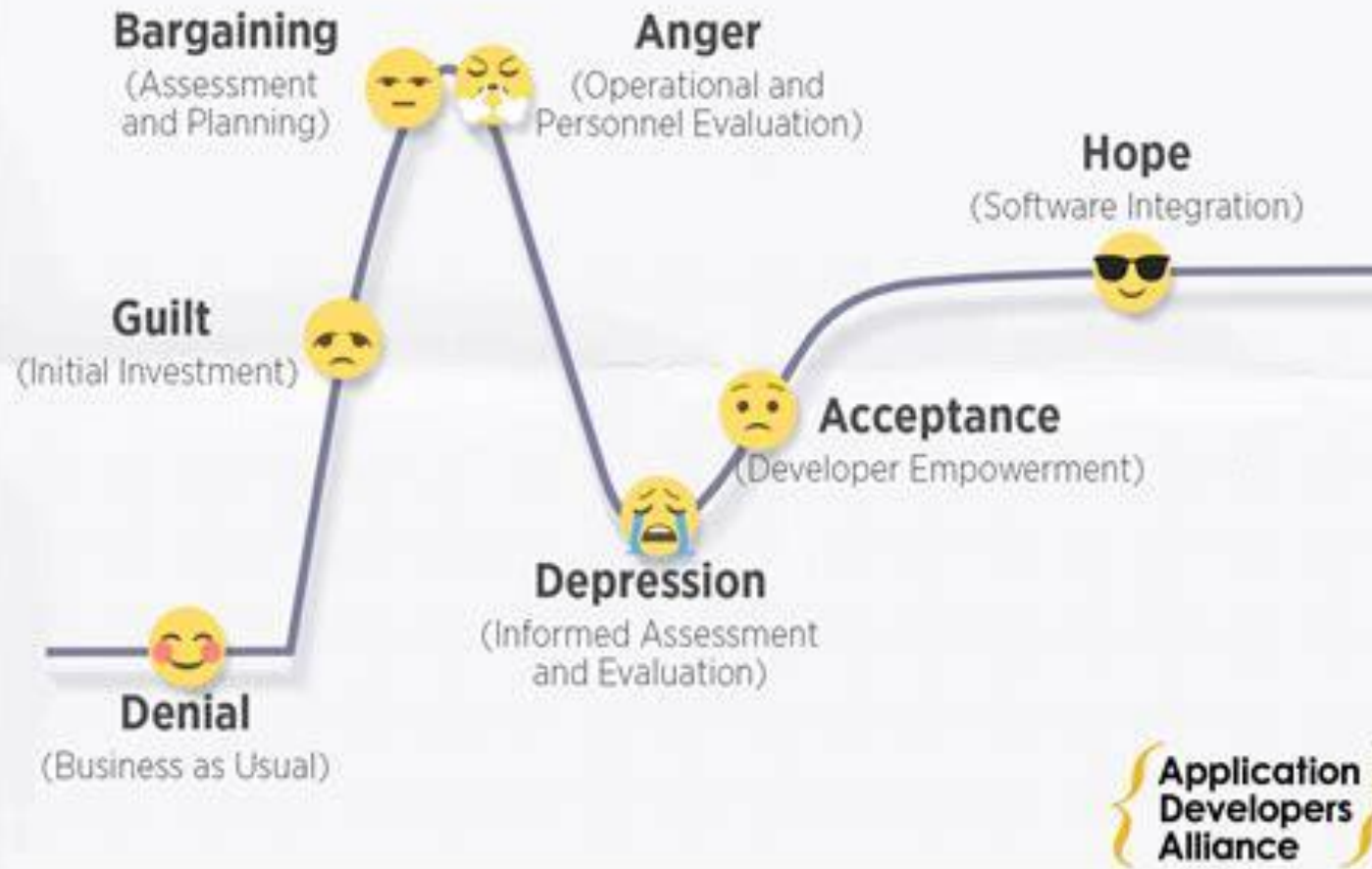


Created by: Sean Moffitt @seanmoffitt, Managing Director, @Wikibrands

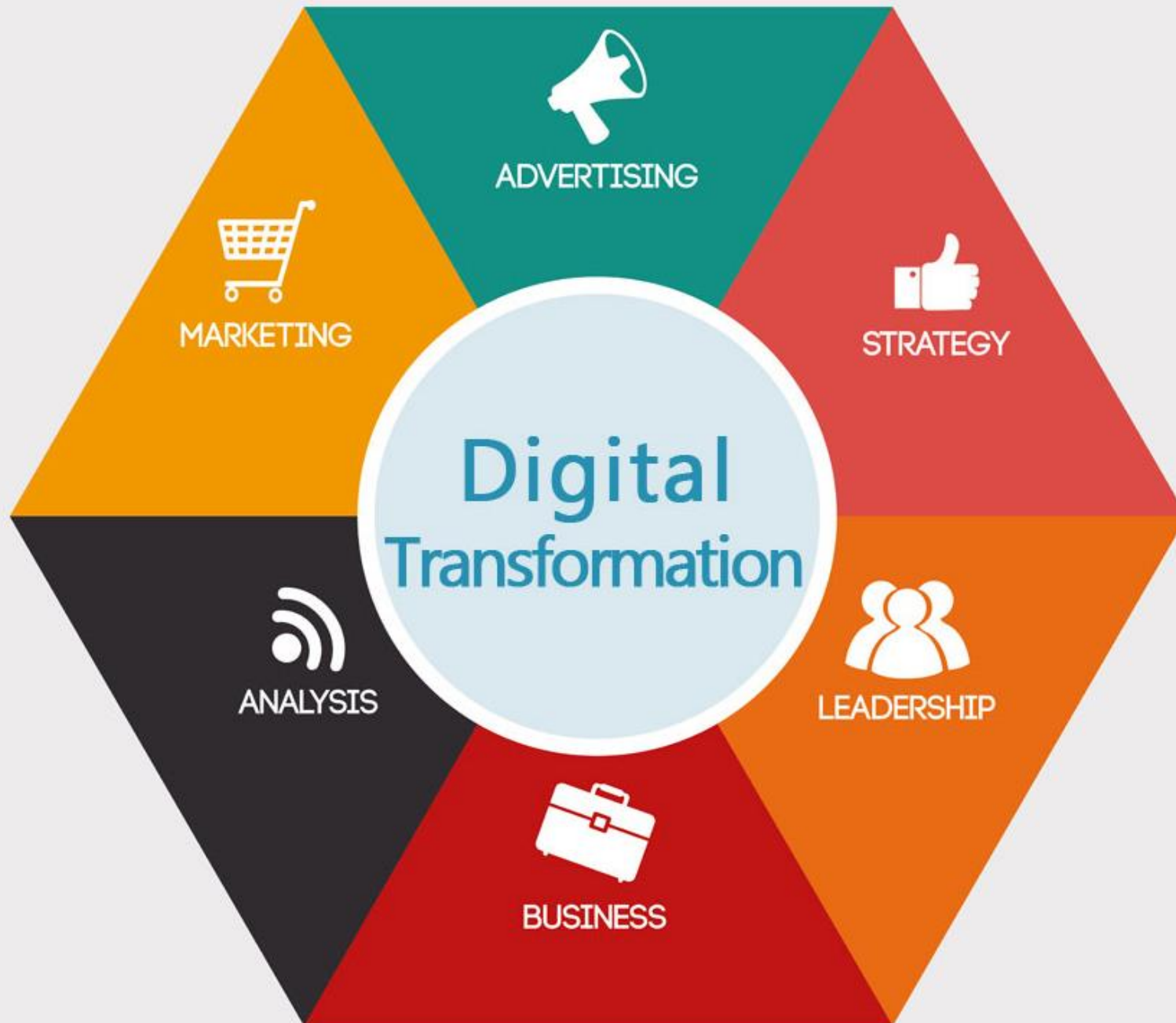


DIGITAL TRANSFORMATION

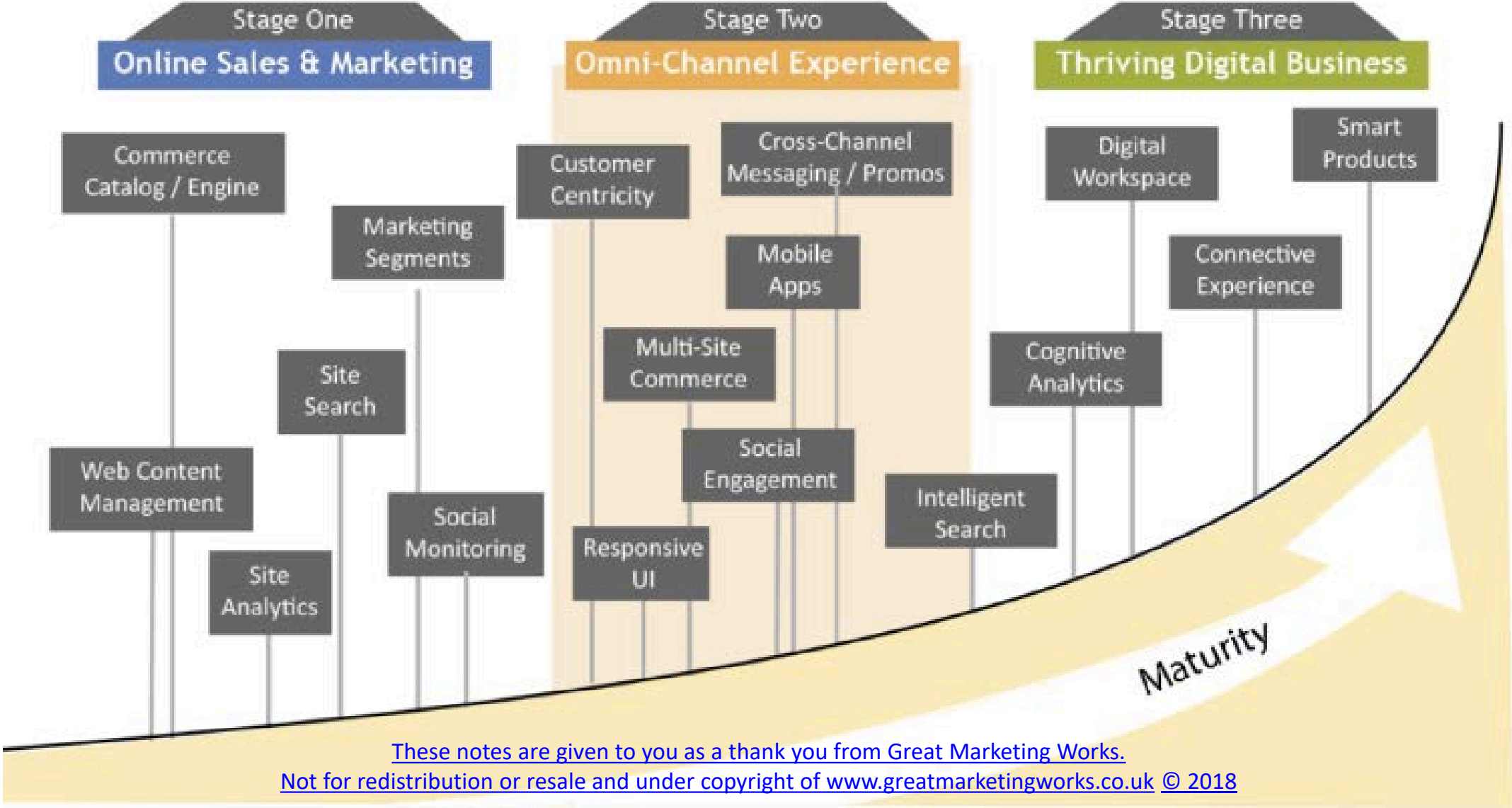
The 7 Stages



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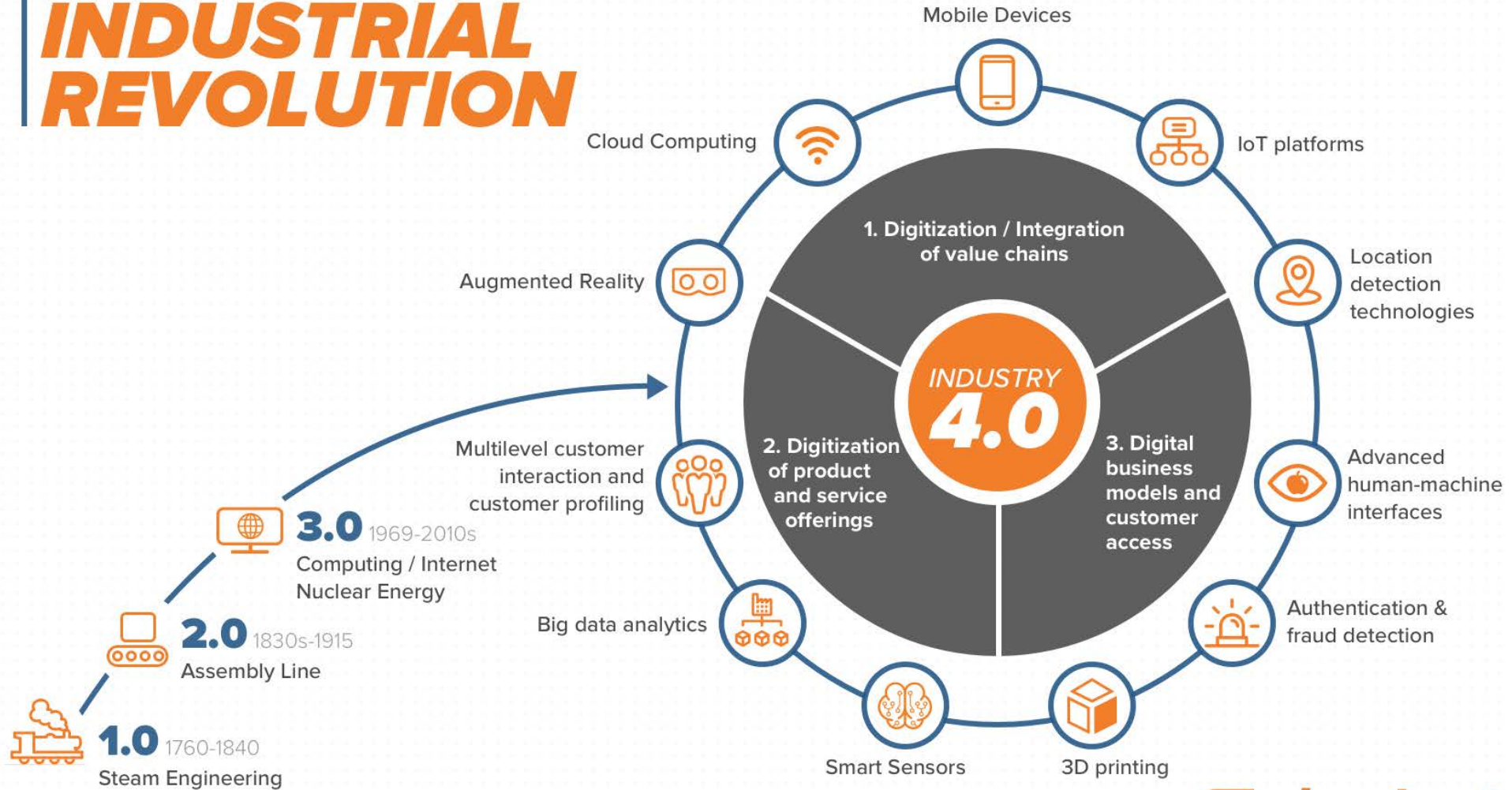


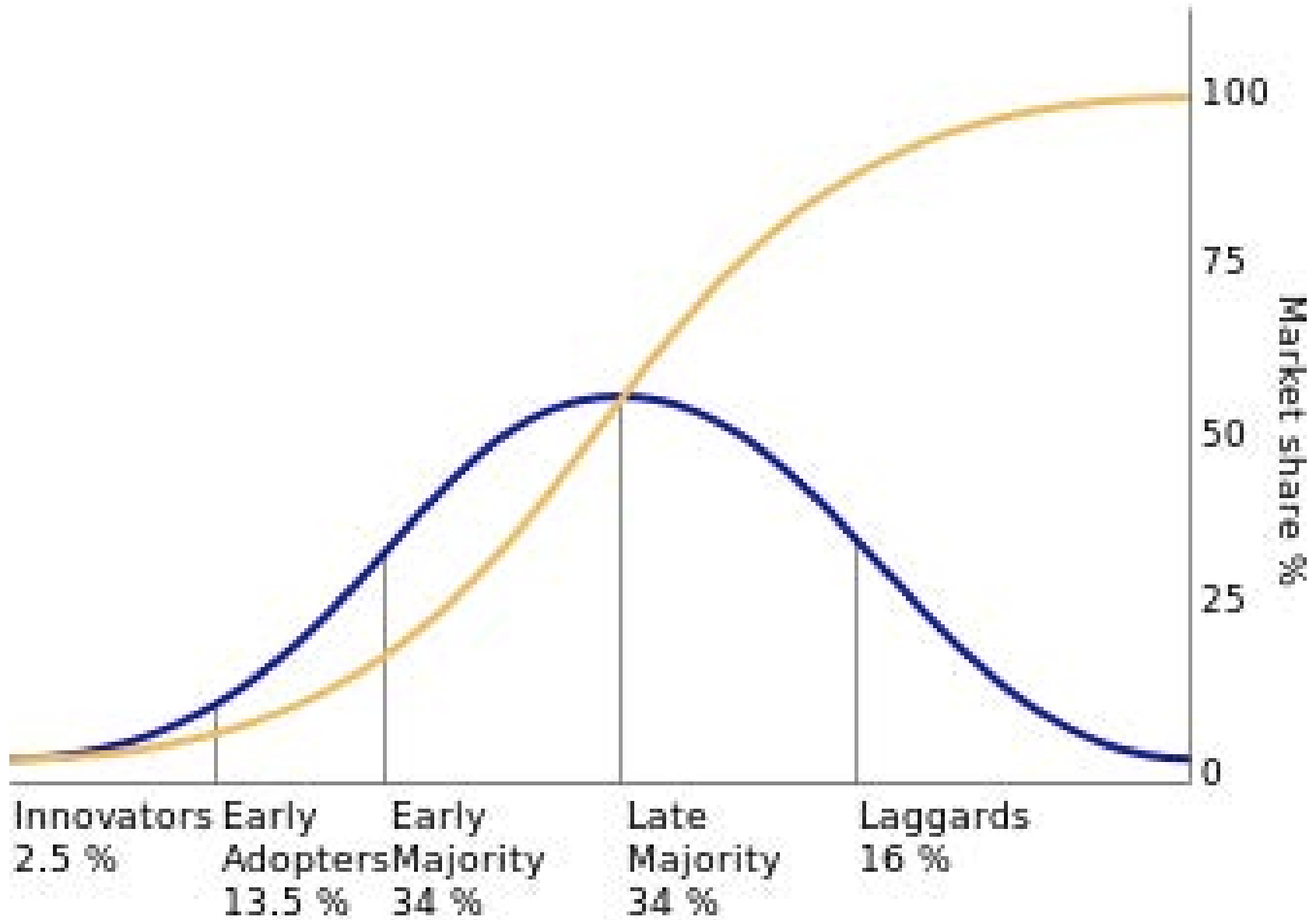
Sirius Digital Transformation Journey



THE DAWN OF THE

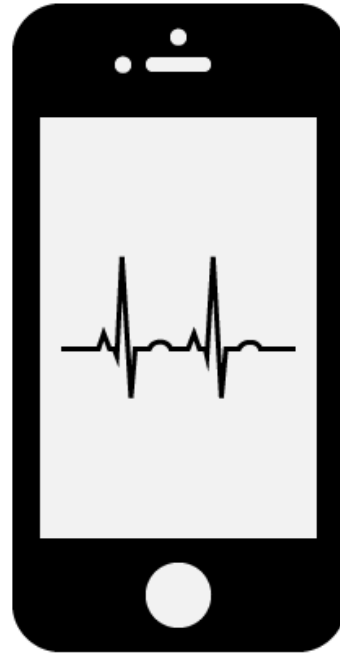
FOURTH INDUSTRIAL REVOLUTION



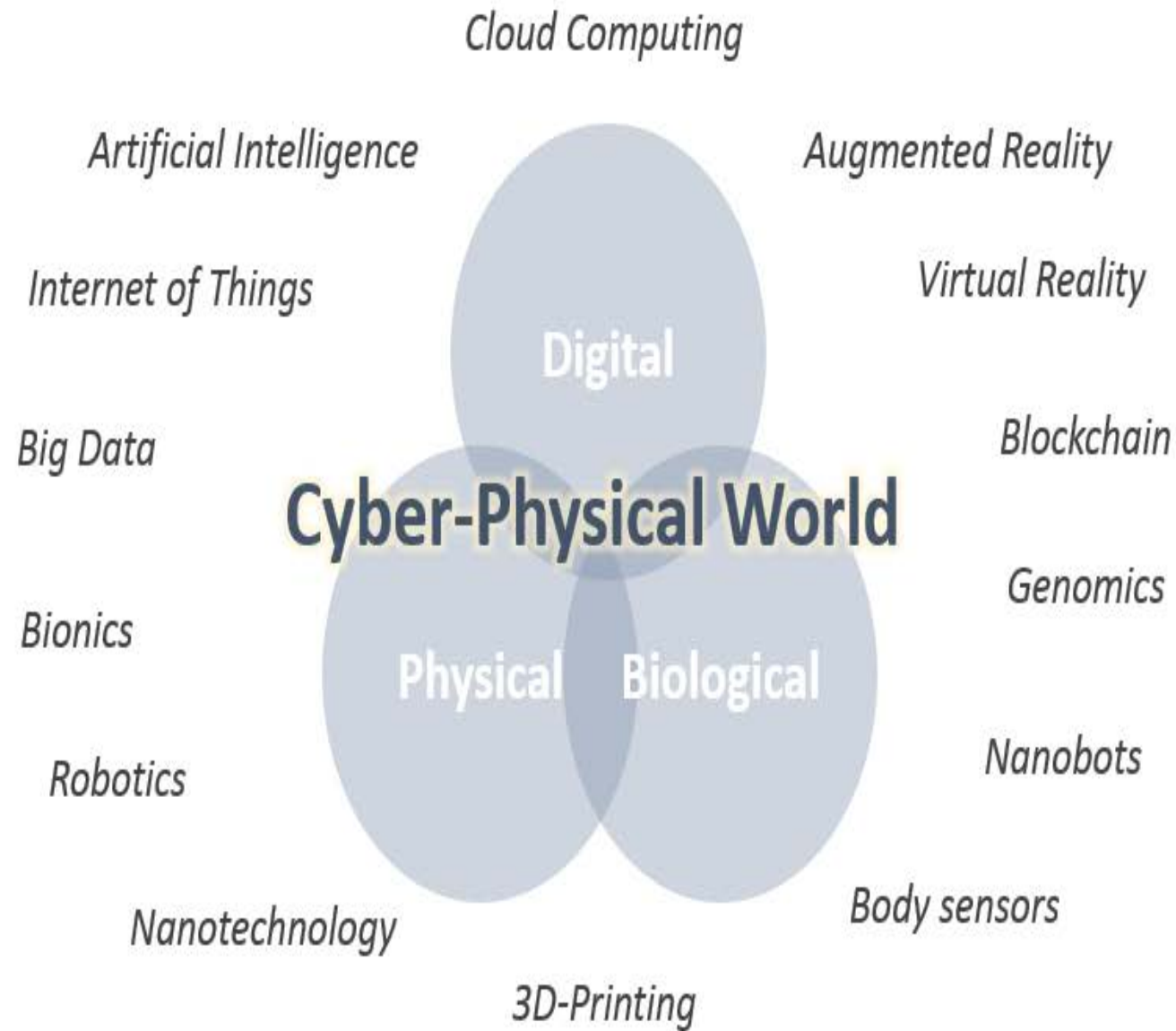


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Macro Trends

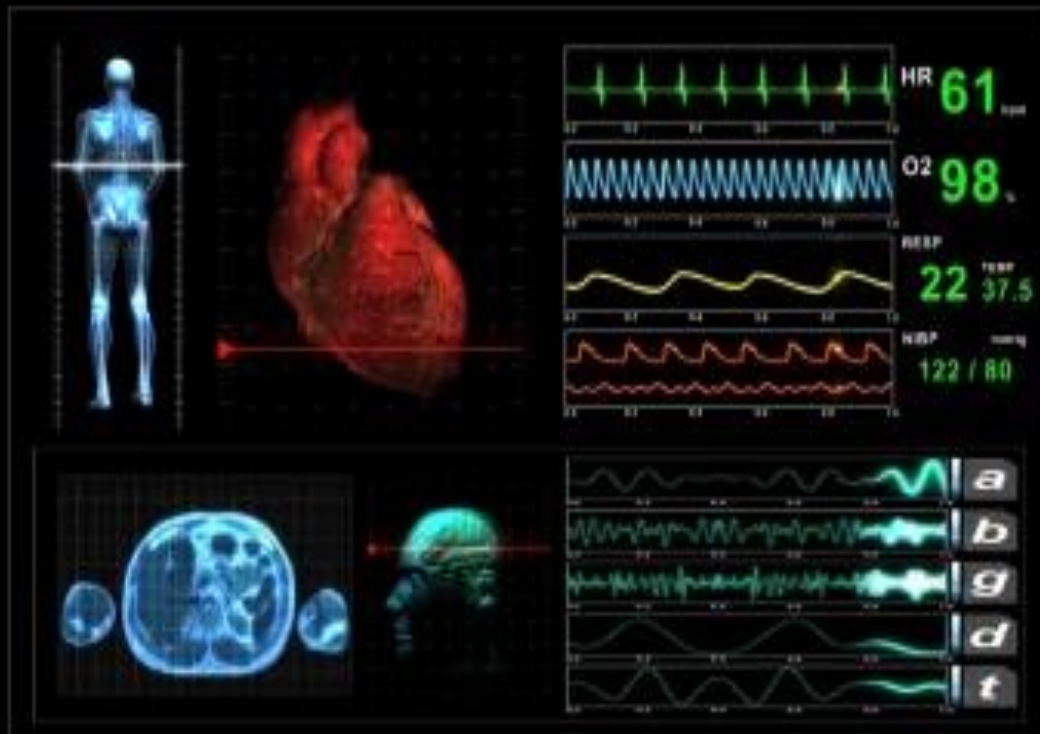


QUANTIFIED SELF

IS SELF KNOWLEDGE THROUGH NUMBERS

Food, exercise, activity, heart rate, brain waves, blood values, sleep, mood, cognition, productivity, microbiome, DNA.

Sensors, wearables, implants, lab tests & self-measurements.



WHAT ARE THE DOMAINS OF BIOHACKING?



Photo: www.biohackingbook.com



Photo: www.hintsa.com

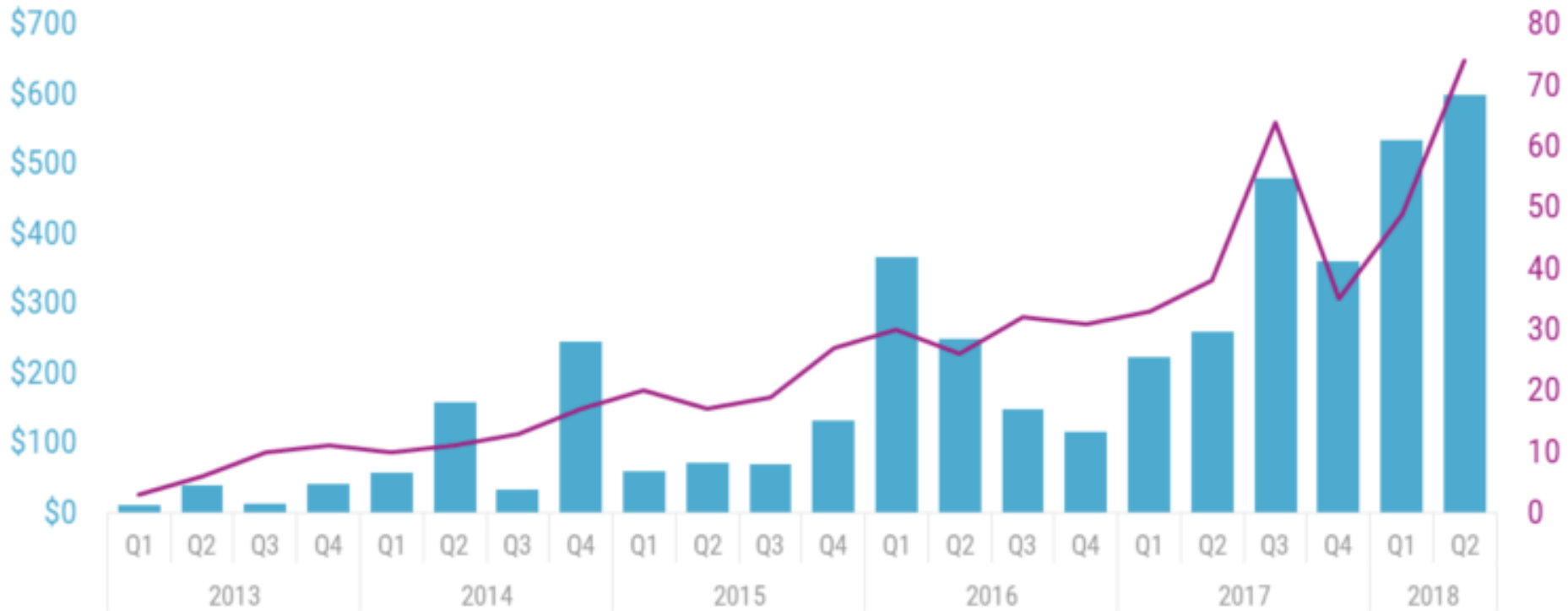


AI in healthcare funding hit a historic high in Q2'18

Disclosed equity funding, Q1'13 – Q2'18

Equity funding (\$M)

Equity deals



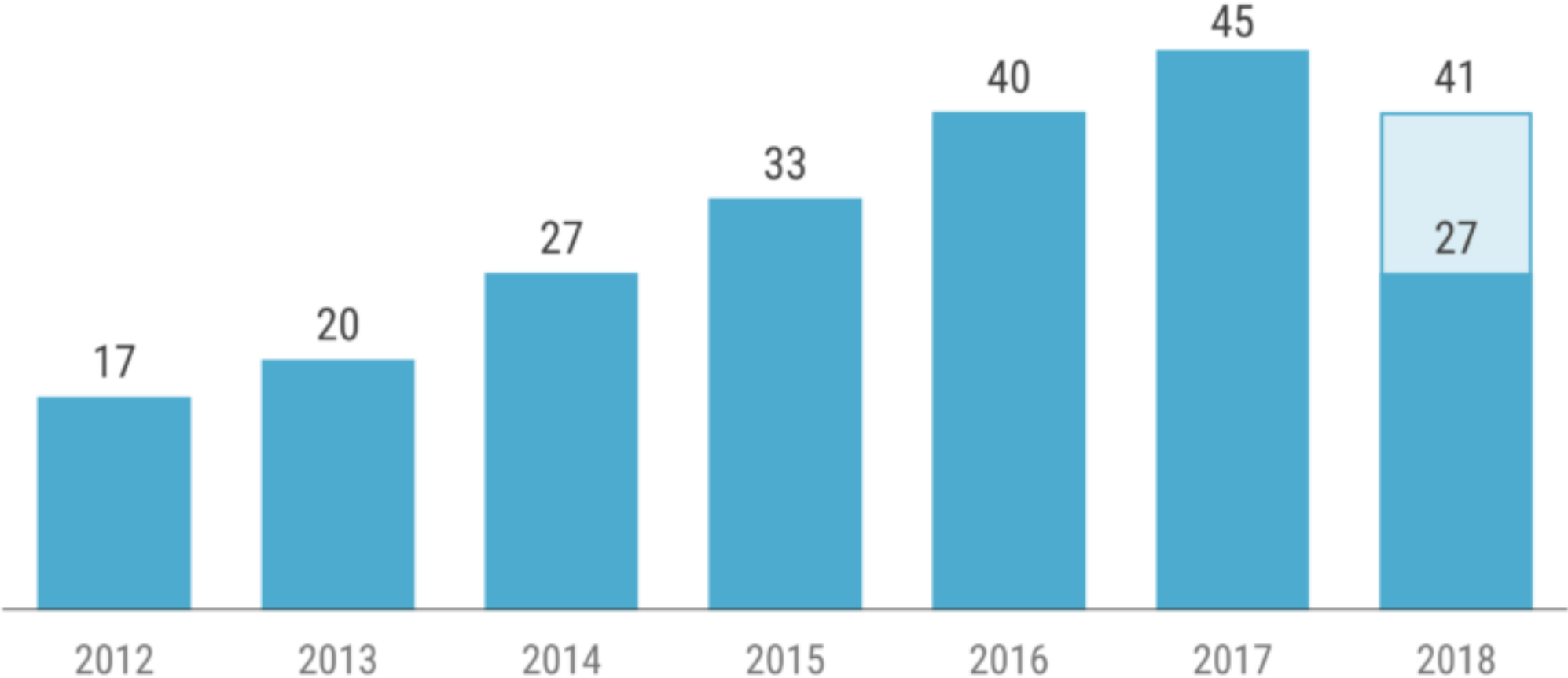
Source: cbinsights.com



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ANNUAL TECH PARTICIPATION IN HEALTHCARE

Number of healthcare deals. 2012 – 2018 YTD (9/6/18)



Source: cbinsights.com

In the first eight months of 2018, record amounts of VC funding have made their way to healthcare startups. [Over \\$20 billion has been invested, according to a Pitchbook analysis, marking an almost 60% increase in funding to industry startups year-over-year.](#) It shows, despite the deep missteps of supposed-superstar Theranos, investor trust in healthcare startups is steady.

[One Medical](#) is a standout example, the only U.S.-based healthcare company to hit unicorn status [so far this year](#). After closing a \$350 million investment from The Carlyle Group in August, the company's valuation jumped to \$1.5 billion.

Founded in 2007, One Medical provides both primary and same-day healthcare in boutique offices, using its app to offer patients 24/7 access to medical professionals. It's raised more than \$550 million to-date and opened 72 locations around the country. While some investors thought One Medical may be poised for an IPO this year, the company remains private.

Other healthcare companies cashing in

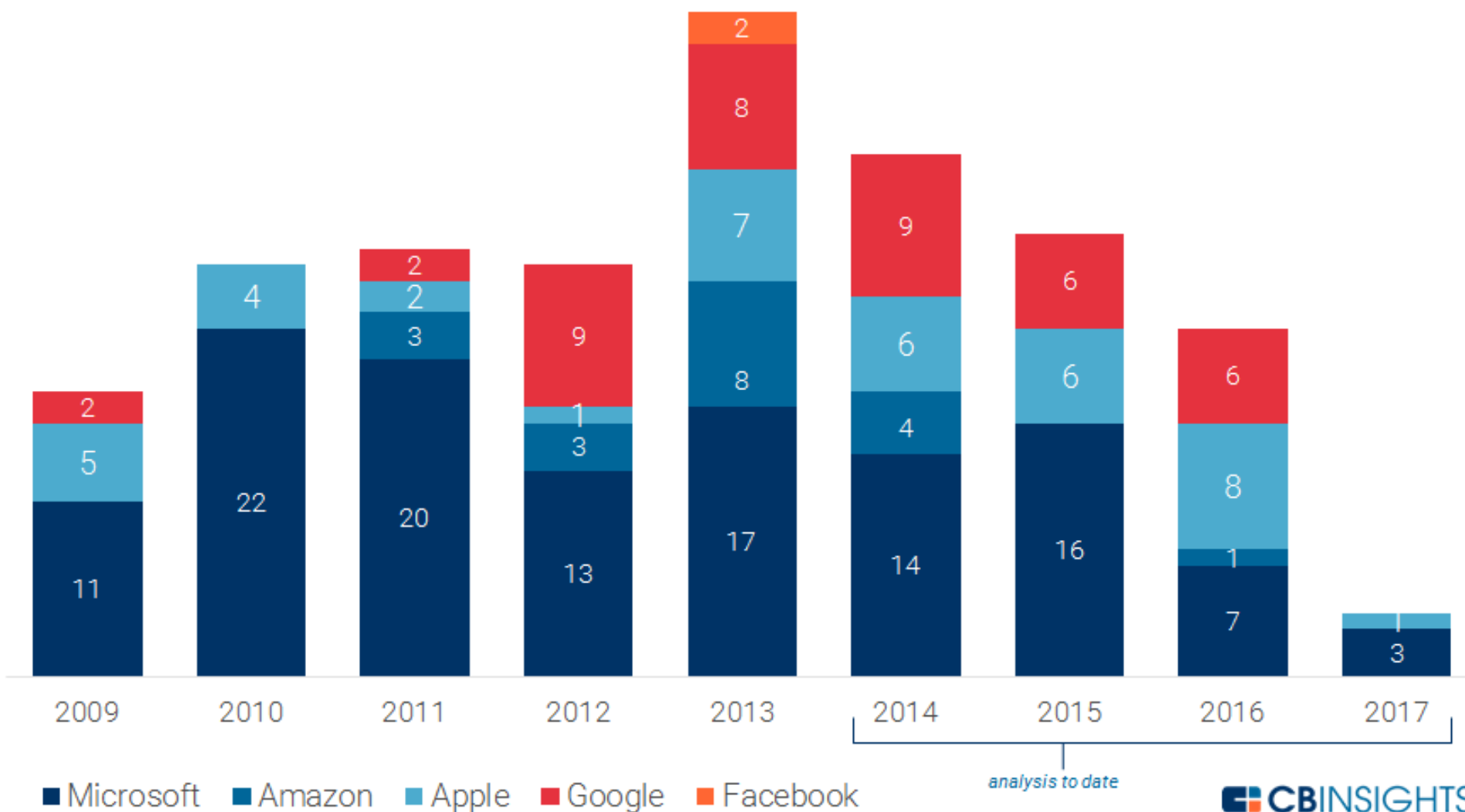
[Ginkgo Bioworks](#) designs DNA, with a speciality in cells for fragrance, food and pharma companies. Founded in 2009 by MIT scientists, Ginkgo bootstrapped its way for five years. It raised \$275 million in December 2017, which brought its funding total to more than \$420 million and catapulted the company to unicorn status. A promising prospect: Ginkgo partnered with biotech Synlogic at the end of last year to create microbes that could treat diseases in the human gut.

[Moderna Therapeutics](#) is working to create a new type of drug — one that teaches your own cells how to have therapeutic effects or prevent diseases. While still private, the company's \$500 million round in February boosted its valuation to \$7 billion. It was founded in 2010 and is among the most valuable VC-backed biotech companies in the U.S. today.



Healthcare patent application activity, Apple vs. Microsoft, Amazon, Facebook, Google

2009 - 2017 YTD (11/10/17)



Big Tech Healthcare Investments By Sector Over Time

2012 – 2018 YTD (9/6/18)

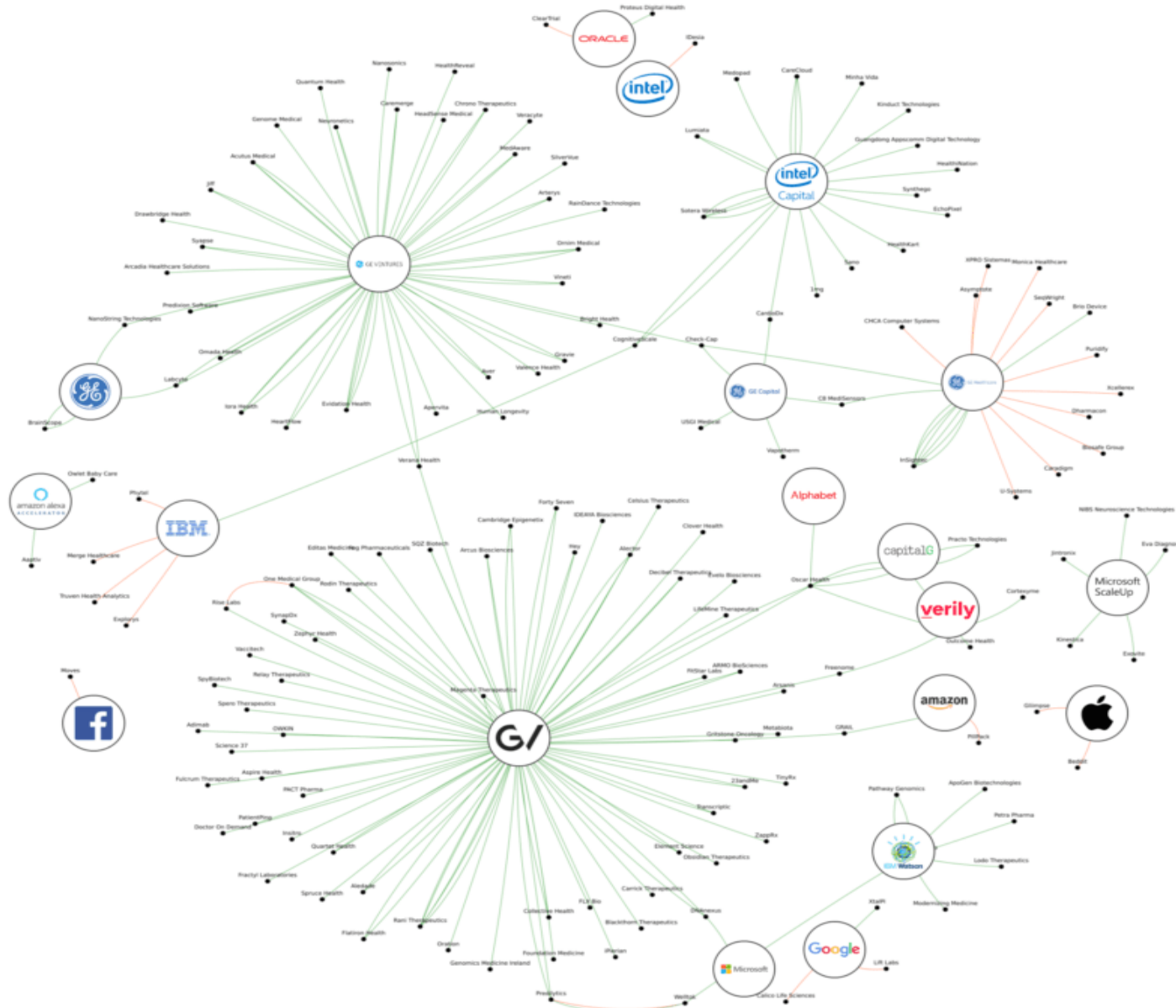
Category	Q1'12	Q2'12	Q3'12	Q4'12	Q1'13	Q2'13	Q3'13	Q4'13	Q1'14	Q2'14	Q3'14	Q4'14	Q1'15	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Total
Internet Software & Services		1	2	1	1	1	2		2	2	1		2	2	2	2	2	2	1	2	2	2	1	2	2	1	2	54
Medical Devices & Equipment	1	2	2	1	2	2	2		2	1	2	1	1	1	1	1	2		2			1	1	2				37
Biotechnology			1	1		1	1		1			2		2	1		1	1	1	2	2	2	2	2	2	2	2	36
Mobile Software & Services			1	1		1		1	1		2	2	1				1	1	1			2				1	1	15
Healthcare Software		1						1	1		1	2					1	1	1		1	1				2	1	13
Medical Facilities & Services					1			1	1	1			1			1				2	2	2				1	1	13
Disease Diagnosis			1	1			1							1	1		1				2	2		1				10
Drug Development			1	1											1		1	1	1	2	2	2	2	2	2	2	2	9
Drug Delivery							1		1				1	1			1		1				1	1	1	1	1	7
E-commerce					1						1		1			1												4
Drug Discovery		1											1							1			1	1	1			3
Consumer Electronics													1						1									2
Insurance															1										1			2
Business Intelligence, Analytics & Performance Mgmt Software											1																	1
Health & Wellness (non-internet/mobile)								1																				1
Medical Equipment & Supplies					1																							1
Pharmaceuticals / Drugs																										1		1
Total	1	6	5	5	6	5	7	2	10	5	6	6	10	8	9	6	14	7	9	10	13	12	8	12	10	11	6	209

Source: cbinsights.com



TECH GIANTS INVESTING IN HEALTHCARE

2012 – 2018 YTD (9/6/18)



Source: cbinsights.com

New technique could see humans live to 150

Like 92

Tweet

Posted on Sunday, 2 September, 2018 | 12 comments



Is it possible to reverse the aging process ? Image Credit: CC BY-SA 3.0 CSIRO

A revolutionary new regenerative treatment that can extend human life could begin clinical trials by 2020.

Developed by Harvard Professor David Sinclair and colleagues at the University of New South Wales, the process involves regenerating the human body by reprogramming its cells.

In addition to extending human life, the technique also has the potential to regenerate organs, cure paralysis and even make older people fertile again.

The treatment, which could cost as little as the price of a cup of coffee per day, is estimated to become available to the general public within as little as five years.

The key to its effectiveness lies in the molecule nicotinamide adenine dinucleotide (NAD), which is already used today to help treat patients with Parkinson's Disease.

According to Professor Sinclair however, the research still needs to undergo testing and peer review.

"We do not recommend people go out and take NAD precursors as they have not yet formally tested for safety," he said.

It is expected that human testing of the new treatment will begin within the next two years or so.

Whether it is really as effective as claimed however remains to be seen.

FEES

ON UNBEATABLELY LOW











TRAIN FARES

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ARRIVA Trains Wales
Trenau Arlle Cymru
a company of the group

Trending news stories

1 week 2 weeks 3 weeks 1 month

-  FBI mysteriously evacuates space observatory 9-13-2018
-  Observatory provides update on FBI closure 9-14-2018
-  'Invisible car' illusion baffles the Internet 9-14-2018
-  SETI picks up 72 signals from distant galaxy 9-11-2018
-  New fish species found in the Atacama Trench 9-11-2018
-  Antarctic village requires appendix removal 9-15-2018
-  Huge pot of gold found under Italian theater 9-12-2018
-  Cow with three horns filmed at a farm in Brazil 9-13-2018
-  800 tombs unearthed in Egyptian necropolis 9-15-2018
-  Scientists solve mummified penguins mystery 9-12-2018

Other news in this category

-  BMW has invented a self-riding motorcycle 9-16-2018
-  Scientists solve mummified penguins mystery 9-12-2018
-  DARPA develops telepathic drone control 9-10-2018
-  Young blood could keep older people healthy 9-9-2018
-  Wind turbines could transform the Sahara 9-7-2018

APPLE'S ADVANTAGE: NON HEALTHCARE REVENUE

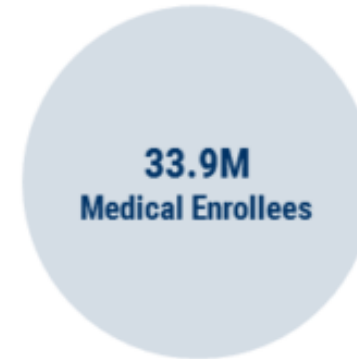
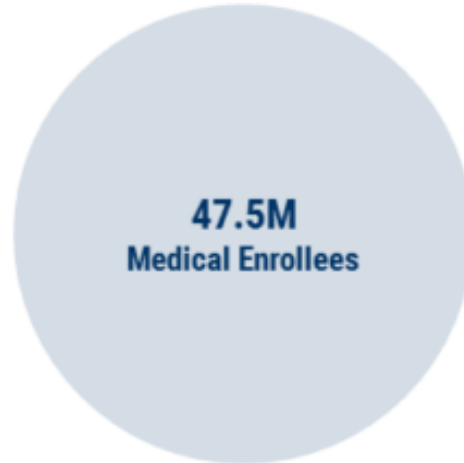
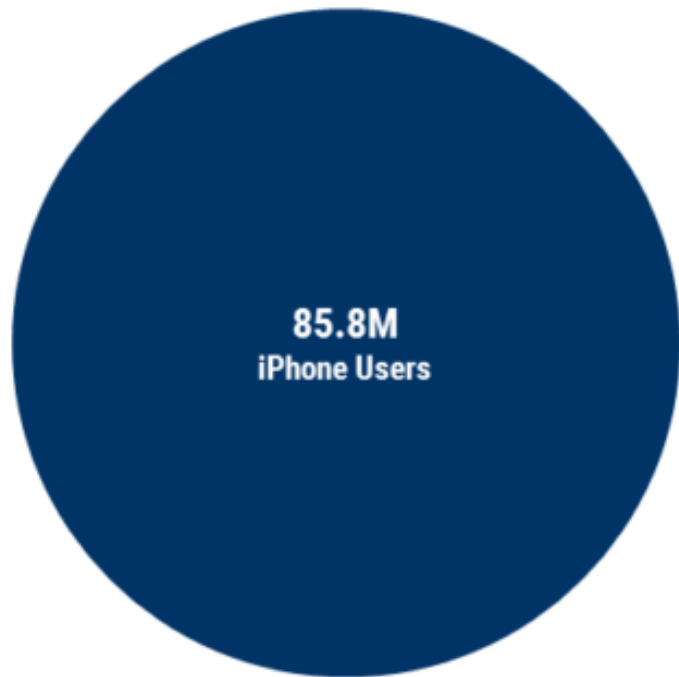


“When you look at most of the solutions, whether it’s devices, or things coming up out of Big Pharma, first and foremost, they are done to get the reimbursement [from an insurance provider]. Not thinking about what helps the patient. **So if you don’t care about reimbursement, which we have the privilege of doing, that may even make the smartphone market look small.**”

Tim Cook

Apple, CEO

APPLE IN HEALTH: A NUMBERS GAME



**2016 iPhone Users, 2016 US Medical Enrollees*

Apple unveils Watch Series 4 with FDA-approved ECG

This is the first FDA clearance for Apple and pushes the Watch further into healthcare than ever before.

By [Jonah Comstock](#) | September 12, 2018 | 02:48 PM



Apple on Wednesday announced Apple Watch Series 4 and, in so doing, confirmed speculation that the new device would bring ECG features cleared by the U.S. Food and Drug Administration.

Apple Chief Operating Officer Jeff Williams, in fact, said today at an event in Cupertino that the company has received FDA clearance for both an atrial fibrillation-detecting algorithm and an ECG that will be built into the new Apple Watch Series 4 when it becomes available on Sept. 21.

Williams announced several other new health features as well, most notably fall detection, which takes advantage of the device's new accelerometer and gyroscope.



Pro-Active Steps to Protect Your Organization

PRESENTED BY:

Darren Lacey

Chief Information Security Officer,
Johns Hopkins University &
Johns Hopkins Medicine



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2018 Health System Mergers & Acquisitions Spotlight >>



In January 2018, Apple announced that iPhone users will now have access to all their electronic health records from participating institutions on their iPhone's Health app.

Called "Health Records," the feature is an extension of what AI healthcare startup Glimpse was working on before it was acquired by Apple in 2016.

"More than 500 doctors and medical researchers have used Apple's ResearchKit and CareKit software tools for clinical studies involving 3 million participants on conditions ranging from autism and Parkinson's disease to post-surgical at-home rehabilitation and physical therapy." — **Apple**

In an easy-to-use interface, users can find all the information they need on allergies, conditions, immunizations, lab results, medications, procedures, and vitals.

In June, Apple rolled out a Health Records API for developers.

Users can now choose to share their data with third-party applications and medical researchers, opening up new opportunities for disease management and lifestyle monitoring.

The possibilities are seemingly endless when it comes to using AI and machine learning for early diagnosis, driving decisions in drug design, enrolling the right pool of patients for

studies, and remotely monitoring patients' progress throughout studies.

Recruiting takes a long time



“To get 10,000 people enrolled in a medical study normally, it would take a year and 50 medical centers around the country”

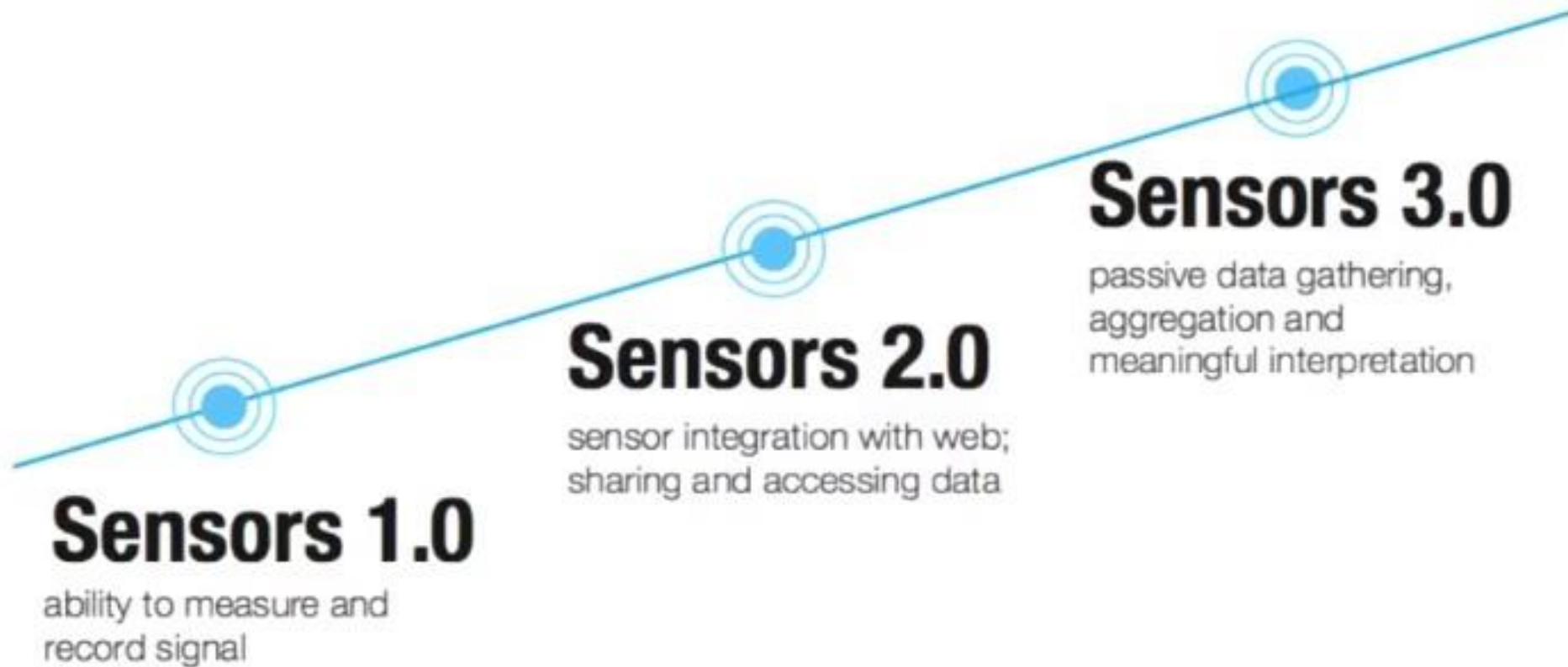
Alan Yeung, MD

Medical Director, Stanford Cardiovascular Health

Now...

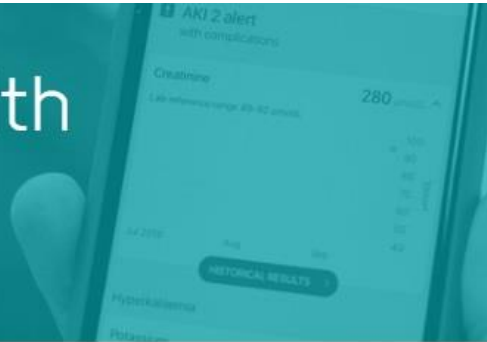
Thanks to Apple, 11,000 people signed up for a heart disease study in one day

Sensor Evolution





About DeepMind Health



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[Meet the team](#) [Get involved](#) [Our advisors](#) [What people are saying about us](#)

Our goals

We founded DeepMind in London in 2010, with the aim of building AI technologies and proving that they could have positive social impact. DeepMind Health is central to this social mission.

We have two simple goals at DeepMind Health.

First, to make a practical difference to patients, nurses and doctors and support the NHS and other healthcare systems. We hope that our technologies will help to save lives, improve care and support the NHS system we know and respect.

Second, to make DeepMind Health a self-sustaining initiative, through hospitals choosing to pay us for our software if they think they can have a positive impact on clinical outcomes and experience. We aren't looking to maximise profit, but rather to achieve sustainability so we can continue to grow our team, work with more hospitals and help more patients.



The results so far...

27 February 2017

How we're helping today

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[How we're helping today](#) [Researching for tomorrow](#) [More information & statistics](#)

Streams in NHS hospitals

Streams is a secure mobile phone app that aims to address what clinicians call “[failure to rescue](#)” – when the right nurse or doctor doesn't get to the right patient in time. Each year, many [thousands of people in UK hospitals die preventably](#) from conditions like sepsis and acute kidney injury, because the warning signs aren't picked up and acted on in time.

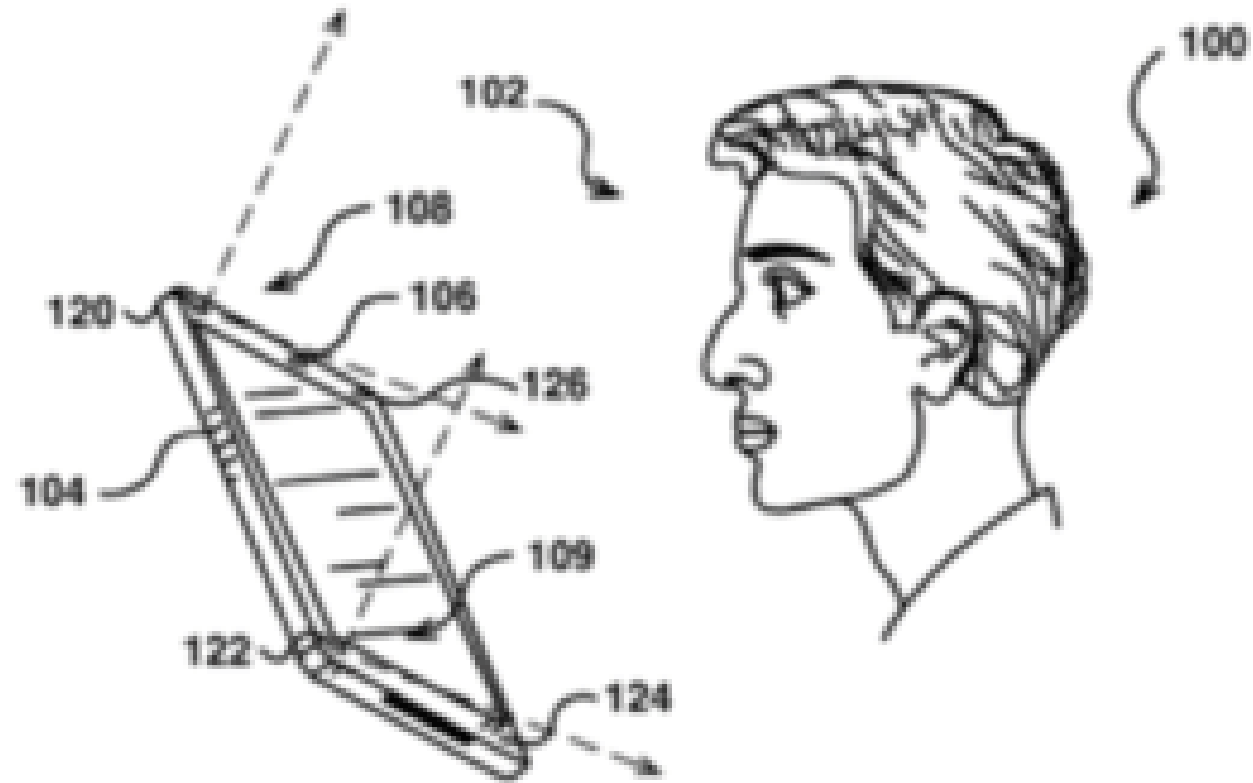
We built Streams in close collaboration with nurses and doctors to help address this problem. The app brings together important medical information, like patients' blood test results, in one place, allowing clinicians at our partner hospitals to spot serious issues while they are on the move. If one is found, Streams can send an urgent secure smartphone alert to the right clinician to help, along with information about previous conditions so they can make an immediate diagnosis. Streams can also allow clinicians to instantly review their patients' vital signs, like their heart rate and their blood pressure, as well as to record these observations straight into the app. To make all of this possible, Streams integrates different types of data and test results from a range of existing IT systems used by the hospital.



Prof Stephen Powis, former Medical Director of the Royal Free, discusses the Streams application and its benefits

[> watch the video on YouTube](#)

Amazon patent for facial recognition + heart rate analysis via cameras



Source: USPTO

Amazon has a large testing ground and aggregated consumer demand

1.2M employees between
Amazon-JPM-Berkshire



5M estimated
sellers on Amazon



310M
Active Customers
(100M Prime Members)



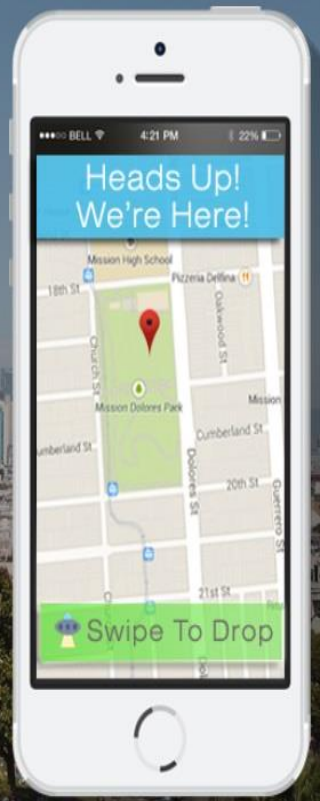


QuiQui Drone Delivery Is Coming To SF's Mission District

Now you can get all your pharmacy items delivered by drone at the push of a button.

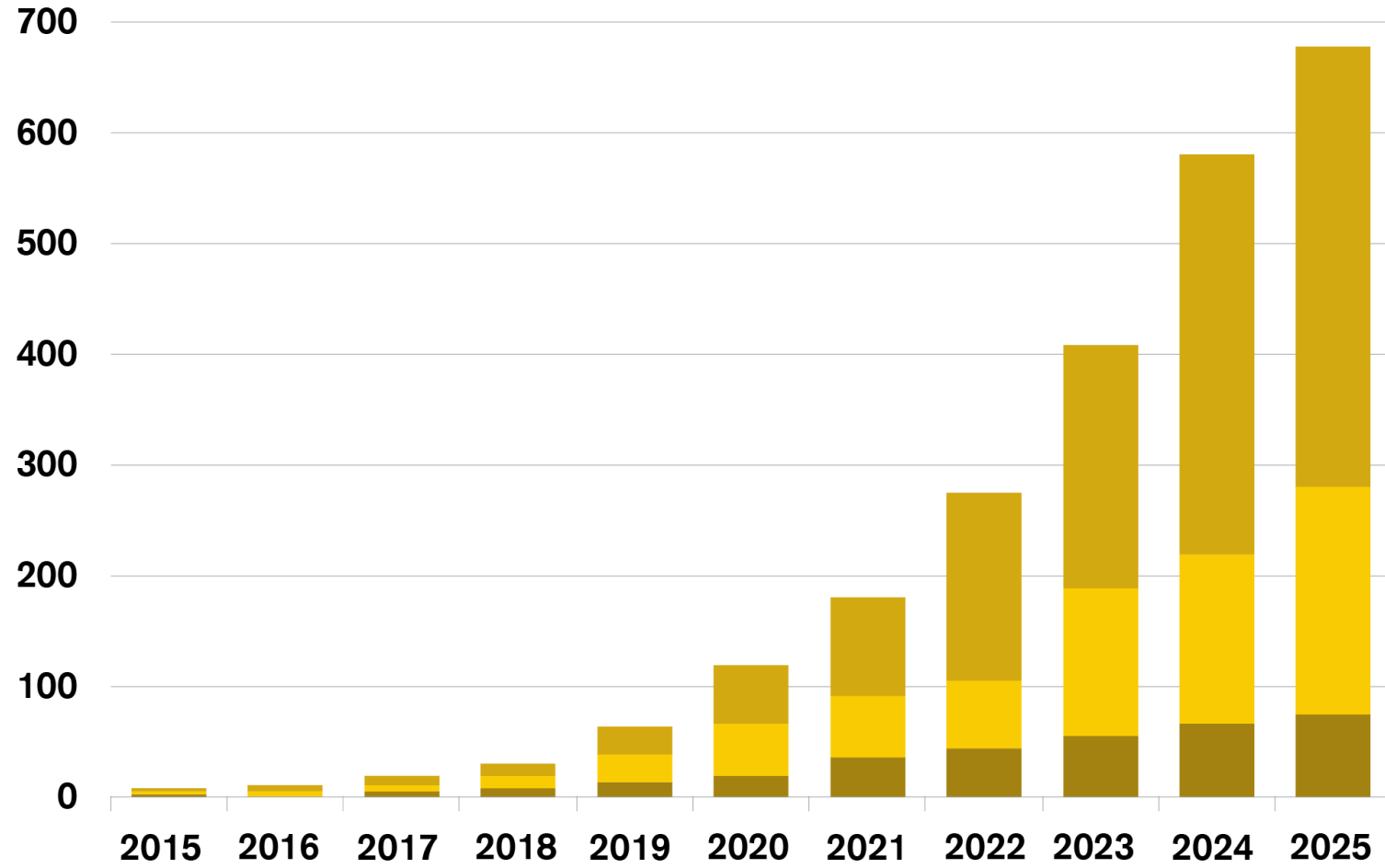
Want a beta invite? Enter your email below.

GO





VR/AR market could potentially grow to the size of the current smartphone market in USD bin

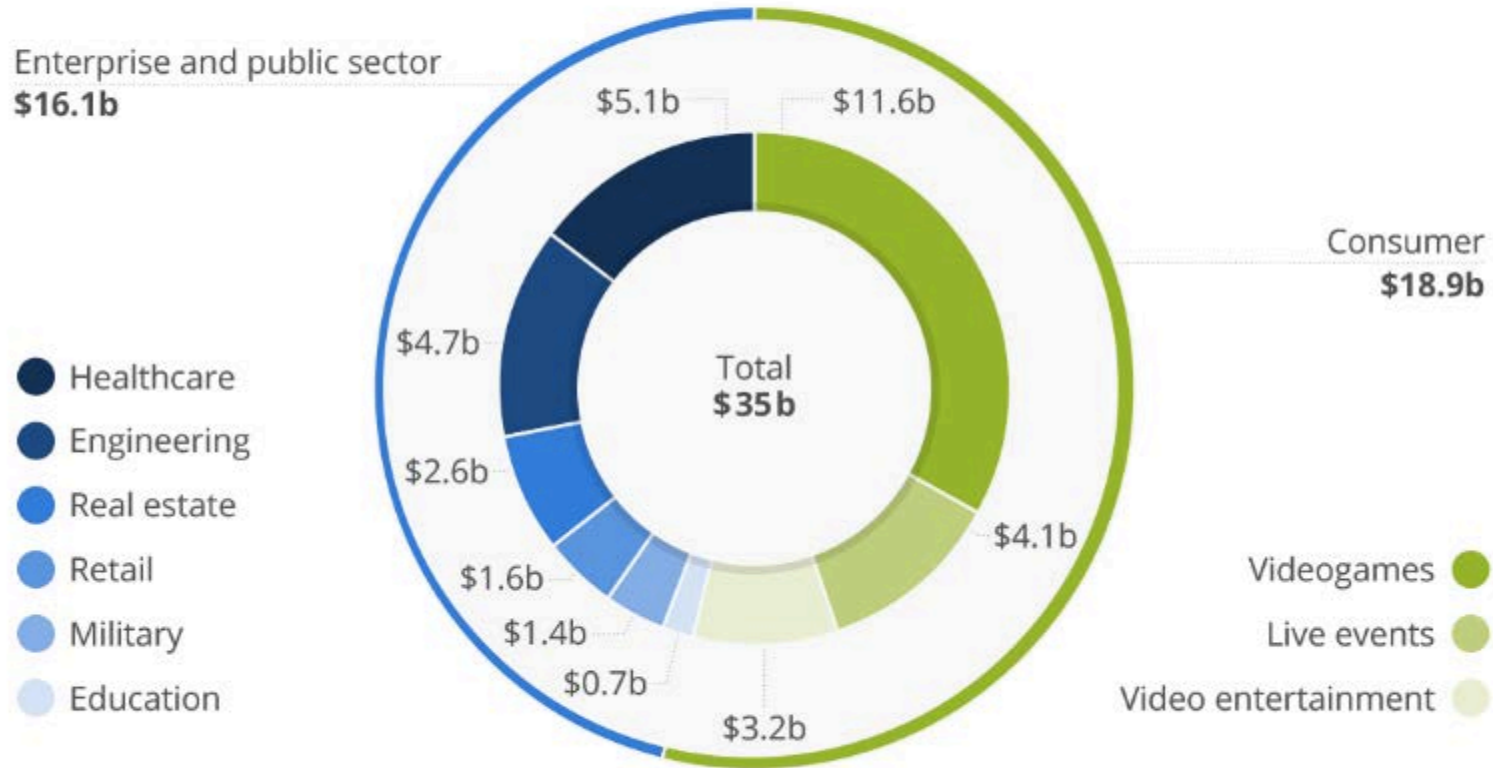


● Hardware ● Software & Services ● M-commerce/e-commerce

Source: Gartner, Credit Suisse

The Diverse Potential of VR & AR Applications

Predicted market size of VR/AR software for different use cases in 2025*



* Base case scenario

BUSINESS INSIDER

Source: Goldman Sachs Global Investment Research



statista 

UK hospital uses VR to prepare future parents for childbirth

New VR headsets at Hull Women and Children's Hospital are set to help future parents prepare for the birth of their children.

By [Leontina Postelnicu](#) | September 04, 2018

SHARE

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68

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in

🐦



A UK hospital is giving parents-to-be a more immersive look at what introducing labor and birth may entail.

The [Hull Women and Children's Hospital project](#) allows future parents to virtually see the experience of a woman using a birthing pool and 'join' an operating theatre where a patient is undergoing a caesarean section.



Happy baby face



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Sad baby face





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Clever stuff from Ray

PRINCIPLES
RAY DALIO



Weigh second- and third-order consequences

*By recognizing the higher-level consequences nature optimizes for, I've come to see that people who overweigh the first-order consequences of their decisions and ignore the effects of second- and subsequent-order consequences rarely reach their goals. This is because **first-order consequences often have opposite desirabilities from second-order consequences, resulting in big mistakes in decision making.***

For example, the first-order consequences of exercise (pain and time spent) are commonly considered undesirable, while the second-order consequences (better health and more attractive appearance) are desirable. Similarly, food that tastes good is often bad for you and vice versa.

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THE FUTURE
IS ALREADY HERE.
IT'S JUST NOT EVENLY
DISTRIBUTED YET.

- William Gibson

Look to the east...

E-commerce giant Alibaba started its healthcare AI focus in 2016 and launched an AI cloud platform called ET Medical Brain. It offers a suite of services, from AI-enabled diagnostics to intelligent scheduling based on a patient's medical needs.

Tencent's biggest strength is that it owns WeChat, the "app for everything." It is the most popular social media application in China with 1B users, offering everything from messaging and photo sharing to money transfer and ride-hailing.

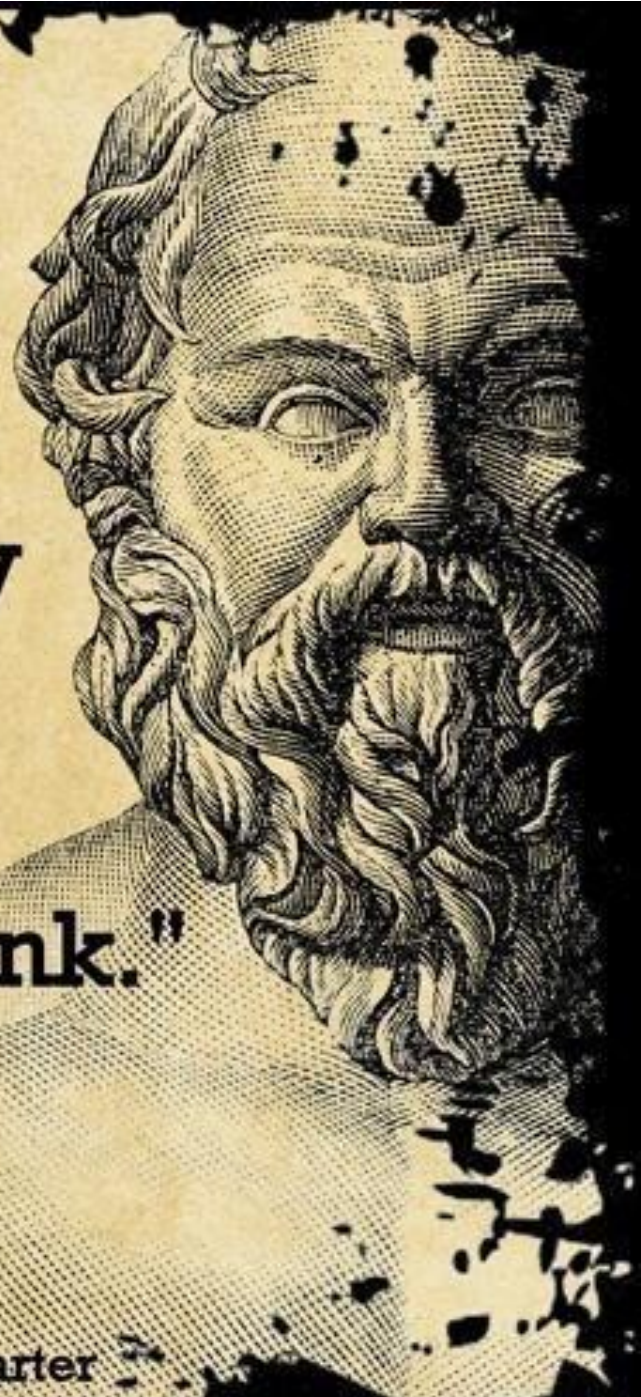
Around 38,000 medical institutions reportedly had WeChat accounts last year, of which 60% allowed users to register for appointments online. More than 2,000 hospitals accept WeChat payment.

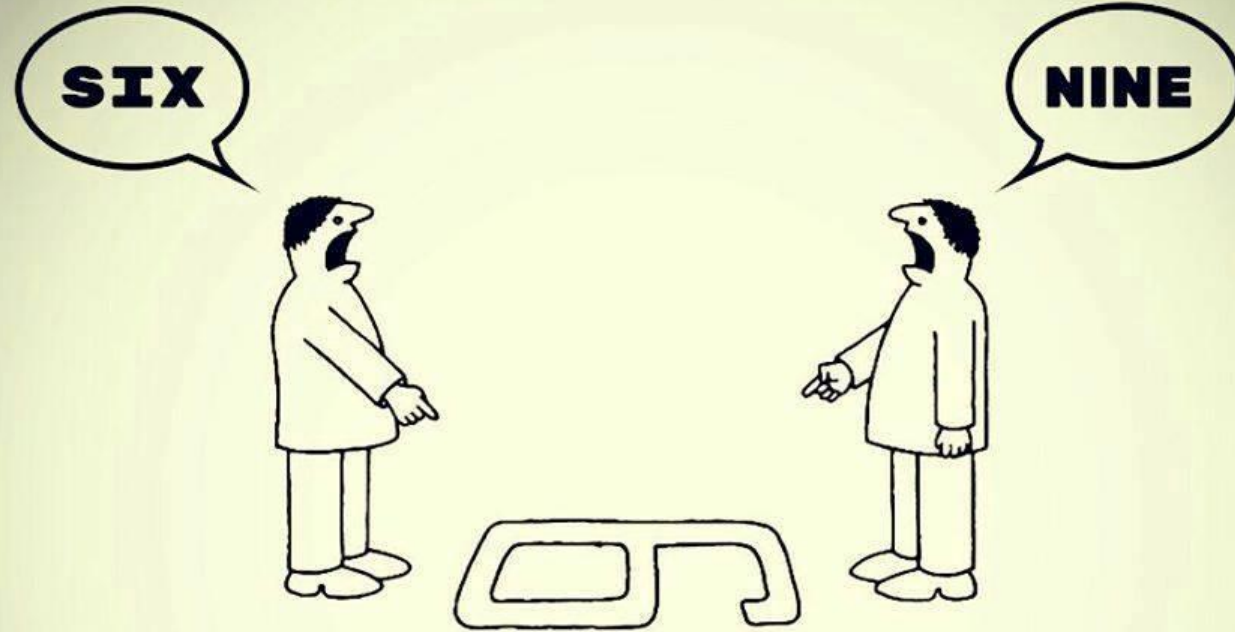
WeChat potentially makes it easy for Tencent to collect huge amounts of patient and medical administrative data.

This year, Tencent partnered with Babylon Health, a UK-based startup developing a virtual healthcare assistant. WeChat users will have access to Babylon's app, allowing them to message their symptoms and receive feedback and advice.

**"I cannot
teach anybody
anything,
I can only
make them think."**

~Socrates





Just because you are right,
does not mean, I am wrong.
You just haven't seen life
from my side.

Utopia Buffering .

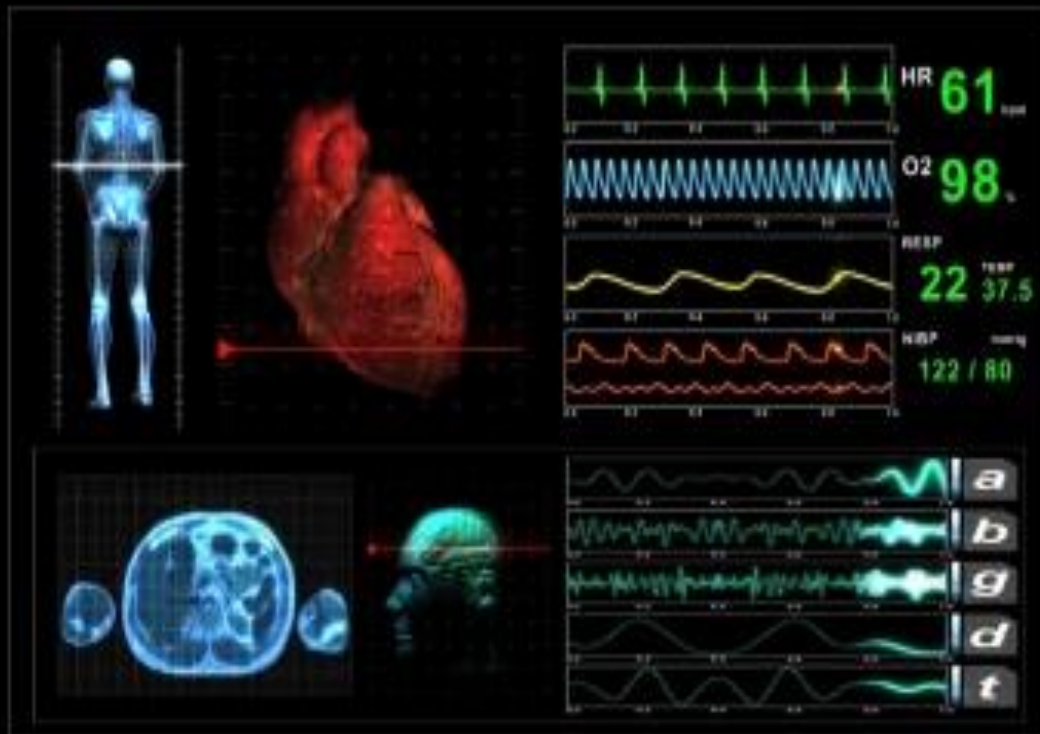


QUANTIFIED SELF

IS SELF KNOWLEDGE THROUGH NUMBERS

Food, exercise, activity, heart rate, brain waves, blood values, sleep, mood, cognition, productivity, microbiome, DNA.

Sensors, wearables, implants, lab tests & self-measurements.

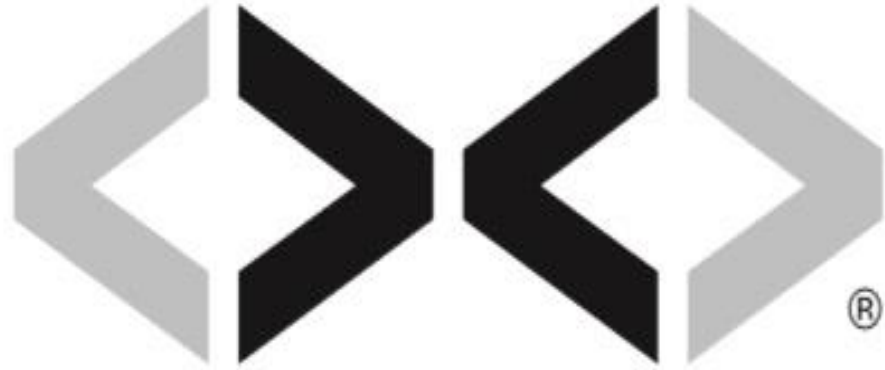




Who really becomes empowered?

Who also becomes empowered?





DRESSCODE

express yourself

The 5th Industrial Revolution.

And the evolution of self.

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Andy Boothman andy@dresscodeshirts.co.uk

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